Appendix H: default positions in search

Introduction

1. In this appendix, we review the default positions held by Google and Bing, the ways in which these default positions are acquired, and the implications of these default arrangements for competition in general search and for consumers.

2. This appendix draws on submissions and internal documents from market participants, as well as other evidence.

Overview of search default positions

3. Consumers can access search engines though various 'access points' on their mobile and desktop devices. These access points include web browsers and search widgets, voice assistants and other search features.[1]

4. At a more granular level, consumers may be able to access a search engine in several different ways within a particular access point. For example, users of web-browsers can enter search queries via the address bar at the top of the browser. In addition, they can enter queries via the search engine web page. Users typically have the choice of typing in these queries, or dictating them to a voice assistant.

5. Mobile and desktop devices typically come with a default set of access points pre-installed (ie a default browser and search widget), each of which is associated with a default search engine. We use the term 'default' or 'primary default' to describe the search engine that is initially associated with a browser or device, having been pre-selected by the access point owner. When consumers enter queries at certain search access points (for example, by typing a query into the explorer bar of a browser), these are handled by the default search engine. In principle, a device could come with different search engines set as defaults at different access points, or with no defaults at all. In practice, a single search engine typically occupies the default positions across the access points on a device.

[1] Widgets featured on mobile devices allow consumers to access information from an app, without opening the app that manages the information. Search widgets allow users to make searches without opening a browser or search app.

6. Consumers typically have the option of modifying the default search engine that is associated with their device or browser, by entering a settings menu. We use the term 'secondary option' to describe the set of alternative search engines that are offered to consumers within the settings menu of a device or browser.

7. Consumers can also bypass or supplement search defaults, for example by downloading additional web-browsers or search apps (that use a different default search engine), or by navigating to an alternative search engine within a web-browser.

8. As discussed below, due to factors such as consumer inertia and default bias, being the default search engine for users is valuable to search engine providers and helps them to grow or maintain market share. Search engine providers may pursue one or more strategies to become the default search engine. In broad terms, these strategies include:

    - develop their own search access points (eg own devices, browsers or other search apps) and set own search engine as the initial default;

    - seek commercial agreements with device manufacturers or other 'access point owners' (eg browser providers, mobile carriers) to set their search engine as the initial default.[2]

9. In addition, search engine providers may offer device manufacturers a discount on other products (such as app stores or operating systems), where that manufacturer agrees to set a provider's search engine as initial default. Therefore, the supply chain through which search engines are distributed to consumers can be thought of as including devices, operating systems and apps such as browsers.[3]

10. Both Google and Microsoft use a combination of the strategies above. In the section below, we review the default positions held by search engines and the financial and other arrangements that are associated with these.

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[2] We use the term 'default agreement' to describe commercial agreements that relate to the setting of particular search engines as the default at search access points.
[3] Please see Appendix E for a summary of the relationships between Google Search and other Google products.

Overview of default positions held

11. To illustrate the scale of the default positions held by Google and Bing on mobile and desktop devices, we present below:

    - **For mobile devices**: shares of supply for mobile browsers and device manufacturers, indicating which search engine is the default on each.
    - **For desktop devices**: shares of supply for desktop operating systems and browsers, indicating which search engine is the default on each.[4]

Default positions on mobile devices and browsers

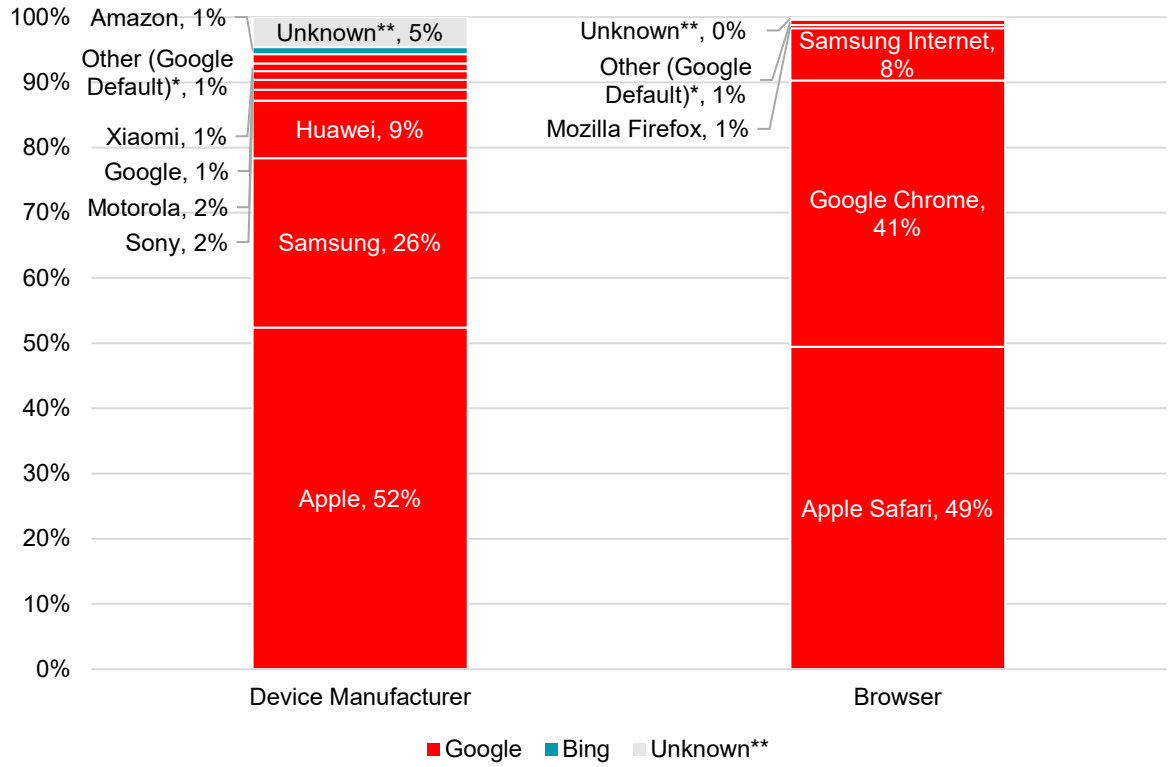
12. Figure H.1 below sets out shares of supply for mobile device manufacturers and mobile browsers, indicating which search engine is the initial default on each.[5] We found that:

    - Manufacturers where Google is set as the default search engine account for at least 94% of the mobile device sector, by usage. Manufacturers where Bing is the default account for 1% of the sector.[6]
    - Browsers where Google is set as the default search engine account for over 99% of the mobile browser sector, by usage.

13. We were not able to confirm which search engine holds the default position on certain mobile devices with a less than 1% share of the mobile device sector by usage. Therefore the 'unknown' category below may contain further mobile devices where Google Search is the default.

[4] These shares were sourced from Statcounter Global Stats.
[5] Where mobile devices include mobile phones and tablets.
[6] Amazon.

Figure H.1: Search default positions on mobile devices and on mobile browsers, based on device/browser usage, UK February 2020



Source: CMA analysis of Statcounter GlobalStats data for the UK, February 2020.
Notes: The shares presented above are calculated on the basis of 'page referrals'. See Appendix C for further detail.
* Other (Google Default) consists of all mobile device manufacturers and mobile browsers that accounted for a share of less than 1% where Google is the primary default.
**Unknown consists of all device manufacturers and mobile browsers with a share of less than 1% for which we were unable to identify the default search engine. We note that Google or Bing may hold additional default positions on these devices and browsers.

14. The figure above shows that Google has a very high share of default positions across both mobile devices and mobile browsers.

