Appendix J: Potential interventions in general search

Introduction

1. This appendix sets out potential interventions to address the concerns identified in Chapter 3 regarding the general search market. These included a number of barriers to entry and expansion, such as the extensive default positions held by Google and advantages to scale in cost and data, which together limit the competitive threat faced by Google.

2. We consider potential interventions under two main categories:

   - demand-side remedies (aimed at facilitating consumer choice and improving access to consumers for rival search engines); and

   - supply-side remedies (provision of third-party access to data).

3. In identifying these interventions, we have drawn on proposals put to us by parties with whom we have engaged in the first half of our study. We have not reached a conclusion on the merits of these interventions; the purpose of this appendix is to invite comments from interested parties on the expected impact of each intervention and the design choices within it.

Demand-side remedies

4. There is clear evidence that, where a search engine is set as the default option[1], this search engine retains a higher share of supply than it otherwise would. Consequently, search engine providers can benefit greatly from being the default search engine on devices and browsers.

5. As explained in Chapter 3, Google is the default search engine for most search entry points in the UK due to its ownership of the most-used browser, Chrome, and its significant payments to the owners of other popular browsers, such as Apple (which owns the Safari browser). This limits the distribution opportunities for competing search engines and has been consistently described by these parties as a significant barrier to growing their userbase, monetising their operations and improving the quality of their search results.

6. In this section, we consider which interventions could address the barriers to expansion created by defaults and facilitate consumers making a more active

[1] Browsers generally allow consumers to change the initial default search engine (sometimes referred to as the primary default) through the browser settings. Within these settings, consumers may be presented with several alternative options (sometimes referred to as secondary defaults). Unless otherwise stated, we use the term 'default' to refer to the initial or primary default on a browser or device.

choice regarding their search engine. Remedies in this area would have the objective of increasing competition and providing greater choice for consumers.

7. We consider two potential interventions: a restriction on the ability of Google to secure default positions; and an expansion in the use of choice screens and amendments to their design.

Restrictions on default arrangements

8. Search engines, such as Microsoft, Yandex and Cliqz, have noted the importance of mobile search defaults and how prohibiting Google from engaging in arrangements that make it the default search engine on the majority of browsers and operating systems might improve search competition. The purpose of this intervention would be to reduce the barriers to expansion faced by smaller search engines, by increasing the potential for them to obtain default positions themselves and/or by reducing the proportion of browsers or devices for which consumers are presented with search defaults at the point of first use.

9. This could apply to any of the contexts in which search defaults occur, including:

    - other mobile operating systems (such as Android or iOS on Apple mobile phones);
    - other devices (laptops, tablets); or
    - other browsers (Safari, Microsoft browsers, or smaller browsers such as Mozilla).

10. There are various ways in which this intervention could be implemented. For instance, it could be targeted at search engines, such as Google, or it could be targeted at the device manufacturers or browsers that monetise consumers' inertia, such as Apple. The restriction itself could take various forms, including for example a limit on the proportion of default positions secured by Google, for particular devices or browsers.

11. While this intervention may radically improve other search engines' ability to gain customers and in turn improve their algorithms, this would need to be weighed against the potential consumer harm of such restrictions, and the possible impacts on the cost of devices. This intervention would therefore require careful thought, including whether it would be appropriate to limit any restrictions on the ability to monetise defaults to companies with market power.

The use and design of choice screens

12. Choice screens are another mechanism aimed at improving consumers' access to alternative search engines. DuckDuckGo, Ecosia, and Yandex submitted that specific devices and browsers should be mandated to present users with a choice of search engines when setting up their device or browser. This remedy would provide users with the opportunity to make an active choice regarding their default search engine from a selection of viable alternatives at a key point in time, such as during the device or browser set up.[2]

13. A choice screen was introduced in Russia on Android-operated mobile devices in August 2017 following a settlement agreement between Google and Federal Antimonopoly Service of Russia.[3] Yandex considers that this remedy, together with the FAS' decision to prohibit Google from entering into exclusive default agreements, was effective at providing users with greater choice and improving competition between general search engines. Since August 2017, Yandex's market share on Android-operated devices in Russia rose from 35% to 52% in November 2018, although this has subsequently fallen and stood at 43% as of November 2019.[4]

14. 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.[5] Google has appealed this decision.[6] Subsequently, 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.[7]

The design of the choice screen

15. The introduction of Google's choice screen was welcomed by several market participants that we have engaged with. However, we have heard concerns regarding Google's design and implementation of the choice screen. In particular, stakeholders highlighted concerns that:

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[2] In addition, it could lead to increased usage of other search engine will provide them with access to greater volumes of search and click data which will enable them to train their algorithms to produce more relevant search results.
[3] See statement from FAS dated 17 April 2017 regarding its settlement with Google.
[4] Market shares obtained from statcounter.
[5] COMP/AT.40099 —Google Android; See also the European Commission's press release dated 18 July 2018.
[6] Case T-604/18, Google and Alphabet v Commission
[7] Google has published information regarding its choice screen on android devices here.

