

Online platforms and digital advertising

Market study interim report

© Crown copyright 2019

You may reuse this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence.

To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk

The Competition and Markets Authority has excluded from this published version of the market study report information which it considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by [X]. [Some numbers have been replaced by a range. These are shown in square brackets.] [Non-sensitive wording is also indicated in square brackets.]

Contents

	<i>Page</i>
Summary	6
Introduction	6
What are our findings to date?	9
Which interventions are we considering?	21
Provisional view on the case for a market investigation	26
Next steps	28
1. Introduction	29
Context	29
Evidence gathering	31
This document	32
2. Overview	35
Introduction	35
The business model of platforms funded by digital advertising	36
Search and social media	43
Digital advertising markets	47
Market outcomes	50
Impacts on consumers	55
3. Competition in consumer services	59
Introduction	59
Competition in search	60
Barriers to entry and expansion in search	71
Initial findings in search	82
Competition in social media	84
Barriers to entry and expansion in social media	97
Initial findings in social media	107
4. Consumer control over data	109
Introduction	109
The role of data in digital advertising and consumer services	111
The importance of data protection legislation	116
Consumer attitudes to data processing	119
How consumers can control their data	122
Consumer engagement with privacy policies and controls	128
Possible barriers to effective engagement	135
Data protection regulation and competition	145
Initial findings	148
5. Competition in digital advertising	150
Introduction	150
Characteristics of digital advertising markets	151
Competition in search advertising	162
Competition in display advertising	177
The open display market	192
The relationship between large digital platforms and publishers	215
Initial findings	225
6. Potential Interventions	228
Introduction	228
Overview: development of a pro-competitive regulatory regime	229
Code of conduct for online platforms with strategic market status	233
Interventions to address specific concerns under themes 1 to 3	243

Initial findings	273
7. Views on a market investigation reference	275
8. Next steps	280
This consultation	280
The next six months	283

Appendices

- A: The legal framework
- B: A summary of responses to our statement of scope
- C: Market outcomes
- D: Profitability of Google and Facebook
- E: The role of data
- F: Consumer control over data collection
- G: Evidence on consumers' attitudes and behaviour
- H: Intermediation in digital advertising
- I: Potential practices to be tackled through a code of conduct
- J: Potential interventions in general search
- K: Potential interventions in social media
- L: Potential approaches to improving personal data mobility
- M: Potential interventions in digital advertising
- Glossary

Summary

Platforms funded by digital advertising provide highly valuable services, allowing us to find information in an instant and connect with family and friends from around the world – all at no direct cost to the consumer. Google and Facebook are the largest such platforms by far, with over a third of UK internet users' time online spent on their sites. Google enjoys a more than 90% share of the £6 billion search advertising market in UK, while Facebook has a share of almost 50% of the £5 billion display advertising market. Both companies have been highly profitable for many years.

Both Google and Facebook grew by offering better products than their rivals. However, we are concerned that they are both now so large and have such extensive access to data that potential rivals can no longer compete on equal terms. These issues matter to consumers. If competition in search and social media is not working well, this can lead to reduced innovation and choice in the future and to consumers giving up more data than they feel comfortable with. Weak competition in digital advertising can increase the prices of goods and services across the economy and undermine the ability of newspapers and others to produce valuable content, to the detriment of broader society.

We are consulting on a range of potential interventions to improve competition in these markets, including: a code of conduct to govern the behaviour of platforms with market power; rules to give consumers greater control over their data; and interventions to address the sources of the market power of Google and Facebook (including data access remedies, measures to increase interoperability and structural interventions). We welcome views from stakeholders on the issues we have identified and the potential interventions we are considering.

Introduction

1. This is the interim report in our market study into online platforms and digital advertising. The report provides an update on the work we have carried out, highlights our emerging findings and ongoing lines of inquiry and sets out, for consultation, our initial views on the concerns that we have identified and potential interventions to address them.
2. **Digital advertising plays an important role in the provision of hugely valuable services and content to consumers, including internet search, social media and news journalism.** Consumers typically do not pay directly for these services – rather, platforms and publishers finance them by using consumers' attention and data to sell targeted digital advertising. In turn, for a wide range of firms, from the largest conglomerate to the local café, digital advertising provides a highly effective method of delivering adverts that are relevant to consumers, helping to drive brand awareness and sales.

3. The main types of digital advertising are search advertising, in which sponsored ads are provided in response to users' search queries, and display advertising, in which static or video ads are displayed alongside the content a user is interested in. Currently, Google dominates search advertising while Facebook has a strong position in display advertising. Alongside the owned and operated platforms of Google and Facebook there is also an 'open display market' in which publishers such as online newspapers compete in real time to sell advertising inventory to a wide range of advertisers. Each of these forms of digital advertising requires a relevant ad to be selected and served to an individual consumer in a fraction of a second – an extraordinary technological feat that was not possible only a few years ago.

Scope and objectives

4. This study aims to inform the debate on the regulation of online platforms, as explored in the recent Furman¹ and Stigler Center² reviews. These reviews each concluded that new approaches needed to be taken to regulating platforms, that relying solely on enforcing existing competition law was not sufficient and that introducing pro-competitive rules and regulations was necessary. Government is currently considering its response to the Furman Review.
5. Digital advertising provides the substantial majority of the revenues of some of the largest platforms in the world including Google and Facebook, and an important objective of our study is therefore to ensure that any proposals for the future regulation of platforms by government are based on a sound understanding of advertising-funded platforms' business models and the challenges that they may pose. The market study sits alongside parallel and complementary policy work that we are undertaking on non-advertising-funded platforms
6. More specifically, our study aims to assess whether the markets for digital advertising – and the consumer-facing services that are funded by digital advertising such as search and social media – are working well. We have organised our work into three high level themes:
 - Theme 1 considers **to what extent Google and Facebook have market power in search and social media** respectively and the sources of this market power;

¹ Furman Review (2019), [Unlocking digital competition](#).

² Stigler Center (2019), [Committee on Digital Platforms Final Report](#).

- Theme 2 assesses **whether consumers have adequate control over the use of their data by online platforms**, by exploring the choices they are given, how easy it is to exercise those choices and whether there is adequate protection for those who do not engage; and
- Theme 3 focusses on the business to business digital advertising markets, exploring a range of concerns including **a lack of transparency, conflicts of interest and the leveraging of market power** to undermine competition.

Why do these issues matter for consumers?

7. Although consumers do not typically pay for the content that is supported by digital advertising, we all stand to experience harm in a variety of forms if competition in these markets is not working well.
8. First, competition problems may **inhibit innovation and the development of new, valuable services for consumers**. It is the threat of being overtaken by rivals that provides the spur to companies to innovate and produce new products that consumers want. If platforms are insulated from this threat – or indeed if they can stop new alternative platforms from growing – consumers will suffer from reduced innovation and choice in the future.
9. Second, while services such as search and social media appear to be free to those who use them, they are paid for indirectly through advertising revenues. **The costs of digital advertising, which we estimate to amount to around £13bn in the UK in 2018, are reflected in the prices of goods and services across the economy**. Therefore, if these costs are higher than they would be in a more competitive market, this will be felt in the prices that consumers pay for hotels, flights, consumer electronics, insurance and many other products that make heavy use of digital advertising.
10. Third, for content providers such as online newspapers, digital advertising represents a vital part of their business. If problems in the digital advertising market mean that such providers receive a lower share of advertising revenues than they should, this is likely to **reduce their incentives and ability to invest in news and other online content**, to the detriment of those who use and value such content and to broader society.
11. Fourth, limited choice and competition also means that **people will be less able to control how their personal data is used** and may effectively be faced with a ‘take it or leave it’ offer when it comes to signing up to a platform’s terms and conditions. For some, this will mean they have to provide more personal data to platforms than they would like.

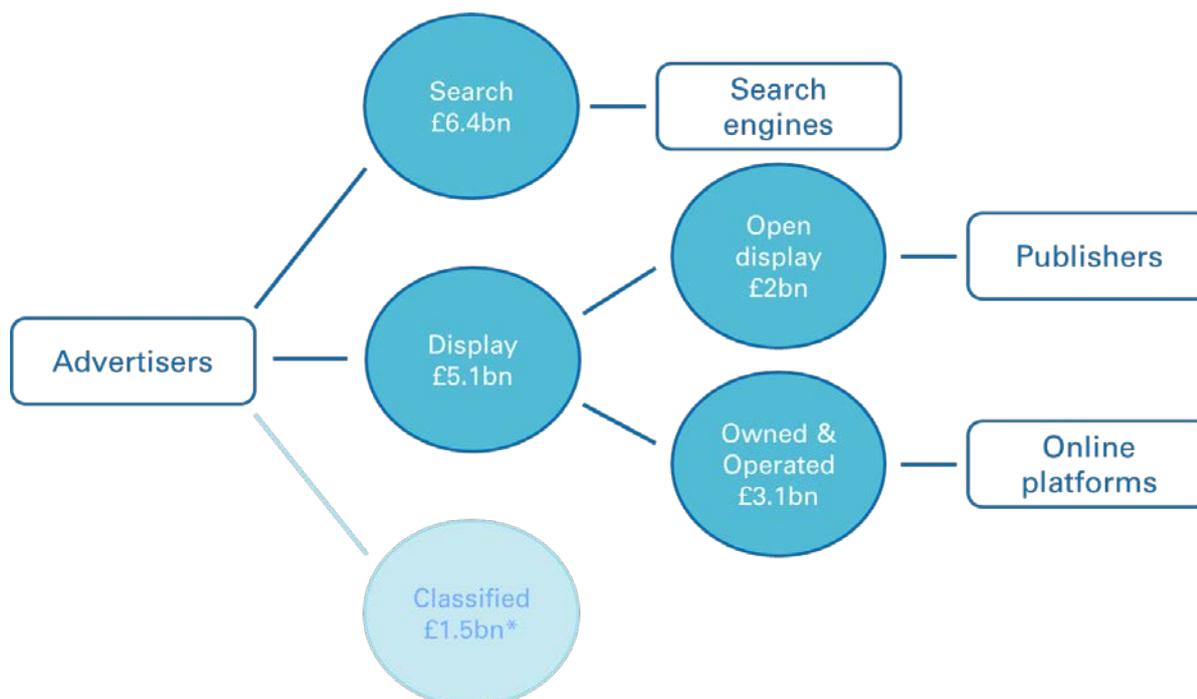
12. Fifth, competition problems may result in consumers receiving **inadequate compensation for their attention and the use of their data**. Although many online services are currently provided for free, in a well-functioning market, consumers might be paid for their engagement online, or offered a choice over the amount of data they provide.
13. Finally, we note there are many other forms of societal harm that have been linked to the behaviour of online platforms, such as online harms, fake news and the possibility of political manipulation. While these lie outside of the scope of this study, it is plausible that the competition concerns about market power and asymmetric information that we are considering may exacerbate these broader harms and that the remedies arising from this study may help to address them. Work is underway elsewhere in government to address these broader harms, and we will share with relevant government departments any insights that we gain into these issues in the course of our study.

What are our findings to date?

Size of market and market shares

14. Our current estimate is that around £13bn was spent on digital advertising in the UK in 2018. Search advertising comprised around half of these revenues, at around £6.4 bn, and display just over £5bn. The balance was made up of online classified advertising (comprising digital comparison tools and online marketplaces). This is shown in the figure below.

Figure 1: Types of digital advertising



Source: CMA, IAB / PwC for classified. Estimates for 2018.

15. Media agencies and most advertisers have told us that search and display advertising are not substitutable, mainly because they perform different roles. Search is intent-based advertising designed to encourage those consumers who have already shown an interest in buying the product to make a purchase, while display is suitable for raising brand awareness and reaching new audiences that might not yet have shown interest.
16. Google has had a consistently high share of the general search market for many years. **Google has generated around 90% or more of UK search traffic each year over the last ten years and generated over 90% of UK search advertising revenues in 2018.** The only fully independent competitor to Google in the core functions of general search is Bing, owned by Microsoft. Google also has a very strong position in various segments of the open display market.
17. Facebook (including Instagram, which it bought in 2012) **generated almost half of overall display advertising revenues in 2018.** For comparison, this was larger than the entirety of the open display market and more than four times the revenues of its next largest competitor, YouTube (owned by Google).
18. It is important to be clear that ‘big’ is not necessarily ‘bad’ in these markets. Where a platform has gained a large market share by being consistently better than its competitors and where it must respond to continued

competitive pressures to maintain that position, it may be considered to operate within a competitive market even with a large market share. However, if potential competitors face substantial barriers to entry and expansion, such that the market is no longer properly contestable, then a high market share can translate into market power, giving the platform the opportunity to increase prices, reduce quality or leverage market power to undermine competition in potentially competitive markets.

19. In our study we have considered a number of characteristics of these markets that may inhibit entry and expansion by rivals and undermine effective competition. These include:
 - network effects and economies of scale;
 - consumer behaviour and the power of defaults;
 - unequal access to user data;
 - problems relating to a lack of transparency; and
 - vertical integration and conflicts of interest.
20. We note that these characteristics can be mutually reinforcing, and we discuss each of them below, drawing on Chapters 2 to 5 of the report which present our findings in more detail under each of themes 1 to 3. Finally, we consider the available evidence on the harm arising from these characteristics.

Network effects and economies of scale

21. Network effects occur when the value of a service to its users increases as the total number of users increases, while economies of scale arise where average costs decrease with increasing scale. In combination, these features can mean that once a platform reaches a certain size, it can be extremely difficult for smaller new entrants to challenge them effectively. Our initial assessment is that both search and social media are characterised by significant network effects and economies of scale.
22. In relation to search, the crawling and indexing activities required to create a 'map' of the internet that can be searched in real time represent a major cost and are subject to significant economies of scale.
23. There are advantages to scale in user queries and click behaviour (known as 'click-and-query' data), since the more such data that search engines have,

the more able they are to improve their algorithms.³ We understand that scale advantages are particularly high for uncommon or ‘tail’ queries. Both Google and Microsoft said that a substantial proportion of queries that they see are uncommon or new (around 15% of the daily queries on Google’s search engine have never been seen before), which suggests that the ability to return appropriate results for such tail queries is likely to be an important factor in users’ assessment of search quality. In addition, a higher volume of user search queries is of benefit to advertisers wishing to bid for keywords in the tail of less common search queries.⁴

24. Overall, our initial assessment is that the greater scale of queries seen by Google support its ability to deliver more relevant search results compared to its competitors, especially in relation to uncommon and new queries. In light of the importance of search relevance to consumers and keyword coverage to advertisers, **a lack of comparable scale in click-and-query data is likely to be a key factor that limits the ability of other search engines to compete with Google.**
25. **Social media platforms are characterised by strong network effects,** since the value to someone of joining a network is directly related to the other people who are already on the network. Given the high level of fixed costs, social media platforms also exhibit strong economies of scale, creating a cost advantage for larger rivals over smaller potential entrants.
26. Our initial view is that these characteristics lead to substantial barriers to expansion. We note that there have been several recent examples of entry of in the social media sector funded by display advertising, including Instagram, Snapchat, Pinterest and TikTok. However, with the possible exception of Instagram, these platforms are yet to reach a very significant scale in the supply of display advertising. In the case of Instagram, its success in achieving scale may be linked to its acquisition by Facebook and we are investigating this further.
27. Overall, **rival social media platforms do not currently appear to be acting as a material threat to Facebook’s competitive position.** While new entry is possible, new platforms must overcome network effects and other barriers by offering a differentiated proposition that induces users to switch. No current platform offers a comparable range of services to Facebook and none can provide access to a similarly extensive user base. Even where platforms are

³ In this sense, search engines are subject to network effects, since they can improve their ranking algorithms and return more relevant results to a user when other users have entered similar search queries in the past.

⁴ These keywords (which for example might include specific detail on product characteristics desired by the user) are often preferred by advertisers as they can allow for more specific targeting and higher returns on investment.

successful in developing a user base, to be viable in the long-term, they must successfully monetise their services, and in the last ten years we note that rival platforms have struggled to do this.

Consumer decision making and the power of defaults

28. The digital economy has transformed the way we interact with information – the answer to a question that in the past would have taken considerable time and effort to find is now available in a fraction of a second. As access to huge reserves of information has become almost instantaneous, so our ability to filter extraneous information and focus on what is most relevant has become more important, and our tolerance for delays has fallen. Both of these factors have encouraged ‘default behaviour’ on the part of consumers – a propensity to avoid wasting time by accepting the default option presented to us, so that we can focus on what is important.
29. We have found that **default behaviour by consumers has had a profound impact on the shape of competition in both search and social media**. First, defaults play a very important role in influencing consumers’ use of search engines, and second, default settings and the way in which choices are presented to consumers have a strong influence on the ability of platforms – particularly social media platforms – to collect data about their users, and the ability of users in turn to control the use of their data.
30. In search, Google has negotiated agreements with Apple and with many of the largest mobile phone manufacturers under which it pays a share of search advertising revenues to these partners in return for Google Search occupying the default search positions on the device. The scale of these payments is striking and demonstrates the value that Google places on these default positions. In 2018, Google paid \$1.3 billion in return for mobile default positions in the UK alone, the vast majority of which was paid to Apple for being the pre-installed default on the Safari browser. Rival search engines to Google that we spoke to highlighted these default payments as one of the most significant factors inhibiting competition in the search market.
31. We consider that **Google’s extensive default positions across very large parts of the desktop and mobile landscape act 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. In addition, there is likely to be a positive feedback loop between Google’s position as the largest search engine and its ability to acquire extensive default positions that further reinforce this position.

32. It is important that consumers have control over the use of their data – allowing them to decide whether to provide or deny access and share it with others if they wish – as this will both benefit consumers directly and help increase competition between platforms. However, our work to date suggests that consumers sometimes have inadequate control over the data that is provided to online platforms.
33. Most platforms only collect limited data about consumer engagement with their privacy settings and controls, but the evidence that does exist suggests that consumer engagement is low at registration. For example, we found that only a small proportion of Facebook consumers viewed their ad settings within 30 days of registering. Because consumer engagement is low, most consumers follow the default settings set by platforms even if these do not match their preferences.
34. This behaviour can be explained in part by the fact that consumers sometimes have limited choice. In all cases across the social platforms that we reviewed including Facebook and Instagram, **consumers are opted into personalised advertising by default and are unable to turn off personalised advertising** while continuing to use the service. This is in contrast to search engines: both Google and Bing allow consumers to opt out of personalised advertising and some search engines such as DuckDuckGo do not use personalised advertising at all.
35. Further, in those cases where consumers do in principle have a choice, it is often time consuming and complicated to exercise this choice because of the way in which options are framed. For all of the social media platforms reviewed, we found that it is not obvious how to access privacy settings, which may only be visible after navigating through multiple menus. Again, this is in contrast to search platforms, where privacy settings are generally easier to access and control.
36. We also found that platforms' privacy terms and conditions were long and complicated, typically stretching to many thousands of words. We do not think it is reasonable for platforms to expect consumers to have read and understood all of these, often complex, terms before signing up to use a service. Research has shown that very few consumers read privacy policies when signing up to an online service and the evidence we have gathered confirms this: for example, in a recent 28-day period, the average visit to the Google privacy page was just 47 seconds, with 85% of visits lasting less than 10 seconds.

Unequal access to user data

37. Data on users is highly valuable for targeting digital advertising (particularly display advertising) and measuring its effectiveness. Advertisers and publishers have told us that Google and Facebook enjoy significant competitive advantages in both targeting and measuring effectiveness because of their extensive access to user data.
38. Google collects a vast amount of user data from three main sources: its user-facing services (it provides over 50 such services, including search and Gmail); mobile devices running Android, Google's operating system; and from the analytical technology they place on third-party sites and apps (known as tags). Facebook gathers user data from the three main services it provides in the UK (Facebook, Instagram and WhatsApp) and from Facebook analytics technology placed on third-party sites.
39. Advertisers and media agencies have told us that Google offers in-depth targeting options, driven by its unique and vast sources of data, while Facebook has the advantage of offering the ability to target specific audiences based on demographic characteristics, interests and location. This creates a substantial competitive advantage for Google and Facebook, both of which have access to more extensive datasets than their rivals. **The inability of smaller platforms and publishers to access user data may therefore create a significant barrier to entry.**
40. The available evidence suggests that the user data used for targeting digital advertising is highly valuable to advertisers and publishers. For example, Google ran a trial in 2019 to compare the revenue publishers received from personalised advertising with revenue from non-personalised ads. The results indicate that UK publishers earned between 50% – 65% less revenue when they were unable to sell personalised advertising but competed with others who could.
41. The ability to measure the effectiveness of advertising is an important driver of advertisers' decisions on how to allocate expenditure across publishers and platforms. To measure effectiveness, advertisers need to be able to track user actions online, which is done through analytical tools such as tags. Google and Facebook tags are widely available on advertiser websites and apps: we understand that Google tags cover almost 90% of UK websites and that Facebook's cover about 50% of UK websites, both dwarfing other platforms' very limited coverage. In addition, Google's mobile data also allows it to track user actions offline (eg to identify store visits). This means that **Google and Facebook are better able to track users and demonstrate the**

effectiveness of using their platforms relative to others, which is likely to create a barrier to entry for potential rivals.

42. We have also heard views that that aspects of the design and interpretation of data protection regulation risks creating competition concerns by **entrenching these data advantages and favouring the business model of large, vertically-integrated platforms over smaller, non-vertically-integrated publishers.**
43. In principle, the General Protection Regulation (GDPR) makes gaining and managing consent within a ‘walled garden’ to deliver a particular purpose, an easier exercise than sharing data between firms to deliver the same purpose. Large, vertically-integrated platforms such as Google and Facebook may therefore have an easier task in obtaining consent from consumers to use their data for personalised advertising compared with publishers such as newspapers involved in the supply of display advertising in the open market.
44. This risks creating a significant competitive advantage for vertically integrated platforms and could substantially reduce revenue for newspapers and others advertising in the open market. Such risks may become more pronounced as the display advertising industry moves to address concerns raised by the Information Commissioner’s Office (ICO) about how widely data is shared between firms in the open display market. We have had constructive interactions with ICO on this topic and welcome the pragmatic view they have taken to date. We will continue to engage with them in the second half of the study to explore potential ways forward that could both address legitimate data protection concerns while preserving effective competition in the open display market.

Lack of transparency and asymmetric information

45. One of the key functions of online platforms that are funded by digital advertising is to facilitate complex decision making in real time using large quantities of data. This applies equally to user-facing services such as search and social media as to the operation of programmatic digital advertising: neither of these would be possible without the use of sophisticated algorithms. Yet one consequence of this reliance on black box decision making is that **market participants find it difficult to understand or challenge how decisions are made and to exercise choice effectively.**
46. We have heard, for example, concerns from several newspapers about the impact of the algorithms employed by Google and Facebook on traffic to their sites. We have found that these two platforms provide just under 40% of the traffic to large publishers and have heard concerns about unexpected

changes to the Google search and Facebook News Feed algorithms that have resulted in dramatic reductions in traffic to certain newspapers overnight. While we recognise that these algorithms have to be updated frequently and that too much transparency may lead to gaming behaviour, we acknowledge publishers' concerns that sudden, unexplained and significant algorithm changes can have harmful financial consequences for them which they are unable to predict or manage.

47. We have also found that advertisers and other market participants face a lack of transparency in relation to several key aspects of digital advertising, which undermines their ability to make effective decisions and drive competition, including: the quality and effectiveness of advertising; how auctions are carried out and auction outcomes determined; and how intermediaries acting on advertisers' behalf are remunerated.
48. In principle, the extensive data that is collected in the sector could address some of these concerns, but as noted above, this data is held by only a few parties, leading to concerns relating to asymmetric information. In relation to quality and effectiveness, for example, we have heard that neither Facebook nor Google allow full independent verification of their own inventory, leading to a perception on the part of advertisers and agencies that we spoke to that Google and Facebook are able to 'mark their own homework' for the measurement of viewability of ad impressions on their own inventory. This could weaken competition and potentially result in advertisers over-paying for advertising inventory.
49. The lack of transparency is particularly acute in the open display market where publishers and advertisers rely on intermediaries to manage the process of real-time bidding and ad serving but cannot observe directly what the intermediaries are doing or, in some cases, how much they are being charged. Market participants typically do not have visibility of the fees charged along the entire supply chain and are concerned that this limits their ability to make optimal choices on how to buy or to sell inventory, reducing competition among intermediaries. Lack of transparency may also give rise to rent-seeking behaviour and arbitrage opportunities, ie the possibility for an intermediary to buy impressions at one price and sell them at a higher price, without its customers being aware of this.
50. Overall, **the lack of transparency that we have observed has the potential to create or exacerbate a number of competition problems.** Suppliers may have the incentive and ability to overstate the quality and effectiveness of their advertising inventory, for example, or to increase prices. Suppliers with market power can take steps to reduce the degree of transparency in digital advertising markets, forcing advertisers to rely on information and metrics

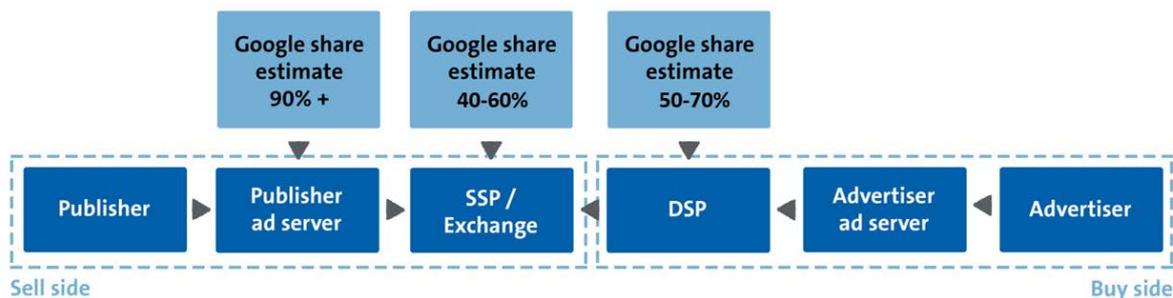
provided by those suppliers. Asymmetric access to information across suppliers may also create opportunities for exclusionary behaviour on the part of the large advertising platforms. The upshot of all of these issues is likely to be that competition is weakened.

Vertical integration and conflicts of interest

51. All of the advertising-funded platforms that we have considered in this study are vertically integrated in the sense that they run integrated sales functions – often based on the use of quality-adjusted second-price auctions – for the sale of their own advertising inventory. We refer to this as ‘owned and operated’ inventory. In contrast, in the open display market, publishers and other content providers compete to sell advertising inventory using a wide variety of third-party intermediaries and exchanges.
52. We have heard a number of concerns, particularly from publishers, about the extent of vertical integration that has taken place in the open display market. **While vertical integration can allow intermediaries to realise technical efficiencies, it can also give rise to conflicts of interest** and allow companies with market power at one stage of the value chain to use it to undermine competition at other stages.
53. The concerns that we have heard focus on the role of Google, which, as shown in the figure below, has a particularly strong position in advertising intermediation, controlling a share of in excess of 90% of the ad server segment⁵ and shares of between 40% and 60% in supply-side platforms (SSPs) and of between 50% and 70% in demand-side platforms (DSPs), according to our preliminary estimates.

⁵ A publisher ad server manages the publisher’s inventory and provides the decision logic underlying the final choice of which ad to serve, based on real time bids and bilateral deals. Publishers typically single-home on one ad server and have told us that switching ad server is a complex and lengthy process which takes several months to complete and involves significant risks of revenue loss.

Figure 2: Google's roles in advertising intermediation



Source: CMA

Note: We include Google AdX, Google Ad Sense and Google AdMob in our definition of SSPs and Google DV360 and Google Ads in our definition of DSPs. Share estimates at SSP/Exchange and DSP levels have been computed based on data from the intermediaries we received information from. As our coverage is not complete, Google shares may be over-estimated.

54. Google has market power in the open display market stemming from three main sources: its inventory of search and display advertising; its data on users and on advertising attribution; and its position as the dominant publisher ad server. We have heard a variety of concerns from market participants, including that Google is able to: use its market power in inventory and data to advantage its DSP services; use its influence over advertiser demand (from Google Ads) to favour its ad server and SSP; and use its market power as an ad server to favour its SSP.
55. We are still considering the concerns that have been expressed to us in relation to these practices and have not reached a conclusion on any potential anti-competitive effects or efficiency justifications. What does appear clear, however, is **that there are legitimate concerns about perceived conflicts of interests for actors that operate at multiple levels of the intermediation value chain**. When operating on behalf of the publisher, such a firm might have an incentive to favour bids coming through its own advertiser-side intermediaries, rather than necessarily those that are best for the publisher, and when acting for advertisers, it might have an incentive to channel an advertiser's spend to its publisher clients, rather than to the publishers that are best for the advertiser.
56. In the case of Google, the fact that it operates as a publisher ad server, with influence over which ads are served and which bidding information is provided to publishers and intermediaries, as an SSP, which sells inventory on behalf of publishers, and as a DSP, which buys inventory on behalf of advertisers, raises several potential conflicts of interest.

Evidence of harm

57. We have considered the potential harmful effects of the concerns we have identified in these markets, and the extent of the evidence that these harmful effects are taking place in practice.
58. Typically, a firm with market power would be able to exploit it by raising prices. We note that advertising-funded platforms use auctions rather than setting prices directly, and therefore may be considered to have less influence over the price. However, such platforms can employ various levers within those auctions that directly and indirectly influence advertising prices. For example, search engines such as Google determine the maximum number of ads that can be shown per search query, how these ads are presented, the way in which relevance is assessed, the level at which reserve prices are set and the way in which matching algorithms work. These levers collectively influence the prices advertisers pay.
59. We have found that **the profitability of both Google and Facebook has been well above any reasonable estimate of what we would expect in a competitive market for many years**. In 2018 we estimated that the cost of capital for both Google and Facebook was around 9%, compared to actual returns on capital of over 40% for Google and around 50% for Facebook. This evidence is consistent with the exploitation of market power.
60. We have also considered the available evidence on price levels. Google has achieved somewhat higher prices on average than Bing over the last three years, which is consistent with evidence from advertisers, most of whom suggested that Google tended to have higher prices than Bing for similar keywords. Facebook's prices have been increasing over the last three years and are significantly higher on average than its rivals, YouTube and Instagram. However, at this stage we interpret the evidence on relative pricing with caution, as relative prices are likely to be driven by a number of factors including differences in quality. We are considering further analysis in the second half of the study that could help us make a more like-for-like comparison of price levels.
61. As noted above, a potential concern arising in the open display market is that intermediaries might be able to exploit the lack of transparency to extract excessive fees. The Cairncross report expressed concern that there is a lack of transparency about the amount paid to intermediaries along the supply chain for online programmatic display advertising and these concerns have been echoed by publishers in their engagement with us.

62. We have gathered evidence on fees from the main intermediaries currently operating in the UK. Our initial estimates suggest that the weighted average DSP fee is around 18% of advertising spend and that the overall weighted average of SSP/ad network fees is around 22%. In broad terms, our estimates to date are similar to those previously estimated by Plum consulting for the Cairncross report. We are intending to carry out further work to investigate money flows along the intermediation chain in the second half of the study, including an analysis of transaction-level data to investigate the potential for 'hidden fees' arising from arbitrage behaviour.
63. Harm could also take the form of exclusionary behaviour. Google and Facebook appear to have the incentive and ability to leverage their market power in general search and social media into other related services – both user-facing services and wider digital advertising markets. This can have the effect of making it more difficult for competitors in these markets to compete and of protecting the platforms' core market power. We have heard these types of concerns raised in relation to several user markets, and are considering how to take these complaints forward in the second half of the study.

Which interventions are we considering?

64. We have considered a range of potential interventions to address the concerns that we have identified, drawing on proposals that have been put to us by parties in the course of the study. Our objective in identifying these interventions at this interim stage is to seek the views of stakeholders on the case for, and appropriate form of, the intervention, to inform the recommendations that we make at the time of the final report.
65. Overall, the work we have carried out on the study to date has strengthened the view we expressed in our statement of scope **that there is a strong argument for the development of a pro-competitive regulatory regime to regulate the activities of online platforms funded by digital advertising.** In considering the appropriate nature of this regime, and the specific rules and regulations within it, we have considered three broad categories of intervention:
- Rules to govern the behaviour of platforms with market power (including in particular the Furman proposal of an enforceable code of conduct for firms with Strategic Market Status).
 - Rules to give consumers greater control over data and to improve transparency.

- Interventions to address specific sources of market power and to promote competition (including data access, consumer default, interoperability and structural interventions).

Behavioural rules for firms with market power: enforceable code of conduct

66. The first category of intervention comprises rules to govern the behaviour of firms that enjoy a position of market power. Its intention is to address the harmful effects that can arise from the exercise of market power, rather than tackling the causes of that market power. The Furman Review proposed that there should be a code of conduct which would set rules for large platforms with ‘Strategic Market Status’ (SMS), the objective of which would be to address competition problems more quickly than can be achieved through antitrust enforcement.
67. Our **initial view is that an enforceable code of conduct may help address a number of concerns that we have identified in digital advertising markets**. Based on the submissions we have received, we consider there are a number of examples of behaviour where a code of conduct would potentially make the market work better, and where the range and complexity of issues are such that antitrust tools alone are not sufficient to resolve them. The code of conduct could work as an effective complement to competition law, addressing concerns that require rapid intervention to avoid lasting competitive harm and, for the firms captured by the code, providing increased certainty over what represents acceptable behaviour when interacting with users and competitors.
68. At this stage, our initial view is that **both Google and Facebook would likely be considered to have SMS**, although we note that other platforms may be considered to have SMS when considering their role in other markets outside the scope of this study.
69. We have considered the potential content and design of a code. Our initial view is that the code should take the form of high-level principles rather than detailed and prescriptive rules. Given the complex and rapidly-changing nature of the markets within scope and the issues we have identified, there is a risk that overly prescriptive rules would soon become redundant or fail to anticipate important new developments. Our current view is that, for platforms funded by digital advertising, the **key provisions of the code could be summarised in the form of three overarching principles: ‘fair trading’; ‘open choices’; and ‘trust and transparency’**.

70. An expert body would be required to enforce the provisions of the code, but at this stage, our assessment has focused on regulatory functions and design principles rather than on which institutions might discharge those functions.

Rules to improve transparency and give users greater control over data

71. One of the main problems we have identified in our study is the lack of transparency and asymmetry of information between platforms and their customers. This affects both individual consumers, who lack awareness of how their data is used and the ability to control it, and businesses, who often lack the requisite information to exercise choice effectively in digital advertising markets. We have therefore considered potential interventions designed to improve transparency and address asymmetric information for both consumers and businesses. Some these interventions would likely apply only to SMS firms while others may require broader sector-wide regulation to achieve their intended effects.
72. For consumers, the problems we have identified relate to a perceived lack of control over data extraction due to: the importance of default settings and the fact that current defaults may extract more data than consumers are comfortable with; the restricted availability of choices to opt out; and difficulties in exercising those choices. The interventions we are considering are designed to facilitate informed choice and greater control for those consumers who wish to engage, while providing greater protection for those who do not. They include:
- A rule that **all platforms should be required to give consumers an option to use their services without requiring in return the use of consumers' data for personalised advertising.**
 - Changes to default settings for SMS platforms, **to require a default 'opt-in' to personalised advertising rather than the current default opt-out.**
 - A principle of **'fairness by design' placing an ex ante obligation on platforms to design consent and privacy policies in a way that facilitates informed consumer choice**, with additional obligations to trial and test choice architecture for SMS platforms.
73. These would be significant changes and would require careful consideration. It is plausible that in combination they would shift the balance of power between consumers and platforms, giving consumers greater control over their data and in turn encouraging platforms to offer greater incentives to

consumers to provide access to their data.⁶ But we are also mindful of the risk that these changes would damage the business model of platforms, particularly for new entrant and challenger platforms that currently generate limited revenue, and are therefore keen to seek views on the extent to which requirements should be adjusted according to whether a platform has SMS status.

74. Regarding the risk that aspects of the design and interpretation of current data protection regulation favour the business model of large, vertically-integrated platforms over smaller, non-vertically-integrated publishers, we think it is very **important for competition and data protection authorities to consider jointly the interface between consumer, competition and data protection law**, as this is likely to produce the best outcomes for consumers in assessing conduct with overlaps across these regimes. Such cooperation is particularly important at the current time, when the interpretation and practical application of GDPR is still evolving.
75. In relation to the concerns about the current open display market, we welcome the pragmatic approach that the ICO has taken to date on this topic, reflecting the importance of this market for newspapers and other content providers. We also recognise the security concerns arising from the sharing of data between multiple firms and think that DPAs could enable appropriate sharing of data between firms by prioritising support for the development of codes of conduct and certification regimes under the GDPR, which would facilitate the secure sharing of a consumer's personal data. We will continue to engage with the ICO and Irish Data Protection Commission (DPC) on these issues in the second half of our study.
76. Our initial view is that **regulatory reform could also improve transparency in the digital advertising markets**. A new regulatory framework could include rules on the information that should be provided on certain activities which are essential for the effective working of digital advertising, including verification or attribution. It could also require increased interoperability to support a well-functioning market, where measures such as common identifiers, formats or verification could be approved by a regulatory body where the adoption of a common standard would deliver benefits of the sector as a whole. In some cases (for example, the operation of auctions) transparency to other sector participants may not be appropriate for competition or data protection reasons. A regulatory framework could address this by allowing auditability and monitoring of algorithms by a regulator, to

⁶ They could, for example, encourage greater more widespread adoption of 'Personal Information Management' solutions (which have so far not proved commercially viable) thereby encouraging consumer-led data mobility.

ensure that actual behaviour matches expectations and that conflicts are managed.

Potential interventions to address sources of market power and promote competition

77. We have also considered a range of interventions to address the sources of market power that we have identified, to address concerns on both the supply and the demand side of the markets we have reviewed. These include some very significant interventions, the costs and benefits of which would need to be considered very carefully. We welcome views of the case for, and appropriate design of, each of these options.
78. To address the concerns that we have identified in relation to Google's market power in general search, we are considering two principal interventions
79. First, we are considering a **requirement that Google provide click-and-query data to rival search engines**. The purpose of this intervention would be to overcome Google's scale advantages by providing data to improve the quality of rivals' search algorithms. We are aware of the potential impacts on Google's incentives to innovate and invest and are interested in views on how these risks could be addressed, and the terms on which any access should be provided.
80. Second, we are considering two proposals to address concerns relating to Google's control over Android defaults and its ability to pay more than its rivals to be the default on browsers such as Safari. The first intervention we are considering is **whether there should be some form of restriction on the ability of Google to enter into arrangements to be the default search engine on devices and browsers**.
81. The second intervention would be a **requirement to offer choice screens to consumers on devices and browsers** allowing consumers to choose their default search engine, building on Google's recent introduction of choice screens on all Android devices. We are considering proposals regarding the design of these choice screens, including the use of non-monetary criteria to allocate slots and proposals to extend the requirement to offer choice screens beyond Android devices.
82. The market power of Facebook derives in part from the strong network effects stemming from its large user base. We have therefore considered potential interventions to increase interoperability to help overcome these network effects for new entrant and challenger social media platforms. We are interested in views on **whether Facebook should be required to**

interoperate specific features of its current network with existing competitors; the scope of any interoperability requirements, such as the ability to post content across several platforms simultaneously; the ability to view posts from friends on other social platforms; and how the standards surrounding these features should be developed and monitored.

83. Other options we are considering include **whether there should be limits on Facebook’s ability to impose restrictions on competitors’ use of the interoperable features** and whether **aspects of past API access should be restored** to facilitate competition. Finally, we are interested in views as to whether any rules requiring greater interoperability should apply to Facebook alone or also to other social media platforms.
84. To address concerns relating to Google’s conflicts of interest in the open display market, **we are considering the case for a range of separation remedies**. These could include, for example, the separation of the ad server (which plays a key role in the selection and pricing of adverts and in which Google has a very high market share) from the rest of Google’s business, or a requirement on Google to trade on an arm’s length basis with its analytics business and offer analytics to third-party providers.
85. Separation could cover a range of options, from management separation to full ownership separation (divestiture). In relation to the former we would need to consider whether such an intervention would be effective and practical, while in relation to the latter, we recognise this would be a highly interventionist remedy and we would need to consider not only the costs and benefits but the feasibility of the UK acting unilaterally in this area.

Provisional view on the case for a market investigation

86. Since launching our market study, we have received several representations from parties for us to make a market investigation reference and we are therefore required under statute to consult on whether or not to make such a reference.
87. The CMA can make a market investigation reference when: the findings of a market study give rise to reasonable grounds for suspecting that a feature or combination of features of a market or markets in the UK prevents, restricts or distorts competition; and a market investigation reference appears to be an appropriate and proportionate response. Based on our initial findings, we consider there are reasonable grounds for such a suspicion in the following areas:

- the open display advertising market, with a focus on the conflicts of interest Google faces at several parts of its vertically integrated chain of intermediaries;
 - general search and search advertising, with a focus on Google's market power and the barriers to expansion faced by rival search engines; and
 - social media and display advertising, with a focus on Facebook's market power and the lack of interoperability between Facebook and rival services.
88. Further, many of the potential interventions discussed above could in principle be implemented through the order making powers available to the CMA under a market investigation. The decision on whether to propose a market investigation reference therefore rests on whether it is the most appropriate mechanism for delivering potential reforms.
89. In our statement of scope, we indicated that we saw recommendations to government as the best mechanism for delivering reforms, as part of a comprehensive regulatory framework to govern the behaviour of online platforms. Although it is a finely balanced judgement, we remain of the view that a comprehensive suite of recommendations to government is currently the best way forward and are therefore consulting on not making a market investigation reference at this stage. There are several reasons for this position:
90. First, the government has been committed to regulatory reform in this area. We therefore currently believe that there are good prospects that any recommendations coming from our study would be implemented in practice. Further, there is a programme of work by government considering how to regulate a wider range of online platforms than those we have considered in this study and we risk complicating the landscape by seeking to implement major reforms in parallel for a narrower set of companies. We want to inform the government's work in this area rather than cut across it.
91. Second, the concerns we have identified regarding online platforms such as Google and Facebook are a truly global antitrust challenge facing governments and regulators. Therefore, in relation to some of the potential interventions we may consider in a market investigation, and in particular any significant structural remedies such as those involving ownership separation, we need to be pragmatic about what changes could efficiently be pursued unilaterally by the UK. We will continue to work as closely as we can with our international counterparts to develop a coordinated position on these issues in the second half of the study.

92. Third, we still have considerable work to do to understand the nature and extent of the issues in the market, and what the appropriate range of remedies might be to address them. We hope to test our initial findings through this consultation, gather more evidence through the second half of the study, and come to more precise judgements in our final report.
93. For these reasons, we do not propose to make a market investigation reference at this stage. Our preferred approach to tackling the problems we have identified continues to be through recommendations to government for regulatory reform.
94. We would like to receive views from a broad range of parties on this issue, and in particular on whether recommendations to government would be the most appropriate route to addressing the issues we have identified. We will make our final decision taking into account the consultation responses that we receive and any relevant developments since this provisional assessment.

Next steps

95. This report provides an update on the progress we have made to date in this market study. It sets out our initial findings on a wide range of potential concerns within each of our three themes and identifies the range of potential interventions we are considering to address them. In the second half of the study, we intend to gather more evidence to test and refine our thinking in these areas, and to identify which are the most appropriate interventions. This consultation is an important first step in that process. We welcome responses by 12 February.
96. We will set out conclusions and recommendations for interventions in our final report, which we will publish by 2 July 2020.

1. Introduction

Context

- 1.1 The CMA launched its Digital Markets Strategy on 3 July 2019, setting out our intended approach to tackling the challenges posed by the digital economy.⁷ A core part of this strategy was the launch of a market study into online platforms and digital advertising in the UK.⁸ This report provides an update on the progress we have made in the first six months of the study.
- 1.2 This market study was launched in the context of concerns, raised in the UK and globally, about the powerful position held by a small number of online platforms. These have focussed, alongside a broader set of issues such as online harms and fake news, on the market power of large online platforms and their ability to extract large volumes of data from consumers to entrench that power. Several institutions in the UK raised specific concerns about the market power of platforms funded by digital advertising, and the lack of transparency and conflicts of interest in the business-to-business digital advertising market, and recommended that the CMA undertake a market study in this area (some examples of these calls are provided in Box 1.1).
- 1.3 We launched our market study in response to these recommendations. Its scope is broad, covering the nature of competition in both consumer-facing and digital advertising markets, while recognising the critical role that data plays in linking them. We have structured our work into three related themes that group potential sources of harm to consumers. These themes consider:
- 1) to what extent online platforms have market power in consumer-facing markets, and what impact this has on consumers;
 - 2) whether consumers have adequate control over how data about them is used and collected by online platforms; and
 - 3) whether competition in the digital advertising market is distorted by a lack of transparency, conflicts of interest or market power held by platforms.
- 1.4 This scope, and the nature of each theme, has remained broadly unchanged from our statement of scope.