Default positions on desktop devices and browsers

15. Figure H.2 below sets out shares of supply for desktop operating systems[7] and browsers, indicating which search engine is the initial default on each.[8] We found that:

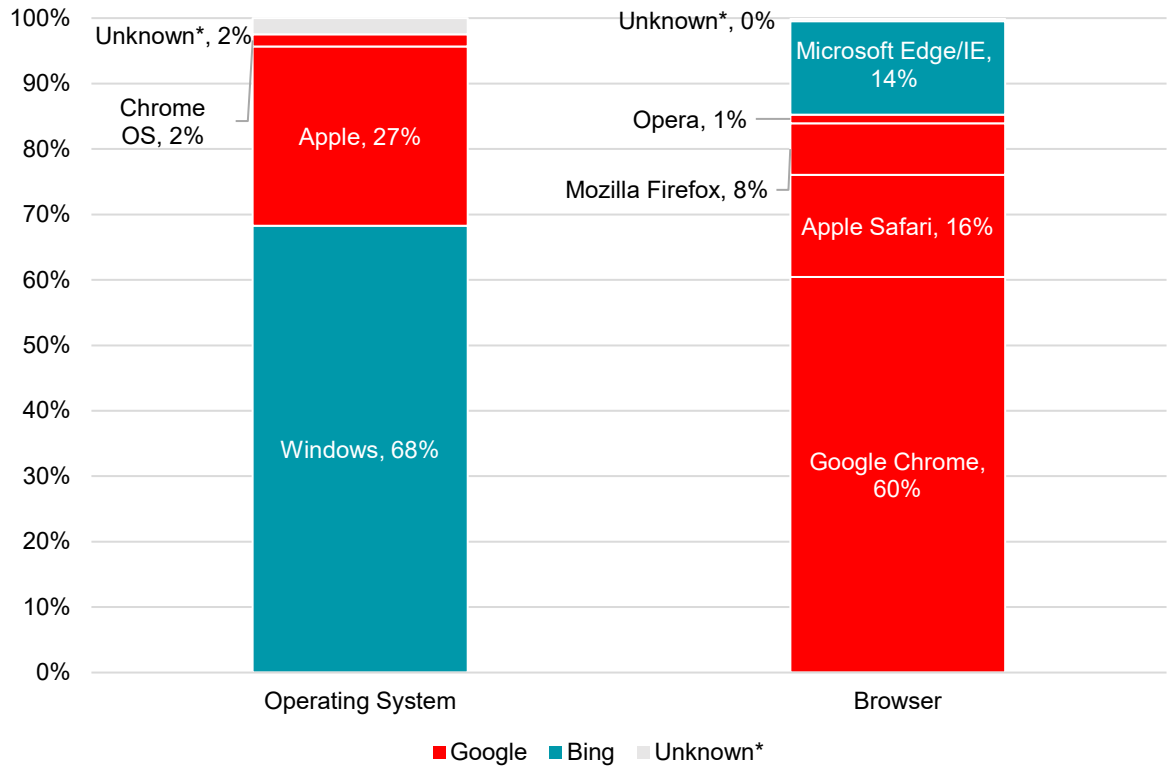
    - Operating systems where Google is set as the default search engine account for just over 29% of the desktop operating system sector, by

[7] The default positions held by Bing and Google on desktop devices can be summarised with reference to operating systems because: Google has no default agreements with Windows PC manufacturers, with Bing being the default on these devices; Google holds the default position on Apple devices; and cumulatively Windows and Apple operating systems account for 95% of desktop device usage.
[8] Where 'desktop devices' include PCs and laptop devices.

usage. Windows, where Bing is set as the default search engine, accounts for over 68% of the sector.

- Browsers where Google is set as the default search engine account for just over 85% of the sector, by usage. Bing is set as the default in Microsoft Edge and Internet Explorer, which account for just over 14% of the sector.

Figure H.2: Search default positions on desktop devices and on desktop browsers, based on operating system/browser usage, UK February 2020



Source: CMA analysis of Statcounter GlobalStats data for the UK, February 2020.
Notes: Both the browser and operating system shares presented above are calculated on the basis of 'page referrals'. See Appendix C for further details.
* Unknown consists of all desktop operating systems and browsers that accounted for a share of less than 1%, for which we were unable to identify the default search engine. We note that Google or Bing may hold additional default positions on these operating systems and browsers. For operating systems, 'Unknown' additionally consists of Linux (which holds a share of 1%), for which we were unable to identify the default search engine.

16. The results above indicate that Bing has the initial default position on around two-thirds of desktop devices. However, Bing only has the default position on 14% of desktop browsers, on the basis of browser usage. Google has the default position on 85% of desktop browsers, by browser usage.

Financial compensation for defaults

17. Search engines pay compensation to the device manufacturers and other access point owners that set their search engines as the primary default. In some cases, search engines that are set as a 'secondary option' at an access point also pay compensation. We collectively refer to these compensation payments as 'default payments'. We requested data from Google and Bing on these payments for 2019. Our analysis of this data is presented below.

18. Google and Microsoft both typically make default payments on a revenue-share basis. Under these agreements, a percentage of the advertising revenue generated by the search engine through the search access point(s) is shared with the access point owner, after some pre-defined costs have been deducted. Microsoft's payments to certain desktop manufacturers are an exception to this.

Payments made by Google

19. Google submitted that in 2019 it made a total of just under £1.2 billion in default payments on UK search traffic. These payments were made to mobile device manufacturers, mobile carriers and third-party browsers and third-party operating systems. Google made default payments to [40-50] third parties in total.[9]

20. Google makes default payments on the basis of revenue-share agreements, whereby a percentage of Google's revenue derived from the relevant search traffic is paid to the partner. All of Google's default payments are made on the condition that Google is set as the primary search product.

21. Google's payment to Apple in 2019 constituted the substantial majority of Google's total 2019 default payments made in relation to the UK. Google's payments to mobile OEMs and carriers which use the Android operating system in 2019 amounted to a smaller proportion.[10]

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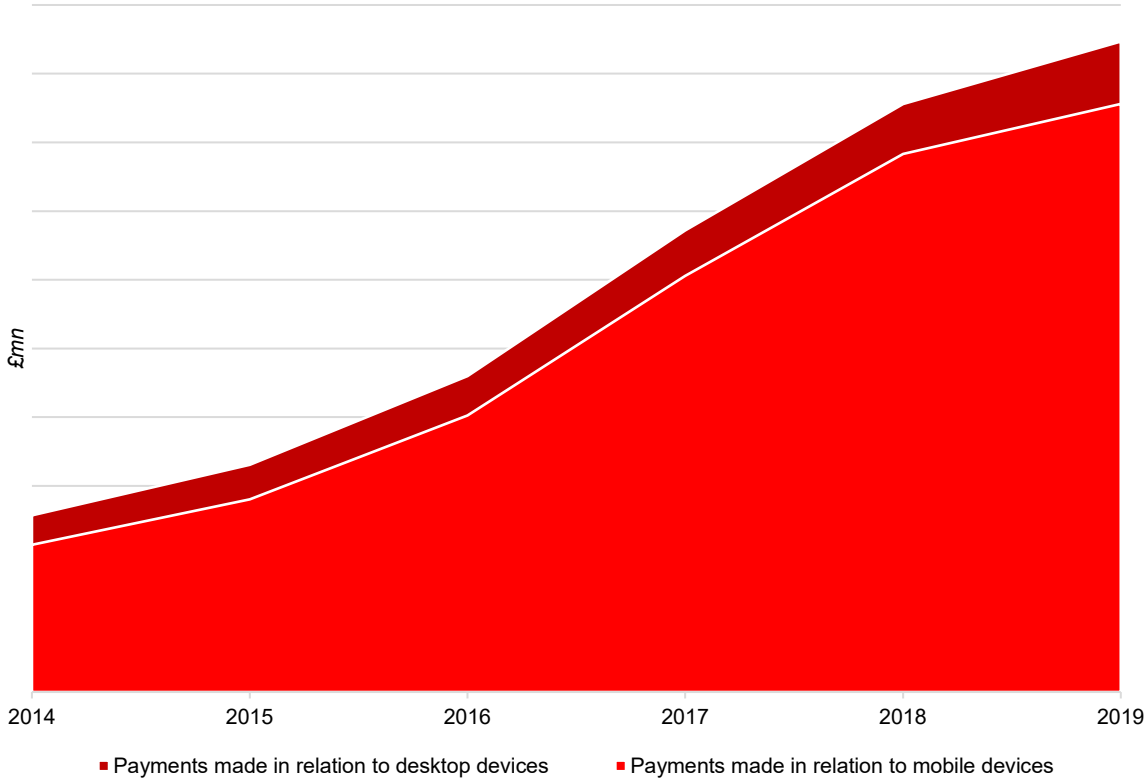
[9] Note that this count of third parties includes small payments made on traffic generated through queries made on Android devices located in the UK that may consist largely of tourists' searches, as the device manufacturer/carrier to which it relates is not UK-based.