- the decision to limit the number of available choice engines to four, including Google, creates an artificial scarcity that limits the amount of potential competition to Google;

- any alternative choice made by users would not necessarily apply to all aspects of search functionality on the device, including the Google search widget and search app;

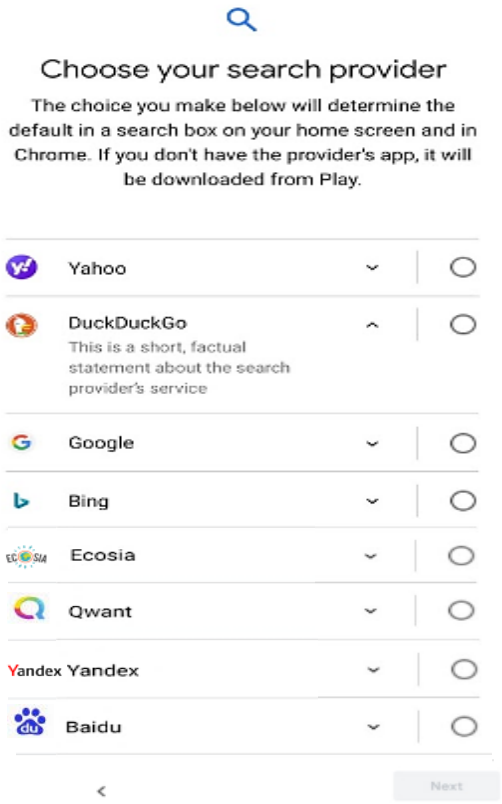
- the ability to pre-install search engines, including Google, before the choice screen is used, harms competition and a more effective remedy would provide users with a choice of search engines without any other search engine being pre-installed or set as the default; and

- Google is continuing to leverage its market power through the auctions it uses to determine which general search providers will appear in the choice screen[8] and that the costs imposed on rival search engines as a result of this auction will constrain their ability to compete effectively.

16. We have prepared an image, Figure J.1, which illustrates how a choice screen could be presented, including eight rather than four slots and with some accompanying text describing the search engine. This image has been adapted from the Android choice screen page, using DuckDuckGo's research and logos found in Google images.

[8] Google has stated that it will use a fourth-price auction to select the other general search providers that appear in the choice screen. A separate auction will be in each EEA country, in which search providers will state the price that they are willing to pay each time a user selects them from the choice screen in the given country.

Figure J.1: possible design of a 'choice screen'



17. In a trial carried out by DuckDuckGo, a choice screen along the lines set out above led to a significant increase in the take up of non-Google search engines, with an 8-choice preference menu being more effective than a 4-choice preference menu at increasing rivals' take up.[9] We have also included some descriptive text in our illustration, which is how we understand Google intends to present its choice screen on Android devices.

18. With regards to other concerns raised by market participants, we agree that there is a strong case for any remedy to cover all search functionality on the device. Google has submitted that it is already its intention to enable this, as the selection of a search provider from the choice screen will: (i) set the 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.

19. With regards to the call for prohibiting the pre-installation of search engines, we note that neither the EU Commission, nor the Russian FAS, made a formal finding that such pre-installation breached competition law. Rather, it

[9] DuckDuckGo has published the results of its research here.

was the restrictions associated with the pre-installation which was found to breach competition law.

20. Restricting the pre-installation of search engines and making choice screens more widespread may increase competition between general search providers. This could lead to greater innovation and choice in search to the benefit of consumers. In addition, greater competition in search could lead to lower search advertising prices and, in turn, lower product prices for consumers.[10] Similarly, restricting the ability to monetise choice screens could lead to a wider variety of search engines for consumers to choose from.

21. On the other hand, we are conscious that payments for the pre-installation of search engines provide a source of revenue for device manufacturers and browsers and may contribute to lower device and browser prices for consumers. Consequently, prohibiting payments for the pre-installation of search engines and monetisation of choice screens could have both positive and negative impacts on consumers.