⁷ [The CMA's Digital Market's Strategy](#), July 2019.

⁸ [Online platforms and digital advertising market study case page](#).

Box 1.1: Calls for a CMA market study into digital advertising



Digital Competition Expert Panel (Furman Review):⁹

'The CMA should conduct a market study into the digital advertising market encompassing the entire value chain, using its investigatory powers to examine whether competition is working effectively and whether consumer harms are arising.'



Cairncross Review:¹⁰

'The Review recommends that the Competition and Markets Authority use its information-gathering powers to conduct a market study into the online advertising industry. By looking more closely into the position of different players, their roles, costs and profitability, the CMA will be able to identify how efficiently the online advertising market is working, and what remedies, if any, are needed.'



House of Lords Select Committee on Communications:¹¹

'We recommend that the Competition and Markets Authority (CMA) should conduct a market study of digital advertising to investigate whether the market is working fairly for businesses and consumers.'



Which?:¹²

'The Competition and Markets Authority (CMA) should conduct a market study in to the digital advertising industry as a matter of urgency.'

⁹ [Unlocking digital competition, report of the Digital Competition Expert Panel](#) aka 'the Furman Review'.

¹⁰ [The Cairncross Review: a sustainable future for journalism](#).

¹¹ [Select Committee on Communications, UK advertising in a digital age](#).

¹² [Which?, Control, Alt, or Delete? The future of consumer data](#).

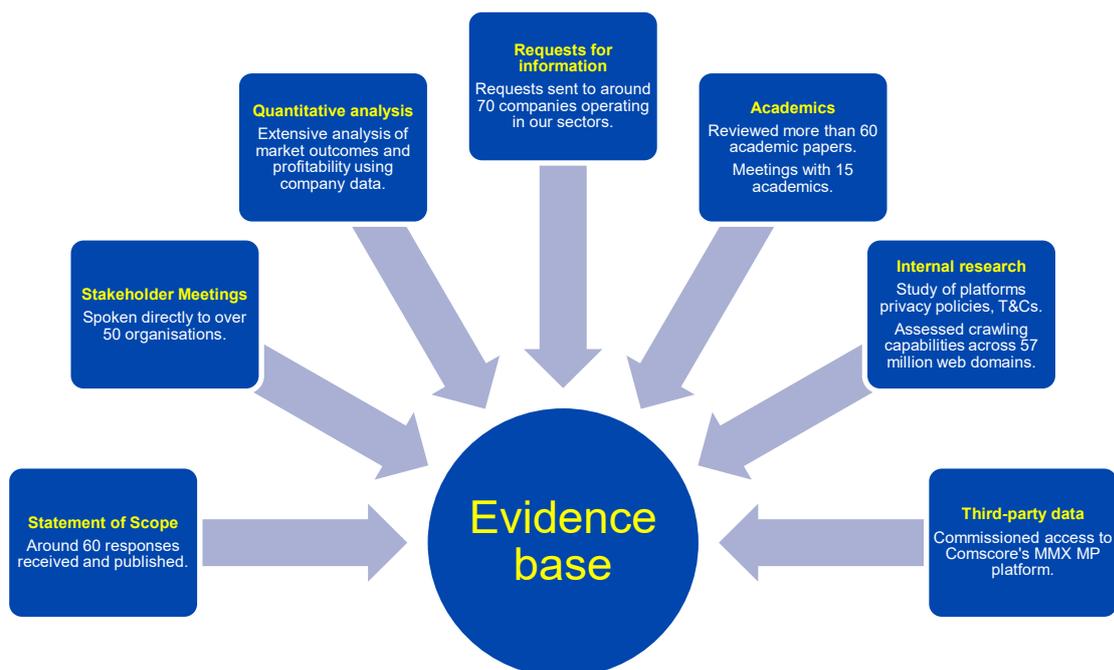
- 1.5 As explained in our strategy document, this study aims to inform government thinking on the regulation of online platforms and to provide analysis to support the government's response to the Furman Review.¹³ Our aim is to ensure that any proposals for future regulation by government are based on a sound understanding of advertising-funded platforms' business models and the challenges that they may pose. The market study sits alongside parallel and complementary policy work that we are undertaking outside of the study, which includes consideration of non-advertising-funded platforms, as well as institutional questions arising from the Furman Review's recommendations.
- 1.6 We intend that our study should not only address concerns specific to digital advertising, but also inform the development of a new regulatory landscape that extends beyond advertising-funded platforms, here in the UK and globally. Using our information-gathering powers, we have set out to test the principles and concepts developed in previous work, to establish whether they apply in practice to some of the most significant global platforms and the markets within which they operate.

Evidence gathering

- 1.7 Since launching the study, we have consulted a large number of parties, and gathered a broad range of evidence. This has involved a high volume of submissions from parties, in response both to our statement of scope and our requests for information. We are grateful to all those who have helped us progress our work at rapid pace. Figure 1.1 summarises our progress to date in gathering evidence.

¹³ Furman Review (2019), [Unlocking digital competition](#).

Figure 1.1: Overview of our evidence sources



Source: CMA.

1.8 A summary of the responses to our statement of scope can be found in Appendix B.

This document

- 1.9 The market study is approaching the half-way stage. The purpose of this document is to provide an update on our approach and our progress, to indicate the direction of travel our analysis is taking in relation both to concerns and potential interventions to address them, and to test these initial findings with stakeholders.
- 1.10 This report sets out our understanding of how the companies and markets within our scope function. We do this at the highest level in Chapter 2, which provides an overview of how the markets, platforms, and issues within our scope interrelate. The chapters that follow then provide more detailed and targeted explanations of these issues. Where there are elements that are more complex or technical, such as how the open display advertising market operates, we have sought to provide additional detail in supporting appendices.¹⁴ We hope that stakeholders will study this detail and bring any inaccuracies to our attention.

¹⁴ See Appendix H for a detailed explanation of how the open display advertising market works.

- 1.11 We have also set out our early findings on the key issues and concerns that may be present in each market. Building on the strong groundwork provided by the Furman Review for the UK Government,¹⁵ the special advisors' report for the European Commission,¹⁶ and Stigler Center Committee's report on the challenges posed by digital platforms,¹⁷ we have attempted to take the discussion forward by identifying which specific features are most relevant to each market or individual platform. Chapter 3 reviews the consumer-facing services within general search and social media markets. Chapter 4 analyses issues relating to consumer control of data on those same platforms. Chapter 5 considers issues that are specific to the digital advertising market.
- 1.12 In the context of our early findings, Chapter 6 outlines the range of potential interventions that we will look to assess in more detail in the second half of the study. Our consideration of reforms is in its early stages – we would like to use this consultation to gather views on the merits, risks, and practical challenges of implementing each of them.
- 1.13 Chapter 7 then sets out our current view on whether these potential interventions would best be delivered through recommendations to government, or by the CMA's order-making powers available under a market investigation. We conclude that, at this stage, we are minded against making a market investigation reference. We are publishing this document to inform a thorough consultation on this issue.
- 1.14 Consistent with our intention for this study to shine a light on these complex and opaque markets, we have attempted to reveal as much detail from our evidence and findings as possible. In doing so, we have surfaced a great deal of information that was not previously in the public domain. However, there has been some information we have chosen not to publish at this stage – in some cases because the information is highly commercially sensitive, and in others because parties that provided the information to us indicated that they wished to remain anonymous for fear of repercussions in the market if their identity were revealed. There are as a result some instances where we have anonymised parties' submissions, presented confidential numbers in ranges, or sought to make more generalised statements in order to convey the key messages while not disclosing confidential information. We indicate these instances with the use of [square brackets].

¹⁵ Furman Review (2019), [Unlocking digital competition](#).

¹⁶ Jacques Cremer, Yves-Alexandre de Montjoye and Heike Schweitzer (2019), [Competition for the digital era](#), final report for the European Commission.

¹⁷ Stigler Center (2019), [Committee on Digital Platforms Final Report](#).

1.15 Before we draw firm conclusions about competition concerns or potential reforms, we have further work to do in the second half of our study to refine our understanding and firm up our evidence base. Our final report will contain a more comprehensive assessment of the issues set out in this document will be provided in our final report. This will include our conclusions on the problems and challenges to be addressed, and the reforms that should be delivered to maximise the benefits to consumers from these markets and services.

2. Overview

- Google and Facebook are the largest online platforms that are funded by digital advertising. Their business model relies on attracting consumers' attention and gathering data about them, which they use to sell targeted advertising.
- The services provided by both companies are highly valued by consumers. Search engines give us instant access to information, news and a wide range of goods and services. Social media services enable us to connect with friends and family around the world, keep up with news or current trends and share creative content with one another.
- Over a third of UK internet users' total time online is spent on sites owned by Google and Facebook. Both companies are also able to gather substantially more data about consumers than their rivals.
- As a result, Google and Facebook have grown to dominate the UK digital advertising market. We estimate that search advertising revenues in 2018 totalled around £6.4 billion in 2018, of which more than 90% was earned by Google. Total spend on display advertising was worth £5.1 billion, of which we estimate almost half went to Facebook.
- Both Google and Facebook are highly profitable. The return on capital earned by both companies has for many years been substantially higher than any reasonable estimate of what we would expect in a competitive market.
- In this study we are investigating whether rival providers of search and social media services can no longer compete effectively with Google and Facebook because of their size, and a range of concerns in the digital advertising market including a lack of transparency and conflicts of interest.
- These issues matter to consumers: if competition in search and social media is not working well, this can lead to reduced innovation and choice, while the resulting poor competition in digital advertising can increase the prices of goods and services across the economy, and undermine the incentive or ability of newspapers and other providers to produce valuable content, as they may not receive a fair share of revenues.

Introduction

- 2.1 Our study covers three related themes relating to platforms that are funded by digital advertising: competition in consumer-facing services; consumer control over data; and competition in digital advertising markets. The aims of this chapter are to explain why we are looking at each of these three themes and how they are connected, to explain how the key consumer-facing and digital

advertising markets work; and to set out at a high level why this all matters to consumers.

2.2 The chapter covers the following topics:

- The business model of platforms funded by digital advertising, including an explanation of the importance of consumer attention and data. This section clarifies why we have focused on the services provided by Google and Facebook.
- A high-level introduction to the digital advertising market, including the different types of digital advertising.
- A summary of key market outcomes, including expenditure on different forms of digital advertising, and an analysis of the profits earned by Google and Facebook.
- An explanation of how a lack of competition in these markets can result in a wide range of negative impacts for consumers.

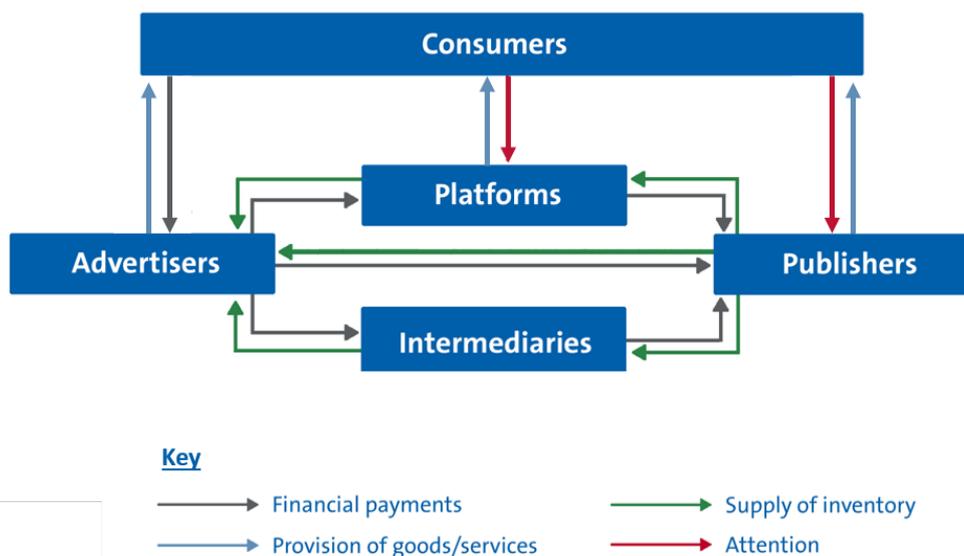
The business model of platforms funded by digital advertising

2.3 Online platforms typically seek to attract consumers by offering their core services for free. Once they have attracted a critical mass of consumers, they seek to make money from business users on another side of the platform. In transaction-based platforms, such as Amazon Marketplace or Apple's App Store, this is predominantly through the commission that is charged to retailers or app developers respectively.

2.4 For other platform services, such as search engines and social media services, monetisation comes predominantly through serving adverts. Google and Facebook are by far the largest two companies operating with this business model – we have therefore focused heavily on these two companies within our market study.

2.5 Although consumers do not pay money for these services, they can be considered to pay for them by giving the platform their attention and data about themselves. Advertising-funded platforms are able to combine the attention of their users with contextual or personal information they have about them to serve highly-targeted adverts, which are in high demand by advertisers. These exchanges are illustrated in Figure 2.1 below. The importance of consumer attention and data in the digital advertising market is explained in more detail later in this chapter.

Figure 2.1: Consumer services supported by digital advertising



Source: CMA.

- 2.6 The advertising-funded business model is not novel. Newspapers have been generating revenue in the UK through advertising for several hundred years. On television, ITV provided the first alternative to the BBC in 1955,¹⁸ when it began its ad-funded broadcasting. Similarly, commercial radio stations have been generating revenue through advertising in the UK ever since the market was liberalised in 1973.¹⁹ These services have added substantial value to our society.
- 2.7 The same is true of many services provided by digital platforms. Search engines give us instant access to information, news, directions, and other websites with minimal effort. Social media services enable us to connect with friends and family around the world, make new friends, keep up with news or current trends, and share creative content with one another. These services, which are funded by digital advertising, are highly valued by consumers (see Box 2.1).

¹⁸ [ITV summary of its history](#).

¹⁹ [Frequencyfinder.org.uk](#), [history of radio transmission in the UK](#).

Box 2.1: The value of online platform services

Platform services that are funded by digital advertising bring substantial benefits to consumers, while being provided free of charge. Research published in 2018 demonstrated that consumers place great financial value on a range of online services, with values of multiple thousands of dollars being assigned to search engines and digital maps. Video streaming services such as YouTube, and social media more broadly received lower, but still significant valuations that by far exceed the price that is paid.²⁰

The fact that these services are so important to consumers and valued so highly is precisely why it is critical that competition is effective in these markets. Through our work in this area we want to ensure that current consumers are reaping the maximum potential rewards from these services, and that future consumers will continue to benefit from new innovative services that can transform our lives.

- 2.8 The targeted nature of digital advertising can add value to both advertisers and consumers. For consumers, targeted adverts will be more relevant to them, which can make them less irritating and more likely to provide genuinely useful information about products and services they may be interested in. For advertisers, improved targeting should deliver a greater return on their investment as their adverts will be viewed more often by their intended audience. Overall, more relevant and better targeted adverts can be expected to result in more purchases, increasing consumer and producer welfare as a result.
- 2.9 Despite these benefits that online platforms have undoubtedly delivered, the markets within which they operate contain a range of features that mean they frequently tend towards a ‘winner-takes-most’ dynamic with limited competition ‘in’ or ‘for’ the market. This may result in sub-optimal outcomes for consumers over the longer term. These features, which have been well-articulated in existing reports, including the Furman²¹ and Stigler Center²² reviews, are summarised in Box 2.2.

²⁰ Brynjolfsson, Eggers, and Gannamaneni (2018), [Using massive online choice experiments to measure changes in well-being](#), National Bureau of Economic Research, Working Paper 24514.

²¹ Furman Review (2019), [Unlocking digital competition](#).

²² Stigler Center (2019), [Committee on Digital Platforms Final Report](#).

Box 2.2: Key features of online platforms

While the precise characteristics of each platform varies from market to market, they tend to share a set of general features that collectively support a 'winner takes most' dynamic:

- Online platforms typically have very low marginal costs and significant economies of scale in delivering the core service.
- Network effects mean that the value of a service to existing users of a platform increases as the total number of users increases. The nature of the network effects can vary significantly between platforms.
- The fact that consumers do not pay directly for the platform's services limits their incentives to switch, and means that new entrants must attract users through demonstrably better quality or innovative features, rather than being able to undercut on price.

In this report we have set out our initial assessment of how important these and other features are in general search and social media – the two most significant platform markets funded by digital advertising.

Google's and Facebook's positions in respect of consumer attention and data

2.10 There are two key factors that influence the revenue that online platforms and publishers can generate through digital advertising:

- **Capturing consumers' attention:** this is an essential requirement for selling any form of advertising inventory.²³ The more of consumers' attention platforms can capture, whether that is through increased reach or keeping consumers online for longer periods, the more attractive the platform's inventory is to advertisers, and the more inventory they will ultimately have to sell.
- **Understanding preferences and purchasing intent:** understanding the wants and needs of specific consumers at any point in time is valuable to advertisers as they can target their adverts towards those individuals that they suspect are most likely to make a purchase. This targeting results in a higher return on investment for advertisers, and a willingness to pay higher prices. Platforms are therefore rewarded by advertisers for having

²³ Advertising 'inventory' is essentially space, whether located on a billboard, in a newspaper, on a web page, or on a TV screen, where adverts can be displayed.

extensive and up-to-date knowledge of their consumers' characteristics, preferences, and intentions. The key input to this knowledge is data.²⁴

- 2.11 The following sections of this chapter explain how Google and Facebook lead the race to capture online consumers' attention and to gather data on their preferences and intentions.

Consumer attention

- 2.12 UK internet users spend an average of three hours 15 minutes each day online,²⁵ with the majority of this time spent in a relatively narrow set of sites and services, including social media, information, news, shopping, and entertainment such as videos, music, and games.
- 2.13 The characteristics of many of these markets mean that they tend to tip towards high levels of concentration. With a narrow set of highly concentrated markets, the majority of internet users' attention is captured by a small number of very large companies, and in particular, mainly by Facebook and Google.
- 2.14 In terms of reach, around 95% of UK internet users access at least one Google site each month. Facebook's reach is around 85%. Of the total time spent by users online, just over a third is on sites owned by either Google (including YouTube) or Facebook (including Instagram and WhatsApp).²⁶
- 2.15 This success by Google and Facebook in attracting consumers' attention is illustrated by Figure 2.2 below, which shows consumer time spent on the top 1000 properties. Consumers spend around 86% of their total time online on these top 1000 properties, with the remaining 14% split between an extremely long tail in excess of 16,000 websites.²⁷

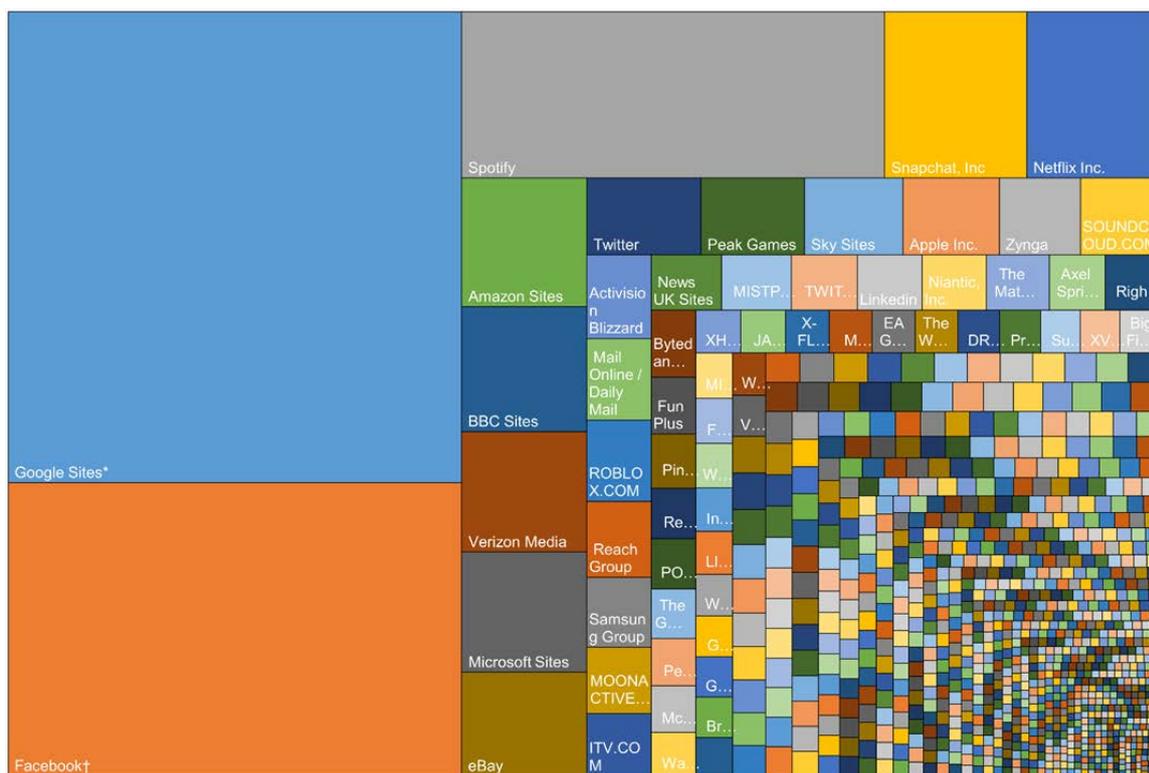
²⁴ See Appendix E for more detail on the role of data.

²⁵ Comscore, MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, June 2019, UK.

²⁶ Ibid.

²⁷ Ibid.

Figure 2.2: Consumer time spent on top 1000 online properties



Source: Comscore, MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, June 2019, UK.

Notes: The 1000 properties account for 86% of total user time spent online.

* Where 'Google Sites' includes all Google owned properties eg YouTube and Google Search.

†Where 'Facebook' includes Facebook, Instagram and WhatsApp.

Consumer preferences and purchasing intent

2.16 While there are important differences in the data-gathering practices of Google and Facebook, both companies are able to combine various sources and types of data to build up a profile of an individual, which can be used to make inferences about the types of products and services that they are likely to purchase. These profiles can include information on a consumer's individual characteristics, likes and dislikes, political views, income, frequent locations and journeys, and so on. They can pool this information from a number of sources, including:

- information that consumers volunteer when registering for a service, such as name and contact details;
- observed contextual information such as information about a device being used to access the service or the precise location of the consumer at a particular time;

- observed data from tracking users' activity across the web, from which inferences can be drawn based on the articles they read or the websites they visit;²⁸ and
- conclusions about a consumer's characteristics and preferences that are inferred from observing their activity within the services, such as posts they like or click on within Facebook, or videos they view on YouTube.

2.17 The ability to target an advert at a specific individual with a particular set of characteristics, or even where an individual has revealed a demand for a particular product or service, is highly valuable to advertisers. Similarly, the ability to demonstrate a link between exposure to an advert and consumer purchasing behaviour is key in attracting and retaining advertisers. Both require data and this is why platforms are incentivised to gather as much data as they can on as many consumers as possible.

Regulations to protect privacy

2.18 There are tensions between these incentives to compete for consumer data, and the legal framework that is in place to protect consumers' privacy. Box 2.3 highlights some of the key elements of the law that governs the use of personal data for advertising purposes, while a more detailed description of the legal and voluntary framework can be found in Appendix A. We explore the synergies and trade-offs between data protection regulation and competition in Chapter 4.

Box 2.3: data protection law

There are several aspects of law in the UK that relate to the protection of consumers' personal data. These include:

- **The General Data Protection Regulation 2016/679 (the 'GDPR')** – the GDPR provides the general framework for the protection of personal data that applies in the UK. Coming into effect in May 2018, it built upon similar principles derived from the Data Protection Directive 95/46/EC and in the Data Protection Act 1998. Amongst other things, it sets out the range of circumstances in which processing of an individual's personal data can be lawful.
- **The Consumer Rights Act 2015 (CRA)** – part 2 of the CRA requires the terms in consumer contracts and consumer notices to be fair and, if written, transparent.

²⁸ See Appendix E for an explanation of how Google and Facebook are able to track internet users' activity on third-party websites and apps.

- **Unfair Contract Terms Directive (2005/29/EC) / Consumer Protection from Unfair Trading Regulations 2008 (SI 2008/1277) (CPRs)** – broadly speaking, they prevent businesses (described as ‘traders’ in the CPRs) from treating consumers unfairly. Businesses are also responsible for the commercial practices of anyone who acts on their behalf or in their name. Both the business and those acting on their behalf may be held liable for breaches of the CPRs.

Search and social media

2.19 Google and Facebook’s advantage in attracting consumers’ attention and collecting their data, and their resultant high share in digital advertising revenues, has been achieved primarily through their core services in general search and social media respectively. These consumer facing markets are therefore the primary focus of our analysis in Chapter 3.

Understanding general search

The demand-side

- 2.20 Web-based search engines are a tool to help consumers to navigate the Internet and find useful information in response to a broad range of search queries. They make money by serving these consumers with paid-for adverts.
- 2.21 Research by Ofcom shows that search engines are consumers’ preferred method for finding what they are looking for online:²⁹
- 97% of UK adults reported using a search engine in the past year to look for information online; and
 - for 50% of UK adults, the first place they usually go online is a search engine.
- 2.22 Consumers access search engines in several ways:
- **Web-browsers** – web browsers have default search engines in the navigation bar; some consumers may choose their browser and search engine at the same time.

²⁹ Ofcom (2019), [Online Nation](#).

- **Web-navigation** – in the course of a session, consumers may navigate to one or more search engines, and many have a search engine as their home page.
- **Search apps** – on mobile devices, consumers tend to access search engines via apps such as widgets. They may use default search apps that come installed on mobile devices, or choose to download their preferred search app from an app store.
- **Voice assistants** – via smart speakers such as Amazon Echo and Google home.

The supply-side

- 2.23 General search engines work by maintaining an index of the websites that are available on the internet and returning a set of ranked, curated search results when consumers enter search queries.
- 2.24 Google’s general search results pages return different categories of search results, including generic search results and specialised search results. In addition, Google Search may return a third category of results, namely online search advertisements.

Understanding social media

The demand-side

- 2.25 Social media platforms facilitate interaction between their users, allowing them to communicate with each other, and share and discover engaging content. Social media platforms are generally available through a mobile app, with some also available via a web browser.³⁰ As with general search, providers of social media services make money by serving their consumers with paid for adverts.
- 2.26 Features commonly provided by social media platforms include: user profiles or accounts; user ‘friends’ or connections; a personalised ‘feed’ of news or other content; content sharing features; comments; private messaging features; and likes or ‘reactions’.³¹

³⁰ Some social media platforms may only be accessible via mobile eg TikTok or Snapchat.

³¹ Ofcom (2019), [Online Nation](#).

2.27 A survey by Ofcom asked users what was important to them when they accessed Facebook, Twitter, Snapchat, Instagram and YouTube. The factors that were most often rated as very or fairly important were the following:³²

- keeping in touch with friends and family;
- browsing to pass the time;
- sharing photos and videos;
- keeping up-to-date with news and current affairs; and
- watching videos.

Box 2.4: What is social media?

This box sets out attempts by a selection of other institutions to define social media.

The ACCC³³

Social media platforms are ‘online services that allow users to participate in social networking, communicate with other users, and share and consume content generated by other users (including professional publishers). Social media platforms generally display content for consumption as linear ‘feeds’, curated by algorithms or displayed chronologically. Examples include Facebook, Instagram and Snapchat. Platforms may also offer additional functions including instant messaging services.’

Ofcom’s Online Nation (2019)³⁴

‘Social media’ is often used generally to refer to a set of popular online services, encompassing a range including Facebook, Twitter, Snapchat, Instagram, YouTube, Reddit, Tumblr, Pinterest and WhatsApp. Attempting to map the exact boundaries of the social media sector, however, is more difficult.

³² Ofcom (2019), [Online Nation](#).

³³ ACCC (2019), [Digital platforms inquiry – final report](#).

³⁴ Ofcom (2019), [Online Nation](#).

Communicating with others through user-generated text, photos and videos might be considered the central function of 'social media' in its most basic terms – but, many online platforms facilitate these kinds of interactions. Further, whether a service is considered 'social media' can often depend on the individual using it – for instance, Reddit or YouTube could have primarily 'social' functions for some users but not others. Some companies even reject the 'social media' label – Snapchat, for instance, refers to itself as a camera company, while Pinterest' recent IPO filing emphasised its uniqueness as a 'media-rich utility'.

Consequently, the concept of 'social media' has blurred boundaries that intersect with video-sharing services, blogging sites, messaging apps and forums.

Bundeskartellamt Facebook decision (2019)³⁵

'It can be assumed that there is a specific demand for social networks, which is fundamentally different from the demand for other social media. The key purpose of social networks is finding and networking with people the users already know, and to exchange on a daily basis experiences, opinions and contents among specific contacts which the users define based on identity. Providers meet this demand by offering the corresponding core functionalities which grant users a "rich social experience".'

The supply-side

- 2.28 The social media sector is generally understood to include a range of online services, including those offered by Facebook, Twitter, Snapchat, Instagram, YouTube, Reddit, Tumblr, Pinterest and WhatsApp.³⁶
- 2.29 A differentiated service to consumers appears to be the main way in which social media platforms compete for consumer attention. Differentiation can incentivise consumers to access multiple platforms, allowing for the co-existence of platforms.
- 2.30 To create a service that is attractive to consumers, social media platforms must be able to present their users with relevant content. Successful social media platforms feature a vast quantity of content that may be shown to consumers. To prevent congestion and maintain consumer attention, platforms must determine the most relevant content for a given consumer, and the order in which to present it. They do this using an algorithm, which

³⁵ Bundeskartellamt (2019), [Bundeskartellamt prohibits Facebook from combining user data from different sources](#).

³⁶ Ofcom (2019), [Online Nation](#).

makes decisions based on a range of data about the consumer and the content.

Digital advertising markets

- 2.31 Digital advertising is the largest and fastest growing segment within the UK advertising sector. According to estimates by the Internet Advertising Bureau (IAB) report,³⁷ the UK digital advertising market was worth £13.4bn in 2018, up from £11.7bn in 2017, and now accounts for 57% of total advertising revenues.³⁸
- 2.32 This increasing importance of online channels for advertising campaigns has created opportunities as well as challenges. Entirely new businesses and markets have developed in response to technological advancements offered by online advertising. And small businesses now have much improved access to flexible and targeted advertising opportunities. But on the other hand, there are many existing businesses, such as newspapers, that previously relied on traditional forms of advertising revenue that have had to adapt.
- 2.33 There are three broad types of digital advertising: search, display, and classified. We explain these at a high level below, and consider the markets in more detail in Chapter 5.

Search advertising

- 2.34 Search advertising is where an advertiser pays for its advert (typically in the form of a text link) to appear next to the results from a consumer's search on an internet search engine, although adverts may also appear in other forms of search, for example on maps. The selection and targeting of these adverts is based primarily on keywords entered by the user. Advertisers will pay for their adverts to be displayed when consumers enter particular keywords or phrases.
- 2.35 The advert shown to a consumer may also be influenced by data about the person making the search, such as their previous search history or location at the time. For example, if a consumer is searching for a 'coffee shop near me', the advert displayed will depend on a combination of which companies have purchased impressions for the keywords 'coffee shop', and on which of them are closest to the location of the user.

³⁷ Report provided to us by the IAB.

³⁸ Advertising Association and WARC press release (2019), [2018 UK advertising spend hits £23.6bn following nine years of growth](#).

2.36 Consumers can then click on the text link, as they can with the other organic search results (ie those that have not been paid for). In search advertising, advertisers or their agencies generally buy direct from search providers using the providers' self-service online sales interfaces, such as Google Ads. Search advertising is aimed at driving consumers to take a particular action such as clicking a link. It is therefore used for direct response campaigns and is normally paid for on a cost-per-click (CPC) basis.

Display advertising

2.37 Display advertising enables advertisers to place ads on websites or apps in a variety of formats, including banner-style adverts, 'native' advertising, sponsored content, and video advertising.³⁹ The space that the website or app owners – referred to in this context as publishers – sell for this advertising is referred to as inventory.

2.38 The display advertising sector is segmented into two channels: owned and operated platforms; and the open display market.

2.39 The owned and operated channel is primarily made up of large social media platforms, which sell their own advertising inventory directly to advertisers or media agencies through self-service interfaces. For example, an advertiser can purchase inventory directly through Facebook Ads Manager or Snapchat Ads Manager.

2.40 In the open display market, a wide range of publishers (for example, including online newspapers) sell their inventory to a wide range of advertisers through a complex chain of third-party intermediaries that run auctions on behalf of the publishers and advertisers. In practice, some of the most important intermediaries in this complex chain are owned by a single company – Google. This is particularly the case for publisher ad servers,⁴⁰ supply-side platforms (SSPs)⁴¹ and demand-side platforms (DSPs).⁴²

2.41 Though some direct deals for display advertising continue to be made through traditional channels (ie involving human interaction), the use of programmatic technology has increased over time, with the result that almost all display

³⁹ We explain these formats in more detail in Chapter 5.

⁴⁰ Publisher ad servers manage publishers' inventory and are responsible for the decision logic underlying the final choice of which ad to serve, based on the bids received from different SSPs and the direct deals agreed between the publisher and advertisers.

⁴¹ SSPs provide the technology to automatize the sale of digital inventory. They allow real-time auctions by connecting to multiple DSPs, collecting bids from them and performing the function of exchanges. They can also facilitate more direct deals between publishers and advertisers.

⁴² DSPs provide a platform that allows advertisers and media agencies to buy advertising inventory from many sources. DSPs bid on impressions based on the buyer's objectives and on data about the final user.

advertising is now sold programmatically (ie ad selection, pricing and delivery of ads is automated by computers using complex algorithms).

- 2.42 Programmatic display advertising provides an opportunity for businesses and other organisations to target their marketing messages to particular audiences on the basis of detailed consumer profiles. It is particularly associated with raising brand awareness and shifting brand perceptions.⁴³ Display advertising may be sold on a CPC basis, but is more commonly sold on the basis of how many times it is viewed, referred to as cost per impression, and typically measured as cost per thousand impressions (CPM).

Classified advertising

- 2.43 Classified advertising involves advertisers paying online companies to list specific products or services on a specialised website serving a particular vertical market. Payments for classified advertising will typically consist of listing fees or commissions.
- 2.44 We did not find that there was a consistent industry definition for what should be included within classified advertising. For the purposes of our study, we note that there are a broad range of online platforms focused on specific sectors that provide the ability for advertisers to list specific products and services and the functionality for consumers to then make comparisons across these listings. Sectors where classified advertising is common include recruitment, ecommerce, consumer finance, travel, property and cars. We have considered the role of classified advertising previously in our Market Study on Digital Comparison Tools.⁴⁴
- 2.45 As set out in our statement of scope, classified advertising is not a central focus of our study.

Demand for digital advertising

- 2.46 Unlike traditional advertising channels such as television and print media, digital advertising has increasingly opened up flexible and affordable opportunities for smaller companies. The scale of the large platforms, such as Google and Facebook, provides the possibility for small advertisers to reach out to potential customers on a national scale. These platforms provide self-service interfaces that automate and simplify the complex process of buying

⁴³ IAB (2018), [Digital Advertising Effectiveness](#).

⁴⁴ CMA (2017), [Digital comparison tools summary of final report](#). From the consumer's perspective, classified advertising is very closely associated with digital comparison tools, defined by the CMA previously as 'digital intermediary services used by consumers to compare and potentially to switch or purchase products or services from a range of businesses'.

advertising. This makes advertising accessible to businesses with very small budgets, or even to individuals. The 2018 expenditure of the median UK advertiser on Google is £[200-300] and on Facebook only £[0-100].

- 2.47 The use of media agencies is still common among larger advertisers running large multi-channel campaigns. Based on information provided by media agencies, we estimate that around a quarter of all digital advertising expenditure in the UK was channelled through media agencies in 2018. Decision-making by larger advertisers is becoming increasingly data-driven and sophisticated. The use of technology tools provided either by the platforms or intermediaries to target audiences and measure advertising outcomes at a granular level is becoming increasingly common.

Market outcomes

- 2.48 As noted in Chapter 1, several bodies and independent reviews called on the CMA to undertake this market study. One of the key motivations they cited for doing so was the fact that we have information-gathering powers, allowing us to collect data on issues and concerns where there is currently a lack of evidence.
- 2.49 We have used these powers to gain a more detailed understanding of how these markets work and of key outcomes within them. This work is ongoing, and in this section we set out some of our key findings to date, and highlight some of the further work we intend to do in the second half of the study. We consider three main areas: overall revenues in digital advertising; the fees charged by intermediaries in the open display market; and the profitability of Google and Facebook.

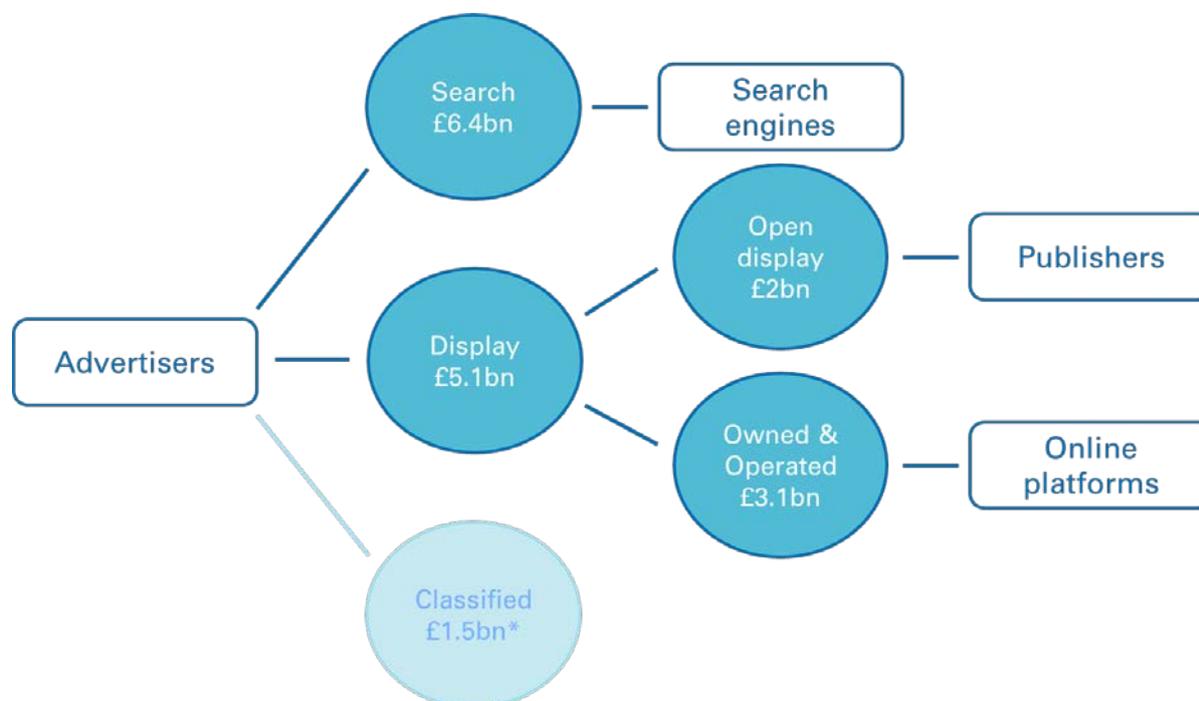
Digital advertising revenues

- 2.50 Search advertising is the largest category of digital advertising in the UK, with our estimates of total ad spend of £6.4 billion in 2018, of which we found Google earned more than 90%.
- 2.51 Total spend in display advertising was worth £5.1 billion, of which we estimate more than half went directly to either Facebook or Google. Over a third was sold through the open display market. Video advertising accounts for the largest share of the display advertising market at £1.9 billion.
- 2.52 These estimates, based on data provided by market participants, are comparable with other publicly-available estimates. For example, the most recent IAB/PwC Digital Ad Spend report estimated that total spend on UK search advertising was around £6.7 billion in 2018, spend on display

advertising was around £5.2 billion, and spend on classified advertising was around £1.5 billion over the same period.⁴⁵

2.53 These splits are illustrated in Figure 2.3 below.

Figure 2.3: Types of digital advertising and channels of purchase



Source: CMA estimates for 2018 for search and display advertising. Estimate for classified comes from IAB/PwC Digital Ad Spend report.⁴⁶

2.54 We have used information in Chapter 5 to estimate shares of supply for different platforms. We are continuing to extend and refine our analysis, as described in more detail in Appendix C.

Fees charged by intermediaries

2.55 Several publishers have expressed concerns that a lack of transparency and competition in ad tech intermediation allows intermediaries to extract a large share of advertisers' expenditure, reducing the amount that is ultimately paid to publishers. The difference between what advertisers pay and publishers earn from digital advertising is sometimes referred to as the 'ad tech tax'. If publishers earn lower revenues than would be the case in a more competitive

⁴⁵ IAB UK and PwC Digital Adspend study (2018).

⁴⁶ The IABUK and PWC report assesses classified advertising more narrowly than we have in our study. This figure may therefore be an underestimate of what we have defined as classified advertising.

and transparent market, this would reduce their ability and incentive to fund quality content that ultimately benefits consumers.

- 2.56 Past estimates of the ‘ad tech tax’ vary, but they all suggest that intermediaries capture a significant portion of advertisers’ expenditure. For example, research by Plum consulting indicated a range between 43% and 72%, with an average of 62%.⁴⁷ Similar research by the Association of National Advertisers (ANA), the Association of Canadian Advertisers (ACA), Ebiquity, and AD/FIN found a range between 54% and 61% in relation to advertising sales in the US and Canada.⁴⁸ In both cases, the estimates did not account for the possibility of arbitrage and hidden fees, nor for the potential effects of ad fraud.
- 2.57 We have gathered our own evidence on revenues from the main intermediaries currently operating in the UK. An advantage over previous studies is that these revenue figures should cover the vast majority of sales in the open display advertising market. Our initial estimates suggest that the weighted average DSP fee is around 18% of advertising spend (with a wide range of fees charged from 8% to 40% depending on the service provided – for example, whether there are additional fees for third-party sources of user data). We estimate that the overall weighted average of SSP/ad network fees is around 22%. These figures do not include ad server charges or other elements of the ‘buy side’ fee, such as agency charges and trading desk fees. In broad terms, our estimates are similar to those previously estimated by Plum and the ANA/ACA.
- 2.58 We have also carried out analysis of Google and Facebook’s advertising revenues based on information in their management accounts. This suggests that, where small publishers use Google’s AdSense for Content product to monetize their advertising inventory, Google retains on average 32% of the revenues earned from advertisers. Similarly, where small publishers use Facebook Audience Network to monetize their advertising inventory, Facebook retains on average 27% of the revenues earned from advertisers.
- 2.59 We are intending to carry out further work to investigate money flows along the intermediation chain in the second half of the study. We plan to extend our aggregate analysis of intermediary revenues to better understand fees in other parts of the value chain, including demand-side fees. We also intend to analyse transaction-level data from Google to understand better where Google earns its revenues from different parts of the intermediation chain, and

⁴⁷ Plum Consulting (2019), [Online advertising in the UK](#).

⁴⁸ The Association of National Advertisers (ANA), the Association of Canadian Advertisers (ACA), Ebiquity, and AD/FIN (2017), [Programmatic: seeing through the financial fog](#).

to investigate claims that Google is able to earn 'hidden fees' by arbitraging its position on both the buy side and sell side of the ad tech stack.

Profitability of advertising-funded platforms

2.60 As highlighted in the sections above, Google and Facebook's strong positions in the general search and social media markets respectively have translated into substantial revenues in the digital advertising market. This section summarises our initial analysis of the profits earned by Google and Facebook from these core services.