[10] The payments quoted are Google's best estimates. Google makes these payments on a revenue share basis. This means that, when consumers undertake Google searches through specified search entry points, a share of any search advertising revenues that are generated are payable to the relevant partner.

Figure H.3: Google's default payments by partner type, UK 2019
[✂]
Source: CMA Analysis of Google's data.

22. As shown by Figure H.4, the majority of Google's payments to Apple are made in relation to search traffic generated through mobile devices.

Figure H.4: Google's default payments to Apple, 2014-2019



Source: CMA Analysis of Google's data.

23. Google makes default payments to Apple on certain user searches performed on Apple devices, including searches made on the pre-installed Safari browser and [✂].

24. The default payment paid from Google to Apple constituted the substantial majority of Google's total 2019 default payments made in relation to the UK. While we are not disclosing the relative levels of revenue share in Google's agreements with its range of partners for reasons of commercial sensitivity, we note that the proportion of revenue shared with Apple is high. Excluding Apple, Google makes default payments to third parties on the basis of revenue shares ranging between [✂]%.

25. In contrast to Bing, Google's default payments are made only on the condition that Google be set as the primary default search product.

Payments made by Microsoft

26. Microsoft submitted that in 2019 it made a total of £[50-100] million in default payments in relation to UK search traffic generated through Bing. These payments were made to device manufacturers, third-party browsers and 'distribution partners'.[11] Excluding desktop manufacturers, payments were made to [0-10] third parties.[12] With the exception of [✂], Bing's default payments are made on the basis of revenue shares.

Figure H.5: Bing's default payments by partner type, UK 2019
[✂]
Source: CMA Analysis of Microsoft's data.

27. Bing's largest default payments in 2019 were as follows:

- **Amazon.** Under Microsoft's agreement with Amazon, Microsoft makes payments to Amazon for Bing to be set as the primary default on specified models of mobile Fire OS devices. Under this agreement, Amazon receives a very high percentage of the revenue generated by Microsoft through these devices.
- **Windows PC OEMs**. [✂]
- **Apple.** Under Microsoft's agreement with Apple, Bing is offered as a secondary option on iOS mobile devices.[13]

Payments made to Apple

28. As set out above, Google holds the primary default position on Apple devices and Bing is included as a secondary option. We summarise below the

[11] Microsoft additionally submitted the payments it made to its syndication partners in the UK in this period. For the purposes of consistency in comparing Microsoft's default payments with Google's, we have not included these payments in our analysis here.
[12] Bing pays Windows PC manufacturers [✂]. We do not hold data on how many third-party desktop manufacturers Bing pays.
[13] As well as its agreement with Apple, Microsoft's agreement with [✂] sets out terms under which [✂] will be compensated by Microsoft if Bing is set as either a primary or secondary search default in the [✂]. In 2019, Microsoft paid [✂] c.£[1-10] million in return for being set as a secondary search default.

revenue shares that Apple has negotiated with Google, Microsoft and other search engine providers and the resulting payments in 2019 for the UK.

Table H.1: Search engines' default payments to Apple, UK 2019

Contract	*Position held*	*Revenue Share*	*Payment to Apple in 2019 for the UK (£, Millions)*
Apple - Google	Primary default	[✂]%	[✂]
Apple - DuckDuckGo	Secondary option	[✂]%	[✂]
Apple – Verizon Media (Yahoo Search)	Secondary option	[✂]%	[✂]
Apple - Bing	Secondary option	[✂]%	[✂]

Source: CMA Analysis of Google's data, Microsoft's data and Apple's data.

29. Apple submitted that search engines do not pay Apple for the right to be set as the primary default search engine on its devices. [✂]. However, our assessment is that Google does pay to be the primary default on Apple devices. The agreement between Google and Apple states that Google will be the default web search provider and the same agreement states that Google will pay Apple a specified share of search advertising revenues. We also note that Google does not pay compensation to any partners that set Google Search as a secondary option. This further suggests that Google's payment to Apple is in return for Apple setting Google as the primary default.

Comparison of payments made by Google and Bing

30. We found that there are some notable differences between the default payments made by each of Google and Bing:

- **Differences in the absolute value of payments.** In 2019, Google's total default payments made in relation to UK search traffic were [many] times greater than the payments made by Bing, as demonstrated by Figure H.6 below.

Figure H.6: Bing and Google's total default payments, UK 2019

[✂]

Source: CMA analysis of Bing and Google data.

- **Differences in the parties to which Google and Bing make default payments.** Notably, Bing holds only one agreement with a mobile manufacturer/carrier (Amazon) to set Bing as the primary default, in

contrast to Google's [40-50] agreements relating to mobile devices.[14] Bing does however, hold the default position on Windows PCs.[15] Google's default payments to Apple and Mozilla partly relate to searches on desktop devices. However, the vast majority of Google's payment to Apple (and of its total default payments) relate to searches on mobile devices.

- **Differences in the type of default positions held**. Google exclusively makes default payments to partners that set Google as the primary default, whilst Bing also makes payments to some partners that set Bing as a secondary option (Apple and [✂]).

How default agreements work

31. As part of our assessment of the default positions held by search engines, we have analysed the contractual arrangements associated with these positions. We have reviewed a sample of agreements, including:

    - Google's search default agreement with Apple;
    - Microsoft's search default template agreement for Windows manufacturers;
    - Microsoft's search default agreement with Amazon;
    - Google's search agreement with Samsung.

32. In these agreements, the key terms vary depending on the contractual partners involved. While search default provisions are present in each of the agreements that we reviewed, we observed some variation in these provisions.

Scope of default provisions: territorial scope

33. All search default agreements that we reviewed have a large territorial scope. Most apply worldwide or EEA wide, with country-level exceptions in some cases. China and Russia were often indicated as territorial exclusions. Parties

[14] Agreements where search revenue was generated related to searches made in the UK in 2019.
[15] In response to our request for information on its default payments and partners, Bing additionally submitted information on the payments it makes to its syndication partners (see further Chapter 3). For the purposes of consistency in comparing Google and Bing's payments, we have not included these payments on our analysis in this appendix.

told us this is explained by the prominence of other search engines in those territories, ie Baidu in China and Yandex in Russia.

Scope of default provisions: portfolio vs. device level

34. In most agreements that we analysed, the default provision was applicable on a software level across the entire portfolio, ie on all applicable devices. In most cases, manufacturers are bound by a contractual obligation to set Google or Bing as the default search engine on all devices. The direct consequence of setting a default obligation at portfolio level is that manufacturers cannot set different search engines as default on a subset of their devices. In those cases, manufacturer devices are not written as severable or distinct in the default provisions.

35. Devices covered in agreements generally include some combination of tablets, smartphones and desktop computers. Some also cover wearables, streaming media players and television. We note that:

- Google is the default search engine on all Apple devices in the UK with a Safari browser;[16]
- Microsoft's agreements with Windows manufacturers [✂];
- Microsoft's agreement with Amazon [✂];
- Google's agreement with Samsung [✂].

Scope of default provisions: search access points

36. We also reviewed the extent to which agreements cover all search access points on a device, or only some of these.

37. In some agreements, the default obligation did not apply to all search access points, leaving scope for manufacturers to use more than one search engine. For example, until September 2017, Apple used Microsoft Bing for web search results in the Siri and Spotlight (on Mac and including Search within iOS) access points. Apple eventually decided to switch to Google for web search results for these search access points.[17]

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[16] Examples of Apple devices that do not feature the Safari browser include Apple Watch, Apple TV and HomePod.
[17] The Verge (2017), Apple ditches Bing for Google search results in Siri and Spotlight.