22. Microsoft described the presence of an auction as inappropriate as it enables Google to use its market power in Android to take search revenues from competitors. DuckDuckGo and Ecosia also submitted that their business models, which are focused on privacy and reforestation respectively, are less monetisable and that this limits their ability to participate successfully in any auction. As a result, the process of an auction, combined with a limited number of choices made available to users, constrains users' ability to switch to alternative general search providers.

23. These parties have suggested that the identity of the alternative search engines made available through the choice screen should be determined by market share for each particular device or browser, rather than through an auction. This would also be consistent with how Microsoft made its browser choice screen available after it entered into commitments with the European Commission in 2009.[11]

24. Consequently, we are interested in the effects that these design decisions would have had on competition and whether developments since this remedy was proposed suggest that an alternative approach could be more effective in the UK. In particular, we are seeking views regarding:

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[10] As discussed in Chapter 5, advertising prices may be passed through directly to the prices of products bought by consumers, in cases where search advertising is treated by advertisers as a variable cost relating to each product.
[11] See the European Commission's press release dated 16 December 2009 regarding the commitments it entered into with Microsoft.

- Google's decision to run an auction and the impact of basing this auction on a price per user;
- Google's decision to limit the number of available general search engines to three providers, in addition to Google;
- whether the choice screen should include some short descriptive text for each of the search options to increase users' awareness of competitors' offerings, as is illustrated in Figure J.1; and
- at what instances and how frequently users should be presented with this choice screen.

Greater roll-out of choice screens

25. We are also considering whether the scope of choice screens should be extended beyond devices that use the Android operating system to cover other devices and browsers. For instance, we note that Brave, the web browser, already makes a choice screen available to its users in the UK as soon as they download their app on mobile devices. Users are presented with a choice of Google, Bing, DuckDuckGo, Qwant and StartPage to set as their default search engine.

26. As part of its inquiry into digital platforms, the ACCC initially recommended that all suppliers of operating systems for mobile devices, computers and tablets be required to ensure consumers actively chose their internet browsers and that suppliers of internet browsers make consumers choose their search engines.[12]

27. However, the ACCC chose not to make this full recommendation in its final report, highlighting concerns that it could raise barriers to entry for existing smaller suppliers of general search that are vertically integrated with an internet browser and could further entrench the dominance of large incumbents due to their brand recognition.[13] Instead, the ACCC recommended that Google should offer Android users in Australia the same choice it is making available to consumers in the EEA.

28. In its submission to our study, DuckDuckGo challenged the ACCC's reasoning and submitted that rival search engines with a compelling offering to consumers are unlikely to be adversely affected by such a remedy. DuckDuckGo submitted that a more effective way of addressing any concern

[12] See page 65 of the ACCC's Digital Platforms Inquiry Preliminary Report
[13] See page 30 of the ACCC's Digital Platforms Inquiry Final Report.

would be to limit the applicability of such a remedy to web browsers with very high market shares, such as Apple iOS/iPadOS as well as Chrome. DuckDuckGo suggested that this would address concerns regarding the sustainability of smaller browsers that generate revenue from defaults arrangements to support their operations.

29. We recognise that there may be limitations to how effective such an intervention could be, especially in the short term. Given Google's long-term position in the market, its brand recognition and its product quality, in particular in relation to 'tail' queries, we have heard that many users are still likely to choose Google as their default option, even if presented with a range of options. As was submitted by Cliqz, the reason this remedy was successful in Russia was because Yandex already had significant scale in that country.

30. On the other hand, this measure could become more impactful over time, especially if rival search engines are able to incrementally gain access to more search queries and clicks, which enable them to improve the relevance of their search results. In addition, rivals may be more likely to invest in additional features that improve the quality of their service, if barriers to accessing consumers are reduced.

31. We are therefore interested in stakeholders' views regarding whether widening the scope of the choice screen beyond the Android operating system would be effective at promoting competition between general search providers. We are also interested in understanding whether any benefits associated with such an intervention would outweigh any adverse effects, such as increasing the net costs of devices or compromising the business model of certain web browsers, or could have the unintended consequence of reducing the level of competition that already exists.

Supply-side remedies (third-party access to data)

32. As set out in Chapter 3, two key barriers that rival search engines face to develop a search engine that produces independent search results are:

    - significant economies of scale in web-crawling and indexing; and
    - scale advantages, with respect to the number of search queries and the information gained from users' interaction with search.