2.61 We have focused on a few standard reporting metrics to inform our analysis of these companies' revenues, costs, and profits. In particular:

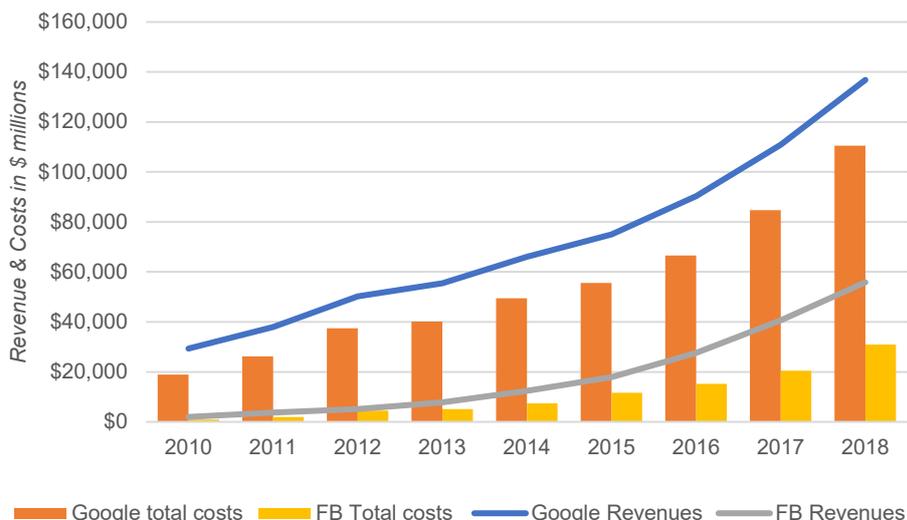
- We have assessed the amount of profit each company has earned in absolute terms using the metric 'earnings before interest and taxation' (EBIT).
- We have analysed the level of their profits with reference to the 'return on capital employed' (ROCE). This approach compares accounting profit with the size of investment made by firms to achieve those profits.
- We have compared our findings against the companies' weighted average cost of capital (WACC), which is a widely used benchmark for returns on an investment. The WACC is essentially the minimum return required on an investment or asset to satisfy the owners and creditors.

2.62 We summarise the main findings of this analysis below, while a more detailed explanation can be found in Appendix D.

Revenues and costs for Google and Facebook

2.63 Figure 2.4 shows the revenues and costs for Google and Facebook from 2010 to 2018.

Figure 2.4: Alphabet Group and Facebook Revenues and Costs 2010 to 2018

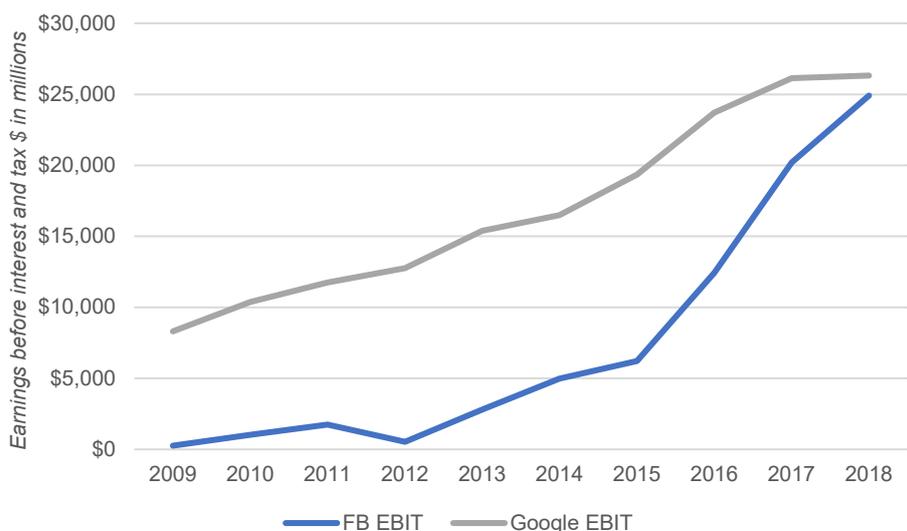


Source: CMA analysis of Alphabet Group and Facebook filed 10-K reports.

Profits earned by Google and Facebook

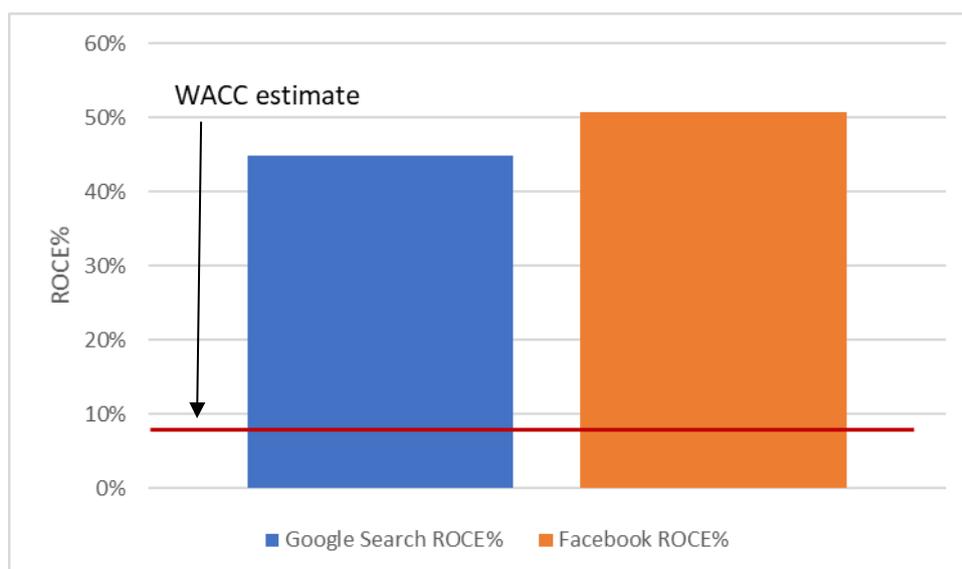
2.64 Figure 2.5 shows their profits (measured using EBIT) in absolute terms from 2009 to 2018 for each company at the group-level based on published information. Figure 2.6 then compares our estimates of the two companies' ROCE with our estimates of their WACC – this analysis looks at the profitability of individual segments within the groups (ie the profitability of Google Search, compared to Alphabet). This is based on information supplied to us by the companies.

Figure 2.5: Alphabet Group and Facebook EBIT 2009 to 2018



Source: CMA analysis of Alphabet Group and Facebook filed 10-K reports.

Figure 2.6: Google Search and Facebook ROCE vs WACC estimates



Source: CMA analysis of Alphabet Group and Facebook financial data submissions.

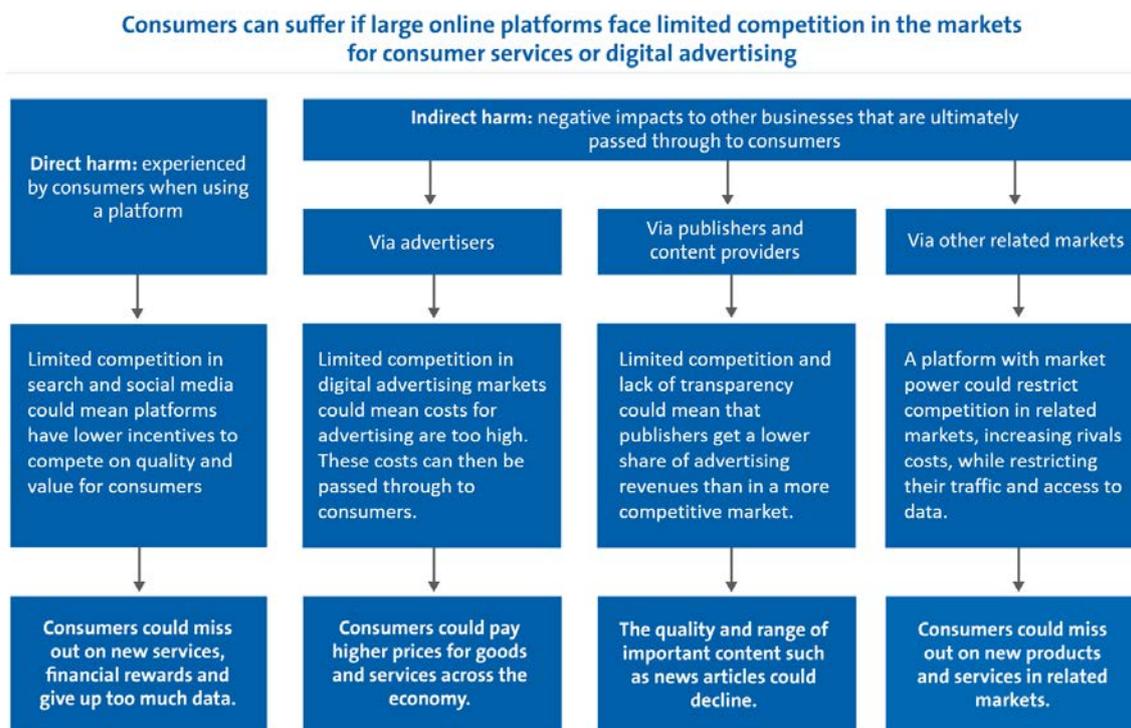
- 2.65 We have found through our profitability analysis that the return on capital employed for both Google and Facebook has been well above any reasonable benchmarks for many years. We estimated that the cost of capital for both Google and Facebook in 2018 was around 9%, whereas their actual returns have been substantially higher, at least 40% for Google’s search business and 50% for Facebook.⁴⁹ This evidence is consistent with the exploitation of market power.
- 2.66 We explain this analysis, including sensitivities, and our full range of findings in more detail in Appendix D.

Impacts on consumers

- 2.67 Competitive markets have the potential to deliver good outcomes for consumers when sellers are incentivised to differentiate themselves from their rivals through lower prices, higher quality, or innovative new offerings.
- 2.68 In this study, we are assessing whether problems such as market power, lack of transparency and conflicts of interest mean that competition is not working as well as it should. There are multiple ways in which consumers could be harmed by weak competition in digital platform markets, both directly and indirectly. These are shown in Figure 2.7 and explained in more detail below.

⁴⁹ This analysis is based on Facebook’s whole business, where 99% of its revenues are from digital advertising, and a lower estimate of the ROCE of Google’s search business, which takes account of data provided by Google.

Figure 2.7: Potential harm to consumers from a lack of competition



Source: CMA.

2.69 On one side of a platform, consumers face a range of potential direct impacts from a lack competition, felt through the transactions between them and the platform. These could affect the following outcomes:

- **Reduced innovation** – barriers to entry and expansion could weaken the incentives of new entrants, and more importantly their investors, to come forward with disruptive innovation. Instead, they might be limited to investing in innovations that complement the incumbents’ services. These dynamics will also limit the incentives of incumbents to innovate themselves. The result is that the range of new features and services being brought to market is more limited than it might otherwise have been.
- **Poor returns to consumers** – the price charged by Google and Facebook to access their services is currently zero. It’s plausible that the price charged in more competitive circumstances would be negative, with consumers rewarded, financially or otherwise, for entering a search query or scrolling through their news feed.
- **Excessive extraction of data** – consumers pay for using search and social media services through the provision of their attention and their data. In a more competitive market, consumers might not need to provide so much data in exchange for the services they value.

- **Lower quality of service** – there are various ways that the quality of services offered by platforms might be enhanced if they were subject to more intense competition. Looking beyond the immediate quality of the core services provided (eg relevance of search results or ease of communication with friends) the platforms might be judged on a range of other factors, such as: the extent to which they protect consumers' privacy; the volume and density of adverts that they carry; how clearly and easily the adverts can be distinguished from organic content; and how easily the services can interoperate with other complementary ones.

2.70 On the other side of the platforms, a lack of competition may result in direct harm to business users. In the case of platforms funded by digital advertising, these businesses could include advertisers, publishers, advertising intermediaries, and content creators. Absent effective competition, these various businesses could expect to face lower quality services, higher prices, or a lower share of the revenues than they might otherwise expect in a more competitive market. Ultimately, we can expect these effects to be passed through to consumers with the following indirect impacts:

- **Price of goods and services being advertised** – online platforms with market power may be able to exploit advertisers through high prices and increasing the cost of advertising. If the costs of digital advertising are higher than they would be in a more competitive market, we would expect this to be felt in the prices that consumers pay for hotels, flights, consumer electronics, insurance and many other products that make heavy use of digital advertising.
- **Quality and range of creative content, including journalism** – for content providers such as online newspapers, digital advertising is a vital source of revenue. If problems in the digital advertising market mean that such providers receive a lower share of advertising revenues than they should, this is likely to reduce their incentives and ability to invest in news and other online content, to the detriment of those who use and value such content. At a broader social level, a thriving and competitive market for independent news and journalism is essential for an effective democracy.
- **Price, quality and choice in adjacent markets** – a powerful platform may seek to leverage its strong position in its core market into other adjacent markets, ultimately giving itself an advantage over its rivals. The effects of limited competition for consumers discussed above are then potentially spread out to a wider range of markets. Importantly, this could act as a handbrake on innovation right across the ecosystem of online services and related technology.

2.71 This document sets out our initial findings on the level of competition faced by Google and Facebook, both in their consumer facing markets, and in digital advertising. This informs our assessment of the potential of the above harms to consumers arising in practice.

3. Competition in consumer services

- Google has significant market power in the general search sector, having had a share of supply of around 90% or higher in the UK for more than a decade.
- Google's strong position is primarily maintained by three key barriers to entry and expansion: economies of scale in developing a web index, access to click-and-query data at scale, and Google's extensive default positions across desktop and mobile devices.
- Facebook has significant market power in the social media sector. Strong network effects mean that entry over the last decade has only been successful where platforms have provided a sufficiently different service. The evidence that we have reviewed suggests that entrants place only a limited constraint on Facebook.
- By controlling (and sometimes degrading) the level of interoperability that it offers to other social platforms, Facebook may have further insulated itself from competitive pressure.

Introduction

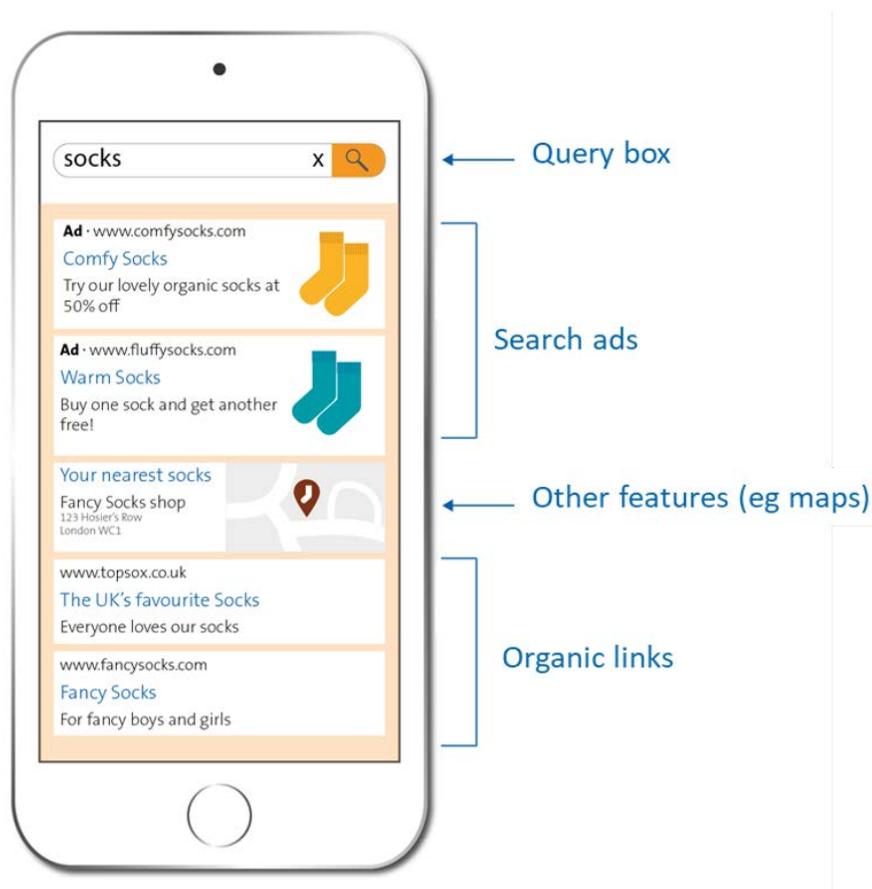
- 3.1 Online platforms that are funded by digital advertising serve multiple user groups, including consumers and advertisers.⁵⁰
- 3.2 As discussed in the previous chapter, the high revenues that Google and Facebook generate from digital advertising are linked to their success in capturing consumers' attention and understanding their characteristics and preferences. They achieve this primarily through their search and social media platforms.
- 3.3 This chapter sets out our initial research and findings in relation to:
 - the extent of market power enjoyed by Google and Facebook on the consumer side of their search and social platforms; and
 - the key barriers to entry and expansion in these sectors.

⁵⁰ Some of these platforms also serve other user groups, such as publishers, retailers and app developers.

Competition in search

- 3.4 Web-based search engines play an important role for consumers in the modern world, helping them to navigate the Internet, and quickly and easily find useful information in response to a broad range of search queries.
- 3.5 Figure 3.1 below shows the key elements of a search engine results page. When users enter queries into the search box, the search engine returns a set of organic links and may also return search adverts and other content and features.

Figure 3.1: Illustration of a search engine results page



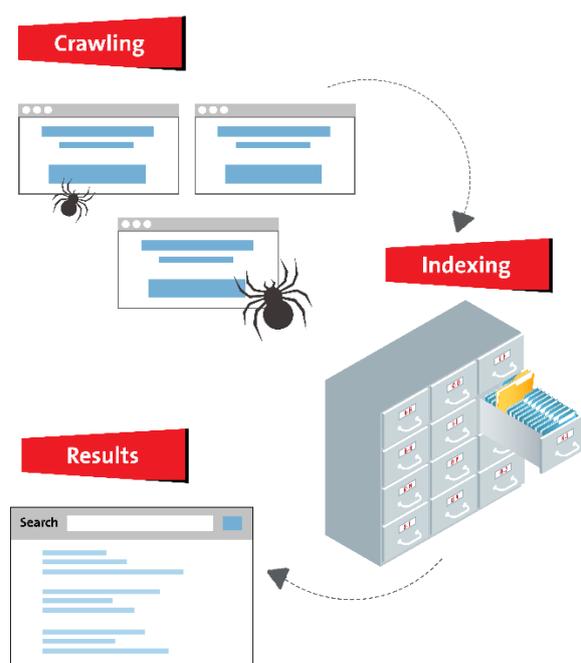
Source: CMA.

- 3.6 Search engines such as Google and Bing (which is owned by Microsoft) maintain an index of websites and use algorithms to determine which results to serve in response to a query. These steps can be summarised as follows:
- **Crawling** – search engines use automated bots to crawl the web for new or updated webpages and bring data about those pages back to the search engine's servers. These bots follow links from known webpages and use known webpages' URL addresses. Search engines also make

use of crawl requests and sitemaps submitted by webmasters (ie people who are responsible for maintaining websites) who want their website to be found.

- **Indexing** – search engines record and organise data and metadata collected from crawling into an index. This data can include the title of a webpage, the words it contains and their location within the webpage, as well as metadata on the author of the page and the time the page was last updated. Search engines supplement data derived from crawling with other information. This may include, for example, local business databases or live feeds of sports scores or exchange rates.
- **Ranking and returning results** – when users enter a search query, search engines use a series of algorithms in order to assess the intent behind the query and instantly select and return the most relevant and useful information from the index.

Figure 3.2: Web crawling and indexing



Source: CMA.

3.7 Aside from Google and Bing, other English-language search engines do not maintain their own at-scale index of webpages, but instead buy organic links and search adverts through syndication agreements. For example, Yahoo

Search (owned by Verizon Media), Ecosia, and DuckDuckGo access Bing's organic links and adverts through syndication deals.⁵¹

Box 3.1: History of search

In the 1990s, at least fourteen search engines launched their services for the first time, deploying a range of different approaches to indexing and ranking webpages.

- JumpStation (which launched in 1993) used a web-crawling technology to build an index of the web,⁵² whereas Yahoo (which launched in 1994) relied on staff categorising websites into a hierarchical structure.
- Other early launches included Lycos in 1994, Ask Jeeves (which would later become Ask.com) in 1997, and Google and MSN Search (which would later become Bing) in 1998.⁵³

By the early 2000s, Google had established itself as one of the top search engines in the world, alongside Yahoo and MSN Search.⁵⁴

- Google said that the initial innovation that drove its success was its proprietary PageRank algorithm, which judged relevance based on the number of websites linking to potentially relevant pages.
- Google received a capital injection in 1997⁵⁵ and by 2000 it had developed the world's largest search index.⁵⁶

Through the 2000s, search engines innovated through the addition of features.

- By 2005, Google, MSN and Yahoo all offered web, news and images search features. Google also had shopping sites (Froogle) and Maps. MSN search had Encarta. Yahoo's features included Video, Directory and Products.⁵⁷
- Google was the first search engine provider to launch a mapping product, with Maps for desktop launching in 2005 and Maps for mobile following in 2007.⁵⁸

⁵¹ Verizon Media (owner of Yahoo Search and AOL) and Ecosia have syndication agreements with Microsoft. DuckDuckGo has a sub-syndication agreement with Verizon Media.

⁵² [Dynamic Competition in Online Platforms](#), BEIS, March 2017, page 32-33.

⁵³ [Dynamic Competition in Online Platforms](#), BEIS, March 2017, page 32-33.

⁵⁴ [The Guardian](#), 'Google timeline: a 10 year anniversary', 7 Sep 2008, Accessed 31.10.2019.

⁵⁵ [The Telegraph](#), 'The man who Googled himself \$1 billion', 5 Oct 2004, Accessed 31.10.2019.

⁵⁶ [Google blog](#), 'Google Launches World's Largest Search Engine', 26 Jun 2000, Accessed 31.10.2019.

⁵⁷ [The Guardian](#), 'Online's top 25 search engines', 24 Feb 2005, Accessed 31.10.2019.

⁵⁸ [Google blog](#), 'Google announces launch of Google maps for mobile with 'my location' technology', 28 Nov 2007, Accessed 31.10.2019.

There is a long history of search providers other than Google and Bing choosing to outsource some or all of their search engine activities.

- As early as 2000, Yahoo agreed to make Google its default search results provider. Yahoo's president said that 'Google will provide its underlying Web search engine to serve as a complement to Yahoo's popular Web directory and navigational guide'.^{59,60}
- By late 2010, Yahoo had outsourced its search results and advertising to Microsoft⁶¹ and Ask.com had refocused away from developing its own search engine technology.⁶²
- This left Google and Microsoft as the only two large web-crawling English-language search engines, which remains the case today.

3.8 We refer to Google, Bing, and the search engines that syndicate from them as 'general search' providers. These are platforms that are used by consumers to answer a broad range of search queries.

3.9 General search engines are not the only online platforms that help consumers to find information online. Online marketplaces (such as Amazon and eBay) and price comparison sites (such as Booking.com and Comparethemarket.com) also help consumers to search for certain types of information. We refer to platforms that specialise in a subset of consumer queries as 'specialised search' providers.

3.10 We first set out below how general search platforms compete, before presenting shares of supply and outlining competitive constraints faced by Google Search. We then discuss potential barriers to entry and expansion. Finally, we present our initial findings on the extent to which Google Search may hold market power.

⁵⁹ Google blog, '[Yahoo! Selects Google as its Default Search Engine Provider](#)', 26 Jun 2000, Accessed 1/11/2019.

⁶⁰ The same press release noted that Yahoo! used a different indexing method compared to Google and others 'Unlike search engines, which use automated "spiders" to electronically crawl the Web to capture and store sites in the search engine's index, Yahoo!'s staff of experts appropriately categorizes Web sites into an intuitive hierarchical organizational structure'.

⁶¹ In 2009, Yahoo and Microsoft agreed that Microsoft would be the exclusive provider of algorithmic search results and search advertising to Yahoo in EMEA. This partnership was renewed in 2018, subsequent to Verizon Media's acquisition of Yahoo's operating business.

⁶² [The Guardian, 'Ask.com gives up on search as Google takes over – adieu Jeeves'](#), 9 Nov 2010, Accessed 1/11/2019.

Parameters of competition

- 3.11 Search engines compete for consumers directly by seeking to provide high-quality services. They also compete over access to consumers, through the default search positions on web-browsers and devices.⁶³
- 3.12 Search engines compete for consumers over the following dimensions of quality:
- **Relevance of results** – the ability of a search engine to return useful, relevant results in response to a range of queries is a key dimension of quality. Activities such as crawling and indexing, developing additional features, and refining algorithms each play a role in search relevance.⁶⁴

Box 3.2: How search engines measure and improve search quality

Search engines engage in several types of experimentation and testing in order to iterate and improve search quality.⁶⁵

Firstly, search engines may conduct **live experiments**, where they direct a proportion of user traffic to a new trial version of the search engine. For example, one group of users may be served results based on the current ranking algorithm, while another group is served results based on a modified algorithm. The search engine analyses interaction data (for example, data on what links the user clicked and whether they hit the back button following a click) in order to build a picture of which version works better for users.

Secondly, some search engines seek qualitative feedback from **dedicated panels** of human reviewers who have agreed to evaluate the product. For example, reviewers may be asked to compare two candidate sets of search results (or two candidate ways of presenting the results) and state which one they prefer. Some search engines also use human reviewers to judge various aspects of web-page quality and trustworthiness.

- **Ease of use** – consumers also want to be able to conduct their searches effectively and efficiently. Many search engines have built ‘instant answer’

⁶³ For example, when a consumer buys a new mobile phone, search queries typed into the pre-installed browser or search widget will be served by the default search engine, unless the consumer makes an active choice to move away from the default. We discuss default search positions later in this chapter.

⁶⁴ As discussed later on this chapter, search engines that access search results through syndication agreements undertake these activities to a more limited extent.

⁶⁵ See for example: Google, ‘[How search works](#)’ and ‘[How our Quality Raters make Search results better](#)’, Accessed 26 November 2019.

boxes into the search results page, reducing the need for consumers to click through to other web pages. Features such as autocomplete and voice search also contribute to ease of use.

- **Attractiveness of interface** – search engines also compete to provide visually attractive interfaces, which can be another aspect of quality from the perspective of consumers.
- **Privacy and trust** – some consumers prefer to accept less personalised (and potentially less relevant) search results and adverts, in return for their search engine collecting and storing less data about their searches.
- **User rewards and incentives** – price is not a key parameter of competition in search; none of the general search engines that we heard from charge users or pay them for searches undertaken. However, some consumers value the non-monetary rewards for searches (such as promotional points or contributions to good causes) offered by certain search engines.

3.13 The evidence that we have reviewed suggests that search engines and consumers generally see relevance of results as the most important aspect of quality.⁶⁶ This suggests that, in addition to any points of differentiation that they offer, competitive search engines need to at least offer a similar level of relevance to that of the market leader (Google).

3.14 Competition over quality in search plays out through various mechanisms, including in-house innovation (for example, to improve search algorithms), the acquisition of innovative companies and the signing of commercial partnerships with third parties that offer databases, maps or other features (to supplement organic links).

3.15 However, competition over access to consumers is also a very important feature of the search sector. For example, Google makes very large payments to Apple in particular in return for being the default search engine on its devices. We discuss access to consumers later in this chapter.

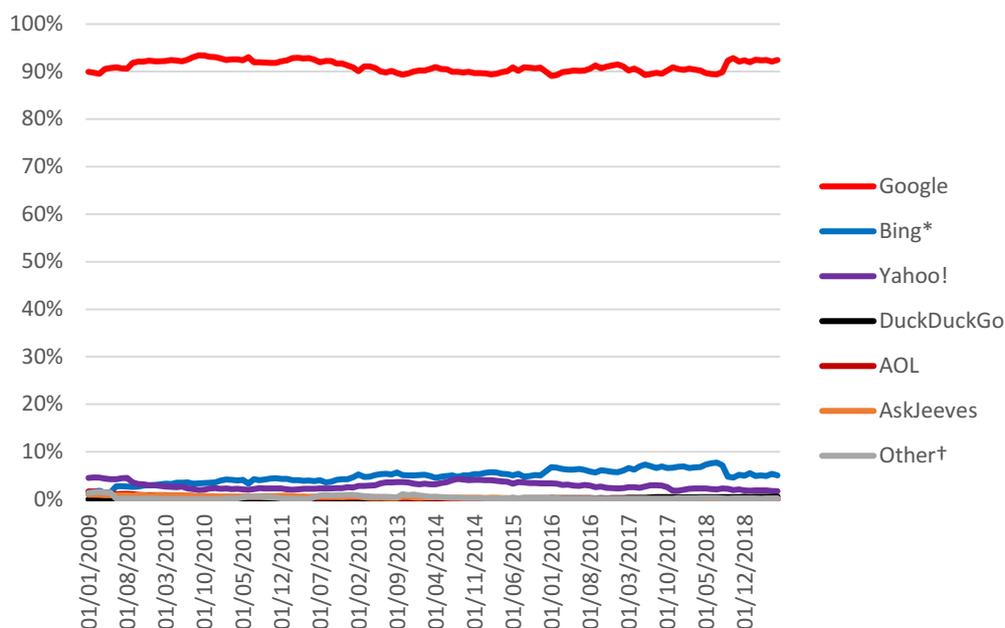
3.16 Search engine providers also compete to attract advertisers to their platforms, in order to fund the services that they supply to consumers. Google and Bing own and operate their own search advertising infrastructure. Other search engines rely in part or whole on search adverts that they access through syndication agreements. We discuss search advertising in Chapter 5.

⁶⁶ See for example [survey conducted by DuckDuckGo](#).

Shares of supply

3.17 Google has persistently had a very high and stable share of general search in the UK over the period for which data is available. As shown in Figure 3.3, based on Statcounter data on website referrals, Google's share of supply has been between 89% and 93% throughout the last ten years.^{67,68}

Figure 3.3: Shares of supply by page referrals from January 2009 to June 2019



Source: [Statcounter Global Stats](#).

Notes: UK data for June 2009 – June 2019.

* Bing's share represents that of Bing and MSN Search. MSN was rebranded as Bing in 1998.

† 'Other' consists of: AlotSearch; AVGSearch; Babylon; Baidu; Conduit; NortonSafeSearch; Snapdo; Webcrawler; WindowsLive; Yandex; and 'other'.

3.18 MSN (now known as Bing) overtook Yahoo Search in 2009 and these search engines have continued to be the second and third biggest providers in the UK throughout the subsequent ten years.

3.19 After Google, Bing and Yahoo Search, DuckDuckGo and Ecosia are among the next most popular search engines in the UK as of 2019. DuckDuckGo was launched in 2008 and Ecosia launched in 2009. Both of these search engines use Bing search results and adverts and had a share of less than 1% of general search as of 2019.⁶⁹

⁶⁷ Source: [Statcounter Global Stats](#). As explained in Appendix C, Statcounter calculates shares of supply as the quantity of page referrals generated through a search engine, as a proportion of total page referrals generated through search engines.

⁶⁸ We plan to calculate shares on the basis of the volume of searches conducted through search engines in the second half of the study. See further Appendix C.

⁶⁹ Source: Statcounter data and Comscore MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, June 2019, UK. (Statcounter does not include results for Ecosia). See further Appendix C.

- 3.20 Google's share of supply is very high in desktop search and close to 100% in mobile search. Bing has a larger share of desktop search than mobile search. As of 2019:
- Google's share of supply in search is 92% overall, 97% on mobile devices and 86% on desktop devices.
 - Bing's share of supply in search is 5% overall, less than 2% on mobile devices and 11% on desktop devices.^{70,71}
- 3.21 Overall, the evidence we have seen suggests that many consumers mostly use one general search engine per device. For example, research by Google into the desktop sector in the US found that around 70% of consumers use either Google or Bing exclusively, and around 30% use both. Google's very high share of supply in mobile search suggests that the proportion of consumers using only one search engine is higher still on mobile devices.
- 3.22 Several factors may explain why consumers do some searching on a second search engine. Firstly, they may face different defaults on different devices. Secondly, some consumers may actively choose to use a different search engine for certain tasks.⁷²
- 3.23 In the section below, we consider sources of competitive constraint on Google Search, including from rival general search platforms and specialised search platforms.

Competition between general search platforms

- 3.24 Google Search has played an important role in helping consumers to navigate the Internet since its launch in 1998 and is well-known for introducing innovations to web-based search, including its 'PageRank' algorithm.
- 3.25 As by far the most-used general search engine in the UK, Google handles a larger volume of UK search queries and operates a larger volume of UK search advertising inventory than its competitors. Microsoft indicated that Google's greater scale enables it to more easily deliver more relevant results for users and to attract more advertisers. Other general search engines identified Google as their main competitor or as one of their main competitors (alongside Microsoft Bing).

⁷⁰ Source: [Statcounter Global Stats](#) data for June 2019. The methodology is explained in Appendix C.

⁷¹ Desktop devices include laptop devices. Mobile devices include tablet devices.

⁷² For example, DuckDuckGo said that 'some users choose to only use us when making perceived more-private searches and choose to use Google the rest of the time'.

3.26 As discussed above, relevance of results is widely viewed as the most important aspect of quality for consumers. Relevance is subjective and there is no single measure that is used across the sector to compare different search engines. However, the evidence that we have reviewed to date, which includes internal documents and consumer research submitted by parties, suggests that consumers generally view Google's English-language search results as being more relevant than those of other search engines. For example:

- Google submitted UK consumer research in which Google search results were rated more highly than those of other search engines, including in relation to 'random queries'.
- Google also submitted research showing that a sample of US consumers had identified 'quality and relevance', along with 'familiarity and habit', as their top reasons for using Google Search.
- Microsoft submitted internal documents stating that Bing was 'trailing' Google on relevance in a number of regions outside of the US.
- Microsoft told us that Google's perceived advantage on relevance among consumers especially applies to uncommon queries (also known as 'tail queries') and that Google has richer local and specialty results. Tail queries account for a significant proportion of the traffic seen by search engines. For example, Google said that about 15% of its daily traffic is comprised of queries that it has never seen before.
- Microsoft submitted qualitative research that indicated that the perceived relevance of results was a source of relative weakness for Bing in the UK. This study was based on discussions with a small number of Bing users.

3.27 The 'Google' brand is closely associated with the act of web-searching and several competitors highlighted this as a source of strength. DuckDuckGo submitted that 'users have come to expect Google as the default and think of it synonymously with search. Even die-hard DuckDuckGo users still say they "Google it."'

3.28 Google's competitors also cited its search default positions as a source of strength. As discussed in the sections below, Google Search holds extensive default positions across nearly all UK mobile devices and a large proportion of UK desktop devices. Meanwhile, Bing holds default positions on Windows PCs, through Microsoft's agreements with Windows PC manufacturers.

3.29 Google submitted that Bing was the main competing general search engine to Google Search in the UK. Aside from Google, Microsoft is the only other

search engine provider that maintains an at-scale English-language index and produces its own organic search results and search adverts.

- 3.30 Microsoft said that Bing's strengths relative to Google are that it is a good alternative for consumers for most of their likely search queries (ie common queries) and for those who dislike Google. One way that Bing differentiates from Google is through Microsoft Rewards. Under this scheme, signed-in Bing users receive promotional reward points for undertaking searches.⁷³
- 3.31 In addition to their general search functions, both Google Search and Bing offer a wide range of search features. For example, both allow consumers to make specific searches for images, videos, maps, shopping and flights.^{74,75} An internal document from Google comparing its own business to other search engines including Bing, DuckDuckGo and Ecosia stated that 'Google leads in search features (coverage and utility)'.
- 3.32 Google highlighted its recent innovations in areas such as 'activity cards',⁷⁶ visual previews and artificial intelligence. It said that the actions of its general search engine competitors were not a significant consideration behind these investments, because its main focus is innovating to improve the user experience. We consider that Google's investments in search features may have several motivations. While some may be motivated by retaining search customers, others may in part reflect a desire to expand into new markets.
- 3.33 Other general search engines used by UK consumers include Yahoo Search, Ecosia and DuckDuckGo. As explained above, each of these relies on search results and adverts from Bing.⁷⁷ DuckDuckGo has a focus on privacy and describes itself as 'the search engine that doesn't track you',⁷⁸ while Ecosia is a 'purpose company', whose advertising profits are reinvested or used to plant trees.⁷⁹
- 3.34 Downstream search engines with syndication business models appear to provide some fringe competition to Google.^{80,81} However, we consider that

⁷³ These can be redeemed for gift cards, donation and sweepstake entries, but do not have a monetary value.

⁷⁴ [Google](#), accessed on 9.10.2019.

⁷⁵ [Bing](#), accessed on 10.10.2019.

⁷⁶ A Google Search feature that organises information about a user's previous searches to help them to 'pick up where they left off' when they start another search session. See Google (2019), [Pick up where you left off on Search](#), accessed on 3.12. 2019.

⁷⁷ Verizon Media (owner of Yahoo Search and AOL) and Ecosia have syndication agreements with Microsoft. DuckDuckGo has a sub-syndication agreement with Verizon Media.

⁷⁸ [DuckDuckGo](#), accessed 7.11.2019.

⁷⁹ Ecosia (2019), [Financial reports and tree-planting receipts](#), accessed on 10.10.2019.

⁸⁰ For example, Google submitted that DuckDuckGo is one of the 'privacy-focused players' that it competes with and that 'DuckDuckGo's key advantage is the reputation it has cultivated amongst users for protecting user privacy [and] choosing not to offer personalised search services'. It also submitted that Ecosia was one of the general search engines that it competes with.

⁸¹ For example, most DuckDuckGo users have switched to it from Google Search.

competition to Google from platforms that do not produce their own organic links and adverts is likely to be limited in scope.

- 3.35 In summary, Google has been by far the most-used search engine in the UK for at least a decade. We consider that Bing is Google's closest competitor in general search. However, as discussed later in the chapter, several barriers to expansion appear to limit the degree of competition to Google from Bing and other search engines alike.

Competition between Google Search and specialised search platforms

- 3.36 Google submitted that it also faces competition from a range of vertical or specialised search platforms in relation to different types of product query, including Amazon in retail and Booking.com in travel.
- 3.37 We note that, from a consumer perspective, there are substantial differences between general search and specialised search. Firstly, general search engines help consumers with a wider range of queries including many that are not served by specialised providers. Secondly, general search engines can lower transaction costs for consumers, by reducing the need for them to manually navigate between multiple websites and apps.
- 3.38 In practice, Google Search often serves as a gateway to specialised search rather than an alternative.⁸² As discussed in Chapter 5, there is some evidence that Amazon is less heavily reliant on Google than other specialised search providers and may compete directly with Google in relation to retail search advertising. However, retail queries only represent one element of what consumers want from general search. Overall, we consider that Amazon is likely to provide only a limited competitive constraint to Google Search on the consumer side of the platform.
- 3.39 We also note that competition between general and specialised search has been looked at before by the European Commission in its Google Search (Shopping) investigation, which found specialised search and general search services to be in distinct markets.⁸³

⁸² As set out in Chapter 5, Comscore data (for desktop only) shows that a large proportion of traffic arriving on vertical search websites comes directly from Google websites. In turn, it appears that a large proportion of Google's revenues in sectors where specialised search providers are present, comes from the specialised search providers themselves.

⁸³ [39740 Google Search \(Shopping\) case page](#) accessed on 29 November 2019.

- 3.40 Overall, we consider that specialised search providers are likely to provide only a limited competitive constraint to Google Search on the consumer side of the platform.

Barriers to entry and expansion in search

- 3.41 Having considered sources of competitive constraint on Google Search, we now discuss potential barriers to entry and expansion that may prevent other search engines from acting as an effective constraint.

Web-crawling and indexing

- 3.42 In order to return relevant search results, search engines must be able to draw on an index that provides an up-to-date picture of a very wide range of relevant webpages (or else syndicate results from a provider that does so).
- 3.43 Google and Microsoft are the only two search engine providers that maintain at-scale English-language web indices.⁸⁴ The main way that they acquire information for their index is through their automated web-crawling bots. These bots follow the links between webpages and bring data about those pages back to the search engine's servers.
- 3.44 Based on submissions from these parties, Google's index contains around [500-600 billion] pages and Microsoft's index contains around [100-200 billion] pages. Our understanding is that the total number of pages in a web index is only one measure through which indices can be assessed; the relevance of the pages in an index is also important, as is the extent to which an index is up-to-date.
- 3.45 Crawling and indexing the web represents a significant cost for those search engines that do it. Microsoft estimated that its indexing investments added up to billions over time, while other estimates have suggested that Google and Bing spend hundreds of millions of dollars a year on this activity.⁸⁵
- 3.46 Developing a web-index is subject to economies of scale; the costs associated with crawling and indexing do not increase proportionally with the number of users of the search engine. It is difficult for smaller search engines

⁸⁴ Other web-crawling search engines include Yandex, Cliqz and Mojeek. [Yandex](#) is a Russian multinational that has a more-than 50% share of search in Russia. Cliqz is a Germany-based search engine. Mojeek is a small UK-based search engine.

⁸⁵ For example, the European Commission quoted DuckDuckGo as follows: 'Bing and Google each spend hundreds of millions of dollars a year crawling and indexing the deep Web. It costs so much that even big companies like Yahoo and Ask are giving up general crawling and indexing. Therefore, it seems silly to compete on crawling and, besides, we do not have the money to do so'. Source: Google Search (Shopping) Commission Decision (non-confidential version), 27 June 2017, page 66.

to invest in at-scale crawling and indexing, since their ability to repay these costs and earn a return on investment is contingent on their ability to secure the other inputs necessary to compete effectively in search. For example, they would also need to achieve scale in both search queries and search advertising, in order to offer relevant results and monetise effectively.

- 3.47 Some parties suggested that crawler-blocking is an issue for web-crawling search engines. The mechanism for crawler-blocking is that webmasters (ie people who are responsible for maintaining websites) place robots.txt⁸⁶ files on their websites, requesting that some or all crawlers do not access all or parts of the website. We heard that website owners may have legitimate motivations for doing so. For example, motivations can include fraud prevention and avoiding the increased running costs that can result from a large number of automated bots crawling a website.
- 3.48 We heard that, when web-crawlers encounter blocking, search engine providers can contact webmasters to seek a change of policy. However, the effort and cost of doing so means that search engines that are subject to fewer blocking instructions may have an advantage.
- 3.49 Microsoft submitted that while, overall, its index was competitive with Google's, a small fraction of sites have robot.txt files that enable Google to crawl the site but prohibit Bing. Microsoft gave several examples of websites that allow crawling by Google but prohibit crawling by Bing over all or part of the site. These include eBay's UK website,⁸⁷ the UK Passport Service website,⁸⁸ and the London Stock Exchange website.⁸⁹ Its main concern was that user impression of Bing search quality would be harmed if several high profile websites were not properly searchable.
- 3.50 Yandex (which has a more-than 50% share of search in Russia) and Mojeek (a small UK-based search engine) indicated that crawler-blocking was not the main barrier to them expanding their English-language web-indices. Rather, economies of scale and other issues were more important. However, Cliqz said that it had incurred 'significant business development expenses' over the last 5 years by having to contact popular publishers to gain permission to crawl their websites.
- 3.51 Our own research into this issue found that the web-crawler bot of a new search engine that honoured all robots.txt would have access to approximately 0.2% fewer sites compared to Google and Bing. We found that

⁸⁶ See further: [description of robots.txt files](#).

⁸⁷ [eBay.co.uk robot.txt](#), accessed on 13 November 2019.

⁸⁸ [UK Passport Service robot.txt](#), accessed on 15 October 2019.

⁸⁹ [London Stock Exchange robot.txt](#), accessed on 15 October 2019.

the difference between the proportion of sites providing access to Google and the proportion providing access to Bing was smaller still. Therefore, differences in access levels provided to search engines appear to be small in numerical terms. However, if even a small number of popular sites cannot be crawled by some search engines, this could limit the ability of those search engines to return high-quality search results to certain queries. Our research, which is based on a limited sample of domains, is set out in Appendix E. We would welcome further evidence and views on whether crawler-blocking is a significant barrier to the development of at-scale web-indices.

- 3.52 In summary, Google and Microsoft are the only two providers that undertake English-language web-crawling and indexing at a scale that can support a competitive search engine in the UK. We consider that this reflects substantial scale economies in crawling and indexing, plus uncertainty for other search engines as to whether they can secure the other inputs (including sufficient scale in search queries and adverts) needed to earn a return on these investments. In combination, these factors represent a barrier to entry and expansion for English language web-crawling search engines. We discuss scale-effects in search queries and adverts in the sections below.