38. However, in most agreements that we have seen, the default clause extends to all search access points. In particular, this is true of: [✂]

Scope of default provisions: requirement to pre-install browsers alongside search default provision

39. In most of the cases that we reviewed, counterparties had agreements covering the pre-installation of browsers, as well as search engine defaults.

40. Microsoft's search default agreements with Windows manufacturers provide for Microsoft Edge to be set as the default browser and for Bing to be set as default within Edge. This agreement also [✂].

41. We note that the European Commission's decision in Google Android has impacted the terms on which Google licenses its apps (including Google Search and Google Chrome).[18] After the European Commission's decision, which prohibited tying the Google Play Store to pre-installing Search and Chrome, Google was instructed to issue separate licenses for Google Search and Google Chrome. Samsung confirmed this in their submission to us and added that they did not change the pre-installed web browsers or default search engine after the European Commission's decision.

Ability of users to change the default search engine

42. Users are generally able to change the initial search default to a secondary option.

43. In some of the agreements that we reviewed, the ability of users to change defaults was explicitly stated in the agreement. For example, In Google's agreement with Apple, users in the UK can select a different search engine as default in Settings. Users can also instruct Siri to conduct searches identifying a search provider in the spoken query. Some other agreements did not directly address this point.

Ability of access point owners to change the default search engine

44. Some agreements that we reviewed do not allow access point owners to unilaterally decide to set a different search engine as default. In other words, the default obligation is drafted in absolute terms so that:

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[18] Case AT.40099, Google Android, 18/07/2018

- According to those agreements, the manufacturer will set the relevant search engine as default on all in-scope devices;

- Manufacturers must apply the default provision or risk breaching the agreement if this provision is not respected.

45. We heard that, even when default provisions are drafted in absolute terms, territorial exclusions can sometimes be modified through good faith discussions between the parties. We heard that this usually depends on the user experience offered by the search engine in a particular territory. For example, [✂].

46. In some agreements that we reviewed, the default obligation is not drafted as absolute. In those cases, the manufacturer has the option to set the relevant search engine as default on all in-scope devices. For example, [✂].

47. Even when default obligations are not drafted as absolute, our understanding is that, in practice, access point owners tend to select a single default search engine (based on considerations including quality and compensation) and then set that as default across all or most devices in the relevant geographical region.

Competition for search default positions

48. In this section, we assess the extent to which search engines other than Google can compete effectively for search default positions. We start by reviewing some general submissions from search engines, before considering evidence that relates to particular default positions.

Parties' submissions

49. Several smaller search engines submitted that they are unable to compete with Google for search default positions. For example:

    - Cliqz said that 'the primary cause for Google's dominance is the fact that Google forecloses access to distribution for competitors. Because of this, new players do not manage to reach the user. Given Google's vast financial resources and its superior ability to monetize user data, Google

has raised the cost of distribution deals to the point that no new entrant can match their price and distribution is effectively blocked'.[19]

- DuckDuckGo said that 'there is a feedback loop between Google's position as the largest search engine and its ability to acquire extensive default positions that entrench and reinforce this dominance'.[20]

50. Microsoft suggested that Google has been able to secure default placement on Android and Apple devices and that this was likely due to its ability to share large amounts of search revenues resulting from its market position in search.

51. Google said that providers such as Apple, Samsung, Opera, and Mozilla all select search defaults based on competition between search providers, taking account of the quality of the service they offer and the amount of revenue they are willing to share.

Competition for Apple default position

52. We consider that the default position on Apple devices is the most significant in search in the UK, as indicated by the scale of devices covered and the scale of payments made to Apple.

53. As discussed above, Google has occupied the default position across Apple devices for many years (with the exception of the Siri access point). Microsoft has held discussions with Apple in [the last five years] regarding the possibility of Bing becoming the default but these have not resulted in a switch to Bing. We assess below how competition for the Apple default position has operated, with reference to parties' narrative submissions and internal documents.

Apple's choice of default search engine

54. Apple submitted that its choice of primary default search engine provider is 'based on performance and whether it will result in the best consumer experience when using Apple services on an Apple product'. Apple added that Google was therefore chosen as the default search engine in the UK, as 'it is

[19] Cliqz's response to our consultation on our interim report.
[20] DuckDuckGo's response to our consultation on our interim report.

widely recognised as the best search engine and is preferred by most UK consumers'.

55. Internal documents submitted by Apple demonstrate the importance of search engine quality to Apple and consideration of Bing's quality relative to Google's, including:

- [✂]
- [✂]

56. Consistent with Apple's narrative submissions, Google submitted that its primary means to compete for the Apple contract, and for defaults more generally, is the quality of its search service.

57. Google also said that it, in general, competes for defaults through the 'economic partnerships' that it offers device manufacturers. It used Apple's decision to replace Google with Bing as the default search service for Siri as an example of an instance where it had lost a default position following a 'competitive Microsoft bid'.

58. As set out in Chapter 3, consumer studies and other evidence we have reviewed suggests that Google's search results are generally perceived to be of higher quality than those of Bing.[21]

59. Evidence from Google's internal documents suggests that both the degree of financial compensation, as well as the quality of Google's search service, are important parameters of competition for the Apple default position. For example:

- [✂]
- [✂]

60. Microsoft entered into discussions with Apple in [the last five years] regarding the possibility of Bing becoming the default on Apple devices. Microsoft suggested that a combination of Bing's inferior economics relative to Google

[21] However, the studies we reviewed were not entirely consistent. For example, Google scored more highly than Bing in all Google studies (both when brands were visible and when they were not), whereas Google and Bing received a similar number of preferences in some unbranded tests commissioned by Microsoft. We also note that, even in studies were Google scored more highly than Bing, there were a significant number of instances in which users did not express a strong preference for either Google or Bing's results.

and perceptions of Bing's quality were behind Apple's decision to retain Google as primary default.

61. Overall, the evidence that we have seen shows that Apple's negotiations with Google and Microsoft have been complex and multi-faceted, but that perceived search engine quality and revenue offered to Apple were important components of these discussions.

Further analysis of Bing's ability to compete financially for the Apple default position

62. We reviewed internal documents produced by Microsoft concerning the revenue that it could generate from the primary default position on Apple devices. These show that:

- In [an earlier version of its modelling], Microsoft estimated that it would be able to generate US$[✂] (US only) through the Apple default contract in the first year. Microsoft estimated that Google would generate US$[✂] in a comparable period (US only). This implies a revenue gap of US$[✂] between the two search engines in the US and that Google would be able to out-bid a revenue share of 100% from Microsoft by offering an revenue share of [✂]%.

- In [a later version of its modelling], Microsoft modelled that it would be able to generate US$[✂] (US only) by winning the default arrangement with Apple. Microsoft estimated that Google was generating US$[✂] (US only) of revenue. The estimated gap between Microsoft and Google's total revenue in the US was US$[✂], implying that Google would be able to offer Apple an revenue share of [✂]% to outbid an offer of 100% from Microsoft.

63. We compared Microsoft's estimates of the revenue that Google generates through the primary default on Apple devices to the forecasted figures as set out in Google's internal documents.

64. Our review of Google's internal documents shows that in 2016 Google forecasted that in North America through MacOS and iOS devices Google would generate US$[✂] billion of revenue in 2018. This forecast is similar to Microsoft's estimates of revenue generated by Google through the Apple default, but relates to a wider geographic area (North America rather than only the US).

65. In principle, if Google was willing to make significant payments to Apple in return for being a secondary option, then this would have a downward impact on the revenue that Bing would have to offer Apple, in order for Apple to be no worse off financially from the switch. However, unlike Bing and other smaller search engines, Google does not currently pay compensation to access point owners that set Google as a secondary option.

66. The revenue that search engines can generate from a default position, and offer to an access point owner, is a function of the volume of user traffic (and searches) that they receive and their ability to monetise this traffic. We also considered evidence regarding the relative importance of these two factors.