33. As set out in Chapter 6, the Furman Review recommended that its proposed Digital Market Unit should use data openness, ie the provision of third-party access to data, as a tool to promote competition, where it determines this is necessary and proportionate to achieve its aims.

34. In this section, we have considered whether access remedies would be effective at increasing the ability for rival search engines to improve the quality of their output and compete more effectively in this market. We also consider whether providers of search results and adverts, under syndication agreements, should be subject to an obligation to supply this service on fair, reasonable and non-discriminatory terms.

Web-index

35. Creating a web-index is a fundamental component of developing a search engine that produces independent search results. Developing a web-index represents a significant cost for those search engines that do it and is subject to economies of scale .As set out in Chapter 3, we are interested in understanding the prevalence of web-crawling blockers, whether they are justified (for instance because of the impact of web-crawlers on the speed of websites), and whether they present a significant impediment to developing web indices.

36. Market participants, such as DuckDuckGo and Microsoft, have submitted that access to the full web-index may not be enough, on its own, to address competition concerns in this market. They submitted that, while such access would provide rivals with the underlying information required to create search results, a critical mass of click data per query would also be required to train their algorithms to deliver search results that are of sufficient relevance and quality.

Search queries and click data

37. As noted above, access to a critical mass of search query and click data would appear to be a necessary input to develop a high-quality search engine. Microsoft has told us that it has developed a web-index that is competitive with Google's and yet considers that it requires increased query and click data to provide the most relevant results and to attract enough advertisers to improve ad relevance to be on par with Google.

38. A further illustration of this is the decision by Microsoft to enter into syndication agreements. While, in some cases, this can lead to direct benefits for Microsoft through revenue generation, these agreements also help Bing build greater scale in click-and-query data and in search advertising, which may in turn help improve its search relevance and search advertising monetisation.

39. Microsoft submitted that one possible approach to improving search engines' ability to compete with Google, would be to provide search engines with

access to a stream of keyword and associated click data made on Google's search engine.

40. Microsoft submitted that this would be easy to develop as the data is easily identifiable and could be provided through data feeds that are common in the industry and would not, in their view, be prohibitively expensive. Such data could be provided a few times a day, for instance, every 6 to 12 hours.

41. Based on this submission, such an access remedy could require Google to provide access to a number of data points, potentially some or all of;

- user queries;
- URLs returned;
- user clicks and any click backs; and
- other relevant data, such as location data or previous search, required to interpret the data above.

42. The Furman review concluded that there may be situations where providing access to some of the data held by digital businesses on reasonable terms could be an essential and justified step needed to unlock competition. However, this review also recognised that any remedy of this kind would need to protect personal privacy and consider carefully whether the benefits justified the impact on the business holding the data.[14]

43. In this market, the provision of access to search click and query data could be effective at improving competitors' services because greater data scale enables greater relevance which is a key aspect of quality for consumers. Access to such data could also incentivise smaller search engines to invest in their own web-index, reducing their reliance on syndication agreements. It may also be beneficial to all search engines, including Google, if this intervention were expanded so that other search engines (in addition to Google) were required to provide access to this data.

44. We recognise that if such a remedy included a requirement to disclose the outputs of proprietary search algorithms (ie URLs returned), which is the result of investments in search and associated infrastructure, this could dampen incentives for Google to innovate further since any benefits would be, at least indirectly, shared with rivals.

[14] Furman Review, Unlocking digital competition, paragraphs 2.79-2.92.

45. In addition, as noted in Chapter 6, Google has already expressed concerns that this remedy would create risks to users' privacy. We are therefore interested in stakeholders' views on whether the provision of access to click and query data would be effective at promoting competition between general search providers, including its impact on incentives to innovate, and whether such an intervention could be designed to be consistent with GDPR.

Provision of search results through syndication agreements

46. As explained in Chapter 3, the provision of organic search results, as an end product, already exists in this market. Indeed, the most significant rival search engines to Google and Bing in the UK, such as Yahoo!, DuckDuckGo and Ecosia, use Bing's organic search results. They obtain these through syndication agreements with Microsoft or an intermediary. Whilst most of the larger syndicator search engines in the UK use Bing's organic search results, we understand that Google's search results are also used by some syndicator search engines, for example Startpage.com.