Scale effects in click-and-query data

- 3.53 Network effects occur when the value of a service to its users increases as the total number of users increases. Search engines are subject to same-side network effects, in the sense that users benefit from increased quality as the search engine acquires a greater number of users.⁹⁰
- 3.54 The main mechanism for this is that search engines can improve their ranking algorithms, and return more relevant results to a user, when other users have entered similar search queries in the past.
- 3.55 Search engines collect and store aggregated ‘click-and-query’ datasets containing information about what users searched for and how they interacted with the results that they were served. They collect this data from searches

⁹⁰ In principle, search engines may also benefit from cross-side network effects, between users and webmasters (people who operate and maintain websites). First, the more users a search engine has, the more incentive webmasters have to design their website or take actions that make their website more easily found by that search engine. This could include prioritising limited bandwidth to allow crawlers of popular search engines but not others to crawl and index the website. It could also include prioritising submitting updated site maps and crawl requests to popular search engines but not others, which helps popular search engines have more up-to-date results. Second, the more websites optimise their website to be more easily found by a search engine, the better its quality of search results which helps it to attract and retain more users. The evidence that we have reviewed so far suggests that this cross-side network effect, which is discussed in the section on web-crawling and indexing above, is not as significant as the same-side network effect from improvements to returning more relevant results to a user detailed in this section.

undertaken on their own platforms and, where applicable, searches undertaken on the platforms of their downstream syndication partners.

- 3.56 Click-and-query data plays an important role in helping search engines to improve the relevance of results. It helps search engines to understand how well their product is performing and to identify and test potential improvements, such as changes to ranking and spelling correction algorithms.⁹¹
- 3.57 This data is particularly important to search engines that produce their own organic links (for example, Google and Bing), but certain click-and-query data is also collected by syndicator search engines, for example, to test how well instant answers and other features that they control are performing.
- 3.58 The evidence that we have reviewed so far suggests that:
- **There are advantages to scale in click-and-query data** – in general, search engines that see more queries (and more consumer responses to those queries) can engage in increased experimentation and learning about what consumers want, and have greater possibilities to iterate and improve their service.
 - **The marginal benefit of additional data depends on how common and fresh the queries are** – where a search engine sees a search query very frequently (sometimes referred to as ‘head queries’) and where the user intent behind that query is static, then the marginal benefit from seeing that query more often is likely to be relatively low. Conversely the marginal benefit of seeing a query more often will be higher for uncommon queries (sometimes referred to as ‘tail queries’) and for queries where the user intent changes over time (these are known as ‘fresh queries’).⁹²
- 3.59 Both Google and Microsoft said that a substantial proportion of queries that they see are uncommon or new:

⁹¹ We review the importance of data in detail in the Appendix E.

⁹² For example, the query ‘weather’ is commonly seen by search engines (ie it is a ‘head query’). It is also a relatively static query in the sense that the consumers of today, last week, and last year are all likely to have had a similar intent when entering this query (ie the intent to find a weather forecast). By contrast, search queries related to contemporary events, such as fashion trends and local news, may be less commonly seen (ie they may be ‘tail queries’) and the results that consumers are seeking may be changeable over time (ie they may be ‘fresh queries’).

- Google submitted that the proportion of its daily traffic which are queries that it has never seen before ‘has remained constant at about 15% for many years’.
 - Microsoft submitted that roughly 36% of the search queries run on Bing are entered 10 or fewer times in a month.
- 3.60 This indicates that, for a substantial proportion of search queries, there is a material benefit to both Google and Bing from receiving additional queries of the same type.
- 3.61 As the most-used search engine, we expect that, on average, Google sees each uncommon query more times than Bing in a given time period. We consider that, in particular, this is likely to support Google’s ability to serve more relevant results to uncommon queries compared to Bing. Given the importance of relevance to consumers, even if this advantage for Google is only substantial for a modest proportion of search queries, it is likely to further reinforce consumers’ perceptions of Google as the highest-quality search engine and make them less inclined to consider alternative providers.
- 3.62 Importantly, any search engine seeking to improve its relevance and compete with Google faces a chicken-and-egg problem; clicks help improve relevance, but relevance is needed to attract clicks. Overall, our initial assessment is that the greater scale of English-language queries seen by Google is likely to support its ability to deliver more relevant search results compared to its competitors, especially in relation to uncommon and fresh queries. Given the importance of search relevance to consumers, lack of comparable scale in click-and-query data is likely to limit the ability of other search engines to compete with Google.

Syndication agreements

- 3.63 As highlighted above, search engines including Yahoo Search, DuckDuckGo and Ecosia access Bing search results and adverts through negotiated syndication agreements.
- 3.64 Under syndication agreements, the upstream provider (Google or Bing) agrees to provide search results and adverts, and the downstream provider incorporates these into its own search engine product, under its own

branding.⁹³ The downstream provider may supplement the syndicated results and adverts with additional information and features.

Box 3.3: The role of syndicators from a consumer perspective

Search engines that rely on syndications agreements present organic search results produced by Bing or Google. So how do these syndicators differentiate themselves? At present, we understand that sources of differentiation include:

- Social purpose – some syndicators spend part of their search advertising revenues on social or charitable causes.
- Privacy – some syndicators say that they do not log or store information about user searches.
- Search features – when users enter search queries, syndicators and their upstream partners alike often serve additional features (such as map extracts, news clippings and weather forecasts), alongside organic links and adverts. Some syndicators serve different features compared to their upstream partner.

It is possible that syndicators could play a more distinct role in the sector in future. For example, we are not aware of any current syndication agreements that allow syndicators to re-rank the organic search results that they receive from Google or Bing. If this were to change, then syndicator search engines may be able to differentiate themselves more strongly.

3.65 In the agreements that we have seen, advertising revenues arising from clicks on search adverts on the downstream search engine are generally shared between the two parties. In addition, or instead, the downstream provider may be charged a fixed fee per 1,000 search requests and certain additional fees.

3.66 From the perspective of upstream providers, syndication agreements act as a distribution channel for their search results and adverts and help them to achieve greater scale. This may lead to direct benefits, in the form of revenue-share and other payments made by the downstream partner. In addition,

⁹³ From the agreements that we have seen, downstream search engines generally syndicate organic search results and search adverts from the same upstream provider. However, in some cases, downstream search engines have the possibility of buying organic search results without adverts. For example, Google's Websearch Service allows website owners to use Google search results in exchange for a search fee. Website owners then have the option of also displaying Google search adverts through its AdSense for Search and AdSense for Shopping services.

these agreements help upstream providers to build greater scale in click-and-query data and in search advertising, which may in turn help the provider to improve its search relevance and search advertising monetisation.^{94,95}

- 3.67 From the perspective of downstream providers, syndication agreements can provide them with a viable means of competing in search. As highlighted above, competitive web-crawling search engines have to overcome a series of interrelated challenges including developing sufficiently relevant search results (through at-scale crawling and indexing and at-scale access to customers and clicks) and developing an at-scale advertising platform (which also requires at-scale access to customers and clicks). By contrast, syndication strategies appear to be lower cost and lower risk.⁹⁶ Several downstream providers indicated that, in combination, the barriers to developing their own competitive results and adverts were not surmountable, leaving syndication as the only viable option.
- 3.68 As the only at-scale English-language web-crawling search engines, Google and Bing will naturally have a strong bargaining position in discussions with downstream search engines. As a result, they may choose not to offer agreements to some providers, or may insist on terms that limit the ability of downstream providers to compete. For example, Ecosia said that it had approached Google many times over the years but that Google had always declined its request. In addition, none of the syndication agreements that we reviewed allows downstream providers to re-rank the search results that they received. Several downstream providers said that they would like to be able to modify search results, in order to improve their ability to differentiate.
- 3.69 We consider that downstream search engines with syndication business models have provided some fringe competition to Google, by taking Bing's organic results and adding their own selling points and features. However, there are limits to the degree of competition that can come from businesses that do not produce their own organic links and search adverts. In particular, search engines that rely on Bing's organic links (including Yahoo Search, DuckDuckGo and Ecosia) are likely to be constrained in their ability to compete with Google on search relevance. In addition, the syndication terms currently available appear to be further limiting the ability of search engines

⁹⁴ For example, Microsoft submitted that: 'a primary motivation for entering syndication deals is to help increase our scale to improve competitiveness over time'.

⁹⁵ We have seen some syndication agreements where the upstream provider receives only a low share of search advertising revenues. In these cases, we consider that obtaining greater scale in click-and-query data and in search advertising volume may be the main benefits that the upstream provider derives from the syndication agreement.

⁹⁶ In addition, where syndication agreements are based on a revenue share, they provide downstream search engines with a degree of hedging between costs and revenues.

with syndication business models to differentiate from their upstream partners and play a more substantial role in the competitive process.

Other supply-side barriers

- 3.70 Some parties highlighted additional supply-side barriers to entry and expansion.
- 3.71 Microsoft suggested that accessing at-scale location data from user devices is a critical input to providing relevant, localised results. It indicated its belief that Google has unique advantages in this area, due to the location data that it receives from the Android operating system and the location data it receives when users access Google Search or other apps like Google Maps/Waze. As noted above, Google Search accounts for almost all of the mobile search sector in the UK (97%).
- 3.72 We consider that limited access to consumer location data may limit the ability of search engines other than Google to return relevant results to local queries. We would welcome further submissions on this point.
- 3.73 Some parties highlighted broader economies of scale in search, in addition to those that relate to investments in a web-index. For example, Ecosia said that developing additional content around the organic links that it syndicates from Bing is subject to clear economies of scale, because the product development effort is fixed, regardless of the number of consumers served. Google said that, ‘apart from limited economies of user data scale, Search does not enjoy significant benefits from its scale in other areas’.

Consumer access to search and default arrangements

- 3.74 Consumers generally access search engines on mobile and desktop devices through web-browsers or search widgets.⁹⁷ In many cases, mobile and desktop devices come with a default browser and widget which, in turn, feature a default search engine.⁹⁸

⁹⁷ Search widgets typically take the form of a rectangular search bar on the home screen of a mobile device.

⁹⁸ 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.

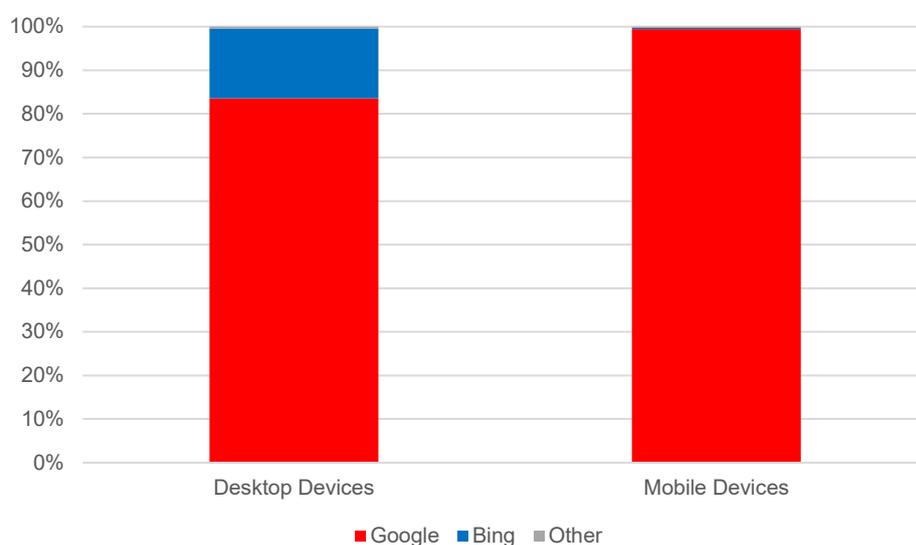
- 3.75 In their submissions to the CMA, a range of search engines indicated that defaults play an important role in influencing consumers' usage of search engines.⁹⁹
- 3.76 Google owns the popular web-browser Chrome, which has Google Search set as the default search engine. Google has also negotiated default agreements with Apple and with many of the largest Android mobile phone manufacturers and mobile phone networks. Google pays a share of search advertising revenues to these partners in return for Google Search occupying the default search positions on devices.
- 3.77 For example, Google's agreement with Apple means that, by default, any search queries typed into the Safari explorer bar are executed by Google Search.
- 3.78 In relation to desktop devices, Microsoft pays Windows PC manufacturers to pre-install Microsoft web browsers which have Bing set as the default search engine.
- 3.79 Several pieces of evidence indicate the importance of default positions in the general search engine sector.
- 3.80 Firstly, we have viewed internal documents submitted by Google which suggest that at least part of the rationale for entering into default agreements is to make Google's search advertising revenues more secure. For example, an internal document referred to search advertising revenues as being 'exposed' where these came from mobile devices for which Google did not have a default agreement in place.
- 3.81 Secondly, the high level of default payments, known as 'traffic acquisition costs', made by Google in particular demonstrates that it values these default positions highly. In 2018, for mobile devices alone,¹⁰⁰ Google paid around \$1.3 billion USD for default positions in respect of UK consumers. This was around 16% of Google's total annual UK search revenues. The vast majority of these payments were to Apple. The default payments that Microsoft made to Windows PC manufacturers in the same year in respect of UK consumers were significantly lower and equated to a lower proportion of Bing's annual UK search revenues.
- 3.82 Thirdly, there is positive correlation between the defaults held by search engines and the search traffic that they receive. For example, while Google is

⁹⁹ For example, Verizon Media submitted that it 'has observed a strong correlation between default settings in browser/OS and user search behaviour'.

¹⁰⁰ Including mobile phones and tablets.

the largest search engine in the UK across mobile and desktop devices, its share of search is relatively higher in mobile, where it occupies default positions across a relatively greater proportion of the UK browser sector.

Figure 3.4: Proportion of desktop and mobile browser sectors for which Google and Bing hold default search engine positions



Source: CMA Analysis of [Statcounter Global Stats](#).

Notes: UK data for June 2019. Laptops are included in desktop devices. Tablets are included in mobile devices.

3.83 As shown in Figure 3.4, Google holds default positions across a relatively larger part of the UK mobile browser sector (99%) than the UK desktop browser sector (84%). In turn, Google has a relatively higher share of supply in mobile search (97%) than it does in desktop search (86%). A similar correlation can be observed for Bing. Bing holds default positions across 16% of the UK desktop browser sector and almost none of the UK mobile browser sector. Bing's share of supply is much higher in desktop search (11%) than in mobile search (less than 2%).¹⁰¹

¹⁰¹ The shares given in this paragraph are based on [Statcounter's Global Stats for browsers](#). Statcounter calculates browsers' shares of supply on the basis of page referrals, where a browser's share is the number of pages referred through that browser as a proportion of the total number of pages referred through browsers in total. See more detail on our market outcomes analysis Appendix C.

Box 3.4: 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.¹⁰²

The choice screen will appear during initial device setup for new devices distributed in the EEA on or after March 1, 2020. It will feature multiple search providers, including Google, and users will be required to choose one search provider from the choice screen during setup.

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 J.

- 3.84 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.
- 3.85 The influence of defaults in general search is likely to be underpinned by several factors. Firstly, consumers may not understand that they can change the default search engine on a device or in a browser. 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. 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. Finally, when consumers do seek to change the default search engine on their browser or device, their choice may be reversed following software updates.
- 3.86 Several providers told us that they were unable to compete with Google for default positions due to the scale of payments required. Microsoft suggested that Google has been able to secure default placement on Android and Apple

¹⁰² Android (2019), [About the choice screen](#), accessed on 26 November 2019.

devices and that this was likely due to its ability to share large amounts of search revenues resulting from its market position in search.

- 3.87 Google indicated that the level of revenue share payment that it offers was a secondary consideration for mobile phone manufacturers and mobile phone networks and that it primarily competes for default positions on the basis of search quality. Apple told us that it selected Google as the default search engine on its products because that is what most consumers want.
- 3.88 Overall, we consider that Google's ability to conclude default agreements across very large parts of the desktop and mobile landscape 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.
- 3.89 In addition, we consider that there is likely to be 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.¹⁰³

Scale effects in search advertising

- 3.90 Search engines are also subject to cross-side network effects. Search engines become more valuable to advertisers as the number of consumer queries and clicks increases. Therefore, more popular search engines may be able to use their higher advertising revenues to fund improvements in search quality and, in turn, attract more consumers. We heard that smaller search engines running their own advertising platforms would not be able to monetise effectively unless they attract a critical mass of consumers. This may further impede their ability to grow and compete with larger incumbents. We discuss barriers to entry and expansion that relate to the advertising-side of search in Chapter 5.

Initial findings in search

- 3.91 Search engines play an important role for consumers in the modern world, helping them to navigate the web, and quickly and easily find useful and interesting information. Google Search in particular is well-known for providing

¹⁰³ As set out earlier in this chapter, Google's scale in search queries and search advertising is likely to support its ability to offer higher search quality and to earn more revenues (per click) compared to its competitors. The default positions held by Google make it more difficult for alternative search engines to access users and advertisers and improve their search quality and monetisation rates.

a high-quality search product and for introducing a series of search-related innovations, from PageRank to Google Maps.

- 3.92 The evidence that we have reviewed so far suggests that Google has significant market power in general search.
- 3.93 Google has had very high and stable shares of supply in both mobile and desktop search in the UK for at least the last ten years. We consider that innovation played an important role in helping Google to build its customer base in the early years of web-based search: it grew by offering a high quality product that consumers valued. However, general search is now subject to significant barriers to entry and expansion, which together limit the current and potential competitive threat faced by Google.
- 3.94 In order to compete effectively, search engines must be able to access consumers and deliver relevant results to a wide range of queries. The key inputs to achieving relevant results include click-and-query data and a web-index.
- 3.95 Web-index development is subject to economies of scale; search engines with a web-crawling business model need to make substantial server and engineering investments against a backdrop of uncertain returns.
- 3.96 Click-and-query data is also subject to scale effects. Google's greater scale supports its ability to iterate and improve quicker than other search engines and maintain a lead on search relevance. By contrast, rival search engines seeking to improve their relevance face a chicken-and-egg problem; clicks help improve relevance, but relevance is needed to attract clicks.
- 3.97 We consider that Google's extensive default positions across the desktop and mobile landscape act as a significant barrier to expansion for rival search engines, by limiting their ability to grow into stronger competitors over time. As the market-leader, Google is able to pay more for these default positions than other search engines. This makes it more difficult for other search engines to get their products in front of potential users and to iteratively grow their scale and improve their search quality and search monetisation.
- 3.98 Scale effects also apply on the advertising-side of search engine platforms. In particular, we heard that smaller search engines running their own advertising platforms would not be able to monetise effectively unless they attract a critical mass of consumers. This creates an additional barrier to expansion. We discuss this further in Chapter 5.
- 3.99 Syndication agreements enable search engines that lack scale in consumers and advertising to participate in the search sector. However, the most-used

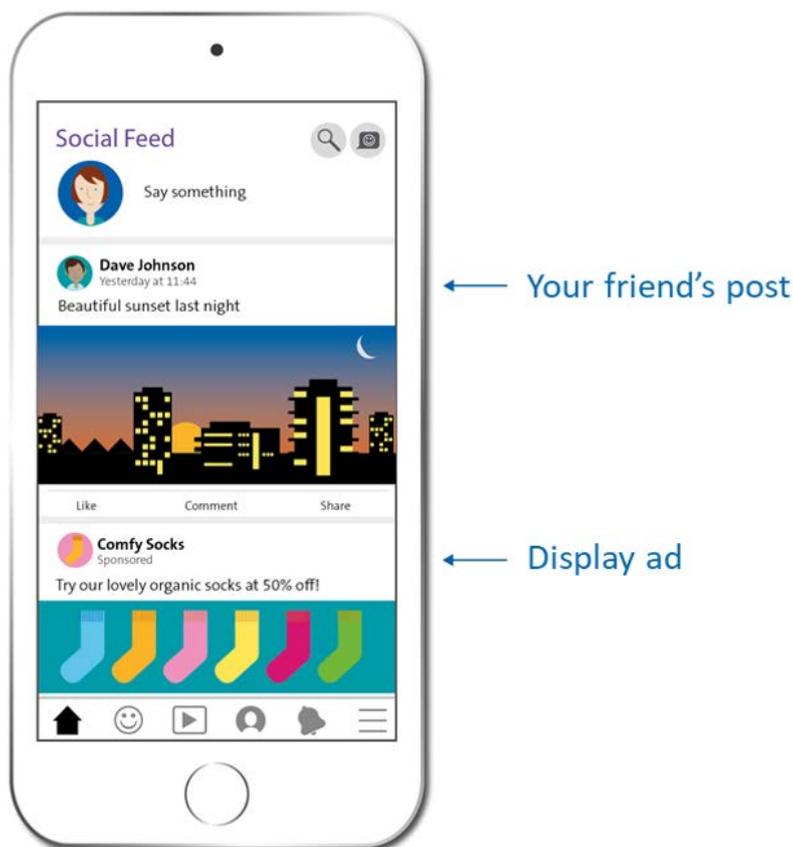
syndicating search engines in the UK (such as Yahoo Search, DuckDuckGo and Ecosia) rely on Bing's organic results and appear to represent only a fringe source of competition to Google.

- 3.100 The combination of barriers to entry and expansion above may negatively affect consumers in several ways. Firstly, Google is likely to face 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 further improving search relevance compared to a more competitive scenario. Secondly, Google may be able to 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. Finally, consumers may be 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.

Competition in social media

- 3.101 As set out in Chapter 2, we use the term 'social media' to describe a range of online platforms that allow consumers to communicate with each other and share and discover engaging content.
- 3.102 In general, social media platforms have some common features such as: consumer accounts or profiles, which allow consumers to create an online persona; messaging features allowing consumers to communicate directly with others; and a 'feed' or homepage where consumers can engage with organic content including posts, photos and videos. In addition to featuring this organic content, most social media platforms also feature adverts, as shown below in Figure 3.5.

Figure 3.5: Illustration of a social media homepage



Source: CMA.

3.103 We consider a sample of the largest platforms that meet this description in this chapter, specifically: YouTube; Facebook.com; Snapchat; WhatsApp (owned by Facebook Inc.); Instagram (owned by Facebook Inc.); Twitter; LinkedIn; TikTok; Pinterest; Reddit; Tumblr.¹⁰⁴ Of these, Facebook.com and YouTube have had by far the greatest shares of supply for at least the last five years.¹⁰⁵ In this chapter we assess the competitive positions of Facebook and YouTube and the competitive constraints that each faces.

3.104 A key aspect of competition amongst social media platforms is their ability to offer consumers a different experience from the others. Social media platforms differentiate by focusing on different functions and delivering these in different ways. Relatedly, there is some debate as to whether platforms that are closely focused on either direct communication (for example, direct messaging services such as WhatsApp) or content consumption (for example,

¹⁰⁴ Largest in terms of consumer time spent on these social media platforms. Listed here from largest to smallest in terms on consumer time spent on the platforms, as of June 2019.

¹⁰⁵ We have access to five years of data.

video platforms such as YouTube) should be considered social media platforms. We have included these platforms in our analysis in order to support a more extensive assessment of the positions of Facebook (which includes the Facebook.com, Instagram and WhatsApp platforms) and Google (which owns YouTube).

3.105 We first set out below how social media platforms compete, before presenting shares of supply and outlining the current state of competition in the UK's social media sector. We then discuss potential barriers to entry and expansion. Finally, we present our initial views on the competitive constraints faced by Facebook and to what extent it may hold market power.

Parameters of competition

3.106 Generally, consumers access social media platforms to communicate or interact with other consumers and to view content.

3.107 Social media platforms compete for attention along the parameters listed below:

- **Innovation** – offering innovative new ways to communicate or consume content may attract consumer attention. Platforms therefore compete to offer new features that will attract consumers. Platforms may also innovate by improving on existing features.
- **Size and type of user base** – generally, a social media platform with a larger consumer base is more likely to be attractive to consumers as there is a greater chance that other consumers they want to interact with are on the platform.¹⁰⁶ Advertisers are also more likely to want to advertise on platforms with a larger user base as this gives them access to a wider audience. Platforms may also choose to differentiate by focusing on attracting particular types or groups of consumers.
- **Content featured** – successful social media platforms must be able to show consumers interesting content to keep them engaged, with platforms competing to provide this content. The type of content displayed by platforms can vary. All social media platforms allow consumers to share their own content, known as 'user generated content'. Content may be personal to consumers eg photos of themselves or their friends. Other content may be related to consumers' interests, such as posts on sports

¹⁰⁶ We discuss this further later in the section within our assessment of network effects.

or current events. Many platforms also feature professional content produced by third parties.

- **Ad load and quality of advertising** – social media platforms need to monetise to be successful in the long-term. Typically, they do this by displaying adverts. However, greater levels of advertising are generally disliked by consumers, so platforms typically self-enforce rules on the quantity and quality of advertising that may be displayed. Platforms may also provide consumers with controls over the advertising they are shown.
- **Price** – social media platforms generally offer services to consumers at zero monetary cost. However, some services can also be provided on a subscription basis.¹⁰⁷
- **Privacy** – consumers may wish to control the extent their activity on platforms can be viewed by other users and external parties. Platforms may therefore compete to offer better privacy controls to consumers.¹⁰⁸
- **Platform ‘governance’** – as social media platforms allow consumers to share content, it is possible that negative or harmful content may be uploaded and displayed. Platforms must therefore moderate content posted to prevent negative content from degrading consumers’ experience.¹⁰⁹

3.108 As noted above, consumers access social media platforms to communicate with other consumers and experience engaging content. A wide range of platforms provide features that allow consumers to do a combination of these activities, and many offer similar functionalities as shown by Table 3.1 below:

¹⁰⁷ EG LinkedIn, or Friends Reunited.

¹⁰⁸ Facebook and LinkedIn submitted that privacy is increasingly important to users. Facebook submitted that it is seeking to build a ‘privacy-focussed’ social platform, revolving around seven principles: private interactions; encryption; reducing permanence; safety; interoperability; secure data storage. LinkedIn noted that users’ ability to protect their privacy and alter settings is increasingly important.

¹⁰⁹ Google submitted that recent innovation on YouTube has focused on identifying and removing negative content, and that it will prioritise responsibility to its users ie trust and safety. TikTok submitted that ‘ensuring a safe and positive in-app environment’ is a top priority. Verizon Media submitted in relation to Tumblr that content moderation tech and staff is a required input. Tumblr was acquired by Automattic Inc. in August 2019.

Table 3.1: Social media platforms' functionalities

	<i>Profile/ Account</i>	<i>Curated/ Personalised Feed</i>	<i>Friends/ Contacts/ Connections</i>	<i>Followers/ Subscribers</i>	<i>Photo Sharing</i>	<i>Video Sharing</i>	<i>Comments</i>	<i>Messaging</i>
<i>YouTube</i>	✓	Recommended	✓	✓	✓	✓	✓	✓
<i>Facebook.com</i>	✓	News Feed	✓	✓	✓	✓	✓	✓
<i>Snapchat</i>	✓	Discover	✓	✓	✓	✓		✓
<i>WhatsApp</i>	✓		✓		✓	✓		✓
<i>Instagram</i>	✓	Explore	✓	✓	✓	✓	✓	✓
<i>Twitter</i>	✓	Timeline		✓	✓	✓	Replies	✓
<i>LinkedIn</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>TikTok</i>	✓	For You	✓	✓		✓	✓	✓
<i>Pinterest</i>	✓	✓		✓	✓	✓*	✓	✓
<i>Reddit</i>	✓	Front Page	✓	✓	✓	✓	✓	✓
<i>Tumblr</i>	✓	Dashboard		✓	✓	✓	✓	✓

Source: Adapted from Ofcom (2019), [Online Nation](#).

* Available on iOS only

3.109 Social media platforms sometimes also offer consumers features that allow them to interact with the services of other social media platforms, through 'open source APIs'. We discuss these features further in the 'Barriers to entry and expansion' section below.

3.110 While they have similar broad functionalities, as shown by Table 3.1, social media platforms are differentiated in some important ways. An important aspect of platforms' differentiation appears to be the extent to which they emphasise promoting communication between their users as opposed to the consumption of content:

- Snapchat, a more recent entrant, is an example of a communication-focussed platform. Snapchat emphasises communication amongst close friends, through visual rather than text-based messages. See more information in Box 3.5.
- Content-focused platforms include TikTok and Pinterest. TikTok allows consumers to create and share content in the form videos of up to 15 seconds.¹¹⁰ Pinterest offers features allowing for consumer communication, but as a visual 'discovery tool' is more commonly used for its content offerings.
- Facebook.com offers a range of services across the communication-content spectrum, from its communication focused 'Messenger' product to the more content-oriented 'Facebook Watch'. Facebook-owned Instagram is primarily used by consumers for viewing and sharing visual content.

¹¹⁰ Slate (2018), [A guide to TikTok for anyone who isn't a teen](#), accessed 03/12/2019.

Facebook-owned WhatsApp is generally used for private communication between (groups of) consumers. Therefore, Facebook offers a broad spectrum of communication and content-based differentiation through multiple platforms.

3.111 As well as positioning themselves differently with respect to a balance of communication and content, social media platforms often also differentiate on the basis of one or more of the characteristics described earlier in the chapter. For example:

- LinkedIn is positioned as a social media platform for consumers' professional networks. In this respect, LinkedIn has differentiated itself by focussing on a particular type of consumer.
- Pinterest is particularly popular with consumers seeking to experience content relating to specific interests, including food and drink, travel, style and beauty, and fitness.
- Snapchat's ephemeral features mean that it is generally considered a more 'private' platform than its competitors, encouraging its users to present themselves more authentically.
- Twitter originally differentiated itself by limiting the length of its users' posts, with consumers only being able to make text posts of 140 characters or less.¹¹¹

3.112 Consistent with social media platforms' differentiated strategies, consumers access different platforms for different reasons. For example, a platform that is oriented more towards communication may be more commonly accessed by consumers to have conversations with friends than a platform oriented more towards content. Social media platforms compete more closely (on the consumer side) if they are generally accessed by consumers for similar reasons. Facebook's platforms will therefore likely face the greatest constraint from platforms accessed by consumers for broadly similar reasons.

Box 3.5: Recent entrants

In the last ten years only Instagram and Snapchat have entered the social media sector and grown to account for a share of more than 5% of consumer time spent on social media platforms in the UK. Both entered by offering consumers differentiated experiences and features:

¹¹¹ BBC (2016), [Twitter axes Vine video service](#), accessed 02/12/2019.

- **Instagram** began as a photo sharing app in 2010 and differentiated itself to consumers through its emphasis on visual content. Though Instagram has the second largest consumer base it is not a competitive threat to Facebook.com, having been acquired by Facebook Inc. in 2012. As well as growing its user base, Instagram has been successfully monetising its services. However, it is unclear whether Instagram would have been as successful in monetising without Facebook's wider resources. Facebook told us that it has experienced economies of scope resulting from Instagram using Facebook.com's advertising infrastructure, but that these do not serve as a barrier to entry.
- **Snapchat** entered in 2011 with a then-unique offering that allowed consumers to send contacts photos that would disappear after a specified period of time. Snapchat has been successful in generating consumer engagement and is particularly popular with younger demographics. However, Snapchat has been less successful than Instagram at monetising its services, despite achieving comparable levels of consumer engagement in terms of consumer time spent on the platforms.¹¹² This is suggestive of Facebook's wider resources having contributed to Instagram's success.

We note that both Instagram and Snapchat remain significantly smaller than Facebook.com.

Shares of supply

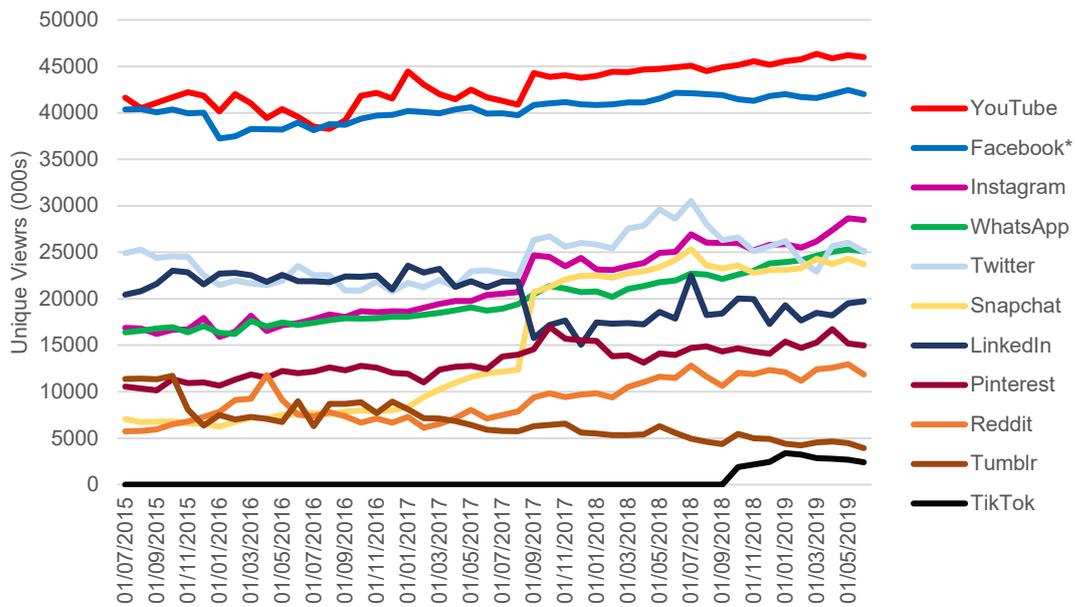
3.113 Facebook.com and YouTube (owned by Google) are by far the largest social media platforms in the UK, both in terms of the number of consumers accessing them and the amount of time that consumers spend on them.

3.114 As shown by Figure 3.6, both Facebook.com and YouTube seem to be consistently growing their user bases. Facebook.com has an audience of over 42 million users in the UK, accounting for 83% of the British online population.¹¹³ YouTube is even larger, with an audience of almost 46 million users accounting for 91%. In contrast, Instagram with the next largest audience, reaches only 56%.

¹¹² See Figure 3.8.

¹¹³ As of June 2019.

Figure 3.6: Monthly active users from July 2015 to June 2019

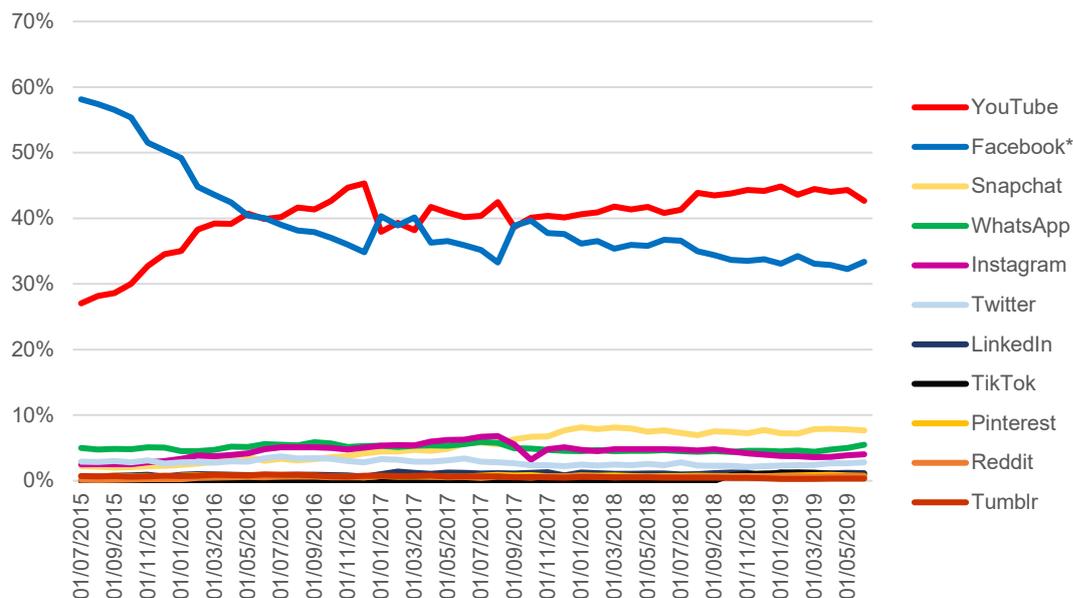


Source: Comscore MMX MP, Total Digital Population, Desktop aged 6+, Mobile aged 13+, July 2015 – June 2019, UK
 Notes: In November 2018, Comscore altered its methodology which contributes to the discontinuities in the data around this date.

* Including Messenger.

3.115 Facebook.com and Google-owned YouTube also account for the greatest share of consumer time spent on social media platforms in the UK. As illustrated by Figure 3.7, both have had consistently high shares for the entire period for which we have data.

Figure 3.7: Shares of supply by user time spent on social media platforms from July 2015 to June 2019 (including YouTube)



Source: Comscore MMX MP, Total Digital Population, Desktop aged 6+, Mobile aged 13+, July 2015 – June 2019, UK
 Notes: In November 2018, Comscore altered its methodology which contributes to the discontinuities in the data around this date.

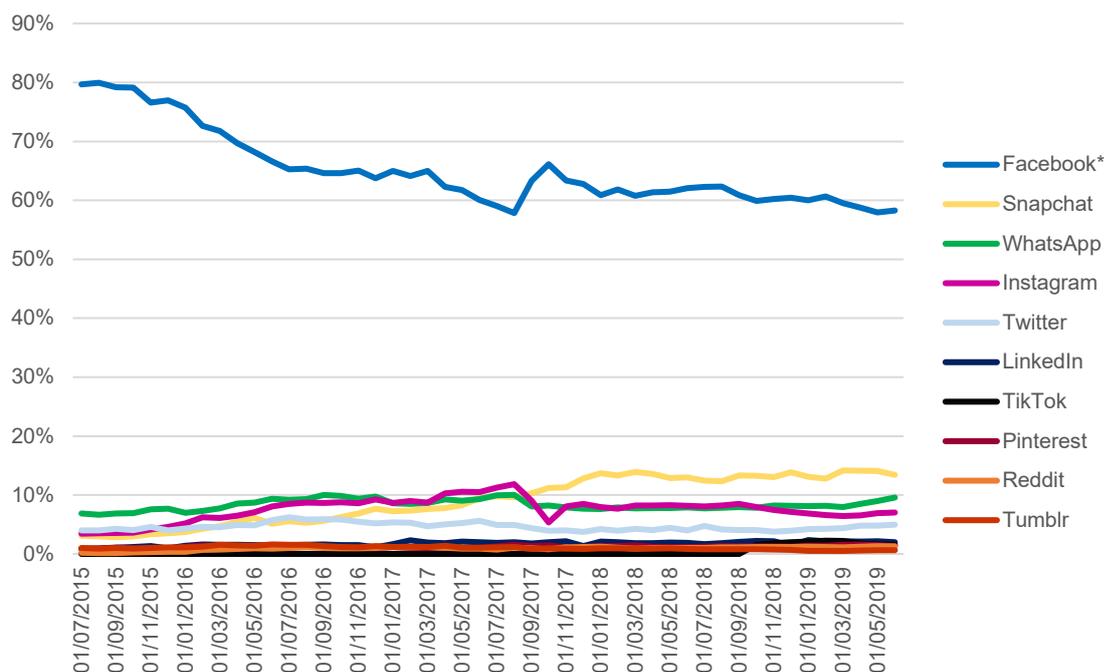
*Including Messenger.

3.116 As above, YouTube is a content-focused platform and appears to compete more closely with providers of audio-visual content (including music streaming platforms and video streaming platforms) rather than Facebook’s social media platforms. We have therefore also calculated shares of supply based on consumer time spent on the platforms, excluding YouTube.

3.117 When YouTube is excluded, Figure 3.8 shows that Facebook.com had a share of 58% of time spent on social media platforms in the most recent period. Therefore Facebook.com has by far the greatest share of consumer attention amongst the social media platforms we considered. Snapchat, a recent entrant that holds the next greatest share, had only 13% of time spent. Facebook.com’s share has declined over the last five years, having fallen from 80% in July 2015. However, we note that the number of users accessing Facebook.com has increased throughout the period and the absolute time spent by users on Facebook.com has increased in the last two years. Combined, Facebook’s platforms (Facebook.com, Instagram and WhatsApp) had a share of 75% as of June 2019.¹¹⁴

¹¹⁴ Comscore MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, June 2019, UK.

Figure 3.8: Shares of supply by user time spent from July 2015 to June 2019 (excluding YouTube)



Source: Comscore MMX MP, Total Digital Population, Desktop aged 6+, Mobile aged 13+, July 2015 – June 2019, UK. Notes: In November 2018, Comscore altered its methodology which contributes to the discontinuities in the data around this date.

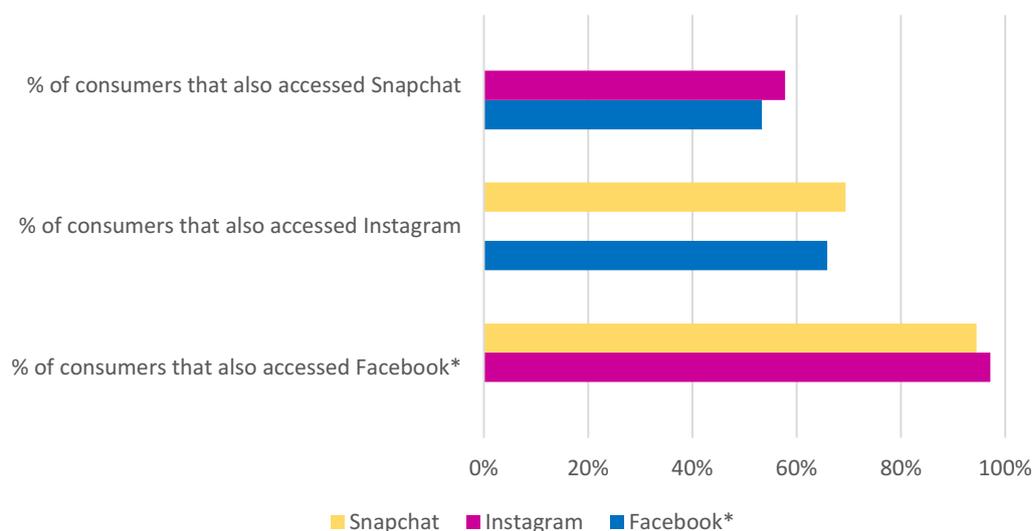
*Including Messenger.

3.118 Consumers can choose to access multiple social media platforms over a period of time. We analysed Comscore’s ‘cross-visiting’ data to assess the extent to which consumers access multiple social media platforms. A consumer is described as ‘cross-visiting’ between two platforms if they access both of the specified platforms within a calendar month. However, the cross-visiting data does not allow us to assess consumers’ intensity of use. To be counted as a consumer that has cross-visited, an individual must simply access both platforms once within the month.¹¹⁵

3.119 The majority of every social media platform’s audience ‘cross-visits’ with Facebook.com. For example, as shown by Figure 3.9 below, 97% of Instagram’s audience cross-visited with Facebook.com and 95% of Snapchat’s audience cross-visited with Facebook.com. In contrast, 66% of Facebook.com’s audience cross-visited with Instagram and 68% cross-visited with Snapchat. The lowest proportion of a social media platform’s audience cross-visiting with Facebook.com was TikTok at 70%, demonstrating that each social media platform we analysed is generally used in conjunction with Facebook.com.

¹¹⁵ See Appendix C for further detail on our market outcomes analysis.

Figure 3.9: Consumer cross-visiting behaviour amongst Facebook, Instagram and Snapchat



Source: Comscore MMX MP, Total Digital Population, Desktop aged 6+, Mobile aged 13+, June 2019, UK
*Including Messenger.

Competition between Facebook and existing social media platforms

3.120 Since Facebook and YouTube account for a significantly larger portion of time spent online than other social media platforms (as shown in Figure 3.7 above), we have considered first the degree of competition between them, and second the extent to which other platforms appear to act as a competitive constraint on Facebook.

Competition between Facebook and YouTube

3.121 We note that of the platforms we considered, consumers seem to access YouTube for particularly distinctive reasons. As a result, YouTube does not currently appear to compete closely with Facebook's platforms, despite its comparable reach and levels of consumer engagement. We further note that:

- YouTube is heavily oriented towards content, rather than communication. Consistent with this, consumers tend to view YouTube as a platform for video consumption, with only a minority emphasising its communication features.¹¹⁶ Internal documents submitted by Google indicate that the most common reasons consumers in the UK access YouTube are for entertainment and to view 'how-to' videos on the platform.¹¹⁷

¹¹⁶ Ofcom (2019), [Online Nation](#), page 133.

¹¹⁷ This is consistent with Ofcom (2019), [Online Nation](#), which found music videos and how-to vids to be most the popular categories of video amongst UK consumers watching online video content.