67. Our review of Microsoft's modelling found that the revenue estimated to be generated by Bing through the Apple default, compared to that estimated to be generated by Google, appeared to be predominantly limited by the volume of user traffic that Bing would retain relative to Google rather than the efficiency with which it would monetise that traffic. Whilst Microsoft's modelling demonstrated that it should realise a substantial increase in its share on Apple devices by winning the default position, it would retain far less than Google. See further Annex 2.

68. With respect to its ability to monetise, Microsoft estimated Bing would be capable of generating [✂]% of the revenue Google would have generated, per 1000 user searches, once the scale benefits associated with the Apple default position had been realised. Whilst this clearly limits the total revenue that Bing would be capable of generating relative to Google, the difference between the two search engines is less pronounced in this regard than the difference in estimated retention.

69. As set out in Chapter 5, our analysis also suggests that Google is able to achieve significantly higher search advertising prices than Bing, its main competitor, on a like-for-like basis.

Competition for Android default positions

70. In July 2018, the EU Commission found that Google had been illegally requiring manufacturers to pre-install the Google Search app and browser app, Chrome, as a condition of using Google's Play Store.[22] Google has appealed this decision.[23] Subsequently, to address the European

[22] COMP/AT.40099 —Google Android; See also the European Commission's press release dated 18 July 2018.
[23] Case T-604/18, Google and Alphabet v Commission

Commission's concerns, Google announced that users would be provided with a choice screen of general search providers on all new Android phones and tablets in the European Economic Area, including the UK, where the Google Search app is pre-installed.[24] We discuss this choice screen further in Appendix V.

71. Microsoft said that despite the EU Decision Microsoft has not been able to negotiate pre-installation of Bing search and no new deals have been made possible by that decision.

72. Microsoft's understanding is that Google offers both an upfront incentive to OEMs that install Chrome and Google, and also a revenue share for searches done via Google Search on the device. Microsoft said it believes that no competitor, including Bing, can likely match this approach. As a result, Microsoft believes that all OEMs continue to ship Android devices in Europe with Google Search and Google Chrome receiving the same treatment as before the Commission's decision.

73. Samsung said that it pre-installed Google Search and Chrome and set Google as the default search engine on Samsung's own web browser considering user experience/preference as well as financial benefits, through the advertising revenue share that it has agreed with Google.

Competition for Windows desktop default positions

74. As set out above, through its Jumpstart program, Microsoft does have agreements in place with OEMs that result in Edge and Bing being pre-installed on a significant proportion of desktop devices in the UK. Microsoft said that its success in obtaining these positions reflects two things. Firstly, it has strong business relationships with OEMs and [✂]. Secondly, Microsoft believes Google may be less interested in PC distribution because it has more attractive distribution options, for example, by prompting visitors to Google.com and YouTube to download Chrome.

75. We note that Google's internal documents describe its lack of default positions on Windows PCs [✂].

[24] Google has published information regarding its choice screen on android devices here.

Conclusion

76. Overall, we consider that search engine quality and financial compensation are the key components of how access point owners select defaults. Search engines other than Google face significant barriers to competing on both of these.

77. While Microsoft has secured primary default positions in certain circumstances (through its agreement covering Amazon tablets and its agreements with Windows PC OEMs), Google continues to hold the most significant default positions, including on Apple and Android mobile devices.

Impact of defaults on consumers and competition

78. In this section, we assess evidence concerning the impacts that search defaults have on consumers and on competition. In particular, we investigate concerns that defaults reinforce Google's position in search and act as a barrier to expansion for smaller search engines.

79. We first consider the impacts that defaults have on consumers' search behaviour and on search volumes, and the factors underpinning this. We then consider how defaults impact competition in search. Finally, we consider other impacts of defaults, including on consumer convenience, the cost of devices and the sustainability of browsers.

Consumer behaviour and search volumes

Stakeholder submissions

80. In their submissions, a range of search engines indicated that defaults influence consumers' usage of search engines. For example:

- Verizon Media submitted that it 'has observed a strong correlation between default settings in browser/OS and user search behaviour'.
- Mojeek said that '[the CMA's interim report] is correct in with its statement on the influence that embedding a default search engine within an operating system strengthens and grows user bases…It is apparent that

many regular users don't challenge the status quo, and some aren't even aware of how to do so'.[25]

- Microsoft said that 'because search defaults are such an effective and efficient distribution mechanism, especially on mobile devices where search default configuration is more difficult than on PCs, enabling competing solutions to become the default is critical'.[26]

81. Some other stakeholder commented on search defaults. For example, the Competition Law Forum (CLF) at the British Institute of International and Comparative Law (BIICL) said that payments by Google to mobile phone manufacturers to pre-install Google as the default search engine 'effectively eliminates consumer choice as the power of defaults may nudge consumers into the perception that Google is the only mobile search engine'.[27]

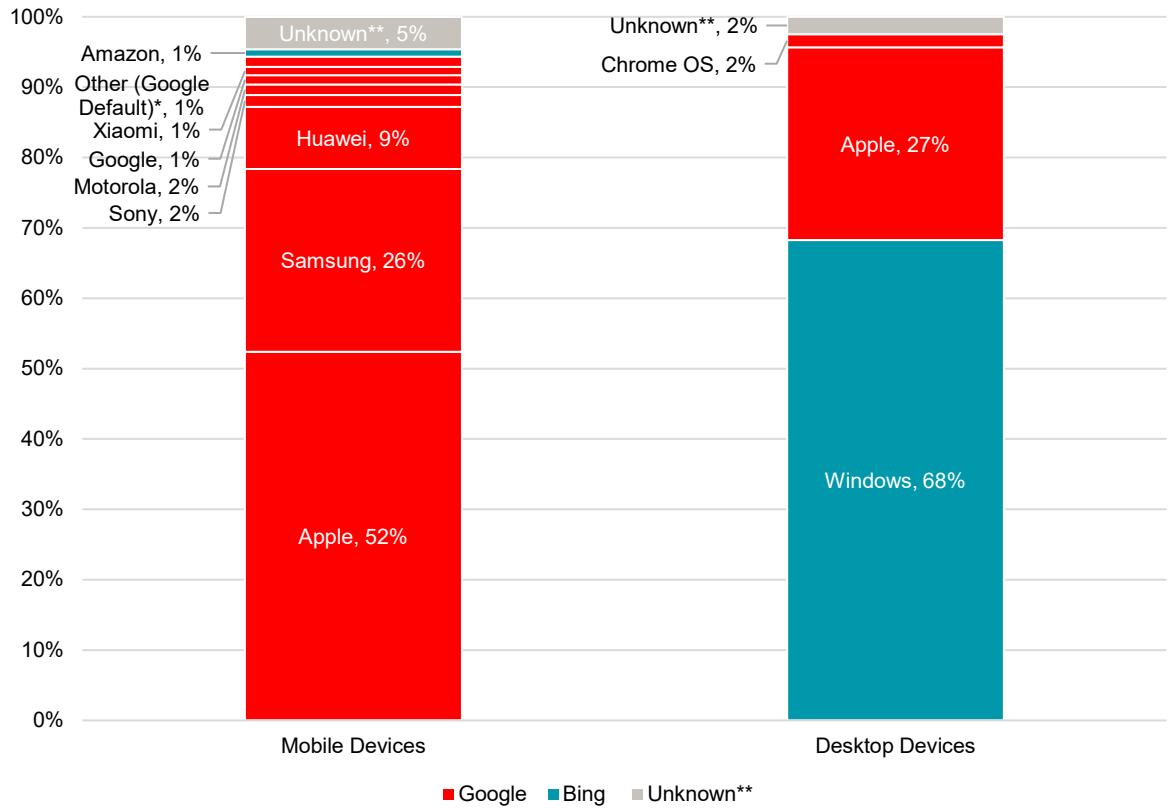
82. We consider below evidence regarding the impact that defaults have on consumer search behaviour and on search volumes.

Correlation between default positions held and general search shares of supply

83. There is a positive correlation between the default positions held by search engines and their shares of supply in general search. As shown in Figure H.7, Google Search holds the initial default position across nearly all of the mobile device sector,[28] and less than a third of the desktop PC sector.