47. DuckDuckGo also submitted that APIs exist to provide these search results and that since the data is presented in a non-user identifiable manner, privacy and consumer protections, including compliance with GDPR, are preserved.

48. However, as explained in Chapter 3, the provisions made in these agreements can restrict the ability of recipients to innovate and improve the services they offer consumers, therefore harming competition amongst search engines. For instance, clauses within these agreements impose constraints on the recipient's ability to change the ranking of search results or the use of third-party advertisements. They also require approval from the provider for another device or browser to use them as a default search engine.

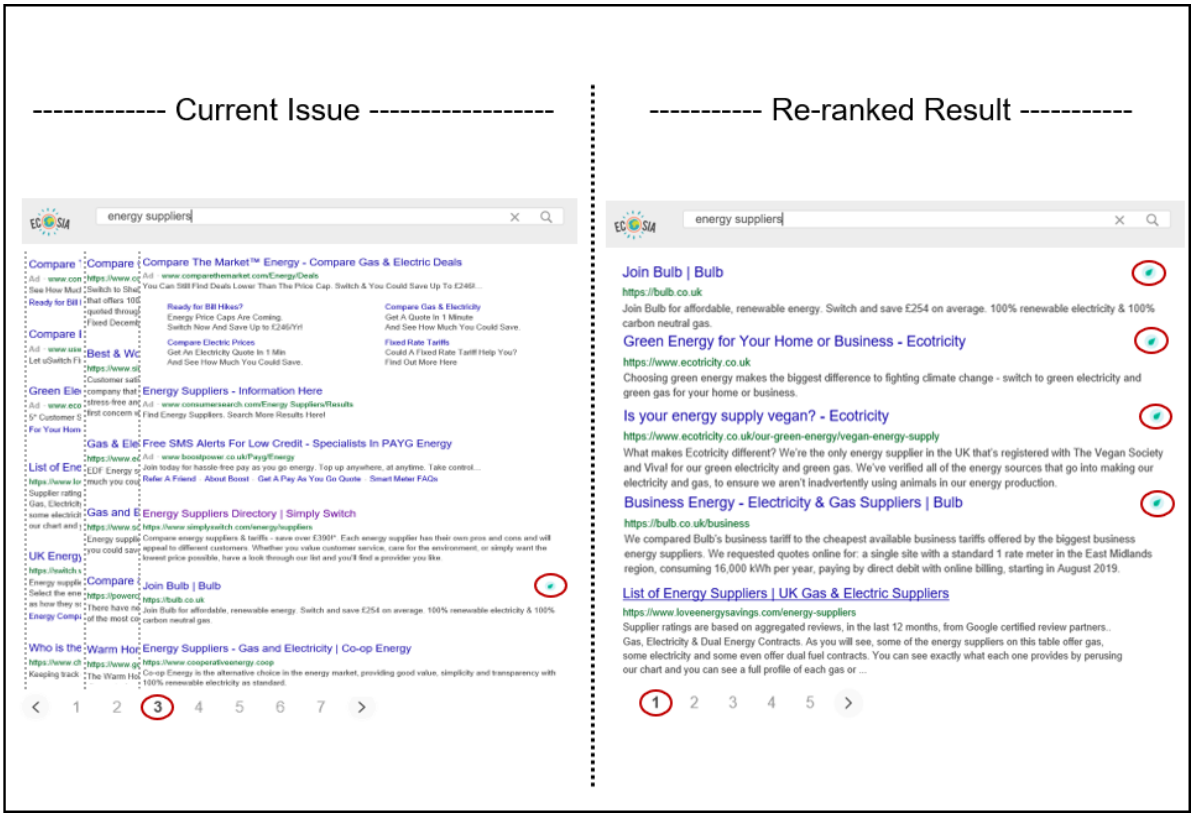
49. Aside from contractual restrictions, search engines that have syndication agreements can face other constraints. For instance, companies that have a syndication agreement with Google are not currently eligible to participate in Google's Android choice screen remedy.[15]

50. While recognising the need for the providers of organic search results to earn a fair rate of return and preserve their incentive to innovate and improve their output, we are considering whether syndication agreements should be offered by certain providers, and should be subject to fair, reasonable and non-discriminatory (FRAND) terms. Such terms may limit clauses that restrict recipients' ability to compete in these markets, enabling Ecosia, for instance, to re-rank its search results to prioritise eco-friendly websites, as illustrated in

[15] Google has published information regarding its choice screen on Android devices here.