- 'User generated content' is a key feature of social media platforms, including YouTube. However, YouTube also provides access to a wider range of content, including through its paid-for 'premium' music and video streaming services. Such services are not available on the other social media platforms in our sample.
- Finally, Google told us that YouTube does not have a social graph. Social graphs give social media platforms the ability to identify connections between consumers. Therefore, YouTube cannot recommend videos based on consumers' 'friends' viewing behaviour or recommend content users may like based on friends' activity, as done by other social media platforms such as Facebook.com and Instagram.

3.122 As a result of these differentiating characteristics, YouTube seems to face closer competition from other providers of audio-visual content than from social media platforms.¹¹⁸ Consistent with this, we have received evidence indicating that YouTube competes with firms outside of the social media sector, both from these firms' submissions and from Google's internal documents.

3.123 Additionally, we have received some evidence demonstrating that social media platforms seem to view YouTube as a competitor in its capacity as a provider of content rather than as a provider of the wider communication services offered by social media platforms. Again, this suggests that YouTube may not currently be a close competitor to Facebook, or to the other social media platforms we have considered as part of this Study.

Competition between Facebook and other social media platforms

3.124 Aside from YouTube, the next two largest platforms to Facebook in terms of number of users are Facebook-owned WhatsApp and Instagram. These platforms are therefore not a competitive threat to Facebook.com.

3.125 None of the other social platforms currently offer a comparable portfolio of services to Facebook.com. Instead, each provides a specialised offering that competes with some aspect of Facebook's services. For example:

- Snapchat is used as a platform for interacting with close friends and therefore seems to compete most closely with Facebook.com's Messenger product that allows consumers to communicate privately.

¹¹⁸ YouTube may compete with social media platforms to the extent that they provide such content.

- Reddit is a ‘network of communities’ and in this respect appears to compete most closely with Facebook.com’s ‘Group’ features.
- TikTok is used to create and share short form videos that are set to music. It seems to compete most closely with Facebook.com’s ‘Facebook Watch’ offering.

3.126 The high proportions of other platforms’ audiences that cross-visit with Facebook.com, and the substantively lower proportion of Facebook’s audience that cross-visits with each of the other platforms, seem consistent with this. Other platforms may be used by sub-sets of users, but nearly always in combination with Facebook.com.

3.127 We consider that the wider breadth of services offered by Facebook.com and the scale of its consumer network mean that it can fulfil a wider variety of consumer needs compared to other social media platforms.

3.128 The wider ‘family’ of Facebook platforms reinforces Facebook’s competitive position, as consumers may choose to ‘switch away’ from Facebook.com but remain within the Facebook ‘ecosystem’ of apps.¹¹⁹ Facebook’s ‘family’ of apps also gives it a very strong competitive position with respect to certain consumer uses of social media platforms. For example, both WhatsApp and Facebook Messenger are private messaging platforms.

3.129 While the Facebook.com platform has a relatively lower share of time spent for younger consumers, 18-24 year olds still spend the greatest proportion of their time on social media platforms within the Facebook ‘ecosystem’.¹²⁰

3.130 Overall, Facebook appears to have significant market power. Facebook.com is a ‘must have’ platform for social media users. While other platforms have been able to enter the market and grow their user base, users of these platforms almost all still use Facebook.com. While Facebook.com’s overall share of time spent has been declining slowly over time, it remains significantly the largest player, and its number of active users has not declined. Facebook’s platforms (Facebook.com, Instagram and WhatsApp) had a combined share of 75% of time spent on social media platforms as of June 2019.¹²¹

¹¹⁹ Where ‘switching’ describes reducing the proportion of time spent on the platform.

¹²⁰ See Appendix C for social media platforms’ shares amongst consumers of different age groups.

¹²¹ Comscore MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, June 2019, UK.

Barriers to entry and expansion in social media

3.131 Having considered the current state of competition in the social media sector, we now discuss potential barriers to entry and expansion that may prevent other social media platforms from acting as an effective constraint on Facebook.

Network effects

3.132 Social media platforms are characterised by same-side and cross-side network effects. Here we discuss how social media platforms are affected by network effects and the extent to which these impose a barrier to entry and expansion for a platform seeking to compete with Facebook.

3.133 All of the social media platforms we contacted as part of the study agreed that network effects are important to their services in some way. However, the nature and importance of network effects appears to vary between different platforms. This seems to be influenced by the platforms' differentiated strategies and the purpose for which consumers access their services.

Same-side network effects

3.134 Social media platforms, particularly those focussing on communication, will become more valuable to consumers if other consumers they want to interact with join the platform. Consumers access social media platforms for different reasons and need to interact with different (groups of) people for each of these reasons. For example:

- Snapchat is primarily used to communicate with close friends and family members. Snapchat's services will become more valuable to a given consumer if more of their close friends join the platform. In this case, the network effects are 'identity-based' because Snapchat only becomes more valuable to the consumer if specific people join the platform. As people tend to only have a few close friends, each consumer's network is small, but every connection is highly valued.
- LinkedIn's services are used to interact with professional networks. Consumers will likely have a larger professional network than network of close friends. To offer a valuable service, LinkedIn must be able to offer its users access to this wider network. Consumers may value the presence of specific individuals, but generally value that their wider industry is represented on the platform.

- YouTube is used to consume and share video content. Consumers do not seem to access YouTube to interact with people they know personally before watching their videos.¹²² Therefore, these same-side network effects do not appear to be strongly ‘identity based’. Instead, the presence of other consumers may be valued to the extent that they contribute either content or reactions.

3.135 Strong same-side network effects lead to feedback loops. More users joining the platform leads to still more users joining, whilst users leaving the platform leads to still more users leaving. See Box 3.6 for an example of this.

Box 3.6: Myspace

Myspace launched in 2004 and was once the largest social media platform. However, in 2008 Myspace was overtaken by Facebook.com. Myspace then quickly lost its user base, with numbers falling to 73 million users by January 2011 and then to 63 million users in February 2011.¹²³ This rapid and increasing decline in users shows the power of the network effects affecting social media platforms.

Facebook told us that Myspace lost a significant proportion of users due to its focus on maximising short-term revenue through advertising rather than delivering long term value to its users. Facebook has argued that this shows that the largest social media platforms’ competitive positions are not unassailable.

However, we consider that Myspace’s position in the early 2000s was materially different to Facebook’s current position:

- Facebook.com’s current scale of two billion global monthly active users is far greater than Myspace’s peak of 100 million global monthly active users. This implies that Facebook.com is currently much further away from a ‘tipping point’ in its user base than Myspace was at its prime.
- it is not clear that the market had fully ‘tipped’ to Myspace in the first place. Myspace was the most popular platform for only a couple of years. Facebook.com has been the most popular social media platform for over a decade.¹²⁴

3.136 Strong same-side network effects can also act as a barrier to entry and expansion by restricting platforms’ ability to grow their consumer networks.

3.137 If a new entrant does not have a suitable consumer network, consumers may not be able to use its services for the same reasons they access the incumbent’s services. Individual consumers may therefore be unable to

¹²² Ofcom (2019), [Online Nation](#), page 152.

¹²³ The Telegraph (2011), [MySpace loses 10 million users in a month](#), accessed 28.11.19.

¹²⁴ Furman Review (2019), [Unlocking digital competition](#), paragraphs 1.101-1.102.

replace the services they receive from large incumbents such as Facebook.com by switching to the new entrant. In particular:

- consumers may be unable to communicate with a comparable network by accessing the new platform; and
- consumers may not have access to a similarly extensive or high-quality body of ‘user-generated-content’ by accessing the new platform.

3.138 In this way, consumers may be ‘locked in’ to incumbent platforms. Absent a mechanism facilitating switching amongst groups of consumers or the capability to interact with consumers active on a different social media platform, this may restrict new entrants’ ability to grow their consumer networks.

3.139 Platforms’ submissions outlined some strategies that new entrants could use to try to facilitate switching amongst groups of consumers:

- **Importing contacts from user devices** – this helps consumers find friends on the platform or invite friends to the platform.¹²⁵ However, this strategy seems limited to platforms that seek to enable consumers to interact with close friends. Consumers are unlikely to have access to wider networks on their devices.
- **Entering from adjacent markets** – where the entrant has already developed a digital audience. In this case, the platform will have access to a network of potential users upon entry. However, the new platform will still lack a social graph. If the entrant has a large enough digital audience in the adjacent market, all of the people that a given consumer wants to interact with will be present on the new platform. However, they will not be linked as ‘friends’ or ‘connections’ on the platform. Instead, consumers will have to develop this network of connections themselves over time. See Box 3.7 for a discussion of Google+, one of the most prominent examples of this strategy.
- **‘Social graph’ APIs** – these can give new platforms access to incumbents’ social graph data. For example, an API could allow users to export lists of ‘friends’ from an existing platform and invite them to join the new platform. In this way, a new entrant could gain access potential users and their valued networks.¹²⁶

¹²⁵ For example, by finding friends through their phone numbers or their email addresses.

¹²⁶ However, these users must decide to switch to the new platform.

Box 3.7: Google+

In 2011, Google tried to launch its own social media platform 'Google +' as a direct competitor to Facebook.com. Google+ offered its users a range of features including: video chat; photo sharing; 'circles', a feature for connecting with social groups; a '+1' feature similar to Facebook's 'like' button; and a 'check-in' feature allowing users to log their location.

However, ultimately Google+ failed to engage users, with the vast majority of consumers' sessions on Google+ lasting less than five seconds. Google told us that its users 'spent many more minutes on Facebook than they did logged into Google+'.

The failure of Google+ to successfully enter the social media sector is particularly notable given the extensive resource that was available to it through Google. Specifically, we consider that Google+'s failure:

- demonstrates that access to a wide network of potential users and consumer data, as held by Google, is not determinative of successful entry to the social media sector. and
- indicates that entry with a service similar to that provided by Facebook.com is very difficult indeed.

3.140 In the absence of a mechanism facilitating switching amongst groups of consumers, new entrants attract consumers by providing a sufficiently differentiated proposition. Consistent with this, platforms told us that the most important 'input' to a new social media platform is a compelling idea.¹²⁷ This may persuade consumers to switch despite the new service having a more limited consumer base, thereby mitigating network effects as a barrier to entry. However, there also seem to be some limitations to this strategy:

- entering by providing consumers with a specialised service may limit the scale of the consumer base that new entrants can develop in the long-term; and
- existing platforms, such as Facebook.com, may experience an incumbency advantage through their ability to copy the innovations of new entrants and deliver those new services to a larger consumer audience. As a result of their pre-existing audiences, they are likely to be better able to monetise the new innovation than the entrant. In turn, this may reduce incentives for new entrants to innovate.¹²⁸

¹²⁷ Google told us in relation to YouTube that 'Offering a popular and innovative service that attracts users is more important than a pre-existing user database'.

¹²⁸ A possible example of this dynamic is when Facebook introduced a feature similar to Snapchat's 'Stories' feature on its platforms.

- 3.141 In markets characterised by network effects, consumer multi-homing can increase the competitive pressure faced by incumbents such as Facebook.com and prevent the market from ‘tipping’.
- 3.142 Consumers do appear to ‘cross-visit’ across multiple social media platforms. However, this does not in itself demonstrate that multi-homing behaviour acts as a genuine competitive constraint on Facebook, ie that the different platforms accessed are substitutes, drawing time and attention away from Facebook. Based on the evidence gathered regarding social media platforms’ highly differentiated strategies and the variety of consumer purposes for which they can be used, these other platforms do not appear to act as close substitutes to Facebook. In turn, the consumer cross-visiting behaviour we described previously appears to impose more limited competitive pressure on Facebook.com, compared to a scenario where the other social platforms were close substitutes to Facebook.
- 3.143 There also appear to be some barriers to consumer multi-homing in the social media sector, especially when it comes to multi-homing between platforms that are relatively closer substitutes. Examples include:
- The ‘opportunity cost’ to consumers of the time they spend accessing one platform rather than another.
 - The process of setting up an account on a new platform.
 - That social media platforms are not interoperable. Friends on one platform cannot be contacted from another platform, nor can the content from one platform be consumed on another platform. As a result, consumers have less of an incentive to ‘multi-home’ with smaller platforms.¹²⁹
- 3.144 We have heard that features sometimes offered by social media platforms may help to address these barriers and encourage consumer multi-homing. These include:
- **Single sign-in tools** – these allow consumers to sign-in to multiple platforms using the same username and password.¹³⁰ By removing the need for consumers to remember multiple usernames/passwords, the service encourages consumers to access multiple platforms. However, we also heard some concerns relating to these services:

¹²⁹ Furman Review (2019), [Unlocking digital competition](#), paragraphs 1.84-1.88.

¹³⁰ These are most commonly provided by Google and Facebook ie Google and Facebook offer services whereby consumers may sign-in to other platforms using their Google or Facebook username and password.

- Access to data about the platform receiving the sign-in tools may be given to the platform providing the sign-in tools. Submissions explained that this may allow the provider to replicate the service of the platform being provided with the sign-in tools. This may reduce the incentives of the platform receiving the single sign-in service to innovate.
- The service may create a dependency upon the provider of the sign-in tool, which often operates a rival social media platform. The service’s discontinuation may potentially lead to a decline in consumer engagement for the platform receiving the service.
- **Consumer ‘cross-posting’** – in some cases, consumers can post content from one social media platform to a different social media platform using open APIs. Competitors to Facebook told us that this feature encourages consumers to create and share content on platforms where they do not have developed networks, as it allows them to share the content with networks outside of the platform. In this way, cross-posting mitigates the barriers to consumer multi-homing imposed by platforms’ lack of interoperability.¹³¹ Cross-posting may also increase the quantity and diversity of content available on social media platforms, making them more attractive to consumers. We discuss potential issues with current cross posting functionality below.

3.145 Same-side network effects reinforce Facebook.com’s competitive position. As previously noted, Facebook.com’s consumer base is significantly larger than that of its competitors.¹³² As of June 2019, its audience was roughly 1.7 times larger than Twitter’s, the next largest social media platform not owned by Facebook.¹³³ Internal documents note that the breadth of Facebook.com’s user base is a key differentiator of the platform. As noted by a Facebook internal document, Facebook.com is the ‘network for everyone you know’.

3.146 The breadth of Facebook.com’s user base and its highly developed social graph, combined with the comparatively more limited consumer networks of all the other social media platforms, mean that consumers may be unable to use other social media platforms for the same reasons they access Facebook.com. As a result, consumers may be unable to replace Facebook.com’s services with another social media platform.

¹³¹ One social media platform submitted that this functionality allows users to increase their reach and helps drive traffic to their platform. Another submitted that this ability allows users to efficiently reach more people and also overcomes or shares the benefits of network effects.

¹³² Excluding YouTube. YouTube lacks a social graph and appears to compete with Facebook with respect to the provision of content, rather than providing services to communicate with a user’s network.

¹³³ Top four platforms ranked in order of user base are: Facebook.com; Instagram; WhatsApp; and Twitter.

Cross-side network effects

3.147 The value of a social media platform to its users may also depend on the number of customers active on another ‘side’ of the platform:

- **Content providers** – social media platforms often feature content created by third-party providers. This content is often displayed alongside the ‘user generated content’ and is typically of a similar format. Content providers can include businesses, celebrities or users that acquired mass audiences on the platform.¹³⁴ Featuring greater quantities of high-quality content may make a platform more valuable to users.
- **Third-party developers** – platforms may allow third-party developers to develop apps, such as games, for their platform. This increases the features available on the platform and can make it more valuable to users.¹³⁵

3.148 Content providers and third-party developers value social media platforms more if they can provide access to a wider audience of consumers. However, content also helps to attract consumers. The platforms we contacted explained that content is a ‘key input’ for their services and vital to gaining consumer engagement. There are therefore cross-side network effects acting between third-party content providers and consumers which may act as a barrier to entry and expansion.

3.149 The extent to which the cross-side network effects described above affect social media platforms varies, with some platforms submitting that they are not important to their services.¹³⁶ Facebook.com features games and apps developed by third parties, facilitated by the Facebook Platform for Consumer Apps. This allows third-party content providers to ‘build and create valuable content for Facebook’s users’, thereby enriching users’ experience on the platform.

3.150 As Facebook is able to offer its users access to this wider range of content this may impose even greater barriers to any platform seeking to compete directly with its services.

¹³⁴ These users are subsequently treated as content providers by the platform eg YouTube’s revenue sharing arrangements.

¹³⁵ Social media platforms also exhibit cross-side network effects with respect to users and advertisers.

¹³⁶ LinkedIn submitted that ‘the social networking experience on LinkedIn does not depend on applications or content being developed specifically for LinkedIn’.

API access and interoperability

- 3.151 As noted previously, social media platforms sometimes ‘interoperate’ or allow their users to interact with the services of other social media platforms. This is achieved through the use of open source APIs. Facebook told us that it operates in a largely open source environment, and that this has ‘unlocked innovation and enriched users’ online experiences significantly’.
- 3.152 As well as improving consumers’ experiences by increasing the range of services they can access through social media platforms, greater API access seems to promote competition by mitigating the barriers imposed by network effects. Specifically, as discussed earlier, cross-posting and social graph APIs may encourage consumers to access multiple platforms.
- 3.153 However, the importance of these APIs in mitigating the effects of network effects may create a dependency between the platform receiving the services, and the platform providing access.
- 3.154 This dependency may also allow incumbents to worsen smaller competitors’ offerings to consumers. By either degrading the functionalities enabled by the APIs or removing the service entirely, large incumbents may be able to affect the level of competition that they face. As shown by the examples below, this may be done on a targeted basis or as part of a general policy change on the part of the platform providing access. Facebook refers to such changes as ‘deprecation’ of the APIs.¹³⁷
- 3.155 For example, in 2013 Twitter acquired a video sharing platform called Vine. Prior to the acquisition Vine users were able to find friends they already knew on Facebook.com through Facebook’s ‘Find Contacts’ API. However, following its acquisition by Twitter, Facebook disallowed Vine’s access to this API. In doing so, Facebook was able to degrade consumers’ experience of Vine and reduce the platform’s competitive threat. Vine was discontinued by Twitter in 2016.¹³⁸
- 3.156 Additionally, the functionalities enabled by APIs may not be reciprocal. For example, prior to 2018, Facebook.com featured a ‘Publish Actions’ API which allowed consumers to post content onto Facebook.com from other social media platforms. However, consumers were unable to post content from Facebook.com onto other social media platforms. This asymmetry in consumers’ cross-posting abilities may favour Facebook.com by leading to

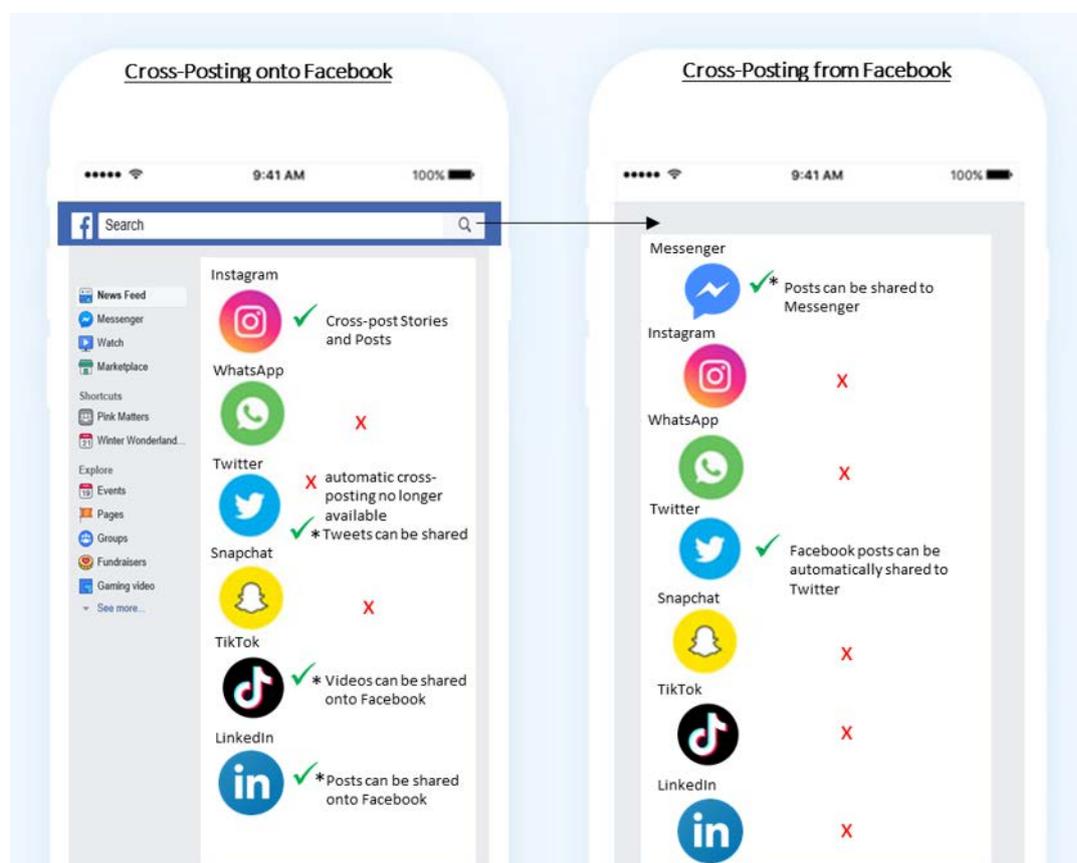
¹³⁷ For example: [New Facebook Platform Product Changes and Policy Updates](#), Facebook (2018), accessed 02/12/2019.

¹³⁸ [Twitter axes Vine video service](#), BBC (2016), accessed 02/12/2019.

greater and more varied content being shared on Facebook.com compared to the social media platforms from which content is shared.¹³⁹

3.157 Cross-posting capabilities between Facebook.com and other social media platforms remain asymmetric, as shown by Figure 3.10.

Figure 3.10: Current Facebook.com cross-posting functionality



Source: The CMA has created this image by taking a screengrab of the Facebook platform for the background and adding logos of other social media platforms, along with ticks or crosses based on whether cross-posting functionalities are possible from and onto the Facebook platform.

Access to data for personalisation and targeting

3.158 Successful social media platforms feature a vast quantity of content that may be shown to users. To prevent congestion due to a large amount of content and maintain user attention, platforms must be able to determine the most relevant content for a given user and help users to locate this content quickly, which they do using algorithms. For example, platforms may: select and rank the content showed in each users' feed; make recommendations as to what

¹³⁹ This API has since been deprecated by Facebook. See Appendix K for potential interventions for this issue.

content users may wish to consume next; or suggest new connections they may wish to make.^{140,141} Platforms also use data to target advertising.

- 3.159 The vast majority of this data held about consumers' likely demographic attributes, preferences and behaviours is sourced from their interactions with the platforms. It includes data submitted by users, data on users' interaction with a platform, and inferred data. See Appendix E for further discussion of the types of data used.
- 3.160 As well as access to content, access to data used for targeted advertising and personalisation can act as a barrier to entry and expansion:
- Social media platforms that offer greater targeting capabilities are more valuable to advertisers. Platforms with greater quantities of consumer data are better able to target advertising and may be better able to successfully monetise their services.
 - Consumer data is an important input to social media platforms' personalisation functionalities. By providing better recommendation and personalisation functionalities, platforms may become more appealing to consumers and lead them to spend more time on the platform. However, as demonstrated by the case studies described earlier in this chapter, limited access to data does not seem prohibitive of entry. Additionally, access to data does not appear to be determinative of successful entry.

Economies of scale

- 3.161 Social media platforms seem to experience some economies of scale, that may make it difficult for new entrants to compete. These occur on both advertiser 'sides' of the platform.
- 3.162 On the consumer side, these occur because platforms must offer basic features and functionality irrespective of the number of users on the platform. However, some costs to a social media platform increase with the number of users accessing it, as platforms must invest in infrastructure to support a greater number of users. Google submitted that YouTube has not experienced substantive economies of scale. Facebook submitted that it has experienced limited economies of scale and only in the early years of development, as costs per user have increased along with user base.

¹⁴⁰ Some platforms submitted that device and/or connection data may also be used to personalise content.

¹⁴¹ Certain functionalities offered by social media platforms may require further data, eg Snapchat's 'geo-filters'.

3.163 On the advertiser side, these occur because of the role that consumer data plays in targeted advertising and the cross-side network effects between advertisers and consumers. We have received evidence showing that platforms need to achieve a ‘critical mass’ of consumers in order to monetise sustainably. These issues are discussed further in Chapter 5.

Initial findings in social media

3.164 Social media platforms offer consumers a range of differentiated experiences. However, in general, consumers access social media platforms to communicate with each other and view content.

3.165 The evidence we have gathered so far suggests Facebook has significant market power in social media. None of the platforms currently active in the UK’s social media sector appear to impose a strong competitive constraint on Facebook.com. No existing social media platform offers a comparable range of consumer services, has access to as extensive a consumer network or has a similarly well-developed social graph. Consumers are unlikely to be able to replace Facebook.com’s services entirely with another platform’s unless that platform can offer access to each of these components.

3.166 Additionally, entry does not appear to act as a meaningful threat to Facebook’s competitive position. Network effects act as a strong barrier to entry and expansion in the social media sector, because consumers value the presence of other consumers and an array of relevant, high-quality content. A platform that lacks these may struggle to attract consumers.

3.167 Recent entrants appear to have responded to the barriers imposed by network effects by inducing consumers to multi-home with differentiated offerings. However, the nature of this strategy implies that the constraint placed on Facebook by such an entrant will be limited. In particular, we note that there has been no successful entry in the last 10 years by a platform competing directly with a comparable set of services to those provided by Facebook.com, with Google’s attempt having failed.

3.168 We have also seen some evidence indicating that, even with a differentiated business model, new entrants may struggle to monetise their services. To do so successfully, platforms seem to require a ‘critical mass’ of users. Additionally, we note that Instagram has been far more successful than Snapchat in monetising, despite similar levels of consumer engagement. This suggests Instagram’s access to Facebook’s wider resources may have contributed to its success.

3.169 The Facebook ‘family’ of apps further insulates Facebook.com from competitive pressure. We have also received some evidence demonstrating

that new entrants may, in some circumstances, be reliant on Facebook. This appears to primarily occur through the provision of open source APIs eg providing access to the Facebook social graph, or cross-posting capabilities. By permitting and then restricting other social media platforms' access to these APIs, Facebook may be able to affect the competitive constraints it faces.

3.170 In combination, we consider that the factors above limit the competitive pressure on Facebook. This may have several negative impacts for consumers. Firstly, Facebook may have weaker incentives to innovate and to develop its platforms in ways that are valued by consumers, compared to a more competitive scenario. In addition, Facebook may be able to extract more consumer data, or worsen the terms that it offers consumers for this data. We discuss consumer control over data in Chapter 4. Finally, consumers may be harmed indirectly through higher prices for other goods and services, if Facebook is able to use its market power over consumers to raise the prices its charges to display advertisers above competitive levels. We discuss competition in digital advertising in Chapter 5.

4. Consumer control over data

- Online platforms offer a range of services that are valued by consumers for no monetary cost in return for their attention and data.
- It is important that consumers can make an informed decision over whether to accept the terms of this exchange and that they receive the right level of protection where they are not able to engage. Equally, it is important that consumers have control over the use of their data, so that they can decide whether to provide or deny access and share it with others if they wish.
- In surveys, most consumers say they place value on their ability to control access to their data, and only a minority are happy to share their data in return for relevant adverts. However, we found that engagement with platforms' privacy policies and privacy controls is generally very low. There are several reasons for this.
- First, there is in some cases a lack of choice: social media platforms such as Facebook do not allow consumers to turn off personalised advertising.
- Second, where choice does exist, it can be difficult to exercise due to a strong tendency to accept default settings presented by platforms. For example, most platforms we assessed served consumers with personalised advertising by default, and we found that engaging with privacy settings was complicated, particularly for social media platforms like Facebook.
- Terms and conditions are also long and complex. We have found that a consumer may need to read 10,000 words before signing up to a service if they are to understand how their data will be used, yet the average visit to the Google privacy page was just 47 seconds.
- Effective regulation that puts consumers in control of their own data is essential in the modern digital economy. However, we have heard concerns that aspects of data protection regulation risk creating competition concerns by unduly favouring the business model of large, vertically-integrated platforms over smaller, non-vertically-integrated publishers. We are working constructively with the ICO to consider how to address these concerns.

Introduction

- 4.1 Many consumers use a range of online platforms every day. They may use Google to find a local restaurant, access Facebook to see what their friends are doing and buy a book on Amazon. When they use these services, platforms collect and use information about them to serve personalised advertising. In return, these services are typically free to use and allow them to do a range of things such as search the web, connect with friends, share content and receive more relevant advertising.

- 4.2 While platforms provide services that are free to consumers when they use them, they also generate very large revenues – and are extremely profitable. This is because people pay for them indirectly when they buy goods or services from the businesses who pay to advertise on the platforms.
- 4.3 This is not a new phenomenon. Many newspapers have been provided free to readers for some time, covering their costs by the advertising revenues. While, other things being equal, some people might prefer these services to be ad-free, the truth is that without ads, people would either have to pay directly for the services – or the services would disappear. What is new, however, is the ability of digital platforms to collect and use personal data. This allows them to target advertisements – or indeed provide other services – on the basis of what they know about the particular circumstances of the individual consumer.
- 4.4 We recognise that, if consumers want high quality content and services without paying money directly for them, platforms need to be able to generate enough revenue to fund them. However, it is important that consumers can make an informed decision over whether to accept the terms of this exchange offered by platforms and that they receive the right level of protection where they are not able to engage. Equally, it is important that consumers have control over the use of their data, so that they can decide whether to provide or deny access and share it with others if they wish. Getting this balance right can both protect consumers and benefit them by increasing competition between platforms. Finally, it is important that the design of regulation in this area is mindful of competition effects, and that in particular regulation is not designed in such a way as to entrench further the market power of incumbents.
- 4.5 The regulation of data protection and privacy in the EU is the responsibility of national data protection authorities (DPAs) such as the ICO in the UK and the DPC in the Republic of Ireland. However, competition and consumer authorities are increasingly carrying out work in this area,¹⁴² reflecting the close links between consumer control over data and competition and consumer concerns more generally. We have worked closely with the ICO during the course of this study.
- 4.6 It is within this complex landscape that we have sought to understand how consumers' data is used, the controls they have and how they use them, and the impact of both consumer behaviour and data protection law on

¹⁴² For example the Bundeskartellamt prohibition [decision](#) B6-22/16 Facebook Inc. and others dated 15 February 2019 (currently under appeal), and the [decision](#) of the Autorità Garante della Concorrenza e del Mercato, dated 29/11/2018, against Facebook for violations of the Consumer Code.

competition in the markets within the scope of the study. This chapter discusses:

- the role of data, how it is collected and its value to publishers, advertisers and platforms;
- the importance of data protection legislation;
- consumers' attitudes to data collection;
- the controls that consumers have over the collection and use of their data for personalised advertising;
- how consumers engage with the information they are presented with, the choices they make and the platforms' use of default settings; and
- barriers to effective engagement by consumers.

4.7 We conclude with a summary of our initial findings on this theme.

The role of data in digital advertising and consumer services

4.8 In order to understand the extent of any problems regarding consumers' control of their data, we have first sought to understand the role of data for online platforms funded by digital advertising. The data is used to provide services to consumers as well as digital advertising services to advertisers. In the following sections, we have assessed what data is collected, how it is collected, and why it is collected.

What data is collected?

4.9 Data is collected online by a wide range of market participants, including platforms, advertisers, publishers and data brokers. This data can include a consumer's behaviour online such as their search history, what they click on, the content they create and share, and their location through device information.

4.10 The data collection by some platforms can be extensive. For example, Google collects consumer information such as name, contact details, consumer name and passwords provided voluntarily by consumers when creating a Google account. It also collects information that the consumer may be unaware of, such as device and browser information, IP addresses, operating system versions; information on the consumer's activity such as preferences, interaction data (eg clicks and mouse hovers), search history and location data. This means that by, for example, using their mobile phones during the

course of a day, consumers transfer a large number of valuable information to Google such as where they are and have been, what they like and are interested in and if they are looking to buy any product or service.

- 4.11 Advertisers, publishers, online platforms and data brokers also collect data from a range of services. In addition to data about consumers, they can collect and share data once the ad is placed, such as: contextual data (the context in which the ad is served, such as knowing the consumer is on a sports website); campaign data (information on the reach and success of an ad campaign); and search data (eg what is being searched for, the number of clicks and purchases they generate).
- 4.12 The individual level data collected by platforms such as Google, Facebook and Twitter remain under the control of these platforms and it is generally not shared with other market participants.¹⁴³ However, outside of these ‘walled gardens’, data is shared between publishers and advertisers through a large number of intermediaries in order to identify consumers and provide personalised advertising.

How is data collected?

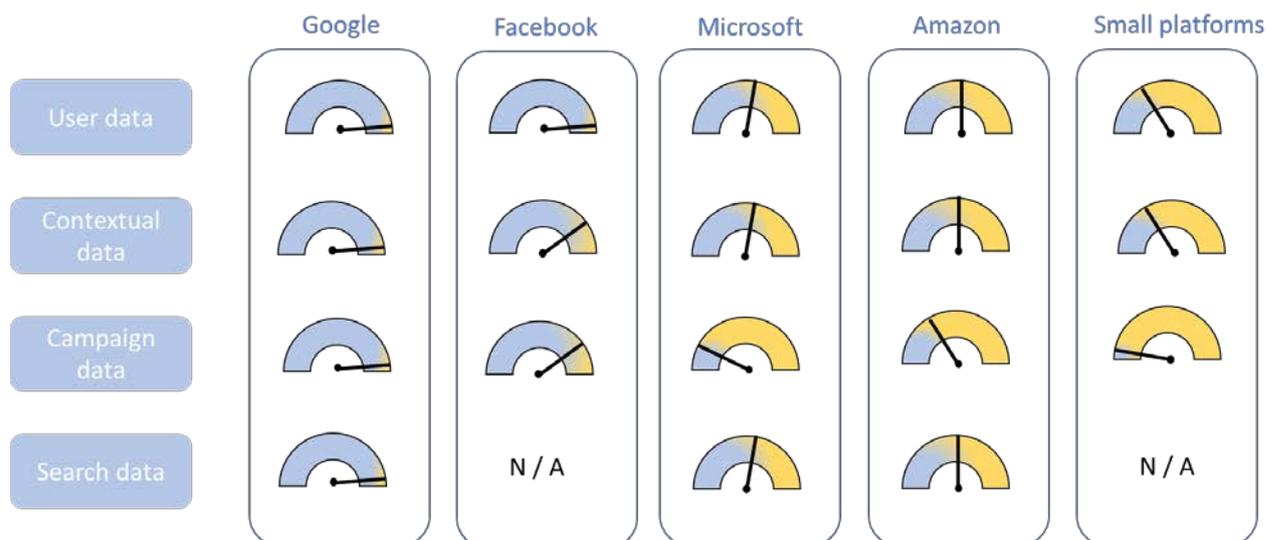
- 4.13 Data can be collected in several ways, but the main ways are: (a) through consumer-facing services that platforms offer to consumers; and (b) through services offered on third-party websites and apps.
- 4.14 Online platforms, such as Google and Facebook, can collect large datasets because they operate platforms used by a large number of consumers. For example, Google collects data from more than 50 consumer-facing services, including Google Search, and Android phones. Facebook collects data from Facebook, Instagram and WhatsApp.¹⁴⁴ Both companies reach a large majority of online consumers through one or more of their services.
- 4.15 Platforms also collect data through services they offer on other websites and apps. This allows them to gather information about consumers and how they interact with third-party sites, therefore extending their reach and data collection beyond their own services. There are several ways in which they do so, but at this stage we understand that there are four main sources of this data:

¹⁴³ Appendix E explains how platforms share aggregate-level data with other market participants.

¹⁴⁴ However, Facebook said that it does not use WhatsApp account information in the European Region to improve consumers’ Facebook product experiences or provide a more relevant Facebook ad experience. See also [ICO WhatsApp undertakings](#), given 12 March 2018.

- Advertisers, publishers and data brokers can provide data they collect about consumers visiting their platforms to enable a better targeting of digital advertising.
 - Advertisers and publishers can allow platforms to collect observed and volunteered data from their own online services through a range of technologies such as pixels, tags and cookies. In this way, platforms collect large amount of data about consumer preferences and behaviours on other websites and apps and add it to the information they already possess about how consumers interact with their own services.
 - Platforms collect data when consumers sign into an app or website using their sign in functionality, whereby consumers can securely sign in to third-party apps without having to create, authenticate and remember new usernames and passwords. This means that, when a consumer signs into a website to, say, purchase something using her Facebook login details, Facebook collects data about the behaviour and interaction of the consumer with that website and adds it to the information it already has about that consumer.
 - Platforms collect information such as device and browser information, bid information and event information (impression, click or conversion data) from the ads placed on publisher websites.
- 4.16 Finally, Google is able to gain data from mobile devices running the Android operating system, which gives Google a significant advantage in relation to specific types of consumer data such as location data.
- 4.17 The figure below provides a high-level illustration of our current understanding on the amount and types of data that Google, Facebook and other large platforms and a group of smaller platforms possess. Google and Facebook collect a large amount of data from their leading consumer-facing services, including Google Android, and tags placed on publishers' and advertisers' websites. Compared to them, other platforms' data and targeting capabilities are relatively limited to user data from their own services and are extremely limited in their ability to collect data about consumers on third-party websites and apps and combine it with their own first-party data.
- 4.18 While we recognise that this assessment is to a certain extent subjective, the overall conclusion that Google has more data than the other platforms is recognised in an internal Google document, which states 'Google has more data, of more types, from more sources than anyone else [...] Google is a big part of this scaling machine with massive reach across the internet.'

Figure 4.1: Illustration of the scale of data collection by certain platforms, split by types of data



Source: CMA.

Note: Small platforms include Twitter, Snap, TikTok and Pinterest.

Why is data collected?

4.19 Data is valuable to advertisers, publishers and platforms as it helps them generate revenue from personalised advertising and deliver consumer-facing services. In turn, consumers tend to express a preference for adverts that are relevant to them. For instance, Harris Interactive found that 54% of consumers would prefer to see adverts that were relevant to them rather than seemingly random adverts.¹⁴⁵

For digital advertising

4.20 Data on consumers is highly valuable for targeting digital advertising and measuring its effectiveness.

4.21 There are many types of targeted advertising which can fit into two broad groups – contextual and personalised advertising – according to the degree of targeting and the use of consumer data. Contextual advertising targets ads on the basis of the content of the page viewed and only requires some very limited types of consumer data such as device, location and language. Personalised advertising, on the other hand, uses personal data, including demographic and interest-based data alongside data inferred from other consumers, to provide advertising targeted on the basis of consumers’ characteristics. The main types of personalised advertising are audience segmentation (the grouping of consumer profiles into ‘audiences’

¹⁴⁵ Harris Interactive (2019), [Adtech – Market Research Report](#).

characterised by intent, demographics and interests) and retargeting (the serving of targeted ads to specific individuals whom advertisers identify as customers or potential customers).

- 4.22 The second main purpose of data in digital advertising is to provide verification, measurement, and attribution. Consumer data is particularly important for measuring attribution (the extent to which exposure to an ad leads to a 'conversion' of some sort such as a sale) as it requires the matching of data on consumers' exposure to adverts with data on the consumers' subsequent actions.
- 4.23 The importance of data, and consumer data in particular, depends on the type of advertising used and, in turn, on the campaign objectives and KPIs that advertisers want to meet. In general, we have heard that personalised advertising is more important in display than in search advertising (since the contextual information provided in a search query is highly valuable in itself for targeting without the need for consumer data), while the use of consumer data to demonstrate attribution is often more important in search (where sales are often the key KPI) than display (which aims to meet a wider variety of objectives, including greater brand awareness).
- 4.24 More information can be found on the role of data in Appendix E.

For consumer-facing services

- 4.25 The use and importance of certain types of data differs between search and social media.
- 4.26 As explained in Chapter 3, a high-quality search engine requires access to a web index, click and query data, and certain contextual data. Web indices are created by collecting large amounts of data on websites and webpages, and the information that they contain. This is drawn from by a search engine to generate relevant and useful results in response to queries. Click and query data includes what consumers search for, which results they select, and whether they spend time on the web page. This data is used by search engines to train their algorithms on the most relevant results to serve in response to particular queries. They also use data on the context in which the consumer is making a search (eg the time or date) to return relevant search results. Other data that search engines use to tailor search results is location data which is becoming increasingly important with the increased use of mobiles.
- 4.27 Social media platforms fundamentally rely on enabling the sharing of information through peoples' posts, comments and 'likes' – consumers are

attracted to particular platforms because of the ability to access other consumers' content. The platforms can also make use of consumer data to improve their services to consumers. The most important data for this purpose is content data (consumer generated information such as consumers' photo, videos and posts), profile data (consumer information provided when setting up an account) and interaction data (such as likes, shares and comments).

The importance of data protection legislation

- 4.28 The role of data protection legislation is to protect the fundamental rights and freedoms of consumers and their right to the protection of their personal data. The General Data Protection Regulation ('GDPR'), the Data Protection Act, and the Privacy and Electronic Communications Regulations, provide the framework for the lawful, fair and transparent processing of personal data, setting overarching data protection principles and providing data protection rights.¹⁴⁶
- 4.29 Integral to this framework is enabling consumers to have effective control over the processing of their personal data and to be empowered to make informed and granular choices over its processing (who, what, when, for what purpose(s), for how long etc.), underpinned by a regime that enables the protection of their fundamental rights by design and default.
- 4.30 In this study we have encountered a variety of interpretations of the GDPR and we note that, as the GDPR has been in effect for a little over 18 months, there is some genuine uncertainty on where the precise contours of the regulatory landscape lie. However, the GDPR's core principles are not new and were reflected in the preceding legal framework. Further in many areas there has been detailed guidance from the ICO, and also the European Data Protection Board (EDPB) on the GDPR, which also adopted the guidance of its predecessor Article 29 Working Party, on the matters relevant to this to this study.
- 4.31 We think that greater understanding of the views that data protection authorities will take on these matters is likely to emerge during the course of this study. For example, the ICO has been doing detailed policy work in the online advertising space,¹⁴⁷ and the first wave of statutory inquiries by the Irish DPC, the lead supervisory authority for many of the multinational platforms of relevance to this study, are expected to conclude soon.¹⁴⁸ Greater clarity is also likely to emerge in due course as specific enforcement

¹⁴⁶ See Appendix A for more information on the legislative data protection framework.

¹⁴⁷ [ICO update report into adtech & RTB](#), 20 June 2019.

¹⁴⁸ [DPC Annual Report](#), 25 May to 31 December 2018.

action taken under the GDPR will in turn lead to appeals through the domestic and European court systems, with resulting judgments that clarify certain points of legal interpretation.

4.32 In this context, we believe this study can play a role to support a conversation on how the GDPR can be effectively interpreted in its implementation, to have due regard to wider market impacts, to ensure that the fundamental rights and freedoms of consumers and their right to the protection of their personal data is protected in the long term.

4.33 For processing of personal data to be lawful under the GDPR, it requires a lawful basis. Under the GDPR, the lawful basis applies in the context of generally applicable prescribed 'data protection principles' such as fairness, transparency, purpose limitation and data minimisation which apply to all processing of personal data. The main legal basis identified by market participants for the lawful processing of personal data by in this market study have been consent, contract and legitimate interests.¹⁴⁹

4.34 A short description of the three legal bases identified are:

- **Art. 6 (a) Consent** – which means a freely given, fully informed, specific and unambiguous indication of the consumer's wishes by way of a statement or clear affirmative action, which signifies agreement to the specific processing of their personal data, and is as easy to withdraw as to give.¹⁵⁰ For consent to be valid it has to be a genuine, free and appropriately granular choice the consumer. It must be 'opt-in' not 'opt-out' and the consumer must have ongoing control over the specific processing of their personal data which is taking place.
- **Art. 6 (b) Contract** – which means the processing is necessary for the performance of a contract with the consumer, which means the processing is necessary to deliver the purpose of the contract with the consumer, rather than simply what is in the terms of the contract.
- **Art. 6 (f) Legitimate interests** – means processing can be lawful if it is necessary for the legitimate interests pursued by the controller. To rely on this basis the controller must properly carry out a three-part legitimate interests assessment that includes a balancing exercise to establish

¹⁴⁹ Article 6 of the GDPR also provides for processing for (c) compliance with a legal obligation, (d) protecting vital interests, and (e) in the public interest or an official authority, which were not identified as the basis for operating an online platform or for digital advertising.