[25] Mojeek's response to our consultation on the Interim Report.
[26] Microsoft's response to our consultation on the Interim Report.
[27] The Competition Law Forum's response to our consultation on the Interim Report.
[28] Except for the default positions held by Bing in relation to tablets (for example, as above, Bing holds the default position on Amazon tablets), we are not aware of any mobile devices that have a non-Google default in the UK as of February 2020. The regions marked as 'Unknown' on Figure H.7 represent the long tail of device manufacturers and operating systems with small shares of supply; we have not been able to obtain data confirming the shares of these devices and/or the search engine that holds these default positions.

Figure H.7: Breakdown of initial search default positions on mobile and desktop devices, based on device usage, February 2020



Source: CMA analysis of Statcounter GlobalStats data for the UK, February 2020.
Notes: The shares presented above are calculated on the basis of 'page referrals'. See Appendix C for further detail.
* Other (Google Default) consists of all mobile device manufacturers and mobile browsers that accounted for a share of less than 1% where Google is the primary default.
**'Unknown' consists of all device manufacturers and operating systems that accounted for a share of less than 1% and for which we were unable to identify the default search engine. Google or Bing may hold additional default positions on these devices and browsers.

84. While Google is the largest search engine in the UK across mobile and desktop devices, its share of search is relatively higher in mobile, where it occupies more extensive default positions, than in desktop. A similar correlation can be observed for Bing.

- Google Search has default agreements covering much more of the mobile device sector (at least 94%) than the desktop PC sector (29%). In turn, Google has a relatively higher share of supply in mobile search (97%) than it does in desktop search (84%).

- Bing is the initial default on around 68% of desktop PCs and almost none of the mobile device sector. Bing's share of supply is much higher in desktop search (13%) than in mobile search (less than 2%).[29]

85. The results above show that Google's default positions in mobile appear to have a stronger impact than Bing's default positions in desktop. We consider that in part this may reflect Google's status as market leader, with consumers generally perceiving it to offer higher quality results than Bing. However, mobile defaults are also likely to be more powerful than desktop defaults, for example because consumers are less likely to take steps to change or bypass defaults when faced with a smaller screen.[30]

86. We also note that smaller search engines such as Ecosia and DuckDuckGo do not occupy default positions on mobile or desktop access points, yet have a significantly higher share of search on desktop devices relative to mobile.[31] Respectively, Ecosia and DuckDuckGo have shares of 0.6% and 1.2% on desktop and 0.1% and 0.5% on mobile.

Evidence from Windows Mobile

87. As set out above, nearly all mobile phones now use either the Android or Apple operating systems and have Google Search set as the default. However, for a period in the 2010s, a small proportion of mobile phones used the Windows Mobile operating system and came with Bing as the default search engine.[32]

88. Evidence presented by the European Commission in the Google Android case showed that Google received a much lower share of queries (and Bing received a much higher share of queries) on Windows mobile devices, compared to Android mobile devices. Based on data for France, Germany, Italy, Spain and the United Kingdom between 2014 and 2017:

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[29] The shares given in this paragraph relating to search engines' default positions are based on Statcounter's Global Stats for browsers. Statcounter calculates mobile device vendors' and desktop operating systems' shares of supply on the basis of page referrals. The search engine shares related in this paragraph are based upon CMA analysis of search engine data. See more detail on our market outcomes analysis in Appendix C.
[30] As discussed above, this is also the conclusion reached by some internal Google research.
[31] Similarly, Mozilla Firefox, a web browser that is not preinstalled on either mobile or desktop devices, achieves a higher share of the browser sector in the desktop segment than in the mobile segment.
[32] For example, Statcounter Global Stats data shows that Windows had around 3% of the mobile operating system sector in the UK between 2014 and 2016, a 1.6% share in 2017 and a less than 0.1% share in 2020.

- Google Search accounted for between [10-20]% and [40-50]% of general search queries on Windows Mobile and [90-100]% on Android devices.

- Bing accounted for between [50-60]% and [80-90]% of general search queries on Windows Mobile, compared with [0-10%] on Android.[33]

89. Therefore, many more Bing searches were carried out on Windows devices where Bing was the default, than on Android devices, where Bing was not the default. We note that some Windows phone customers may have had a pre-existing preference for Microsoft products including Bing. Nonetheless, this evidence suggests that defaults influence the search engines that consumers use on mobile devices.

Evidence from Mozilla-Firefox browser

90. As noted previously, Google is currently the default search engine on Mozilla's Firefox browser. However, in November 2014, Mozilla switched the default search provider in its browser from Google to Yahoo! in the United States. The change was implemented in what was then the newest version of the Mozilla PC and mobile web browser, Firefox 34. Google remained the default search provider in earlier versions of the browser.

91. There is evidence indicating that Mozilla's decision to set Yahoo! as the default search engine in the Firefox browser in the US had a tangible impact on both Google and Yahoo!:

- Google internal documents indicate that [✂]% of Google's US Firefox default traffic and [✂]% of Google's US Firefox default revenue was lost as a result of this switch.

- in an email, a Google employee noted a Statcounter press release that suggested that Google may have lost 2% of the US search market to Yahoo! in relation to this switch and commented that the Statcounter report [✂].[34]

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[33] From the non-confidential European Commission Android decision (18 July 2018).
[34] The European Commission noted Google's submissions that the increase in Yahoo's share was minimal and was lost one year after the agreement with Firefox was implemented. However, the European Commission concluded that the decrease in Yahoo's overall share can be justified in part by the decrease in Firefox's own share. The European Commission also concluded that the relevant figure was the increase in Yahoo!'s usage share within the Firefox browser.

- the European Commission reported that a month after the change, Yahoo!'s share was 29% on Firefox 34, the version where it was the default, in contrast to a share of 10% on Firefox 33, where Google remained the default. In contrast, Google's share was 63% on Firefox 34 and 82% on Firefox 33.[35]

92. Mozilla then terminated this arrangement with Yahoo! after three years, reverting to setting Google as the default search engine in its browser in the US. Mozilla explained that the decision to switch back to Google was a response to Yahoo! failing to 'retain users and search volume over time'.[36]

93. Google submitted that Mozilla's reversion to setting Google as the default search engine in its browser, prompted by Yahoo!'s failure to retain search traffic, is evidence 'that users can and do change search defaults'.

94. The evidence above further indicates that, while some users switch away from search defaults in browsers, these defaults do have tangible impacts on consumer search behaviour. In this case, Mozilla setting Yahoo! as the default search engine in the Firefox browser led to a tangible increase in Yahoo!'s share, and a tangible decrease in Google's.

Evidence relating to the scale of default payments

95. We consider that the high level of default payments made by Google in particular demonstrates that it values these default positions highly. It is striking that the largest search engine, with a strong brand and high and sustained shares of supply, makes such significant payments for default positions.

96. As set out above, in 2019 Google paid just under £1.2 billion for default positions in the UK alone (based on Google's best estimates). This figure was more than 17% of Google's total annual search revenues in the UK, as reported in Chapter 5. The substantial majority of the total default payments made by Google were paid to Apple, with a smaller proportion going to Android mobile phone manufacturers or other partners.[37]

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[35] COMP/AT.40099 —Google Android.
[36] https://searchengineland.com/yahoo-parent-sues-mozilla-replacing-google-firefox-default-search-287872
[37] The payments quoted are Google's best estimates. Google makes these payments on a revenue share basis. This means that, when consumers undertake Google searches through specified search entry points, a share of any search advertising revenues that are generated are payable to the relevant partner.

97. Microsoft made approximately £[50-100] million in payments for default positions in the UK in 2019. These include some payments for primary default placements (including on Windows desktop PCs) and some payments to be a secondary option, within a settings menu. Microsoft, as well as DuckDuckGo and Yahoo Search pay to appear as secondary options on Apple devices. These search engines pay a relatively large percentage of search advertising revenue to be a secondary option on Apple devices. However, these payments are far lower in pound terms than the payments made by Google for the primary default position. This is consistent with primary default positions generating more searches and more search advertising revenue, other things equal, than secondary placements within a settings menu.