Figure J.2 below. More generally, one might expect improved terms for recipients to result in benefits for consumers and/or advertisers.

Figure J.2: Search click and query re-ranking remedy



Source: Current results (LHS) were taken from screenshots of the current ranking for 'energy supplies' search in Ecosia, with the first 'greener, more sustainable choice' indicated by the leaf is near the bottom of page 3. Re-ranked results (RHS) image is adapted from Ecosia's search result for 'energy suppliers' such that every leaf result has been re-ranked to appear on the top of page 1. Currently these results can be found on page 3, page 10, page 14, page 21.

51. At the same time, we recognise that if Google were required to offer syndication on more attractive terms to third parties, this could potentially limit the ability of Microsoft to compete with Google in providing these syndication services. Consequently, an unintended consequence of facilitating syndication agreements with Google could be that this weakens the constraint imposed on Google by Microsoft and incentivises other potential entrants to 'buy' rather than 'build' their own search engine. This might indicate either that regulated syndication arrangements should be limited to relatively small customers, below a certain market share where they are helpful to gain a starting position in the market and/or that such regulation should be on non-price terms only.

Consultation questions

52. We are interested in stakeholders' views regarding the impact of defaults and the likely effectiveness of the Commission's choice screen remedy and potential variations to it, including design and scope. We have a number of specific questions on this subject:

    J.1 Should there be some form of restriction on the ability of Google to buy default positions and / or the ability of browsers or device manufacturers to place defaults on their own properties? What benefits could this intervention deliver and what adverse effects could the prohibition of such practices have on competition?

    J.2 Do you think that there is a case in principle for a choice screen remedy to increase competition and consumer choice in search?

    J.3 Do you have views on the appropriate design of a choice screen remedy and in particular:

    a. Should the design of the remedy be left at the discretion of the company implementing it or should a regulatory authority have stronger involvement in design?

    b. Do you have views on the way in which the European Commission's choice screen remedy is being implemented by Google?

    c. How should the number of slots on the choice screen be determined? How should they be allocated and ordered, and in particular is auctioning an appropriate method or should other approaches be used?

    J.4 Do you have views on the appropriate scope of a choice screen remedy and in particular:

    a. Should the remedy apply to all firms or only to large firms? For example, could the remedy be effective if it applied only to competition to be the default search engine on Google's and Apple's mobile operating systems?

    b. Is SMS status a useful concept in this respect?

53. We have a number of consultation questions with regards to how effective and proportionate a remedy would be that provided access to search query and click data:

J.5 Should search engines be subject to a requirement to provide such data and if so, which ones?

J.6 Which data would be most effective at supporting rivals' ability to deliver improved search results? In particular:

a. Would all of search, click and query data be required or could a subset be sufficient?

b. How would the benefits and costs of the remedy differ under each of these variants?

J.7 Could the remedy be effective if restricted to data from UK users?

J.8 How could such a remedy be delivered, i.e. could existing APIs that provide access to search results, in accordance with syndication agreements, be altered to provide access to search and click data?

J.9 Could the most relevant data be provided in a manner that was consistent with GDPR?

J.10 What would the cost of implementing this remedy be and on which terms should the data be provided, including how or whether any costs should this be recovered from participants?

J.11 What are the possible unintended consequences and adverse effects that could result from providing access to this data?

54. We are interested in stakeholders' views regarding whether the largest search engines should be subject to an obligation to supply search results and adverts on FRAND terms. In particular, we are interested in:

J.12 Should search engines be subject to a requirement to supply search results and adverts on FRAND terms and if so, which ones?

J.13 What would the benefits and risks be of this remedy?

J.14 How could access to search results be priced at levels that are low enough to incentivise taking part but high enough to rewards providers of search results and maintain the incentive for third parties to develop own web-index?

J.15 What should the appropriate eligibility criteria for recipients of search results be?

J.16 Which, if any, specific conditions imposed on recipients of search results, through syndication agreements, should be prohibited?

J.17 What are the possible unintended consequences and adverse effects that could result from providing access to this data?

55. We are interested in how the possible interventions set out in this appendix would interact with one another and whether they would be effective in isolation or whether their effectiveness is likely to depend on being introduced with other interventions.

J.18 To what extent are these remedies substitutable or complementary in nature?

J.19 Would these interventions be effective in isolation or would they need to be introduced as a package to be effective?

J.20 Should these remedies be rolled out together or would be appropriate and proportionate to adopt a more gradual approach to their introduction?