¹⁵⁰ As explained in Appendix A, consent is a defined term in the GDPR (Art. 4 (11)), with further provision made throughout the GDPR for example Art.7 'Conditions for consent'.

whether the interests and fundamental rights and freedoms of the consumer override the controller's own interests in that situation.

- 4.35 The GDPR does not contain a 'hierarchy' of lawful basis. The ICO's guidance clarifies that no single basis is 'better' or more important than the others – the one that is most appropriate depends on the controller's purpose and its relationship with the individual. However, in some circumstances it will be more appropriate to rely on one lawful basis over another.
- 4.36 We note that in the context of real-time bidding, the ICO observes that consent is likely to be the most appropriate lawful basis for the intensive processing of personal data for personalised digital advertising in the UK. This is due to the requirements of PECR, which prescribe the basis in respect of the processing activities it governs. This is explained in the ICO's Update Report into Adtech and RTB: 'In [the ICO's] view, the only lawful basis for 'business as usual' RTB processing of personal data is consent (ie processing relating to the placing and reading of the cookie and the onward transfer of the bid request).'¹⁵¹
- 4.37 In respect of the other two lawful basis we have encountered in the study, the ICO has observed either in its guidance or RTB interim report, that they are not likely to be suitable basis for personalised advertising.
- 4.38 In relation to performance of a contract, ICO's view is that this can be a suitable basis for processing a consumer's personal data where the objective purpose for which a consumer enters into a contract with an online service provider, eg a shopping platform, is to process their data to provide the core service. An example may be a contract with an online shopping platform whereby the platform needs to process the consumer's data, like address, in order to deliver the purchased product to the consumer. In contrast, the further processing of their personal data for ancillary purposes, such as personalised advertising based on the consumer's observed preferences, is not necessary to provide the core contracted service, and so contract is not

¹⁵¹ [ICO update report into adtech & RTB](#), 20 June 2019, page 18. As the ICO observes, that view is consistent with guidance from other data protection authorities. In its report, the ICO explains that this is informed by the requirements of PECR, where personalisation of advertisements does not involve the processing activities to which PECR applies (ie use of cookies and similar technologies) the ICO has indicated that legitimate interests may in principle be considered as an appropriate lawful basis on a case by case basis.

an appropriate legal basis for that additional processing.¹⁵² The ICO's view is consistent with the EDPB's view.¹⁵³

4.39 In relation to legitimate interests, while serving advertising is legitimate in principle, the ICO's view is that in the context of the intensive processing of personal data involved in personalised digital advertising, it is unlikely that the legitimate interests of a data controller to process consumers' data to serve personalised advertising would override the data protection interests of the consumer.¹⁵⁴¹⁵⁵ However, where personalisation of advertisements does not involve the processing activities to which PECR applies (ie the use of cookies and similar technologies) the ICO has indicated that legitimate interests may, in principle, be considered as an appropriate lawful basis on a case by case basis.

4.40 We note that using consent as the legal basis for processing personal data for personalised advertising, rather than contract or a 'legitimate interests' balancing exercise, puts the emphasis on informing the consumer of the proposed processing of their personal data and puts them in control.¹⁵⁶

Consumer attitudes to data processing

4.41 Consumers place importance on their ability to control access to their data: a 2016 survey by the European Commission found that 96% of UK consumers thought that it was important that their personal information on their computer, tablet or smartphone could only be accessed with their permission.¹⁵⁷ Whilst many people see data collection as a part of everyday life, the majority of people are still uncomfortable with it.¹⁵⁸

¹⁵² The [ICO detailed guidance on contract](#) explains: 'the profiling of an individual's interests and preferences based on items purchased is not necessary for the performance of the contract and the controller cannot rely on Article 6(1)(b) as the lawful basis for this processing. Even if this type of targeted advertising is [...] a necessary part of your business model, it is not necessary to perform the contract itself.'

¹⁵³ See for example, EDPB, Guidelines 2/2019 on the processing of personal data under Article 6(1)(b) GDPR in the context of the provision of online services to data subjects, 8 October 2019, [52] 'As a general rule, processing of personal data for behavioural advertising is not necessary for the performance of a contract for online services. Normally, it would be hard to argue that the contract had not been performed because there were no behavioural ads.'

¹⁵⁴ 'Reliance on legitimate interests for marketing activities is possible only if organisations don't need consent under PECR and are also able to show that their use of personal data is proportionate, has a minimal privacy impact, and individuals would not be surprised or likely to object. We believe that the nature of the processing within RTB makes it impossible to meet the legitimate interests lawful basis requirements...' ICO update report into adtech and RTB, 20 June 2019, page 18.

¹⁵⁵ This is consistent with the guidelines of the EDPB and its predecessor body the Article 29 Working Party, eg pages 46 and 47 of *Opinion 06/2014 on the notion of legitimate interests of the data controller under Article 7 of Directive 95/46/EC*, 9 April 2014 and page 68 'Example 26', and references therein.

¹⁵⁶ For particularly sensitive 'special category' data, the ICO observes that explicit consent is the only possible legal basis for the processing to serve personalised advertising.

¹⁵⁷ European Commission (2016). [Flash Eurobarometer 443: e-Privacy](#).

¹⁵⁸ Which? (2018). [Control, Alt or Delete? Consumer research on attitudes to data collection and use](#).

- 4.42 As indicated above, recent research suggests that many consumers prefer advertising on websites to be relevant to them. For instance, Harris Interactive found 54% of participants in an online survey would prefer to see adverts that are relevant to them rather than seemingly random adverts.¹⁵⁹ Similarly, Which? found that in focus groups, most participants preferred targeted advertising and personalised discounts to non-targeted advertising and generic discounts.¹⁶⁰
- 4.43 However, only a small minority of all consumers are happy to share their data to receive relevant advertising. For example, Ofcom found that only 15% of respondents were happy for online companies to collect and use their data to show more relevant adverts or information.¹⁶¹ Further, research conducted by Ofcom, the ICO and Which? all showed that the more consumers understood about how targeted advertising works, the more concerned they became about it, and began to feel less in control of their data and that, in addition, consumers can become less willing to receive personalised advertising.¹⁶²
- 4.44 More generally, consumers' acceptance of data processing is heavily influenced by demographic factors, the nature of the data involved, and with whom the data is being shared.
- Overall, younger consumers and those who describe themselves as confident internet users are more likely to be comfortable with data processing. In 2019, Ofcom found that 28% of respondents aged between 16-24 were unhappy with companies collecting and using personal information for any reason, compared to 56% of those between 55-64.¹⁶³
 - Consumers tend to be reluctant to share sensitive personal information. The Open Data Institute ('ODI') found that while 53% of respondents were comfortable sharing their name with an organisation they knew, only 22% were comfortable sharing their medical records.
 - Consumers trust public organisations more than many private sector organisations. The European Commission asked UK respondents who they trusted to protect their personal information and found that 81% trusted health and medical institutions compared to 32% that trusted online businesses.

¹⁵⁹ Harris Interactive (2019). [Adtech – Market research report](#).

¹⁶⁰ Which? (2018). [Control, Alt or Delete? Consumer research on attitudes to data collection and use](#).

¹⁶¹ Ofcom (2019). [Adults: Media use and attitudes report 2019](#).

¹⁶² Harris Interactive also found that after providing a description of how 'real-time bidding' in advertising worked, the percentage of respondents who said they did not prefer relevant ads increased from 20% to 61%.

¹⁶³ Ofcom (2019). [Adults: Media use and attitudes report 2019](#).

- 4.45 We interpret this research to mean that, if consumers had more information about what data is collected and how it is used, they might wish to make different choices.
- 4.46 It is important to consumers that they can control what data they share and that they can trust the platforms that they share it with. However, the survey evidence we have reviewed suggests that very few consumers feel they have complete control of their data. For instance, Ipsos Mori found that 69% of consumers felt they had little or no control over their online data.¹⁶⁴ Similarly, in 2019 a survey by the European Commission found that 84% of UK respondents felt that they had only partial or no control over their online data.¹⁶⁵
- 4.47 While it appears that some consumers believe they can manage some aspects of data processing, such as who initially has access to their personal data, these same consumers still feel that their scope to act meaningfully is very limited. For example, Ipsos MORI found that some respondents felt like the only way to control who initially has access to their data is to choose whether or not they enter a website. Once their data has been handed over, these same respondents feel they have lost control over who has access to their data.
- 4.48 We have also found that consumers lack trust in online platforms, with only a minority saying they would trust an online platform with their data. Social media platforms are consistently ranked as the least trusted platforms in surveys. For example, a survey by Ipsos MORI in 2016 found that only 9% of respondents trusted social media platforms with their data.¹⁶⁶ Low trust can lead to consumers not sharing their data and realising the possible benefits of doing so, which also affects the ability of platforms to monetise their services using targeted advertising.
- 4.49 Some surveys have sought to understand why consumers do not feel they have control. In one survey, most consumers reported that they did not find it easy to access and change the personal information held by businesses,¹⁶⁷ so their feeling of a lack of control arose out of difficulty with navigating to the choices available and exercising them. In other survey evidence, consumers reported that it was hard to effectively engage with companies who collect and use their data because they feel:

¹⁶⁴ Ipsos MORI (2016). [Digital footprints: Consumer concerns about privacy and security](#).

¹⁶⁵ European Commission (2019). [Special Eurobarometer 487a: The General Data Protection Regulation](#).

¹⁶⁶ Ipsos MORI (2016). [Digital footprints: Consumer concerns about privacy and security](#).

¹⁶⁷ Information Commissioner's Office (2019). [Information rights strategic plan: Trust and confidence](#).

- disempowered by their lack of knowledge and transparency about how companies collect, use and share their data;¹⁶⁸
- reliant on data-driven services which they do not believe they can give up,¹⁶⁹ and
- there is a perceived lack of alternatives if they want to stop using specific companies whose data collection they are concerned by.¹⁷⁰

4.50 Our initial view from the available literature is that consumers value their data and think it should only be used with their permission, and that the market does not meet their expectations by putting them in control.

4.51 See Appendix G for more information on consumer attitudes to data processing.

How consumers can control their data

4.52 We have carried out a review of the controls available to consumers on a sample of key search engines and social media platforms.¹⁷¹ We set out below the controls available to consumers over the use of their data, including in particular whether consumers are able to decide whether they receive personalised advertising while continuing to use the platform's services. In the following section, we consider the extent to which consumers engage with those controls and the use made by the platforms of default settings.

The controls available to consumers on search engines

4.53 Search engines allow consumers to search and make sense of a vast number of websites across the internet and find what they are looking for. In return for this service, many search engines collect data about consumers to improve the functioning of their search algorithm and to target them with relevant advertising which, in turn, pays for the service.

4.54 Both Google and Bing use consumers' data to display personalised advertising, but they allow consumers to opt out of this, irrespective of whether a consumer is logged in or not. Personalised advertisements are based on consumers' previous activity such as searches and site visits,

¹⁶⁸ Which? (2018). [Control, Alt or Delete? Consumer research on attitudes to data collection and use.](#)

¹⁶⁹ Miller, C., Coldicutt, R., & Kitcher, H. (2018). [People, Power and Technology: The 2018 Digital Understanding Report.](#)

¹⁷⁰ Which? (2018). [Control, Alt or Delete? Consumer research on attitudes to data collection and use.](#)

¹⁷¹ The platforms included in our review were: the search engines Google, Bing and DuckDuckGo; and the social media platforms Facebook, Instagram, Snapchat and Twitter.

demographic information and interests, as well as other information such as location, time of day and interactions (for example agreeing to receive updates from an advertiser). Consumers have differing controls depending on whether or not they are logged-into an account and we discuss these in detail below.

- 4.55 Not all search engines we examined use personalised advertising. Some platforms, such as DuckDuckGo, market themselves as a ‘privacy friendly’ search engine and do not store personal information, including IP addresses, and have no associated user account. DuckDuckGo claims to be an ‘Internet privacy company that empowers you to seamlessly take control of your personal information online, without any tradeoffs.’¹⁷² Instead of personalised advertising, DuckDuckGo serves contextual ads to consumers, based on their searches. It follows that it does not offer consumers any controls for personalised ads.

Non-logged in consumers

- 4.56 Search engines can be used without the need for consumers to create an account or log in – they can simply use the engine to browse the web. This does not, however, mean that no data is collected about them. For example, whilst Google does not require any information to be volunteered by the consumer to use their search engine, they do observe the consumer’s behaviour and store this against unique identifiers along with interests and inferred characteristics. This can include browsing history, location data, IP address, devices the consumer uses, device characteristics such as its operating system and battery life, and engagement with third-party sites using Google’s advertising services.
- 4.57 We found that both Google and Bing allow consumers to opt out of personalised advertising. For Google, logged-out consumers can control whether they are shown personalised advertisements both on the Google search engine and across their ad network including YouTube and the millions of websites that partner with Google to show ads.
- 4.58 Location information is available to search engines by default.¹⁷³ This enables basic country, language and security features, as well as tailored search results and advertising. By default, a non-logged in consumer on Google will receive ads based on their location and this is unaffected by whether the consumer has elected not to see personalised advertising. This may include

¹⁷² [DuckDuckGo homepage](#).

¹⁷³ Subject to consumers’ settings on browsers and devices.

information drawn from their device, their web/App activity and their IP address.

Logged-in consumers

4.59 For some search engines, such as Bing and Google, consumers can set up an account to which they can log in and then use a range of services, such as email and document storage. This involves the consumer volunteering some additional information to open an account, but in return this also gives them more granular controls over their data.

4.60 Opening an account with Google or Bing is a simple process. For both platforms, consumers need to provide a name and date of birth. In addition, Microsoft requires a country. In creating the account, the consumer will generate an email address, if they did not already provide one, and password information. Consumers may also provide information such as gender and phone details.

- Both Google and Bing allow consumers to opt out of personalised advertising, but consumers that are logged in have more granular controls. For instance, logged in consumers can adjust the interests, and in some cases demographic information, that the platforms have assigned to them and which are used to tailor the advertisements shown.
- As for non-logged in consumers, location data is collected by default. The Google account settings includes one for 'Location History', which is a feature that provides personalized maps and other information to consumers. However, while data from this feature can be used to influence the ads shown to a consumer, it is just one of a number of sources of location information. This means that, although this setting is set to pause by default, it does not stop location information being collected or used.

4.61 For logged-in consumers, Google and Bing offer a set of more granular controls in addition to the option to turn off personalised advertising. For Google, we found that the main 'Privacy Checkup' control area provided around 39 options within six areas. These cover activity controls,¹⁷⁴ ad settings (where interest categories can be amended, or personalised advertising can be turned off), information displayed about the consumer and

¹⁷⁴ Web and App activity, Location History, Voice and Audio recordings, YouTube search and watch history.

shared endorsements settings, phone numbers, Google Photos settings, YouTube settings, plus a review reminder.

- 4.62 Bing's 'Privacy Dashboard' provided 10 main options that allow consumers to view and clear data.¹⁷⁵ Eight further options linked to other privacy settings,¹⁷⁶ including an ad preferences area where interest categories can be amended, or personalised advertising can be switched off.
- 4.63 In summary, we found that by default, the most popular search engines use a range of consumers' data for personalised advertising services. Both Google and Bing allow consumers to opt out of personalised advertising, whether they were logged-in or not.

The controls available to consumers on social media platforms

- 4.64 We have explored whether consumers can turn off personalised advertising when using these platforms, and instead receive ads that are not based on their personal data. We found that consumers have to accept personalised advertising to use the social media platforms we examined, but to differing degrees:
- Facebook and Instagram users cannot turn off personalised advertising. They can, however, see what interest segments they are placed in and manually switch these off, such as removing ads based on a particular football team. Consumers can opt out of seeing ads on other websites and apps that are based on their Facebook activity.
 - On Snapchat, consumers cannot turn off ads based on their personal data gathered by Snapchat when using their services. However, they can turn off ads based on information collected about them on third-party services.¹⁷⁷
 - Twitter always uses information it gathers from consumers' activity on the platform, including information from consumers' devices, the location where they signed up and their current location, to personalise the ads they see and their experience on the platform. Twitter users can customise their settings to prevent Twitter from combining their on-

¹⁷⁵ Browsing history, Search history, Location activity, Voice activity, Media activity, Product and service activity, Product and service performance, and Cortana's Notebook, plus product-specific data for LinkedIn and Health Vault.

¹⁷⁶ Windows, Xbox, Skype, Promotional communications, Apps and Services, Office, Advertising preferences, Other Microsoft products, Plus privacy team contact.

¹⁷⁷ Consumers can opt out of being shown some targeted ads, such as Audience Based (ie those based on advertisers' audience lists) and Activity-Based ads (ie those based on information about consumers' activities away from Snapchat).

platform activity with personal information obtained by Twitter from its partner organisations.

- 4.65 Below we set out the differences in control that consumers have depending on whether or not they are logged into a social media account.

Non logged-in consumers

- 4.66 Unlike search engines, social media platforms are predicated on sharing some amount of personal information with friends and families, interacting with businesses and sharing content. It follows that for most social media platforms, the consumer can do very little without setting up, and logging into, an account. For example, on Facebook a consumer who is not logged in can only see a limited range of Facebook's pages, for example those of businesses that are publicly viewable. By contrast, Twitter allows slightly more functionality as consumers can view public tweets and replies.
- 4.67 Facebook, in addition to Facebook.com and Facebook Messenger, is the owner of other social media platforms, including Instagram and WhatsApp. Unlike the services offered by Google, the various social media platforms offered by Facebook do not have to be integrated into a consumer's single account and a consumer will not automatically be provided with, for example, an Instagram account when they create a Facebook.com account. Consumers are able to choose which of these platforms they want to use and will be required to complete the process of opening an account for each (although consumers are able to use their Facebook.com account details to create accounts for Facebook Messenger and Instagram).

Logged-in consumers

- 4.68 Like search engine accounts, social media accounts require consumers to provide certain pieces of personal information to create an account. Generally, all platforms require that consumers provide at least a mobile number or email address for identification.
- 4.69 Other data may be voluntarily provided by consumers during their use of the platform, for example, content, liking pages and engaging with brands. This data can be used to infer consumers' interests for the purpose of targeted advertising. In some cases, the choice of whether to provide such information or not, does not affect the consumer's access to the platform's services. A consumer could be described as being in control of this information.
- 4.70 Other data may be collected by platforms from consumers automatically and without the platform providing an option for consumers to prevent this

happening. A consumer could be described as having no control over this information being collected. An example of this would be information regarding a consumer's device attributes as collected by Facebook. Some platforms believe it is necessary to collect such information to optimise the way their website or application is displayed on a consumer's device.

4.71 In between these two types of information, there may also be some information collected by platforms where a consumer can either influence the extent to which this information is collected, without fully preventing its collection, or the way the information is used. Consumers may therefore be said to have some control over this information.

4.72 Facebook's default settings determine that:

- consumers' posted content and any additional personal information other than their name, gender (if provided), username and user ID will only be shared with their 'friends';
- consumers will not be shown ads based on data provided by Facebook's partners but can opt in via Facebook's Ad Preferences page to be shown such ads;
- consumers' activity is used to personalise ads, both on Facebook and on third-party websites and apps;
- some information, such as device attributes and usage of Facebook, is automatically collected; and
- device-based location settings and face recognition is turned off.

4.73 Other social media platforms that we reviewed took a comparable approach to Facebook towards their default settings regarding advertising.

4.74 In summary, we found that social media platforms required consumers to give more data to use their services than for general search platforms and the use of personal data for advertising was a condition of accessing the service. Controls over additional information, such as data about consumers' devices, are variable across platforms.

4.75 More detail on the extent to which consumers have control over different categories of information is set out in Appendix F.

Consumer engagement with privacy policies and controls

- 4.76 Surprisingly, most of the platforms we contacted were only able to provide limited data about consumer engagement with privacy policies or controls.
- 4.77 None of the twelve platforms we contacted could tell us how many consumers accessed their privacy policy during registration. Only two platforms provided data about access to their privacy policy on an ongoing basis and for both parties this data was limited in terms of the time period it covered.
- 4.78 Only Facebook, Google, Verizon Media and TikTok could provide data about how consumers use settings and controls. Only Verizon Media could provide robust data and for the other three platforms, the data was either limited in detail or deleted after a short period of time. For example, Google did not provide historic data as it usually only maintains this data for 28 days before being deleted.
- 4.79 The lack of data collected by platforms stands in stark contrast to the substantial collection of data in other parts of their business and means there is very little evidence on how consumers behave in practice. This makes it hard to determine how much consumers care about privacy and whether an online platform's approach to privacy is effective in promoting consumer engagement.
- 4.80 The ICO, when giving guidance on how to draft 'privacy information' in response to the hypothetical question 'Should we test our privacy information?'; observes that testing and collecting such data 'will help you improve the effectiveness of your delivery of the information. You are likely to come up with a far more useful and engaging approach if you consider feedback from the people it is aimed at'.¹⁷⁸ The ICO suggests testing to gather feedback from consumers on how they accessed the privacy policy; if they found it easy to understand; whether anything was difficult, unclear or they did not like it; or if they identified any errors. The ICO gives an example of how this consumer testing might allow optimisation of a policy for those who access it via different ways.
- 4.81 The data that was provided by Google and Facebook indicates that few consumers engage with privacy settings when they register for a service. Consumer engagement appears to be slightly higher on an ongoing basis when people use the service but remains low overall.

¹⁷⁸ [ICO general guidance on GDPR – 'how should we draft our privacy information.](#)

4.82 Below, we set out our initial findings on consumer engagement with privacy policies both at sign up and on an ongoing basis. We then discuss consumer engagement with privacy settings or controls, which are the tools by which consumers can limit or otherwise control how the data about them is collected or used. Finally, we discuss the apparent discrepancy between low levels of engagement with privacy settings and the concerns people have about privacy – the so-called the privacy paradox.

Evidence of engagement with privacy policies

4.83 A ‘privacy policy’ is the statement or legal document which sets out the ways in which a firm will collect, use, disclose and manage a consumer’s data. It informs the consumer what specific information is collected, and whether it is kept confidential, shared with partners, or sold to other firms or enterprises.¹⁷⁹ When consumers sign up to a service, they are asked to review the privacy policy.¹⁸⁰ Importantly, no platform could tell us the proportion of consumers who accessed their privacy policy when first using the service or creating an account. However, from the limited data available, there is evidence that consumer engagement with privacy policies on an ongoing basis is low.

4.84 Google provided data on the number of visits to its Privacy Policy on the Privacy Policy Web page between 21 July and 19 August 2019. If we divide this figure by the number of unique authenticated users over this period, this would be equivalent to [0-5]% of UK users having visited the Privacy Policy on the Privacy Policy Web page over this period. However, if a user visited the Privacy Policy more than once than that would imply that this figure is an overstatement.

4.85 Google also provided data for the 28-day period between 13 September and 11 October 2019 which showed that the average visit to the Privacy Policy Web page lasted 47 seconds. Furthermore, 85% of the visits in this period lasted less than 10 seconds and only 0.4% of visits lasted over 30 minutes.¹⁸¹ Given that for UK consumers the privacy policy totals over 6,000 words, this

¹⁷⁹ It is in its privacy policy that a firm often seeks to discharge its obligations under the GDPR to provide information to consumers. We have also encountered other terms such as ‘data policy’.

¹⁸⁰ The finding that consumers do not typically access privacy policies is in line with a number of academic studies:

- Bakos et al (2014) found that only 0.05% of agreements were accessed by consumers before they consented to them;
- the European Commission (2016) in a study involving experiments involving privacy policies, found that only 9.4% of participants accessed terms and conditions when it was optional to do so; and
- in an experimental study, Obar & Oeldorf-Hirsch (2018) found that 74% of respondents did not open the privacy policy.

¹⁸¹ This is supported by information Google provided to the Australian Competition and Consumer Commission which showed that the average time spent by Australian consumers viewing the Google Privacy Policy web page was less than two minutes. Australian Competition and Consumers Commission (2019), [Digital platforms inquiry – final report](#), page 403.

very short time for reading the policy indicates that consumers are not able or willing to engage with privacy policies of this length or complexity.

- 4.86 In their response, Google explained that they did not believe that user visits to a Privacy Policy page or how long a consumer spent on the privacy policy web page were reliable measures for consumer engagement. For example, Google explained that a relatively quick visit to the Privacy Policy may indicate that a consumer has had a successful visit and found what they needed. However, we note that Google's own data indicates that 85% of consumers visited the privacy policy web page for less than 10 seconds. We do not consider that they can have engaged meaningfully with the privacy policy in such a short period of time. As a result, we consider that this evidence shows that consumer engagement is very low and that visits to privacy policies are brief.
- 4.87 This finding that consumers spend very little time engaging with privacy policies is also consistent with the academic research which indicates that consumers are not spending long enough on such policies to have read and understood them properly. For instance, Bakos et al (2014) found that consumers that accessed an End User Licensing Agreement ('EULA') spent an average of just over one minute on the EULA page (with the median time being just over 30 seconds).¹⁸² Obar & Oeldorf-Hirsch (2018) reported a reading time of a privacy policy of 73 seconds.¹⁸³
- 4.88 Other studies also suggest that some consumers believe that a privacy policy means that their privacy is protected as the default (Turow et al, 2007; Martin, 2015). That is when these consumers see the term 'privacy policy' they believe that their personal information will be protected and, in particular, the website will not share their personal information. This suggests that the term 'privacy policy' has the capacity to be misleading and influence consumers against reading privacy policies.
- 4.89 We discuss the length and complexity of privacy policies in the section later in this chapter on possible barriers to effective engagement, but it is clear from this evidence that the ordinary person does not spend a lot of time reading terms and conditions.

¹⁸² Bakos, Y. Marotta-Wurgler, F. and Trossen, D. (2014), [Does Anyone Read the Fine Print? Consumer Attention to Standard Form Contracts](#). *The Journal of Legal Studies* 2014 43:1, 1-35.

¹⁸³ Obar, J.A., and Oeldorf-Hirsch, A. (2018) [The biggest lie on the Internet: ignoring the privacy policies and terms of service policies of social networking services](#), *Information, Communication & Society*.

Evidence of engagement with privacy settings and controls at sign up

- 4.90 By privacy settings and controls, we mean the tools by which consumers can control or restrict the data which firms collect about them, such as whether or not they receive personalised advertising and what location information is collected about them.
- 4.91 On some platforms, when consumers sign up to the service, they are prompted to review these settings. From the data that the platforms were able to provide, it is clear that consumer engagement with privacy settings is very low at registration: very few consumers change their default settings at registration or within 30 days of registering.¹⁸⁴
- 4.92 For example, Table 4.1 below sets out data received from Google, which indicates that only a very small percentage of consumers engage with privacy settings during account creation. The data indicates that, when consumers do engage during account creation, they are more likely to disable features than enable them.

Table 4.1: settings changed by Google’s UK consumers during the account creation process

Privacy setting	Percentage of consumers who make this change during account creation
[X] Enable location history	[0-5]%
[X] Enable voice and audio activity	[0-5]%
Disable ads personalisation	[5-10]%

Source: Submitted to the CMA by Google in response to a request for information.

- 4.93 Further data from Google found that [5-10]% of consumers who had created an account within three months accessed their privacy settings or controls over a 28-day period.
- 4.94 Similar data from Facebook shows a low proportion of new users who registered and engaged with a setting or tool, as shown in Table 4.2.

Table 4.2: the number of new Facebook consumers who view a settings page or control within 30 days of creating an account

Privacy setting or control	New users who registered over one year (04/18 to 03/19) and viewed a setting or tool within 30 days of creating an account
Facebook ad preferences	[0-5]%
Facebook privacy check-up	[5-10]%

Source: CMA calculations based on data submitted by Facebook in response to a request for information.

¹⁸⁴ The data in the following tables have all been rounded to the first decimal point.

Evidence of engagement with privacy settings and controls on an ongoing basis

4.95 Consumer engagement with privacy settings and controls appears to be slightly higher on an ongoing basis but remains low overall. Table 4.3 sets out data received from Google, and demonstrates that only a small number of consumers engage with their privacy settings or controls on an ongoing basis:¹⁸⁵

Table 4.3: the percentage of Google’s UK consumers visiting privacy settings or controls over a 28-day period

Privacy setting or control	Percentage of active UK consumers who visited the control or setting over a 28-day period¹⁸⁶
Google Account (Data and Personalisation tab)	[0-5]%
Privacy Checkup	[0-5]%
My Activity	[0-5]%
Ad Settings	[0-5]%
Security Check-Up	[0-5]%
About Me	[0-5]%
Auto-Delete (Web & App Activity)	[0-5]%

Source: Submitted to the CMA by Google in response to a request for information.

4.96 The data from Google also indicated that [5-10]% of active UK consumers had accessed at least one of the following: Privacy Checkup, Privacy Advisor, My Activity, Activity Controls, Ads Settings, Google Dashboard, Takeout, Google Account (Data and Personalisation Tab) or Privacy Policy.

4.97 Data from Facebook also indicates different levels of consumer engagement with different privacy settings and controls. We note that the data from Facebook covers one year whereas Google’s data follows a 28-day period. As a result, the two tables are not directly comparable with one another. We also note that in March 2018, it was widely reported that Cambridge Analytica had harvested personal data from millions of peoples’ Facebook profiles without their consent and used it for political advertising purposes. This is likely to mean that there was an increased focus on Facebook’s privacy settings and controls over the period covered by this table.

¹⁸⁵ The data in the following tables have all been rounded to the first decimal point.

¹⁸⁶ The data for some settings were gathered over different 28-day periods.

Table 4.4: the percentage of Facebook users who viewed a setting or control over one year

Privacy setting or control	Percentage of UK consumers who viewed the setting or control over one year (04/18 to 03/19)
Ad preferences	[0-5]%
Privacy Checkup	[20-30]%
Why Am I Seeing This Ad? Tool	[10-20]%

Source: CMA calculations based on data submitted by Facebook in response to a request for information.

- 4.98 Facebook also submitted that as of 30 September 2019, [0-5]% of UK consumers have viewed the ‘Download Your Information’ tool in the past four years. Similarly, as of 31 July 2019, [5-10]% of UK consumers have viewed the ‘Access Your Information’ tool since the beginning of the year.
- 4.99 We note that more consumers engage with the privacy check-up tool on an ongoing basis than at sign-up. Facebook introduced this tool to ‘assist Facebook consumers to review and adjust their privacy settings’ and as such it is expected that engagement with this tool on an ongoing basis will be higher than at registration.
- 4.100 We recognise that these results are for only two online platforms (albeit the major ones) and that consumers may engage with policies or settings on other platforms differently. However, it is consistent with academic findings, that consumer engagement with privacy policies and settings in practice is lower than reported in consumer surveys. One reason for this is that it is commonly recognised that in participating in a survey, consumers often face a ‘social desirability bias’, that is, they have a tendency to answer questions in a manner that will be viewed favourably by others.
- 4.101 Evidence from consumer surveys also provides some indication as to why engagement may be low, although the evidence is mixed. As indicated above, on the one hand, in some surveys, consumers report that they find it easy to change their settings and yet at the same time, it is not clear that consumers find it easy to locate the privacy settings. This is discussed in more detail below in the section headed ‘Navigating to privacy settings’.
- 4.102 Even if consumers can locate the privacy settings, it is not clear that consumers understand the implications of using them. For example, Habib et al (2018) found that two thirds of participants overestimated the protection that ‘private browsing’ offers.¹⁸⁷ A separate survey performed in 2018 found that

¹⁸⁷ Habib, H., Colnago, J., and Cranor, L.F. (2018). [Away from prying eyes: analysing usage and understanding of private browsing.](#)

the description of ‘private browsing’ offered by major platforms did not clear up common misconceptions.¹⁸⁸

- 4.103 The finding that consumer engagement with privacy settings is low is unsurprising. In the course of our work in other markets, consumer engagement has sometimes remained low despite the existence of strong financial incentives for consumers to participate actively (for example, by shopping around for a better broadband deal or switching energy supplier to avoid paying a loyalty penalty). In the online world of search and social media platforms, there is no direct financial incentive to prompt consumer engagement: consumers ‘pay’ for services, not with money, but with their data and attention. We might therefore expect engagement with privacy controls to be low except for those consumers for whom privacy is a top of mind issue.
- 4.104 In these circumstances, the default control settings implemented by the platforms will continue to apply to the collection and use of data for a majority of consumers.

The privacy paradox

- 4.105 Our finding that consumers say they are concerned about privacy but have low engagement with privacy settings and controls is consistent with findings in the academic literature. A number of academic articles (eg Acquisti (2004), Barnes (2006)) have pointed to the existence of a ‘privacy paradox’ in relation to the collection of data from consumers in online settings: that is, consumers say in surveys that they value their privacy and that are concerned about protecting it but behave in ways that contradict this stated preference.
- 4.106 There has been some debate about whether this is in fact a genuine paradox. For instance, given the central role that some services play in consumers’ lives, they may feel that there is little point engaging with privacy policies on the basis that they are presented as a ‘take it or leave it’ choice and an individual consumer is not in a position to negotiate over them. At the same time, other interpretations point out that the framing of choices by platforms and the exploitation of behavioural biases can have an important influence on consumers’ privacy decisions. In particular, consumers’ choices about privacy controls can be heavily influenced by factors such as the default settings (eg whether to allow ad personalisation or not), how the choice of privacy setting is presented and what language is used to describe the privacy setting. Experimental research has also found that where securing privacy requires additional effort or comes at cost of a less smooth user experience,

¹⁸⁸ Wu, Y., Gupta, P., Wei, M., Acar, Y., Fahl, S and Ur, B. (2018). [Your secrets are safe: how browsers’ explanations impact misconceptions about private browsing mode.](#)

consumers were quick to abandon technology that would offer them greater protection (Athey et al, 2017).

4.107 In the next section we consider how platforms may exploit some of these aspects of consumer behaviour to induce consumers to make choices that result in them providing more data to platforms than they may otherwise be comfortable with.

Possible barriers to effective engagement

4.108 It is important that, for those consumers who would like to engage actively in this market, they are able to access and understand information easily and face low transaction burdens in the course of their engagement. In this section, we assess how choices are currently presented to consumers and set out the barriers to effective engagement that we have so far identified.

4.109 For those consumers who seek to engage, the way that choices are presented to them has a significant influence on what they choose. The Data Protection Commission, the supervisory authority for several platforms including Google and Facebook Ireland, notes that organisations can design their websites and use ‘branding, colour and font selections to highlight or emphasise certain options rather than others.’ They set out that design is important and by highlighting ‘Ok’ or ‘I agree’ buttons, consumers may overlook further information that may be less prominent, such as in grey text.¹⁸⁹ These are typically referred to as ‘dark patterns’.

4.110 The use of dark pattern techniques can nudge consumers to making choices that are in the best interest of the platforms which maximise data collection, rather than their own preferences. To understand how information may affect consumers’ choices, we have considered:

- evidence on the power of default setting in these and other markets;
- what platforms claim about the nature of their service(s) and how they are funded by personalised advertising;
- the consumer experience at sign-up and click-wrap agreements;
- the presentation of terms and conditions; and
- how consumers navigate the controls available.

¹⁸⁹ Data Protection Commission (2019) Guidance Note: [What should you be aware of online? Some common online risks.](#)

4.111 We asked platforms if they undertook testing to assess to what extent their controls facilitate engagement on the part of users. We discovered that some platforms do carry out some testing of aspects of their privacy policies and privacy controls but they have not prioritised research to improve consumer control in this area. This finding is at odds with the extensive testing some platforms undertake in respect of other areas of their business. For example, Google ran over 650,000 experiments in 2018 when looking to make improvements to Google Search.¹⁹⁰

The power of default settings

4.112 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 eg pension savings, medical insurance, food consumption etc. 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.

4.113 The Behavioural Insights Team, the NCC and Which? have pointed to the role that defaults have in terms of influencing consumers' choices about sharing data with service providers suggesting that firms could be exploiting behavioural biases to get them to accept privacy-intrusive defaults (so called 'dark patterns').

4.114 There is some evidence that consumers have a preference for privacy-friendly default settings. Research carried out in 2019 by the US Stigler Center at Chicago-Booth University looked at the privacy and security practices of Facebook, Google, Amazon, and other platforms. They found that consumers would often – but not always – prefer and expect default provisions that enhanced their privacy and security.

4.115 We have therefore focussed our analysis on the default settings on platforms, and the controls available to consumers to change them. When referring to default setting, on platforms which purport to allow the consumer to give their active consent, we treat the settings which the consumer is invited to consent to, as the default settings. We turn to this in Chapter 6 and discuss possible interventions to ensure that settings are aligned with consumers' preferences.

Long and complex terms and conditions

4.116 An understanding what data is collected and how it is processed, is imperative for consumers to make an informed choice about whether to share data and

¹⁹⁰ [How Google search works.](#)

with whom. We therefore considered the nature of the terms and conditions and how accessible they were.

4.117 We found that platforms' terms and conditions were long and typically located in several places. As shown in Table 4.5, Bing had the longest set of terms and conditions, totalling 27,000 words, in two separate places on their platform.

Table 4.5: Overview of social media platforms' terms of service and privacy/data policies

	Social Media				Search		
	Facebook	Snapchat	Twitter	Instagram	Google	Bing	Duck DuckGo
Terms/policies visible on front/main page?	Yes	Yes	Yes	Yes	Yes	Yes	No/ Unclear ¹⁹¹
Approx. length in Words	9,300 in 3 parts	13,300 in 2 parts ¹⁹²	11,900 in 3 parts	9,100 in 3 parts ¹⁹³	6,500 ¹⁹⁴	27,000 in 2 parts ¹⁹⁵	2,100 ¹⁹⁶
Clickwrap	Yes	Yes	Yes	Yes	No ^{197 198}	Yes ^{199 200}	N/A ²⁰¹

Source: CMA analysis.

4.118 We do not think it reasonable for platforms to expect that consumers have read and understood all of these, often complex, terms before signing up to use a service.

4.119 Faced with this level of text on multiple platforms that may be used every day, it is not surprising to find that consumer engagement with privacy policies is low. A consistent finding in many surveys is that only a minority of consumers claim always to read privacy policies and academic research has also shown that very few consumers read privacy policies when signing up to an online service.²⁰²

4.120 When explaining the lack of engagement by consumers, a number of surveys and academic research have identified time as the predominant factor behind consumers' disengagement with privacy policies. McDonald and Cranor (2008) estimated that a consumer would have to spend several weeks per year to read the privacy policies on each website they visited. Given that their research was conducted in 2007, this figure is likely to be much larger today given that the time spent on digital media has increased significantly since that research was carried out.²⁰³ At the same time we note that research by the Behavioural Insights Team indicates that telling customers how long a

¹⁹¹ On desktop this is behind a pop-up encouraging the download of DuckDuckGo to Chrome.

¹⁹² Snap Inc. recently updated its Terms of Service and Privacy Policy, the updated policies becoming effective from 30 October 2019.

¹⁹³ Instagram shares Facebook's Data Policy but has its own Terms of Service and Platform Policy.

¹⁹⁴ Google include 4 x short videos in their Privacy page and an alternative pdf page.

¹⁹⁵ Bing figure based on the most relevant parts of Microsoft's 32,000-word privacy and cookie statement (excluding products other than Bing) plus the 15,000-word legal statement.

¹⁹⁶ DDG figure is not directly comparable – the 2,100 words are in its Privacy statement but much of the statement is DDGs commentary on how Search works and how they don't collect information that others do.

¹⁹⁷ The Google signup process breaks out permissions beyond a single 'accept and use' approach.

¹⁹⁸ Note that Google can be used without creating an account, which would not involve a clickwrap agreement.

¹⁹⁹ Creation of a Microsoft account includes a clickwrap agreement to Privacy and cookies statement and Services Agreement. Bing displays a Browsewrap agreement for cookies for non-logged in use.

²⁰⁰ Note that Bing can be used without creating an account, which would not involve a clickwrap agreement.

²⁰¹ Note that it is not possible to create an account with DuckDuckGo so there are no terms and conditions to agree to which could form part of a clickwrap.

²⁰² This finding mirrors what we found in our report the 'Commercial use of consumer data' (2015).

²⁰³ MacDonald, A. and Cranor L.F. (2008). [The Cost of Reading Privacy Policies](#). A Journal of Law and Policy for the Information Society.

privacy policy takes to read can actually then increase the opening rates for privacy policies by 105%.²⁰⁴

4.121 Even when consumers do click onto privacy policies, they do not necessarily engage with the policies in terms of taking the time to read them thoroughly. As noted earlier, the average visit to the Google privacy page was just 47 seconds. We note that some academic research has suggested that consumers may instead use different methods to assess whether or not to provide consent to online platforms.²⁰⁵ This could include the use of proxy assurances, such as online reviews.

4.122 In summary, we found that terms and conditions are unreasonably long for consumers to read before signing up to services.

Navigating to privacy settings

4.123 For consumers to engage with the privacy settings that platforms provide they need to be able to locate them easily. We found that this was more straightforward with search engines than social media platforms, although the format varied according to the device.²⁰⁶ As a minimum both Google and Bing displayed a small privacy link at the foot of each page. Selecting this provided the consumer with access to the available controls.

4.124 All of the social media platforms that we reviewed purported to provide consumers with easy access to their privacy settings, allowing them to adjust these as and when desired. However, we found that for all the social media platforms reviewed, it is not obvious how to access these settings and the settings themselves may only be visible after navigating through multiple menus.

4.125 For example, on the Facebook desktop website, we found that the Settings webpage can only be reached via a drop-down menu which appears only when a small downward arrow symbol in the options ribbon is clicked, as shown in the screenshots below.

Figure 4.2: Drop down menu button circled



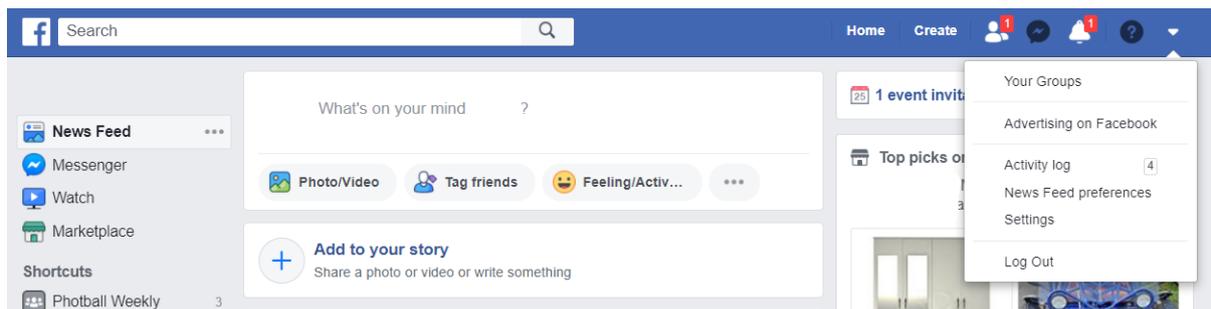
²⁰⁴ Behavioural Insights Team (2019). [The behavioural science of online harm and manipulation, and what to do about it. An exploratory paper to spark ideas and debate.](#)

²⁰⁵ Whitely and Pujadas (2018). [Report on a study of how consumers currently consent to share their financial data with a third party.](#)

²⁰⁶ Bing included a privacy option in a top-of-the-screen menu on mobile and desktop, while Google did this only on mobile.

Source: screenshot, Facebook.