98. Apple submitted that search engines do not pay Apple for the right to be set as the primary default search engine on its devices. [✂]. However, our assessment is that Google does pay to be the primary default on Apple devices. The agreement between Google and Apple states that Google will be the default web search provider and the same agreement states that Google will pay Apple a specified share of search advertising revenues. We also note that Google does not pay compensation to any partners that set Google Search as a secondary option. This further suggests that Google's payment to Apple is in return for Apple setting Google as the primary default.

99. We discuss below further evidence concerning how the Apple default impacts consumer behaviour and search volumes.

Evidence relating to the Apple default

100. We reviewed submissions from Google and Bing regarding their motivations for occupying, or seeking to occupy, the Apple default position.

101. Internal documents produced by Google and Bing provide insight into the estimated impact changing the default search engine on Mac and iOS devices would have on the search engines' user traffic and revenue. Specifically, we have reviewed:

- Modelling carried out by Microsoft in [the last five years] concerning the possibility of making Bing the primary default search engine on iOS devices.

- Google internal documents which estimate the impact losing the Apple default position would have had upon its business.

Impact of holding the Apple default on Google Search

102. Google submitted that its motivation to serve as the default on Apple devices is broader than [✂]. Instead, Google told us that it considers the main benefits of holding the Apple default position to be [✂].

103. Evidence from Google's internal documents indicates that Google's broader relationship with Apple factored into its concerns during internal discussions of the potential loss of the default position. Google and Apple's wider businesses overlap in a number of areas, and Google documents identified the continuation of the default agreement as being important to maintaining a positive wider relationship.

104. However, as set out below, the Google internal documents we reviewed regarding the potential loss of the Apple default position overall indicated that Google was concerned with the anticipated loss of query volume and, in turn, revenue loss that this would result in.

105. Google estimated that it would lose US$ [✂] globally per year if Apple were to replace Google with Bing as the default search engine on OS devices in 2017. Google's internal documents include a number of different estimates of the quantity of revenue, previously generated through the default arrangement, that it would recover should Google be removed as the default search engine on Apple devices.[38] The estimated recovery ranged from [✂]% to [✂]% of default revenue overall, where default revenue refers to the revenue generated through the Safari default position. Specifically:

- Google's 'worst case' scenario assumed that only [✂]% of all default revenue would be recovered, with [✂]% on desktop devices and [✂]% on mobile.
- The medium scenario assumed that [✂]% of all default revenue may be recovered, assuming that [✂]% was recovered on desktop devices and [✂]% on mobile.
- The most optimistic scenario assumed that [✂]% of all default revenue may be recovered overall, with [✂]% being projected to be recovered on desktop devices and [✂]% on mobile.

[38] Google would be able to 'recover' default revenue where consumers choose not to use the new default search engine and instead switch to make their search through Google.

106. In other words, even in its most optimistic scenario, Google thought that, if it lost the Apple default, its mobile search revenue on Apple devices would fall by [✂]% and its desktop search revenue on these devices would fall by [✂]%. Consistent with other evidence that we have reviewed, these estimations suggest that defaults are more powerful on mobile devices than on desktop devices.

107. Internal documents indicate that Google's modelling of the potential impact of its removal from the default position on Apple devices was informed by the following:

- [✂]
- [✂]

108. We also reviewed an internal document that noted the greater influence of defaults on mobile devices. It included the statement that '[d]efaults have more prominence in mobile due to screen size and [user interface]'.

109. To inform its modelling, Google also conducted consumer research to assess the impact of Apple switching its default to a different search engine, concluding that any such switch would have a tangible effect on Safari users' search behaviour. This research included:

- [✂]
- [✂]

110. One of Google's objectives appears to have been to [✂]. Google's internal documents also noted that '[c]hanging behavior is hard, displacing defaults even harder'.

111. Microsoft's internal documents also estimated the impact that a switch to Bing would have on Google. In [a later version of its modelling], it estimated that setting Bing as the default would lead Google's share on Apple devices to fall from:

- [✂]% to [✂]% of total share on Mac in the US;
- [✂]% to [✂]% of total share on iPhone in the US; and
- [✂]% to [✂]% of total share on iPad in the US.

112. This indicates that Microsoft also believed that the Apple default has a significant impact on the number of Google searches made on Apple devices, and that this impact is greater on mobile devices than on desktop devices.

Potential impact of acquiring the Apple default position on Bing

113. Microsoft's narrative submissions and internal documents indicate that Microsoft's primary motivation in seeking to make Bing the primary default search engine on Apple devices was to 'improve Bing's performance with both users and advertisers' by increasing Bing's scale. For example:

- Microsoft's internal documents note that the Apple default position would be particularly valuable with respect to increasing Bing's scale on mobile devices: [✂].
- Microsoft submitted that it would be able to improve quality to users by learning and experimenting faster with the additional click and query data it would receive through the Apple position, leading to more relevant results and over time, fewer users switching from Bing to Google.
- Microsoft explained that it expected the anticipated scale increase to improve its ability to monetise. It submitted that [✂].

114. In [a later version of its modelling], Microsoft estimated that setting Bing as the default search engine on Apple devices would allow it to generate US$[✂] of revenue in the United States alone. The proposal describes the projected revenue increase as resulting from increased query volume and the scale benefits Microsoft hoped Bing would subsequently realise.

115. Regarding query volume, Microsoft estimated that replacing Google with Bing as the default search engine on Apple devices would yield an increase in Bing's share from:

- [✂]% to [✂]% in the US on Mac;
- [✂]% to [✂]% in the US on iPhone; and
- [✂]% to [✂]% in the US on iPad.

116. Therefore, consistent with Google's internal modelling, Microsoft estimated that the effect of the switch of default would be greater on mobile devices.

117. Microsoft also predicted that it would be less successful in retaining user traffic outside the US.

Why defaults impact consumer behaviour

118. The finding that defaults are impactful in search is consistent with research from other settings; the power of default settings is an area of behavioural economics that has been well researched and is well-evidenced across a wide range of settings, such as pension savings, medical insurance and food consumption. There is a general recognition that the presence of status quo bias means that individuals will often stick with the default choices they are presented with.[39]

119. We consider that the influence of defaults in general search is likely to be underpinned by several factors. First, consumers may not understand that they can change the default search engine on a device or in a browser. For example, Google explained that a key barrier to switching between search engines includes users with limited technical proficiency being unable to change their default search engines.

120. Secondly, they may be put off by complexity or other hassle factors. For example, Ecosia told us that Google displays a warning notice when consumers seek to change the default search engine in Chrome or on Android devices and that this discourages consumers from following through with a switch. DuckDuckGo said that even when the consumer is convinced to take that action, it can be only a temporary change – the consumer's device and browser are often configured to roll back the search engine selection (eg with software updates). As discussed above, consumers may also be less likely to take steps to change (or bypass) defaults when faced with a smaller screen.

121. Thirdly, consumers may perceive little benefit to changing defaults, especially if the default search engine is the market leader (Google) and the alternatives are not well understood, or are perceived to offer lower quality. As set out in Appendix I, the evidence that we have reviewed suggests that Google Search results generally score more highly than those of Bing in consumer studies (although the studies we reviewed were not entirely consistent).

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[39] See for example: Thaler, R.H., and Sunstein, C. (2008) Nudge: Improving Decisions About Health, Wealth and Happiness, Yale University Press, New Haven, CT. The role of defaults in data collection in general search and social media is discussed in this report in Chapter 4 and Appendix L.

Conclusion

122. The evidence that we have reviewed shows that default positions have a significant impact on consumer behaviour in search and, in turn, on the search volumes (and search revenues) of search engines. It indicates that defaults are generally more powerful on mobile devices than on desktop devices.

Search competition

123. As set out above, search defaults have a significant impact on the search engines that consumers use. Google holds extensive default positions, and rival search engines face barriers to acquiring these positions.