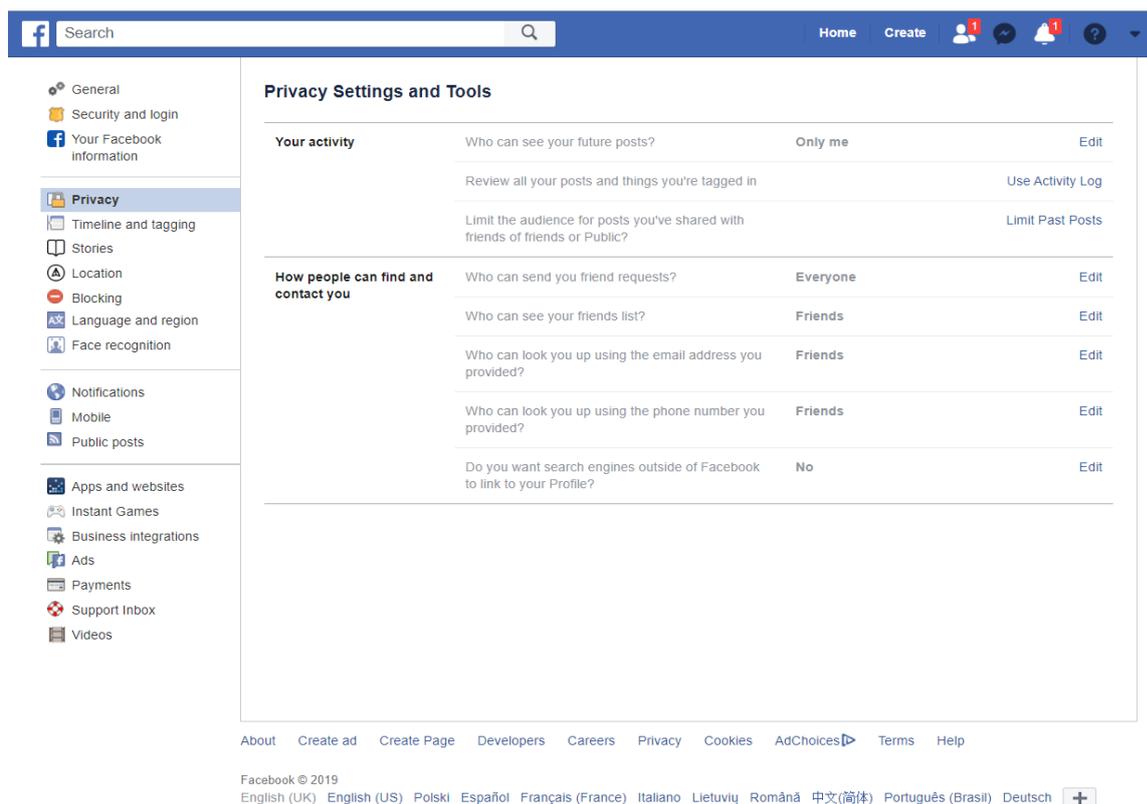
Figure 4.3: Drop down menu displayed when button clicked



Source: screenshot, Facebook.

4.126 In addition, even when a consumer has been able to navigate to the correct menu, they are often presented with multiple other settings, which serves to reduce the prominence of the location of the privacy settings. For example, on Facebook’s Settings Page, consumers are presented with links to 20 different tabs along the left-hand margin of the page, of which ‘Privacy’, leading to Facebook’s Privacy Settings and Tools is one.

Figure 4.4: Privacy Settings and Tools page within Facebook Settings



Source: screenshot, Facebook.

4.127 The effect of making navigation towards privacy settings and the selection of alternative options to the default a multi-stepped and partially obfuscated

process has been described as a ‘dark pattern’.²⁰⁷ By relying on the fact that consumers generally do not change default settings, platforms are able to maximise the number of consumers that will share the maximum amount of their personal information, to the benefit of the platform.

Lack of clarity about the service(s) being offered to consumers

4.128 We found that most platforms promoted the benefits of their service, rather than the nature of the exchange between the platform and the consumer. Clearly, it is important that consumers fully understand this exchange before they can make meaningful choices about whether or how to engage with a particular service. While information about the funding relationship could be found, it was not presented prominently to casual users of platforms and only rarely referred to as part of the account creation process.

4.129 Ofcom research shows that only a little over half of adults are aware that the major search engines offer their services at no monetary cost because they gain consumers’ attention and data,²⁰⁸ which they monetise through the sale of advertising. Starting at platforms’ homepages, we reviewed the way that Google, Bing, Facebook and Twitter explain their services and the nature of their funding models.

4.130 We found that:

- Google and Bing do not describe the functions of their service nor the funding relationship on their front pages. For Google, depending on whether viewing desktop or mobile version, selecting ‘How search works’ provided a series of information screens that included a link to a statement on funding.²⁰⁹ Consumers are also told that their data will be used for ads during the sign-up for an account although the explanation that ads fund the site requires additional clicks to reach it. The position with Bing was mixed. For those without an account, we found some limited information²¹⁰ by navigating from an initial cookies statement through several links and screens.²¹¹ However, during the sign-up for an account, consumers are told just ahead of account creation that the site relies on advertising.

²⁰⁷ For example by the Norwegian Consumer Council in ‘[Deceived by Design](#)’.

²⁰⁸ Ofcom [Online Nation Report 2019](#) – p111.

²⁰⁹ [How Google makes money](#).

²¹⁰ ‘Advertising allows us to provide, support, and improve some of our products.’

²¹¹ From [Microsoft’s privacy information](#), selecting ‘Other Important Privacy information’, then selecting ‘Learn more’ then scrolling down several screens to reach ‘Advertising’.

- Facebook and Twitter both provide ‘tagline’ descriptions of their services on their front pages.²¹² Facebook’s Terms of Service include a statement on how services are funded. Twitter includes the information that ‘Advertising revenue allows us to support and improve our services’ which was reached by scrolling through several screens in the Privacy Policy.²¹³ However, Twitter users are presented with an option to ‘Customize your [their] experience’ during the sign-up process and this includes whether or not to accept personalised ads based on information relating to them collected by Twitter ‘off-platform’. The explanation provided to consumers before making their choice includes the following disclaimer: ‘You will always see ads on Twitter based on your Twitter activity’, which is likely to suggest to consumers that advertising is important to Twitter although, again, this is not stated explicitly.

4.131 In April 2019, the Consumer Protection Cooperation Network, a collection of consumer protection authorities within the European Union, took collective action to secure a range of commitments from Facebook.²¹⁴ The CPC was concerned that Facebook failed to clarify that their main source of revenue was based on the commercial use of consumers’ data in exchange of using Facebook’s service. In response to those concerns Facebook agreed to make clear that it does not charge for its services, but that consumers will be shown commercial content based on their profile and data and will in future explain its business model, including that it makes money by providing targeted advertising to traders using data from consumers’ profiles.

4.132 This is a positive step towards platforms clearly communicating the nature of the bargain to consumers and the basis on which they share data and receive personalised services. However, our initial view is that more can be done, throughout consumers’ use of these platforms, to reinforce that consumers are exchanging their attention and data in return for relevant advertising and free services.

Experience at sign-up and click-wrap agreements

4.133 A common theme in our review was the frequent use of click-wrap agreements. A click-wrap is a form of agreement where the consumer must agree to terms and conditions before they are able to use the service. Agreement forms the basis of the data the platform collects and the

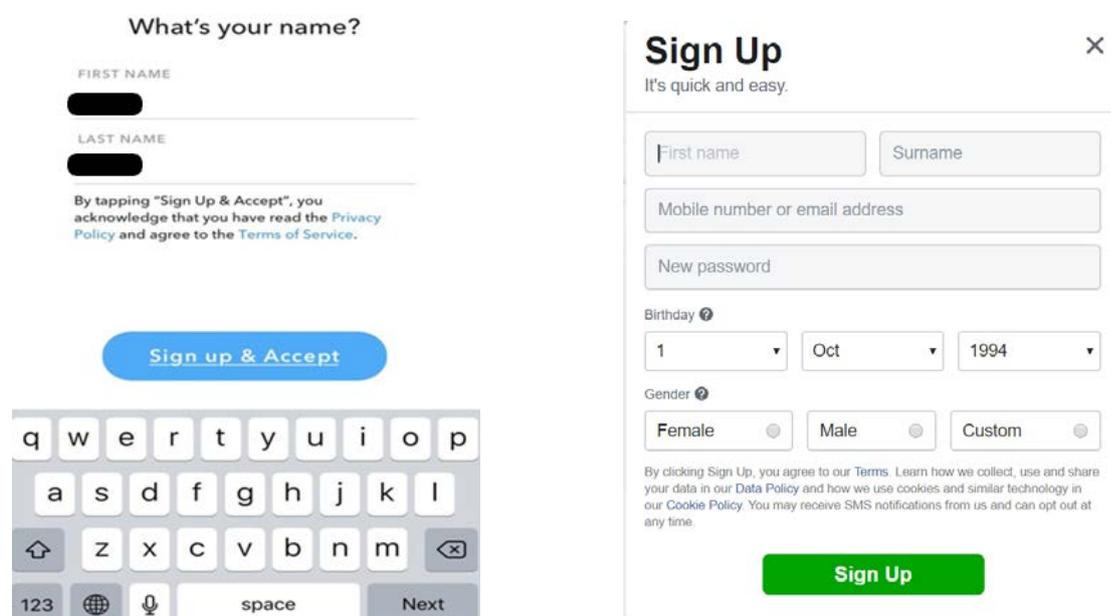
²¹² Facebook: ‘Facebook helps you connect and share with the people in your life’. Twitter: ‘See what’s happening in the world right now. Follow your interests – Hear what people are talking about – Join the conversation’.

²¹³ From [Twitter’s privacy policy](#), scroll down to ‘Additional information we receive about you’ and then ‘Advertisers and Other Ad Partners’.

²¹⁴ [European Commission and consumer authorities Facebook terms press-release](#).

consumers' acceptance of the terms and conditions. Click-wrap agreements are used by all the social media platforms we examined. As noted above, an account is not needed to use search engines so, while we noted some use of click wraps to create associated accounts, we do not discuss that in detail here.

Figure 4.5: Click-wrap agreements on: (left) Facebook's desktop website; and (right) Snapchat



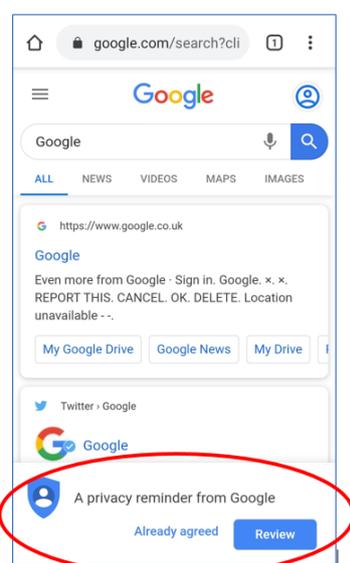
Source: screenshots, Facebook and Snapchat.

- 4.134 Figure 4.5 shows two examples of click-wrap agreements on social media platforms Facebook and Snapchat. For both, the page emphasises the information needed, but a statement appears in a smaller font size below stating that the consumer acknowledges they have read and agreed to the platforms' terms and conditions and other policies (as applicable). For all the platforms considered, policies are available via hyperlinks. However, below this statement a prominent message is displayed in a large blue button, stating 'Sign up' (or an equivalent message) which must be clicked to continue the process.
- 4.135 For platforms which are either only accessible via a mobile app, or most likely to be accessed via a consumer's mobile device, it is even more unlikely a consumer will read the relevant terms of service and privacy policies in full before agreeing to sign up. For these platforms, a consumer would either need to review the platform's terms and privacy policy on the small screen of their mobile device or access them via a separate laptop or desktop computer for review there, whilst in the process of signing up.

Examples of better practice

- 4.136 Our review of a sample of platforms did find elements of better practice. For example, guidance from the ICO on the presentation of privacy information includes discussion of the challenges of engaging consumers, balancing the amount of information provided, and ensuring that it is sufficiently prominent.²¹⁵
- 4.137 Google’s approach to privacy information for logged-out consumers incorporates some of these. A clear ‘Privacy Reminder’ is displayed and, while it was concerning that this can be dismissed or ignored for three days, it does eventually require a response before the consumer can continue. When ‘Review’ is selected, the information provided is in short summaries with links to further detail.

Figure 4.6: Privacy reminder displayed on Google Search



Source: screenshot, Google.

- 4.138 We also noted that it was possible for platforms to adopt what should be helpful techniques such as layering information and simplifying language in ways which buried key information or made it too vague to be helpful.
- 4.139 We have heard from platforms that they work hard to ensure their services are easy to use and consumers are clear about what data they collect and the controls available. For example, Facebook emphasised that their terms and conditions have ‘been specifically designed to be clear’.²¹⁶ As recommended by the European Data Protection Board, they said they adopted a layered

²¹⁵ [ICO general guidance on GDPR – 'how should we draft our privacy information.](#)

²¹⁶ [Facebook’s response to the Statement of Scope](#), para 6.6.

approach to their terms and conditions. Google also argued that they used ‘clear, plain language’ in their terms and conditions and we noted they used explanatory videos and infographics to communicate with its consumers, had periodically reminded consumers they could undertake a privacy check-up.²¹⁷

4.140 We accept that it can be difficult for platforms to communicate a large amount of complex information to consumers, and we have seen some elements of good practice where platforms are clear about the bargain between them and consumers, present content in a visual as well as text format and use plain language. However, we did not find a platform that got all elements right and good practice was not consistent across all platforms. We return to this point in Chapter 6 and consider which elements of good practice can be embedded across all platforms.

4.141 More detail on platforms’ sign-up processes, terms and conditions, and navigation to privacy settings, can be found in Appendix F.

Data protection regulation and competition

4.142 As the preceding discussion makes clear, we strongly support effective regulation that puts consumers in control of their own data. In our study, however, we have heard some concerns that aspects of the design and interpretation of current data protection regulation risks creating competition concerns by unduly favouring the business model of large, vertically-integrated platforms over smaller, non-vertically-integrated publishers.

4.143 There are two aspects to these concerns in digital advertising markets:

- first, that large platforms may use privacy regulation such as GDPR as an excuse not to share data with third parties, thereby consolidating their own market position; and
- second, that the design of GDPR and its interpretation by data protection authorities makes it easier for large platforms to gain consent for data processing than smaller publishers, giving the former a strong competition advantage.

Behaviour of large platforms

4.144 The Furman Review made public that it had received concerns that GDPR was ‘enabling large digital companies to impose unduly strict compliance

²¹⁷ [Google’s response to our Statement of Scope](#), page 15.

duties on smaller firms, serving to reinforce their own dominance in the process'.²¹⁸ Similar concerns have been raised with us in the context of this study.

- 4.145 For example, the Daily Mail Group told us that 'while the GDPR *inter alia* aimed at placing some limits on the way digital platforms collect and process personal data, these platforms turned this regulation to their advantage'²¹⁹ and the News Media Association submitted that publishers have struggled to resist attempts 'by global tech companies to force unfair terms on them through the new consents regime'.²²⁰
- 4.146 We have heard concerns that GDPR is being used as an excuse for vertically integrated firms to restrict rivals' access to data and services, even when these do not obviously raise legitimate concerns under GDPR. We explore a number of these concerns in Chapter 5, including recent concerns that Google has removed time stamp data from bid requests, which may harm publishers' ability to compete effectively in the open display market, and Google's decision to prevent the DoubleClick user IDs being accessed by ad buyers, which may impede advertisers' ability to make use of independent attribution modelling and cross-platform measurement of reach and frequency.

Design and interpretation of GDPR

- 4.147 We have also heard several concerns, particularly from publishers, that elements of the design and interpretation of GDPR have consolidated the strength of large vertically-integrated platforms. For example, Professor Damian Geradin submitted that that GDPR 'effectively strengthened the position of the platforms on digital advertising markets to the detriment of other intermediaries, but also advertisers and publishers',²²¹ while the Daily Mail Group told us that GDPR has given Google the 'freedom to do what they want with data collected through publishers, while threatening not to serve ads to any publishers which do not satisfactorily obtain consumers' consent on their behalf'.²²²
- 4.148 We note that, in principle, the GDPR makes gaining and managing consent within a 'walled garden' to deliver a particular purpose, either within an

²¹⁸ Furman Review (2019), [Unlocking digital competition](#), paragraph 4.42 page 124.

²¹⁹ [DMG Media response to our Statement of Scope](#), page 4.

²²⁰ [News Media Association response to our Statement of Scope](#), page 5.

²²¹ [Prof. Geradin response to our Statement of Scope](#), page 12.

²²² [DMG Media response to our Statement of Scope](#), page 12.

undertaking, or group of undertakings in common control, an easier exercise than sharing data between undertakings to deliver the same purpose.

- 4.149 Large platforms who engage in ‘bundling’ consents, may therefore have an easier and simpler task in purporting to obtain valid consent from consumers to use their data for personalised advertising compared with intermediaries involved in the supply of display advertising in the open market.²²³
- 4.150 This may become more pronounced as the display advertising industry moves to address concerns raised by the ICO about how widely data is shared between firms in the open display market and whether current practices provide consumers the opportunity to provide meaningful consent or have visibility about what happens to their data given the number of firms involved. The ICO highlights in its RTB Update report that currently a single RTB request can result in personal data being processed by hundreds of organisations creating risks for transparency, fair processing, security and data sharing.²²⁴
- 4.151 The effect may be that large platforms such as Google and Facebook may find it easier to get valid consent for processing personal data for use in display advertising and share very little data with third parties, while the open display market involving multiple operators will face greater difficulties in securing consent for using the same data for the same purposes. This will create competitive advantages where data is used within firms compared to situations where the same data is used between firms.
- 4.152 This presents a fundamental challenge to the non-vertically integrated advertising business model used by newspapers and other online publishers. We have reviewed evidence that suggests that prohibiting publishers from serving personalised advertising in the open display market while allowing platforms to continue to offer personalised advertising would have a very significant impact on publishers’ revenue. For example, a recent experiment undertaken by Google indicates that UK publishers earned [between 50% to 65%] less revenue overall when they were unable to sell inventory using personalised advertising but competed against others who could.²²⁵
- 4.153 We recognise that these are challenging issues. We have had constructive interactions with ICO and the Irish DPC and will continue to engage with them

²²³ We note the extent to which consent for different processing can in an individual case be appropriately aggregated or ‘bundled’ into a single consent process whilst remaining ‘valid’ is an important issue, for example recital 43 of the GDPR provides ‘Consent is presumed not to be freely given if it does not allow separate consent to be given to different personal data processing operations despite it being appropriate in the individual case’.

²²⁴ [ICO update report into adtech & RTB](#), 20 June 2019.

²²⁵ This analysis is described in more detail in Appendix E: The role of data.

in the second half of the study to explore potential ways forward that could both address legitimate data protection concerns while preserving effective competition in the open display market. In Chapter 6, we outline some potential ideas for further work in this area.

Initial findings

- 4.154 To get a fair deal from the use of their data, we think consumers need to be fully informed about what data is collected, how it is used, and find it easy to choose to accept or reject this or use alternative platforms that do not rely on their data. We found that there may be an imbalance in the relationship between platforms and consumers.
- 4.155 We note that consumers value relevant advertising and the monetisation of platforms, often through targeted advertising, is key to the provision of free, innovative services, which are a significant benefit for consumers. However, we consider that consumers are only able to judge whether this exchange is fair and meets their needs if they have enough information about how their data is used. Further, they are only able to act on this information if they have full control over their data, allowing them to withhold it and share it if they wish.
- 4.156 Our initial analysis has found that is not always the case. We found that:
- Most platforms we assessed served consumers with personalised advertising by default – we know that consumers are unlikely to change default settings. Recent research also suggests that consumers prefer defaults that enhance their privacy and security.
 - Consumers have some controls over their data, but frequently platforms do not give them full control and some do not allow consumers to turn off personalised advertising.
 - Consumers must engage with unreasonably long, complex, terms and conditions and must make several clicks to access their settings. Understandably, consumers rarely engage with these terms and when they do, they spend very little time reading them. It is unreasonable to expect ordinary consumers to read and understand these terms for every platform that they use.
 - Consumer engagement with privacy policies and controls is low. And platforms do little by the way of systematic testing to measure this or test what would increase consumers' engagement with these policies. Instead

they rely on the fact that very few consumers alter the default settings in order to increase their ability to use personal data.

- 4.157 We recognise that consumers have a range of views and behaviours. There is a minority that want to engage with the detail of how their data is used, while the majority will likely stick with the default arrangements, even if they are inconsistent with their preferences. We want to ensure that any intervention in the market strikes the right balances between this range of preferences – protection for those that need it, and genuine effective choices for those that want to exercise them.
- 4.158 Effective competition in a market is crucial for securing good outcomes for consumers; equally high standards of consumer protection drive competition on things that matter to consumers. For example, we think that protecting consumers, increasing their trust in the market and offering them appropriate controls will increase their engagement with the market. In turn, we would expect this to provide incentives for platforms to design their services with consumers in mind as they will want to promote the benefits of data sharing.
- 4.159 As data protection law and its interpretation develops, we think all authorities and businesses can take steps to ensure that it does not harm consumers by negatively affecting competition, particularly by favouring incumbent firms that are vertically integrated or firms that offer a wide range of services so can obtain consent only once, in contrast to a single service provider.
- 4.160 In Chapter 6 we set out a range of options for possible interventions that could address the harms we have identified.

5. Competition in digital advertising

- Google has market power in search advertising. It has over 90% share of search advertising revenues. Its rivals face significant barriers to attracting advertisers, in addition to the barriers to building share on the consumer side.
- Facebook (including Instagram) accounts for nearly half of display advertising revenues and also has market power. It has a significant data advantage over smaller publishers, which both increases the value of its advertising inventory and creates additional barriers for its competitors to overcome.
- Online publishers such as newspapers sell their inventory through the open display advertising market. This market relies on a complex and opaque chain of intermediaries to auction advertising in real time. This 'ad tech stack' has been consolidating, and Google now holds a strong position at each level of the value chain. This raises two main sets of concerns:
 - In acting simultaneously on behalf of publishers and advertisers, and on its own account, Google faces strong conflicts of interest.
 - Google is able to leverage the market power from its 'owned and operated' advertising inventory into the open display market and make it harder for third-party intermediaries to compete.
- Advertisers and publishers face a lack of transparency over key aspects of market functioning, including the quality and effectiveness of advertising, the way auctions are carried out and prices determined, and the remuneration of intermediaries.
- We are concerned that advertisers and publishers are likely to be facing worse outcomes than in a more competitive market. This would result in advertisers paying higher prices, which feed through to higher consumer prices, or in a reduced ability of publishers to invest in valuable content.

Introduction

- 5.1 This chapter sets out our initial analysis of competition in the digital advertising market. Digital advertising plays a crucial role in funding online content – not just for large platforms such as Google and Facebook, but also for smaller publishers such as news websites and app providers. Consumers will benefit from competition in the digital advertising sector where this drives down costs to advertisers and hence consumers, and where content providers are able to use advertising to fund services that consumers value.
- 5.2 In the first six months of the market study we have sought to understand how digital advertising works and to identify the broad areas where the market might not be working well. We have focused on understanding the extent to

which features of the digital advertising market might exacerbate the concerns about the large platforms' market power and their control over personal data outlined in the previous chapters. We have also sought to understand how programmatic advertising technology works and assess potential concerns about competition between the intermediaries that supply this technology.

5.3 The chapter discusses our initial findings in relation to:

- the characteristics of digital advertising markets, including how advertisers buy digital advertising and the degree of substitution between different forms of advertising;
- search advertising, including Google's position as the largest search advertising provider, and barriers to competition arising from features of the advertising side of the market;
- display advertising, including the market power of Facebook as the largest display advertising provider, and barriers to competition in digital display advertising;
- the open display segment of the display advertising market, including issues relating to lack of transparency and Google's position in the ad tech stack; and
- broader issues arising from the relationship between platforms and publishers.

5.4 We conclude with a summary of our initial findings on this theme and indicate the areas that we expect to focus on in the second half of the study.

Characteristics of digital advertising markets

5.5 This section identifies the broad characteristics of digital advertising markets. It then summarises our initial understanding of how advertisers buy digital advertising and the degree of substitutability between different types of advertising. Finally, it sets out some of the possible implications of a lack of transparency.

Types of digital advertising

5.6 As set out in Chapter 2, there are three main types of digital advertising:

- Display advertising – where advertisers pay online companies to display advertising using a range of advertising content types shown within defined ad units on web pages or mobile apps;

- Search advertising – where advertisers pay online companies to link their company website to a specific search word or phrase so that it appears in relevant search engine results; and
- Classified advertising – where advertisers pay online companies to list specific products or services on a specialised website serving a particular vertical market.

5.7 Within these types of advertising many further distinctions can be made. One of the key distinctions within display advertising is whether advertising content is in video or non-video format. There are also important differences in how display advertising is bought. Advertisers can choose to buy display advertising by making direct deals with media owners or using technology that enables the advertising to be bought via a real-time auction as the consumer opens the relevant web page. This technology can either be provided ‘in-house’ by the digital platform that is also the media owner, such as Google and Facebook, or by intermediaries.

5.8 We did not find that there was a consistent industry definition for what should be included within classified advertising. For the purposes of our study, we noted that there are a broad range of online platforms focused on specific sectors that provide the ability for advertisers to list specific products and services and the functionality for consumers to then make comparisons across these listings. Sectors where classified advertising is common include recruitment, ecommerce, consumer finance, travel, property and cars. We have considered the role of classified advertising previously in our Market Study on Digital Comparison Tools.²²⁶

5.9 Below we have focused on competition in search and display advertising. We have not looked in detail at classified advertising but have rather considered its possible role in providing competition to other forms of digital advertising.

Demand for advertising

Advertiser decision making

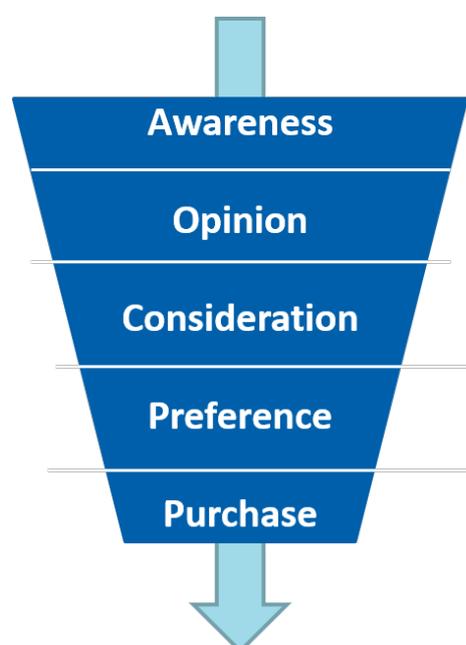
5.10 Decisions made by advertisers choosing digital advertising media tend to be data-driven using measurable indicators. Advertising campaigns are planned by first defining the business objectives and available budget to achieve these

²²⁶ CMA (2017) [Digital comparison tools market study](#). From the consumer’s perspective, classified advertising is very closely associated with digital comparison tools, defined by the CMA previously as ‘digital intermediary services used by consumers to compare and potentially to switch or purchase products or services from a range of businesses’.

objectives. Advertisers, or commonly the media agencies advising them, will then determine a series of metrics, or key performance indicators (KPIs), relating to the outcomes the advertising campaign is hoping to achieve.

- 5.11 Typically, KPIs relate to either the impact of the advertising on brand awareness at one extreme or to driving specific consumer actions (eg sales or enquiries) at the other. Several advertisers and media agencies referred to the 'marketing funnel' or 'purchase funnel', which illustrates the mental steps along the consumer journey to making a purchase of a product or service – from awareness to consideration to purchase. At the top of the funnel, KPIs relate to improving the awareness of consumers that are 'out-of-market' and are not currently aware of the product or service. At the bottom of the funnel, KPIs relate to selling to those customers who are 'in-market', in that they may have expressed some preference for the product or service but have not yet bought it.

Figure 5.1: The purchase funnel



Source: CMA.

- 5.12 Choice of appropriate digital advertising inventory is largely based on optimising the outcomes of advertising on the KPIs being targeted. In order to assess this, advertisers or their agents need to be able to measure outcomes. This means that, in addition to the performance of media in meeting KPIs efficiently (at low-cost), principles of accountability²²⁷ and measurability²²⁸ are

²²⁷ The ability to track and report back on the delivery of marketing investment against delivered media granular targeting.

²²⁸ The ability to report back on the success and effect on a client's business at broad reach awareness campaigns and down to highly targeted performance media buys looking at online sales.

also important in driving advertiser choice. At a high level, advertisers and their agents will choose the media that best meets their specific objectives but may face diminishing returns in each media channel they use.

- 5.13 In some cases, choice of inventory is driven by attributes that are exclusively available within a certain advertising channel. Certain channels may have access to inventory, data or technology that allows for the targeting of specific audiences not available elsewhere. Advertisers can also be motivated by various distinct factors in their choice of platforms, for example commercial agreements or restrictions due to the nature of their products (eg gambling, pharmaceuticals).

Advertiser segmentation and multi-homing

- 5.14 Larger, more sophisticated advertisers often use media agencies and technology tools to purchase inventory from multiple sources. The large five media agencies²²⁹ directly account for approximately one quarter of overall expenditure on digital advertising, though this is higher for display advertising (44%) than for search advertising (13%).²³⁰
- 5.15 Almost all the larger advertisers that responded to our questionnaire use a media agency and highlighted the following benefits of doing so:
- best practice advice and external expertise in designing campaigns and allocating budget across advertising channels;
 - greater economies of scale and scope in resource requirements (manpower, technology and expertise); and
 - preferred trading arrangements, eg volume discounts, negotiated by the agency.
- 5.16 In many cases media agencies are remunerated on a commission basis based on the amount spend by the advertiser (though sometimes on a fixed fee basis and sometimes with performance fees). In general, media agencies exploit their scale to negotiate volume rebates with media owners based on aggregate spend across the media agency. They typically then share these rebates proportionally with their advertising clients. However, media agencies have told us that their ability to negotiate discounts from the large digital advertising platforms (such as Google, Facebook and Amazon) is limited, as the vast majority of inventory is sold by auction and the large platforms tend

²²⁹ Publicis, Interpublic, Dentsu Aegis, Omnicom, WPP.

²³⁰ CMA calculations based on data provided by suppliers and media agencies. See Appendix C for more detail.

not to offer discounts. There are some opportunities to negotiate volume discounts from smaller platforms or media owners, particularly those that work on a fixed-price basis when selling to advertisers.

- 5.17 Larger advertisers told us that the benefits of using multiple platforms to purchase advertising from various sources was that this provided them with greater variety of audience and more flexibility in optimising targeting capability and cost effectiveness, allowing them to better achieve KPIs. Some advertisers also mentioned that a multi-platform approach avoided them being overly reliant on a single platform. Most suggested that while there were some issues in comparing advertising performance across platforms, these were not sufficient to stop them multi-homing.
- 5.18 Smaller, less sophisticated advertisers are less likely to multi-home across platforms or use media agencies, due to the proportionally greater transaction costs in doing so. Instead, they more commonly go directly to Google and Facebook due to their wide reach and their simple self-service interfaces, eg Google Ads or Facebook Ad Manager. This suggests that Google and Facebook may have a competitive advantage in competing for smaller advertisers.
- 5.19 Both Google and Facebook have very long tails of small advertiser clients. Expenditure of the median UK advertiser in 2018 on Google Search was only £[200-300] while the mean was £[16,000-17,000]. Expenditure of the median UK advertiser in 2018 on Facebook was only £[0-100] while the mean was £[500-1000]. Smaller advertisers account for a significant proportion of these platforms' revenues. [15-20]% of Google's 2018 UK search advertising revenues came from advertisers spending less than £100,000 and [30-40] % came from advertisers spending less than £1 million. About half of Facebook's advertising revenue comes from smaller clients.

Supply of advertising inventory

- 5.20 Search advertising is the largest category of digital advertising, with total ad spend of £6.4 billion in 2018. Search advertising is sold predominately by two leading search engines, Bing and Google. Amazon also sells search advertising in the form of Sponsored Brands and Sponsored Products that appear in the search results on its ecommerce platform. However, Amazon's search advertising differs from search advertising provided by search engines as it is only available to sellers on its platform.
- 5.21 Total spend in display advertising was worth £5.1 billion in the UK in 2018. About 60% of expenditure is made on owned and operated platforms, which typically provide social media to consumers. The largest of these platforms is

Facebook, which owns both Facebook.com and Instagram. YouTube is the second largest and is owned by Google. Other platforms selling a smaller amount of display advertising include Snapchat, Twitter, Pinterest, TikTok, Verizon Media, LinkedIn and Amazon. 40% of ad spend is made through intermediaries used by advertisers to access many publishers of smaller scale (for example, suppliers of news media and app providers).

- 5.22 Google and Facebook are active in display advertising both through their owned and operated platforms (Facebook, Instagram, YouTube) and through activities providing various intermediation and technology services, which are discussed in more detail within our assessment of open display advertising.

Substitutability between advertising media

- 5.23 To inform our assessment of competition, we have considered substitutability between digital advertising and other more traditional forms of advertising, such as TV, and distinctions within digital advertising, such as between display, search and classified and, within display, between owned and operated and open channels and between video and non-video advertising.
- 5.24 We sought the views of advertisers and media agencies on how decisions to allocate budget between different types of media are made and what this implied for substitutability. The views of the large media agencies are of particular significance, given their role in acting on behalf of a wide range of different advertising clients and buying across all types of advertising media. While media agencies said that substitutability between different media depends on the nature of each advertiser and the specific objectives of their campaign, both agencies and advertisers identified some areas where substitutability is likely to be more limited.

Between digital advertising and traditional advertising media

- 5.25 At a high level, the ability for advertisers to use data to target specific audiences online distinguishes it substantially from traditional advertising media. In the case of search advertising, advertisers can target audiences that have expressed intent through their search queries, and in display advertising, advertisers can use data gathered by online companies to target specific audiences.
- 5.26 We focused particularly on the extent to which video display advertising is substitutable with TV advertising (including Video on Demand), as this seems to be where similarities between digital advertising and traditional advertising media are greatest. Our discussions with media agencies and with TV media owners suggested that there is limited substitutability between the two,

principally because the greater availability of data in online display advertising means that more specific audiences could be targeted than through TV. This means that advertisers would only find TV advertising to be substitutable with online display in certain circumstances.²³¹ TV advertising can be used for advertising campaigns with broad reach or where the desired audience can be defined by the context (ie TV programme) within which the audience is shown. Our understanding is that TV advertising is also unlikely to be an effective substitute for the long tail of smaller advertisers that use Google and Facebook. This is because TV advertising needs to be bought at some scale and providers tend not to offer such simple self-service interfaces for smaller advertisers as Google or Facebook.

- 5.27 Google and Facebook both submitted to us that they compete with a wide range of media owners, including those supplying traditional advertising media, such as TV. They suggested that the characteristics of the advertising products that are offered by TV and online are becoming closer. The view that TV advertising and online display advertising were likely to converge as TV made greater use of user data was shared by some stakeholders. However, there was not a suggestion that this change was likely to occur imminently.

Between search and display

- 5.28 We noted a consistent view that search and display advertising are unlikely to be substitutable in general. All media agencies and most advertisers told us that search and display advertising are not substitutable, mainly because they perform different roles within the customer purchase journey. Search is intent-based advertising designed to provide immediate answers to those consumers that have already shown interest in buying the product and are at the end of the purchase funnel ('in-market consumers'), whereas display is suitable for raising brand awareness and reaching new audiences that might not yet have shown interest ('out-of-market consumers').
- 5.29 This distinction is reflected in the advertising KPIs that search and display are typically used to target. Almost all respondents suggested each had relative advantages in targeting different KPIs: display is considered more versatile and typically cheaper at driving reach and brand awareness objectives, while search is considered closer to the point of purchase and so better for targeting

²³¹ A minority of advertisers responding to our questionnaire identified TV as the closest substitute to Facebook. However, we noted that these advertisers were producers of fast-moving consumer goods (FMCG) and so likely to be interested in broader audiences and so benefit to a relatively lesser extent from the targeting of specific audiences and to a greater extent from lower TV prices.

actions, conversions or sales. Some respondents mentioned that search and display advertising work well in tandem.

- 5.30 Most advertisers set budgets for search and display advertising independently and do not allocate them interchangeably. Some told us that they might switch budget from display to search when the campaign objectives change. Most advertisers told us that they had not changed their broad approach to allocating budget between search and display over the last few years. However, there were several recent instances mentioned by advertisers of budget being switched from display to search following analysis showing that display was not performing as well in terms of return on investment (ROI) and other KPIs.
- 5.31 The distinction between display and search was to a large extent reflected in the views we received from suppliers of digital advertising inventory and in their internal documents. However, several suppliers of display advertising inventory suggested that they also competed with Google Search, particularly due to its scale across the digital advertising sector as a whole. Google and Facebook identified each other as key competitors for advertising and also pointed to a wider set of online and offline competitors including TV advertisers, video streaming services and Amazon.

Between classified and search advertising

- 5.32 We have heard a consistent view from advertisers that classified advertising, or paid listings on sector-specific websites, is not a substitute for search advertising. Few advertisers that responded to our questionnaire use classified advertising, but those who do all said that classified and general search advertising are not substitutable but are rather used in tandem to achieve advertisers' goals. This is because they target different points of the purchase funnel and can be used to reach different audiences. Search has a higher reach, is cheaper and is best used to achieve conversions for a wider audience that has demonstrated general intent, while classified is more expensive, has lower reach and is used to achieve conversions within a narrower audience that are engaged in actively researching specific products or services.
- 5.33 Notwithstanding these advertiser views, we have considered in more detail later in the chapter the competitive constraint that classified advertising may impose on Google, due to its importance in understanding the extent of Google's market power.

Between video and non-video display advertising

5.34 We received views that suggest limited substitutability between video and non-video advertising. Media agencies told us that decisions between video and non-video advertising were typically likely to be driven by the need to convey the advertiser's message in the best way. These decisions were likely to be taken at an early stage of the planning process, driven by input from the creative agency. This would limit substitutability between video and non-video advertising.

Between owned and operated and open display advertising

5.35 Media agencies told us that similar advertising formats and audiences are available on owned and operated platforms and in open display advertising and that the targeting techniques available are also roughly the same. Consequently, advertisers would largely see these channels as substitutable and decisions would be driven by the ability of the inventory chosen to meet specific KPIs. Media agencies highlighted that there are some contextual differences that may affect consumer engagement with the advertising. Owned and operated platforms such as Facebook showed display advertising in the consumer's news feed while open display advertising would typically be embedded in articles. However, advertisers would largely see owned and operated and open display advertising as substitutable in spite of these differences.

Overall view on substitutability between different media

5.36 The evidence we have gathered so far suggests that the competitive constraint imposed on search and display advertising by other forms of advertising is likely to be limited. Similarly, search and display advertising appear likely to impose little competitive constraint on one another. In our view, it is most appropriate for us to consider competition in search and display advertising separately from one another and from other forms of advertising. In the case of display advertising, it seems likely that a further segmentation between video and non-video advertising would also be appropriate, though we will look at this further during the rest of the study.

Lack of transparency

5.37 For there to be effective competition between suppliers of advertising inventory, advertisers need to be able to make informed choices about the inventory that they buy. Effective competition between intermediaries relies on both advertisers and publishers being able to make informed decisions on the channels through which they buy and sell. However, advertisers and

publishers face a lack of transparency on several aspects of digital advertising needed for them to drive effective competition. For example, there may be a lack of transparency over:

- the quality and effectiveness of advertising;
- how auctions are carried out and how outcomes are determined; and
- how intermediaries acting on advertisers' or publishers' behalf are remunerated.

5.38 In many markets, attempts by suppliers to exploit a lack of transparency will often harm both the demand and the supply sides of the market, as it reduces the trust that customers place in the market. This creates a natural incentive for suppliers to act in a way that preserves their reputation. However, in the case of digital advertising this reputation mechanism may not be sufficient.

5.39 Advertising has some of the characteristics of an 'experience good' in that it is only possible to evaluate its quality and effectiveness after an advert has been shown to an audience.²³² Many advertisers are small and micro-businesses or even individuals. This means they are likely to be relatively unsophisticated in their understanding of the market. The complexity of digital advertising makes it difficult for non-specialist advertisers and publishers to monitor and evaluate the effectiveness of advertising for themselves or make the rational, well-informed choices that drive effective competition. Moreover, it may not always be the case that the intermediaries used by advertisers and publishers to buy and sell inventory or to evaluate market outcomes have the right incentives to act in their customers' best interests or the ability to access the data required to do their job.

5.40 The wide volume of data available in digital advertising goes some way to addressing the need on the part of advertisers to understand the effectiveness of their advertising. That is, in digital advertising buyers and sellers potentially have access to a range of data on everything from the interests of potential customers, the devices they use and their location at any point in time. This provides the ability to target audiences more precisely and so reduce the 'wastage' that is a feature of traditional advertising media such as TV. It

²³² In some respects, it could be argued that advertising has aspects of a 'credence good' in that even after an advert has been shown, it is difficult and costly to measure its effectiveness and the result may be imperfect.

should also mean that the effectiveness of advertising can be monitored and assessed more accurately after it has been shown.²³³

- 5.41 However, the use of this data results in substantial complexity. The sale of digital advertising involves high volumes of transactions in real time with much of the buying and selling being carried out by automated trading programmes. Intermediaries and technology providers perform various functions to make this process work, such as running auctions to aggregate supply and demand, providing and analysing the data required for audience targeting and for verification and measurement of advertising outcomes. The complex way in which digital advertising is sold means that it is more difficult for individual advertisers to make an informed assessment of the effectiveness of advertising outcomes. Data is also unevenly distributed across market participants. This creates scope for outcomes to be misrepresented and for the incentives of advertisers and the intermediaries representing them to be misaligned.
- 5.42 We are aware of academic research which has raised concerns about the measurement of the effectiveness of some online advertising.²³⁴ Other research has also found that in spite of the information about the potential lack of effectiveness of brand search advertising being widely reported in the popular and business press, a majority of advertisers continued with ‘business as usual’, suggesting a substantial inertia of business practices. In addition, the research found that advertisers did not react to the information about the ease and benefits of running experiments to carry out their own testing of the effectiveness of their advertising.²³⁵
- 5.43 Platforms and intermediaries may have the incentive and ability to exploit the asymmetries of information and inertia on the part of advertisers in a number of ways. For instance, platforms with market power can take steps to reduce the degree of transparency in digital advertising markets, or refrain from taking steps to make it more transparent, forcing advertisers to rely on information and metrics provided by those platforms. Asymmetric access to information across suppliers may also create opportunities for exclusionary behaviour on the part of the large advertising platforms. The upshot of all of

²³³ More data about the delivery of advertising to individual consumers and their subsequent behaviour should improve the measurement of the financial return from different forms of online advertising. However, we are aware that some academic research has raised concerns about some of the methods used to measure this effectiveness of online advertising (eg [Customer heterogeneity and paid search effectiveness: a large scale field experiment.](#)), suggesting that there could be an over-reliance on the intermediate metrics that are available.

²³⁴ Blake, T. Nosko, C., and Tadelis, S. (2015) ‘Consumer Heterogeneity and aid search effectiveness: A large scale field experiment.’ *Econometrica*, Vo.83 (1) 1-26.

²³⁵ Rao, J., and Simonov, A. (2018). ‘Firms’ Reactions to Public Information on Business Practices: Case of Search Advertising’.

these issues may be that competition is weakened. These issues are considered in more detail below within each of the digital advertising sectors we have looked at.

Competition in search advertising

5.44 This section sets out our initial findings on competition in search advertising. It covers:

- our understanding of the competitive process, including how advertisers choose between search engines and how search engines may respond to competition;
- evidence on market outcomes in search advertising, including market shares, prices and trends over time;
- the competitive constraints on search advertising from classified advertising or specialised search;
- barriers to entry and expansion; and
- how market power may be exploited.

5.45 Our initial findings are based on the views of advertisers and media agencies and of suppliers of search advertising. We have also sought evidence on market outcomes from suppliers of search advertising.

Competitive process

How search advertising is sold

5.46 In search advertising, advertisers bid to link their company website to specific keywords so that the links appear in relevant search engine results. In the vast majority of cases, advertisers will only pay when a consumer clicks on their link (cost-per-click), though in a small minority of cases they may choose to pay only for impressions.²³⁶

5.47 Search engines use second-price auctions to set prices for advertising inventory, where the price paid by the advertiser that wins the auction (and so the right to display the link in relevant search results) is determined in part by

²³⁶ In other words, whenever the link appears in the search results, regardless of whether the consumer clicks on the link.

the value of the second-highest bid. A key feature of the auctions used in search advertising is that outcomes are also determined by the relevance to the search query of the underlying content of the advertiser website to which the advertising links.²³⁷ Search engines assess relevance directly and use this assessment to weight bids from different advertisers on a real-time, in-auction basis.

- 5.48 These weightings have a direct bearing on whether the advertiser's link is displayed in search engine results at all for any given search and on the cost-per-click that the advertiser pays if the results are displayed. The price paid by the winning advertiser is equivalent to the bid that would have been required to match the second-highest bid, given the relative relevance weighting of the two bids. Higher relevance will mean the search engine places greater weight on the advertiser's bid, with the result that its advertising is more likely to appear in search results and at a lower cost-per-click.
- 5.49 The quality adjustment process is one way that search engines can influence outcomes and prices – we discuss this in more detail later in the chapter. It can also improve relevance, which is a benefit to both consumers and advertisers as it means that search advertising is only shown to audiences that have expressed their interest in the relevant product or service through their search query.