124. As a result, Google's extensive default positions act as a significant barrier to expansion for rival search engines and lead to weaker competition to Google in general search.

125. The mechanism for this is that Google's default positions support its own scale and limit the ability of rivals to access consumers, build their scale and grow into stronger competitors over time. There is a feedback loop between Google's position as the largest and most revenue-generating search engine and its ability to acquire extensive default positions that further reinforce this position. As set out above, important default positions, including those on Apple and Android mobile devices, are awarded by device manufacturers on the basis of perceived service quality and the financial compensation that the search engine can offer. Having been by far the largest search engine for more than a decade, Google benefits from higher perceived quality among many consumers, can generate more search advertising revenues from a given default, and is able to pay more for default positions than other search engines. Given the influence that defaults have on consumer behaviour, Google's default positions help it to maintain high query volumes and make it more difficult for other search engines to attract more queries, iteratively improve their search quality and search monetisation, and improve their ability to compete for default positions.

126. Weak competition in general search may negatively affect consumers in several ways. First, Google faces weaker incentives to keep improving Google Search in the interests of consumers, compared to a scenario where it faced a stronger competitive threat. For example, Google may choose to invest less of its profits in innovating to further improve search relevance compared to a more competitive scenario. Second, Google can collect more

consumer data (or offer consumers worse terms in return for their data), compared to a scenario where it faced a stronger competitive threat from other search engines. We discuss consumer control over data in Chapter 4. Third, consumers are harmed indirectly through higher prices for other goods and services, if Google is able to use its market power over consumers to raise search advertising prices above competitive levels. We discuss competition in digital advertising in Chapter 5.

Consumer convenience

127. Search defaults also have an impact on consumer convenience. New mobile and desktop devices generally come with pre-installed web-browsers and search apps, which are in turn associated with a default search engine. This means that consumers have the possibility of turning on their new device and searching the web directly, without making an active choice of browser or search engine.

128. Some consumers may value this, especially if the default is for their preferred browser and search engine. For example, Google said that users may value 'having Google's high-quality search service available to answer queries as a default straight 'out of the box'.

129. On the other hand, consumers that prefer a different browser or search engine may find it inconvenient to be presented with a browser or search engine that they did not choose.

130. An alternative approach to consumers being presented with a default search engine on their browser or device is for consumers to face a choice screen, prompting them to consider different options and to select an additional or alternative search engine of their choosing. One example of a choice screen is outlined in Box H.1 below.

Box H.1: Android choice screens

Following the European Commission's Android decision in July 2018, Google announced that users would be provided with a choice screen of general search providers on all new Android phones and tablets in the European Economic Area, including the UK, where the Google Search app is pre-installed.[40]

From 1 March 2020 until 30 June 2020, a choice screen has appeared in the UK during device set up, offering users with a choice of Bing, DuckDuckGo and info.com, in addition to Google as the default search engine on the Chrome web browser.[41] Future auction cycles determining which search engines will be made available to users will occur on a quarterly basis.

The effect of a user selecting a search provider from the choice screen will be to (i) set the search provider in a home screen search box to the selected provider, (ii) set the default search provider in Chrome (if installed) to the selected provider, and (iii) install the search app of the selected provider (if not already installed).

Stakeholders' views regarding the likely effectiveness of this choice screen at improving competition are described in Appendix V.

131. Choice screens entail a small amount of additional effort for a consumer compared to simply being presented with a default. However, we consider that any such time costs for consumers would be small and the potential benefits from greater search competition would be substantial. We discuss choice screens further in Appendix V on search remedies.

Cost of devices and sustainability of browsers

132. The payments made by Google and others for default positions can lead to benefits in markets other than search. For example, default payments from search engines are a source of income for some web browsers and device manufacturers. These default payments may contribute towards subsidising browsers that are currently supplied at zero price to consumers and may lead to downward pressure on the price of some mobile phones or other devices.

133. Apple submitted that an intervention that restricted its ability to monetise default positions would be very costly. [Android OEM] made similar submissions, noting that an intervention could limit its ability to maximise financial benefits.

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[40] Android (2019), About the choice screen, accessed on 26 November 2019.
[41] Android (2020), Choice Screen winners, updated 1 June 2020.

134. If device manufacturers or providers of browsers are less able to monetise defaults, a potential concern is that they may raise their prices.

135. Where default payments take the form of revenue share payments, we would expect recipients to pass these on to consumers to some extent, where they are operating in competitive markets. However, any consumer benefits that default payments create in browser and device markets are likely to be outweighed by the costs imposed on consumers due to weaker competition in search. As set out above, the current scale and breadth of default payments by Google prevents smaller search engines from accessing consumers and building scale, and harms competition between search engines. This reduced competition can lead to increased prices for goods and services across the economy that use search advertising, as well as weaker dynamic competition and less innovation in Google's search services, to the detriment of users.

136. We expect that Google would only agree to make substantial default payments where the benefit to Google from doing so (for example in terms of protecting its profits in search) exceeds the level of the payment. This further suggests that benefits from search default payments are outweighed by the costs that they impose. We therefore expect that default payments have a negative impact on social welfare overall.

137. We discuss remedies relating to search defaults further in Appendix V. As set out in that chapter, our view is that measures that restrict the monetisation of search defaults could be targeted at browsers with larger market shares. This would mitigate concerns about potential adverse impacts on the sustainability of smaller browsers.

Conclusions

138. Google holds the most significant default positions in English-language search, Microsoft holds some default positions, and other providers do not hold significant positions.

139. A range of evidence indicates that default positions have a significant impact on consumer behaviour in search. Google's default positions in mobile appear to have a stronger impact than Bing's default positions in desktop. We consider that in part this may reflect Google's status as market leader, with consumers generally perceiving it to offer higher quality results than Bing. However, mobile defaults are also likely to be more powerful than desktop defaults, for example because consumers are less likely to take steps to change or bypass defaults when faced with a smaller screen.

140. We consider that search engine quality and financial compensation are the key components of how access point owners select defaults and that search engines other than Google face barriers to competing on both of these.

141. As above, Google is generally perceived to be the highest quality search engine. This suggests that, in practice, other search engines are likely to have to offer at least as much financial compensation as Google in order to win a default contract. However, given Google's relative popularity with users, it can generate more queries through a given default position than other search engines can. For this reason, and because Google also has superior monetisation per query due to its greater overall scale, other search engines are unlikely to be able to offer as much financial compensation as Google can.

142. There is also a positive feedback loop between Google's position as the largest and most revenue-generating search engine and its ability to acquire extensive default positions that further reinforce this position. Google's ability to conclude default agreements across very large parts of the mobile landscape in particular acts as a barrier to expansion for other search engines, making it more difficult for these providers to grow their user bases and improve their search quality and search monetisation rates.

143. As well as impacting search competition, search defaults have implications for consumer convenience and can lead to benefits in related markets, such as browser and device markets. We consider that impacts on search competition are likely to be the most substantial, such that default payments have a negative impact on social welfare overall.

Annex

Annex 1: Google and Bing's Revenue Shares

Table H.2: Google and Bing's revenue shares dictating payments made on UK traffic in 2019

Google				*Bing*			
Party	*Partner Type*	*Default Type*	*% Provided as Revenue Share*	*Party*	*Partner Type*	*Default Type*	*% Provided as Revenue Share*
[✂]	[✂]	[✂]	[✂]%	[✂]	[✂]	[✂]	[✂]%

Source: Google and Bing's submissions

Annex 2: Microsoft's estimates of retention

144. Tables H.3 – H.5 below set out:

- The estimated volume of user searches retained by Bing on Apple devices in the US where it is not the primary default, as of [✂]; and
- Microsoft's estimates of the volume of user searches Bing would retain in the US should it be set as the primary default on Apple devices.

Table H.3: User retention on iPhone devices

[✂]

Source: Microsoft internal documents

Table H.4: Retention of user searches on iPad devices, US

[✂]

Source: Microsoft internal documents

Table H.5: Retention of user searches on Mac devices, US

[✂]
Source: Microsoft internal documents