Demand for search advertising

- 5.50 The complexity of the auction mechanism means that buying search advertising is a data-driven process that requires advertisers to make many granular decisions. These decisions include:
- **Which keywords to bid for** – advertisers may often bid on thousands of keywords simultaneously. They choose which keywords to bid for based on their likely relative return on investment. Performance is typically measured in terms of the conversion rate, in other words the extent to which consumers that click on the advertising go on to make a purchase.
 - **How flexible to be with matching to those keywords** – advertisers can also choose from different matching functions that determine how these keywords are matched to consumer search queries. At one extreme, advertisers can specify that the keyword has to exactly match the search query, for example Google's 'Exact Match' function. At the other extreme, the advertiser can rely on algorithmic matching provided by the search

²³⁷ Both Google and Bing both refer to the 'quality' of the consumer experience when describing the relevance of search advertising.

engine which links the keyword to similar search queries, for example Google's 'Broad Match' function.

- **Which consumers to target** – advertisers often use data to target search advertising on specific audiences (for example by demographic or depending on whether they are an existing customer). Targeting more specific audiences can increase return on investment substantially and provide additional segmentations across which relative performance can be measured.
- **How much to bid** – in addition to choosing which keywords to bid for, advertisers also choose how much to bid for each keyword. As outcomes are determined by second-price auction, an advertiser's bid does not directly determine how much it pays, but rather affects its ranking in the auction and consequently its ranking in the search results (and indeed whether it appears at all). Advertisers may delegate some of this decision-making to the search engine by using automated bidding tools. These tools automatically adjust an advertiser's bid to optimise performance within their budget.

5.51 In approaching these decisions, advertisers attempt to optimise their expenditure on search advertising continuously over time, by setting their bids to allocate their expenditure to the keywords, search engines and target audiences where their return on investment is greatest. Often, they will use technology tools such as Google's SA360 to automate this process. This provides the mechanism for competition between search engines to occur. If the return on investment from bidding for keywords on one search engine is greater than another, eg because the conversion rate is higher or the cost-per-click lower, advertisers will divert expenditure to bidding for keywords on that search engine.

How search engines compete for advertisers

5.52 Search engines are two-sided platforms that compete for both consumers and advertisers. Consequently, the main way in which search engines compete for advertisers is indirect, ie through attracting consumer attention. Search engines attract consumer attention through offering high-quality, relevant search results and then monetise this attention by offering the opportunity for advertisers to incorporate relevant advertising into these results.

5.53 Search engines also compete more directly for advertisers, through various mechanisms. They compete through the quality of interface offered to advertisers and through the use of data to offer more granular audience targeting and the measurement of advertising outcomes. As search

advertising is targeted on keywords which relate to specific consumer search queries, audience targeting is incrementally less valuable than in display advertising. However, most advertisers and media agencies we contacted did use audience targeting to some extent. As search advertising is often used for achieving conversions, measurement of outcomes and attribution analysis is particularly important.²³⁸

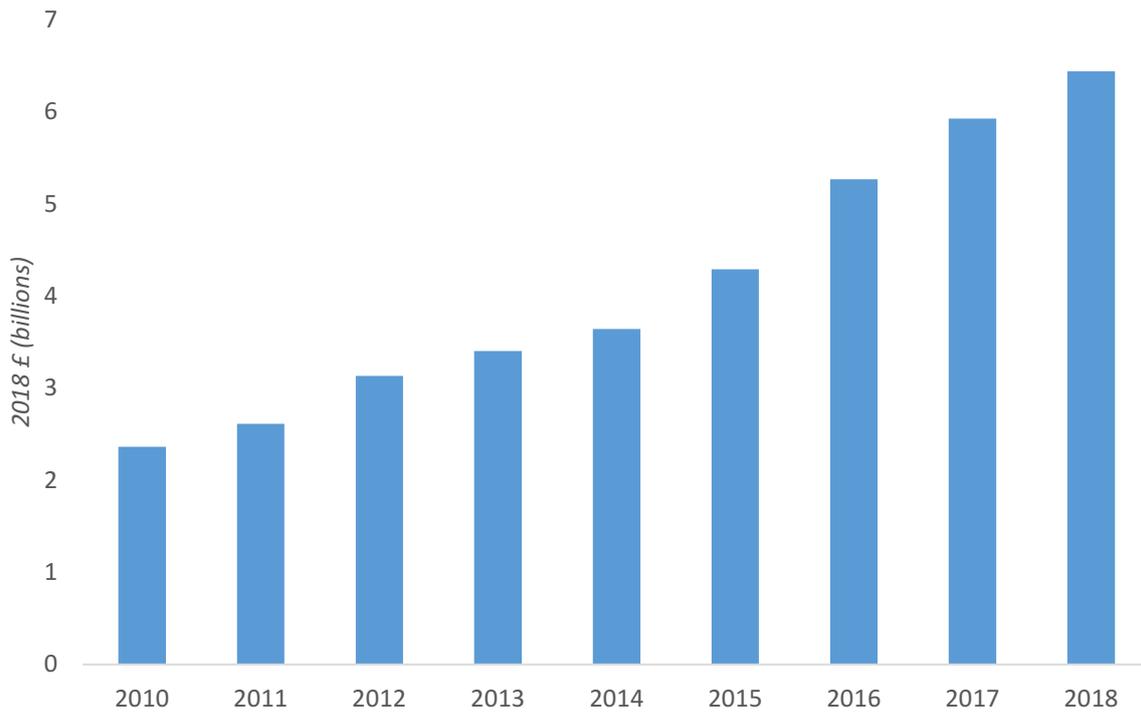
- 5.54 While search engines use auctions rather than setting prices directly, we have identified various levers at their disposal to directly and indirectly influence advertising prices and conversion rates. Search engines determine the maximum number of ads that can be shown per search query, how these ads are presented, the way in which relevance is assessed, the level of reserve prices, and the way in which matching algorithms work. In some cases, they also determine advertisers' optimum bidding strategy on their behalf. These levers collectively determine the extent to which advertising is shown at the expense of organic search results, while influencing which adverts are shown and the prices advertisers pay.

Market outcomes in search advertising

- 5.55 In addition to shares of consumer attention and search traffic described in Chapter 3, we have looked at evidence on various market outcomes in search advertising. This evidence and the supporting data are set out in more detail in Appendix C on market outcomes.
- 5.56 Figure 5.2 below shows that UK search advertising revenues have grown steadily over the last few years. Google's revenues grew from £2.3 billion in 2010 to £6.0 billion in 2018, reflecting a compound annual growth rate of around 12%. Google has continued to account for more than 90% of search advertising revenues, an order of magnitude greater than its next closest rival, Bing. In our view this evidence strongly suggests that Google benefits from market power, particularly when interpreted in light of the scale advantages discussed in Chapter 3 and further below.

²³⁸ See Appendix E for an explanation of advertising verification, measurement and attribution.

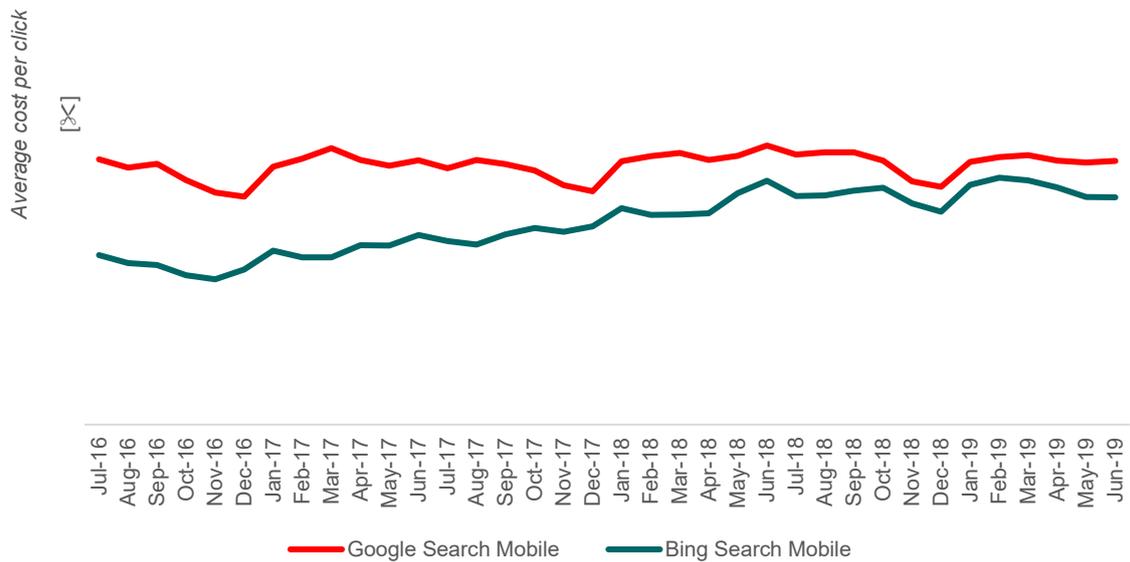
Figure 5.2: Estimated UK search advertising revenues by year (2010-2018)



Source: CMA analysis of parties' data.

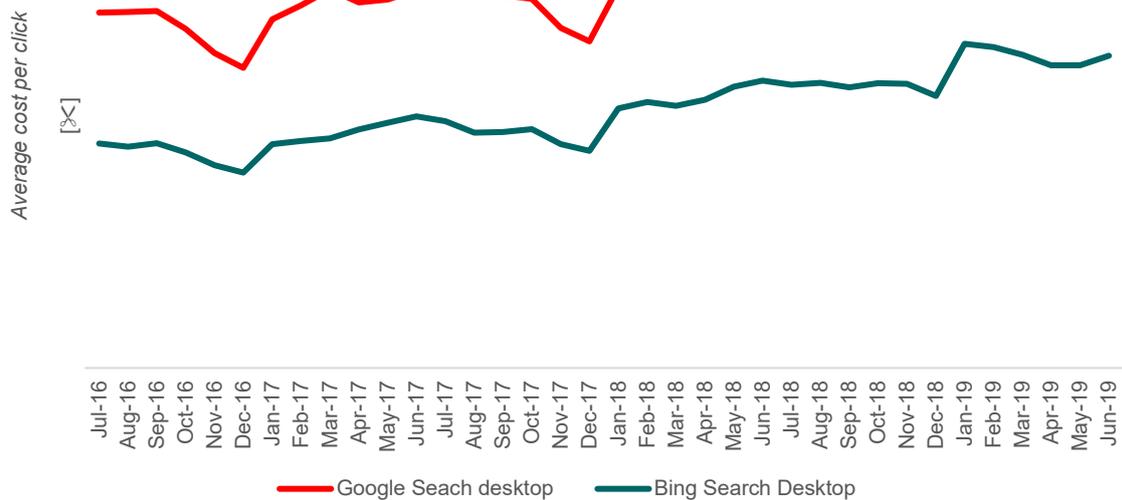
5.57 We have also looked at evidence from Google and Bing on average prices, or cost-per-click, from July 2016 to June 2019, split between prices charged for searches on desktop and prices charged for searches on mobile devices. This is shown in Figures 5.3 and 5.4 below. Average desktop prices are higher than mobile, perhaps because consumers are more likely to purchase higher value items or are more likely to complete purchases when using desktops.

Figure 5.3: Monthly average cost per click for mobile search advertising from July 2016 to May 2019



Source: CMA analysis of parties' data.

Figure 5.4: Monthly average cost per click for desktop search advertising from July 2016 to May 2019



Source: CMA analysis of parties' data.

5.58 We note that Google has achieved somewhat higher prices on average than Bing over the period. This is consistent with feedback from advertisers, most

of whom suggested that Google tended to have higher prices than Bing for similar keywords. However, at this stage we interpret the evidence on relative pricing with some caution. In particular, we note that relative prices are likely to be driven by composition effects, notably:

- differences in search terms entered by consumers on either search engine;
- differences in conversion rates, either reflecting differences in the users of either search engine or differences in the ability of either search engine to target and track attribution; and
- differences in the population of advertisers using either platform, for example smaller advertisers may be more likely to single-home on Google.

5.59 We are not able, therefore, to conclude on the basis of this data alone whether Google has higher prices than Bing on a like-for-like basis. We will consider in the second half of the study whether we can produce a more like-for-like comparison of prices.

5.60 Finally, our analysis of market outcomes shows that there has been a substantial shift over time from advertising delivered to consumers on desktop to advertising delivered to consumers on mobile. This is consistent with other market reports we have seen²³⁹ and reflects the underlying increased usage of mobile devices. We note that this shift may benefit Google over its rivals, due to Google's default status on nearly all mobile devices. The continuation of this trend would mean that Google is able to gain an increasing overall share of search queries and advertising revenues as well as gain an advantage over rivals from the data it can gather from mobile devices.

Competitive constraint from specialised search

5.61 Google submitted to us that it faces strong competition from a range of different 'vertical search services' (ie 'specialised search services') who specialise in paid listings in particular sectors, eg Amazon in retail and Booking Holdings in travel.²⁴⁰ Google told us that because consumers search (offline and online) for particular things, different competitive constraints are relevant to different query types. It said that [a small proportion] of search queries generate most of Google's search revenues. These are commercial queries (eg shopping, credit cards, finance, travel, hotels, plumbers etc).

²³⁹ For example, [IAB UK & PwC Digital Adspend Study 2018](#).

²⁴⁰ These largely correspond to what we have described as 'classified online advertising' above.

Specialised search services exist in each major commercial content category and Google competes with these services. Google also said that the pressure on it to innovate derives not just from competition in one category alone, but from the aggregate effect of competition across all categories.

- 5.62 However, the evidence we have reviewed so far suggests that, with the possible exception of Amazon, these specialised search providers do not impose a strong competitive constraint on Google, even in the sectors within which they specialise.
- 5.63 As noted above, the advertisers we have contacted so far during the study have been unanimous in their view that paid listings on classified sites are not substitutable for general search as the two are used for different purposes.
- 5.64 Further, we note that this issue has been looked at before in the context of the European Commission's Google Shopping investigation, which considered whether specialised search services were in the same market as general search.²⁴¹ It found the markets to be distinct for a range of reasons. Most notably, the Commission found that the two types of service operate as complements rather than substitutes as a substantial number of consumers access specialised search via general search rather than accessing them independently.
- 5.65 We note evidence that in most sectors it appears that the relationship between general search and specialised search services tends to be more vertical than horizontal in nature. In other words, rather than providing an alternative for consumers and advertisers using specialised search providers, it appears to a large extent that Google's general search performs the function of a 'gatekeeper', through which consumers access specialised search. Google is a key source of consumer traffic for all the specialised search providers we have identified. This was highlighted by advertisers that responded to our questionnaire and is supported by Comscore data, which suggests (for desktop only) that a large proportion of traffic arriving on vertical search websites comes directly from Google websites.²⁴²
- 5.66 In turn, it appears that a large proportion of Google's revenues in sectors where vertical search providers are present comes from the vertical search providers themselves, rather than from advertisers choosing to advertise on general search as an alternative to vertical search.²⁴³

²⁴¹ European Commission Decision AT39740 Google Search (Shopping), June 2017, paragraphs 166 to 177.

²⁴² See Appendix C. Comscore MMX MP, Desktop only, Desktop aged 6+, August 2019, UK.

²⁴³ For example, we note that Google's largest five customers of search advertising are all specialised search providers (Amazon, Booking, Expedia, Money Supermarket, Comparethemarket.com).

- 5.67 We note that some specialised search providers may be becoming more successful in generating their own traffic through promoting their brands and mobile apps, particularly as mobile usage has increased. However, in most cases they still appear to be heavily reliant on Google. For example, Booking Holdings has strong brands (Booking.com, Priceline, Kayak) and a large share of the online travel agency (OTA) market but still spends about half of its total global operating costs on performance marketing (primarily search advertising with Google).²⁴⁴
- 5.68 One notable possible exception to this is retail, where the evidence that Google competes directly with Amazon is more compelling. While Google is an important source of consumer traffic to Amazon (Amazon being one of Google's largest search advertising customers) we note survey evidence that suggests Amazon is the preferred consumer starting point for product search.²⁴⁵ In addition, we note that Amazon is likely to have important competitive advantages from its broader role as an ecommerce channel (for example from its physical distribution network, its Prime membership and its first-party data built on its consumers' shopping histories). The value of Amazon's first-party data was stressed to us by media agencies and several advertisers from the retail sector.
- 5.69 However, even if Amazon imposes some competitive constraint on Google in relation to retail search advertising, this would only apply to advertising representing a minority of Google's revenues in search. From IAB 2018,²⁴⁶ we note that 18% of search revenues are derived from the retail sector. Amazon may compete to some extent in other sectors defined in the IAB report, such as consumer electronics. However, collectively it appears unlikely that Amazon competes with Google in sectors exceeding one third of Google's search advertising revenues.²⁴⁷

Barriers to entry and expansion

- 5.70 In order to sell search advertising, potential entrants need to be successful in attracting search queries from consumers. This means that the barriers to entry on the consumer side of the market, derived from the need for access to

²⁴⁴ Booking Holdings, Form 10K 2018.

²⁴⁵ For example, a BloomReach Survey, '[State of Amazon 2016](#)', September 23, 2016, found that Amazon is the preferred starting point for product search. The survey sought to determine where consumers begin their product searches and found that 55% of respondents reported Amazon, while 28% reported search engines and 16% reported retailers.

²⁴⁶ [IAB UK & PwC Digital Adspend Study 2018](#).

²⁴⁷ The IAB report shows that the following sectors account for 36.5% of paid search revenues: Retail, Consumer electronics, Computers & software, Beauty, grooming & personal care, Toys & video games, Consumer goods. While Amazon is likely to compete in each of these categories to some extent, it is unlikely to impose a competitive constraint across all search terms in these categories.

a search index, from economies of scale and scope in click-and-query data and from defaults as described in Chapter 3, are naturally also relevant to potential entrants wanting to supply search advertising.

- 5.71 In addition to these advantages from the consumer side of the market, Google appears to derive additional advantages on the advertising side of the market which create further barriers to entry. These advantages come from single-homing by (particularly smaller) advertisers, Google's better data for targeting and better synchronisation with Google Analytics, and Google's ability to influence advertiser behaviour through its ownership of the search intermediation tool SA360.
- 5.72 Transaction costs faced by advertisers in using multiple search engines appear likely to benefit Google and create a barrier to entry for smaller rivals. Most of the larger advertisers we contacted did not suggest there was a difficulty in multi-homing across multiple search engines and used tools such as SA360, or those provided by third parties such as Marin and Kenshoo, to do so. However, a minority of the larger advertisers who responded to our questionnaire choose to single-home as Google had a sufficiently large market share and reach to meet all their needs. We understand that many smaller advertisers choose to single-home, using the simple interface provided by Google Ads and benefiting from its broad reach. We intend to investigate this issue further in the second half of the study.
- 5.73 Access to demand from a significant proportion of advertisers that single-home may also provide Google with greater advertiser density, allowing it to run more competitive auctions that generate higher prices and more relevant ads. This is likely to be of particular benefit for more specific keywords relating to the 'tail' of less common search queries. These keywords (which for example might include more detail on product characteristics desired by the consumer) tend to be preferred by advertisers as they can allow for more specific targeting, resulting in higher conversion rates and returns on investment.
- 5.74 Google's extensive first-party data is also likely to have substantial advantage over smaller rivals, creating a barrier to entry for potential rivals. Google's first-party data means that advertisers can target search advertising on particular audiences (and have confidence in the composition of those audiences), allowing them to improve performance. Several advertisers highlighted Google's first-party data as an advantage over Bing.
- 5.75 Advertisers also told us that Google had an advantage from better synchronisation with Google Analytics, allowing for better measurement and attribution of advertising performance than Bing. Microsoft told us that Google

had additional advantages in measuring effectiveness from the prevalence of its online Tags and from its mobile data that allowed it to measure offline conversion in the form of store visits (in addition to deals it had negotiated with third parties such as credit card providers). It pointed to publicly available research indicating that Google tags (ie Google Analytics, Google Ads and Floodlight tags) cover about 88% of UK websites, whereas Microsoft's tags cover less than 1% of UK websites. Given the importance of measured performance in driving advertisers' decisions on how to allocate expenditure in search advertising, in our view it is highly likely that these advantages would create a barrier to entry for potential rivals.

- 5.76 In addition to these advantages, Microsoft further explained that Google Search also benefits from the relative interoperability between SA360, a tool used by many advertisers to automatically optimise expenditure across keywords and platforms, and Google Search compared to that between SA360 and Bing. Microsoft has stated that Google did this in two ways:
- Data on bids from Google Search is fed back to SA360 and combined with conversion data in real time, while bidding data from Bing comes back only periodically. This can make it appear to advertisers that Google Search is performing better on SA360 because conversion information for Google appears before Bing and automatic budget allocation rules will correspondingly allocate it more budget.
 - New functionalities of Google Ads are introduced on SA360 quickly while Bing has often had to wait significant periods of time for innovations in the functionality of its search engine to be adopted by SA360.
- 5.77 We intend to investigate Microsoft's concerns more fully in the latter part of the study.

Exploitation of market power

- 5.78 Search advertising prices are set by auction, based on the bids submitted by advertisers, rather than being set directly by the search engine. This raises an important question as to whether a search platform with market power has the ability to influence the prices that advertisers pay. Our current understanding is that search engines have several levers through which they can influence market outcomes such as the quantity of advertising and advertising prices.
- 5.79 A profit-maximising search engine has the incentive to maximise the revenues it earns from search advertising. It can earn greater revenues both by designing its auctions to more effectively extract economic rents from advertisers, driving higher advertising prices, and by selling more advertising

at the expense of organic search results. The market power of Google's search engine could allow it to use either of these mechanisms to increase search revenues.

- 5.80 Higher advertising costs may be passed on to consumers through the impact advertising costs have on competition in downstream markets. Higher 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. Alternatively, where search advertising is treated by advertisers as a fixed cost required to enter the market, higher search advertising prices may raise barriers to entry for smaller rivals unable to afford access to search advertising. This will also indirectly raise downstream prices to final customers.
- 5.81 The following paragraphs explain ways in which Google could in principle apply its various levers to exploit market power. We have not as yet established to what extent these levers are employed in practice and will consider this in the second half of the study.

Advertising capacity and presentation

- 5.82 Google determines the overall limit on the number of advertisements that can appear in search results and how these advertisements are presented alongside organic search results.²⁴⁸ It could exploit market power by crowding out organic search results with more advertisements that are shown more prominently, or in a way that makes them less distinguishable from organic search results. We note some evidence that Google may have increased the number of ads appearing in certain search results over time.²⁴⁹

Reduced weighting on relevance compared to bid levels

- 5.83 Google could also affect the overall volume of advertising shown at the expense of organic search results through reducing the weight it places on the relevance of advertisements in its auctions compared to the level of bids. By setting lower Ad Rank Thresholds (the thresholds for the relevance required for advertising links to appear in the results) for some auctions,²⁵⁰ Google

²⁴⁸ Google currently allows a maximum of eight advertisements to appear on every SERP, four at the top of the page and four on the bottom of the page. These limits and the way search advertisements are presented have changed over time.

²⁴⁹ For example, Google ceased showing text ads in the sidebar on desktop and increased the limit on the number of ads appearing for 'highly commercial queries' from three to four in 2016. See [Searchengineland.com: 'FAQ: All About The Changes To Google's Ad Layout On Desktop Search Results'](https://searchengineland.com/faq-all-about-the-changes-to-google-s-ad-layout-on-desktop-search-results).

²⁵⁰ Equivalently, Google could increase the quality score applied to bids.

could monetise its search results to a greater extent at the expense of organic search results.

Setting of reserve prices and quality adjustments to extract rent

- 5.84 Google's Ad Rank Threshold also acts as a reserve price, directly determining the price paid by advertisers when only one bid exceeds the threshold. This is the case in [the majority] of Google's auctions, representing [a material proportion] of its revenues. In these cases, by setting a higher Ad Rank Threshold²⁵¹ Google could increase the price paid by advertisers, thus extracting more economic rents.²⁵²
- 5.85 We note that Google sets the Ad Rank dynamically across each individual auction. This could allow it to set higher Ad Rank thresholds in auctions where only one bid is likely to exceed the threshold and lower Ad Rank thresholds in auctions where multiple bids are likely to exceed the threshold (in these cases allowing it to show more advertising at the expense of organic search as described above).
- 5.86 In auctions where there are multiple bidders that exceed the Ad Rank Threshold, the price paid by the winning bidder is determined by a function of the value of the second-highest bid and the quality adjustments Google makes to either bid. This may provide Google with flexibility to increase the price paid by the winning bidder, either by increasing the quality adjustment applied to the second bid or by reducing the quality adjustment applied to the first bid.

Matching algorithms and automated bidding

- 5.87 In addition to the quality adjustment process, there appear to be other mechanisms where there may be scope for Google to exploit market power. For example, we note that matching algorithms are used to match keywords to search queries and that Google Ads runs automated bidding to allocate advertiser budgets on their behalf. These mechanisms could give Google some flexibility in allocating advertiser bids across auctions and Google may face conflicts of interest in doing so. For instance, it may have the incentive to match keywords very broadly, potentially resulting in more advertising being shown in search results where it is less relevant to the user query.²⁵³ Google could also allocate bids across auctions in a way that raises prices for other

²⁵¹ But below the advertiser's quality adjusted bid (Ad Rank).

²⁵² Equivalently, Google could lower the quality adjustment applied to bids.

²⁵³ [AdHawk Blog: 7 Default Settings in AdWords That Lower Your ROI.](#)

advertisers, taking advantage of the second-price auction format.²⁵⁴ These mechanisms may allow it to better extract economic rents from advertisers.

Leveraging of market power into other markets

- 5.88 Finally, it appears that Google may be able to exploit its market power in general search by leveraging it into other related services. This includes specialised search. Google has launched downstream specialised search services, such as Google Shopping and Google Flights. Search advertising is a key source of traffic for downstream ‘specialised search’ markets, such as price comparison sites or online travel agents. Google has the potential to exploit this through self-preferencing in how specialised search is presented alongside general search results or through diverting search engine traffic away from rivals. We note that the European Commission found Google to have abused its dominant position in general search, through self-preferencing of Google Shopping. One online travel comparison site raised concerns in response to our statement of scope about how changes to Google’s search algorithm have reduced its visibility in organic search results.
- 5.89 Google may also be able to leverage its market power in search into the open display market. Smaller advertisers often choose to single-home to minimise transaction costs. Advertisers that wish to single-home have a strong incentive to use Google Ads as they can use it to access Google search advertising and YouTube inventory as well as the open display market. This is discussed in more detail later in the chapter.

Evidence of exploitation of market power

- 5.90 As Google has held its very high market share in search advertising in the UK for at least the last decade, there is no recent direct evidence of the impact of Google’s market power on market outcomes relative to the counterfactual of a more competitive market. That said, our analysis of Google’s profitability is consistent with exploitation of market power. Google’s global returns on capital in search are likely to be well over 40%, well above its cost of capital.²⁵⁵ We also note that some advertisers have suggested that prices on Google have risen over time (especially in relation to branded terms). Others have told us that the monetisation of Google’s search results has increased

²⁵⁴ Google could allocate an advertiser’s bid to an auction where it becomes the second-highest bid. While this does not directly affect this advertiser as they do not win the auction, it could raise the price another advertiser pays.

²⁵⁵ See Appendix D for more detailed analysis of Google’s profitability.

over time as a greater volume of advertising is shown at the expense of organic search, particularly for searches on mobile devices.

- 5.91 The lack of transparency around Google's auction processes makes it very difficult for market participants to observe whether Google is exploiting market power in the ways indicated above. This makes it more difficult for them to respond to Google's behaviour. Several advertisers have raised concerns about the transparency of Google's search advertising auctions. Some advertisers have also expressed the concern that prices to advertise on their own brand names have risen substantially but that there is no transparency as to why this is the case. Others have suggested that Google may have incentives to penalise rivals that it competes with elsewhere, for example in specialised search, or publishers that it competes with in the sale of display advertising.

Initial findings on search advertising

- 5.92 The evidence we have reviewed so far suggests that Google has substantial market power in search advertising.
- 5.93 Google has had very high and stable shares of supply in search advertising in the UK of over 90% for at least the last ten years.
- 5.94 The evidence we have reviewed so far does not suggest that many specialised search providers impose a strong competitive constraint on Google, even in the sectors within which they specialise. One notable possible exception to this is retail, where the evidence that Google competes directly with Amazon is more compelling. However, even if Amazon imposes some competitive constraint on Google, this would only apply to a minority of Google's revenues in search.
- 5.95 Search advertising is subject to significant barriers to entry that limit the actual or potential competitive constraint faced by Google. Barriers to entry on the consumer side of the market, derived from the need to create a search index, from economies of scale and scope in click-and-query data and from defaults as described in Chapter 3, also apply to potential entrants wanting to supply search advertising.
- 5.96 In addition to these advantages from the consumer side of the market, Google appears to derive additional advantages on the advertising side of the market which create further barriers to entry. These advantages come from single-homing by (particularly smaller) advertisers, Google's better first-party data for targeting and attribution, better synchronisation with Google Analytics and

Google's ability to influence advertiser behaviour through its ownership of the search intermediation tool SA360.

- 5.97 The market power of Google's search engine could allow it to exploit market power both by designing its auctions to more effectively extract economic rents from advertisers, driving higher advertising prices, and by selling more advertising at the expense of organic search results. Higher advertising costs are likely to be passed on to advertisers' final customers through the impact these costs have on competition in the downstream markets where advertisers compete.
- 5.98 We think that any interventions to remedy this situation would need to focus primarily on addressing the sources of Google's market power on the consumer side of the market, but there is also a case for intervention in relation to features of the advertising market that reinforce Google's market power. We consider the potential interventions in the next chapter.

Competition in display advertising

- 5.99 This section sets out our initial findings on competition in display advertising. We consider competition between suppliers of display advertising at a high level, including between owned and operated platforms and publishers who sell via the open display market. Issues specific to the open display advertising sector are covered in the following section.
- 5.100 This section covers:
- our understanding of the competitive process, including how advertising is sold, how advertisers choose between suppliers of display advertising and how suppliers compete;
 - evidence on market outcomes in display advertising, including market shares, prices and trends over time;
 - closeness of competition between platforms in display advertising;
 - transparency of advertising outcomes;
 - barriers to entry and expansion; and
 - how market power may be exploited.

Competitive process

How display advertising is sold

- 5.101 At a high level, the display advertising sector can be segmented into two channels: owned and operated platforms and the open display market. Owned and operated platforms typically provide social media, which they use to attract consumer attention and create advertising inventory, which they sell to advertisers using proprietary interfaces. They gather data on these consumers to enable advertisers to target specific audiences.
- 5.102 In the open display market, many publishers of smaller scale (for example, suppliers of news media and app providers) also attract consumer attention through providing content. However, they sell advertising inventory in an open market in competition with other publishers using a complex chain of intermediaries, who often run real-time auctions and typically supply the data used for audience targeting. The open display market is described in more detail later in the chapter.
- 5.103 In both these channels advertising is either sold using technology to allocate inventory using real-time auctions, or through direct deals. Direct deals can either be hosted using the same programmatic advertising technology used to run auctions or alternatively can be organised directly between the advertiser and publisher. Stakeholders have told us that the vast majority of display advertising inventory is now sold using programmatic technology.
- 5.104 Many of the auctions used in programmatic advertising are pure price-based auctions, where inventory is sold to the highest bidder. Some social media platforms, including Facebook, will also adjust the ranking of bids according to relevance.

Demand for display advertising

- 5.105 Advertiser choice in display advertising is primarily driven by the objective of targeting increased brand awareness for specific audiences. KPIs for display advertising tend to be focused on the reach achieved with a specific audience group. This means that the use of data to identify target audiences is key for display advertising.
- 5.106 Media agencies and advertisers have told us that advertisers are generally agnostic in their choice across different platforms that sell display advertising and between using owned and operated platforms and the open display market. Rather, decisions are made primarily based on effectiveness of meeting KPIs against cost. However, we understand that some smaller

advertisers that do not use media agencies may prefer to rely solely on Google or Facebook's ad buying platforms.

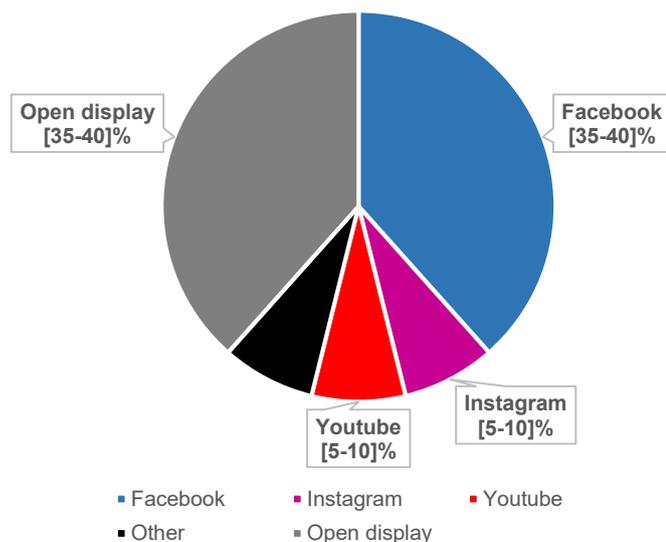
How suppliers of display advertising compete for advertisers

- 5.107 Compared to search advertising, in which advertising is shown when relevant to a specific search query, in display advertising user data plays a much more significant role in providing the ability for advertisers to target specific audiences. Consequently, access to valuable user data that enables more granular audience targeting is a key dimension of competition. In addition, suppliers can compete directly for advertisers through the quality of the advertising interface and associated technology.
- 5.108 Suppliers of display advertising also have flexibility in the extent to which they monetise consumer attention through the creation of advertising inventory. They have direct control over the quantity of advertising shown or 'ad load'. Suppliers of display advertising face a trade-off in deciding on how much inventory to create. A higher 'ad load' may mean greater immediate financial reward. However, this can come at the expense of the consumer experience to some extent. Unlike search advertising, which is shown in response to specific consumer queries, display advertising is typically unwanted by consumers. This suggests there may be a greater imperative for publishers of display advertising to limit the quantity of advertising shown so as not to harm the consumer experience.

Market outcomes in display advertising

- 5.109 In addition to the market outcomes on the consumer side in social media described in Chapter 3, we have looked at evidence on various market outcomes in display advertising. This evidence and the supporting data are set out in more detail in Appendix C on market outcomes.
- 5.110 The fragmented nature of the open display market and the fact that advertising is sold via intermediaries makes the estimation of overall expenditure shares in display advertising difficult. Our preliminary estimates, shown in Figure 5.5, suggest that Facebook (including Instagram) is by far the largest supplier, with a share of [40-50%] of advertising expenditure. Facebook has considerably greater scale than the second largest supplier, YouTube, which has [5-10%] of advertising expenditure. In our view this evidence suggests that Facebook is likely to have market power.

Figure 5.5: Shares of expenditure in the UK display advertising (2018)

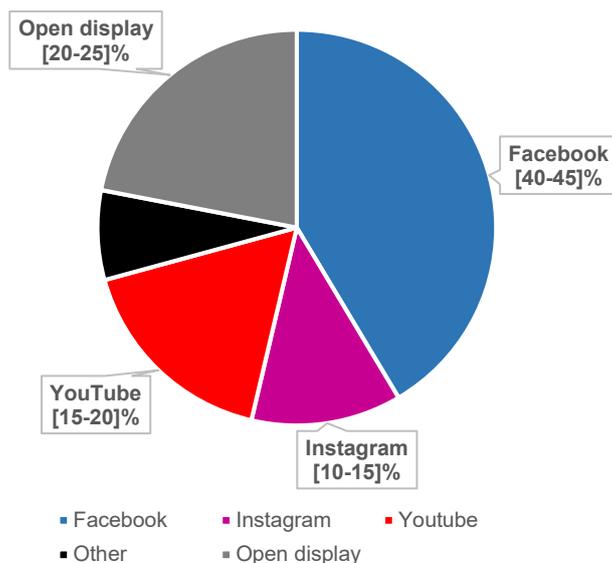


Source: CMA analysis based on parties' data.

Note: Segments shown in the chart are illustrative, based on mid-points of the stated ranges rather than actual revenue figures.

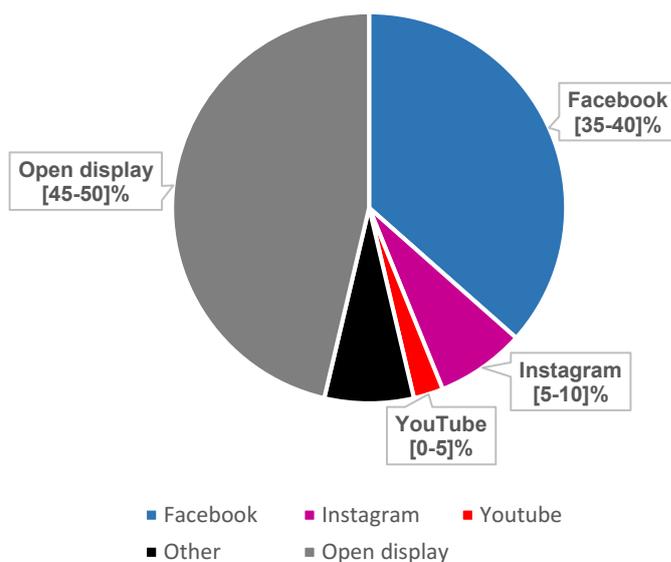
5.111 As noted above, it seems likely that a segmentation between video and non-video formats is appropriate given that many advertisers would have limited ability to substitute between the two. As shown in Figures 5.6 and 5.7 below, Facebook (including Instagram) has a [50%-60%] share of video advertising (£[1-1.1] billion revenues in 2018) and a [40%-50%] share of non-video advertising (£[1.3-1.6] billion revenues in 2018). YouTube is the second largest supplier in video display advertising with a [15%-20%] share of expenditure. We estimate that the open display market accounts for around [20%-25%] of video and [45%-50%] of non-video display advertising. Our analysis also shows that there has been a significant move over the last three years towards video advertising, which is taking an increasing share of overall expenditure.

Figure 5.6: Shares of expenditure in the UK video display advertising (2018)



Source: CMA analysis based on parties' data.
 Note: Segments shown in the chart are illustrative, based on mid-points of the stated ranges rather than actual revenue figures.

Figure 5.7: Shares of expenditure in the UK non-video display advertising (2018)

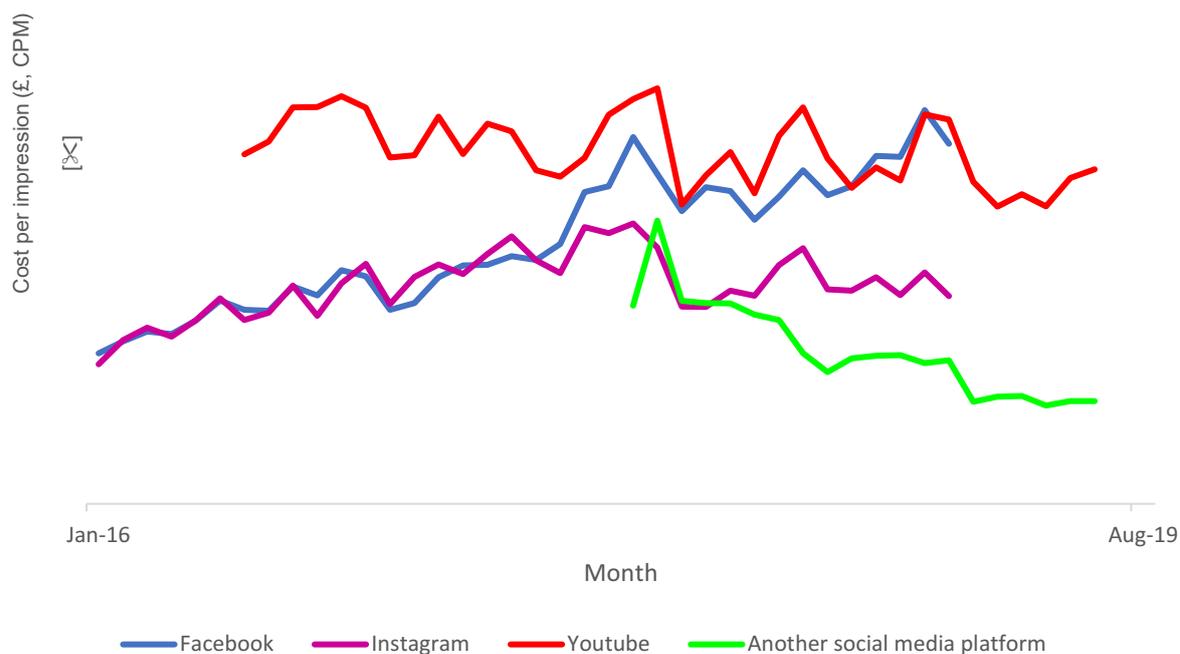


Source: CMA analysis based on parties' data.
 Note: Segments shown in the chart are illustrative, based on mid-points of the stated ranges rather than actual revenue figures.

5.112 We have also looked at trends in average advertising prices, as measured by cost per thousand advertising impressions (CPM) for the larger owned and operated platforms, including Facebook, YouTube, Instagram and another social media platform. This is shown in Figure 5.8 below. It shows that prices for Facebook's core platform have been increasing over the last three years and are significantly higher on average than other platforms. However, we interpret this analysis with some caution as relative price differences can be driven by composition effects (for example between mobile versus desktop

and video versus non-video) similarly to search advertising. We intend to look at this further in the second half of our study.

Figure 5.8: Monthly cost per impression (£, CPM), for selected display advertiser platforms, from January 2016 to July 2019



Source: CMA analysis of parties' data.

Closeness of competition between platforms in display advertising

- 5.113 Most advertisers told us that they used a range of platforms to buy display advertising and that different platforms had different relative advantages in achieving advertising KPIs. The platforms most commonly mentioned and ranked highest were Facebook, Google DV360 (Google's demand side platform for purchasing advertising in open display) and Twitter. Several advertisers mentioned YouTube and the Video-on-Demand offerings of ITV, Channel 4 and Sky, and a few mentioned Amazon, Snapchat, Pinterest and other demand side platforms for purchasing advertising in open display.
- 5.114 Advertisers and media agencies were consistent in what they saw as the relative advantages and disadvantages of different platforms. Facebook and Google (DV360 and YouTube) were consistently identified as benefiting from greater reach and ability to target specific audiences, allowing advertisers to generate greater return on investment from using these platforms. Advertisers also highlighted various disadvantages of these platforms from a lack of

transparency: in the case of Facebook relating to viewability, measurement of advertising outcomes and brand safety, and in the case of Google relating to transparency over its auctions and concerns about fraud and brand safety.

- 5.115 Advertisers submitted that some rival platforms had idiosyncratic relative advantages. Twitter was highlighted by several advertisers as being especially effective for direct customer engagement and reactive advertising. Snapchat was highlighted for the flexibility of its creative assets and Amazon for its first-party data and for its proximity to the point of sale.
- 5.116 Rivals similarly saw Google and Facebook as the strongest competitors in display advertising. All of the display advertising rivals we contacted identified Facebook as a competitor and most of these platforms specified that Facebook was one of their top two competitors. These businesses also identified Google as a major competitor, some referring to its ownership of YouTube, and some also referring to its search advertising or its total scale across digital advertising as a whole.
- 5.117 While all of the platforms identified Facebook and Google as their closest competitors, this does not imply that they impose a significant competitive constraint on Google and Facebook. For example, LinkedIn noted that competition was asymmetric as while Facebook and Google compete with LinkedIn for most of its advertising revenue, LinkedIn only competes for a small subset of Facebook and Google's advertising revenue. Google and Facebook also identified each other as key competitors for advertising, but also a wider set of competitors including TV advertisers, Video on Demand and Amazon.
- 5.118 Facebook suggested its strength was in making the advertising experience as easy as possible for advertisers to use so that even small advertisers can use it.
- 5.119 Google's internal documents comprehensively cover its competitors and show that Google does not focus solely on one part of digital advertising supply chain. For example, Google pays particular attention to Facebook and Amazon. Google submitted several reports monitoring Facebook and some documents benchmarking YouTube's ads against Facebook. Amazon was often identified as having growth potential in advertising.
- 5.120 Facebook's internal documents cover a range of rivals. All the rivals are differentiated from Facebook, but they all compete for consumer attention, advertising, or both. The competitors which are monitored most frequently are Google, YouTube, Pinterest, Twitter and Snapchat. Other rivals Facebook

monitors include Amazon, traditional TV and smaller platforms, who are monitored less frequently.

- 5.121 Overall, the views of advertisers, media agencies and suppliers support that Facebook has market power in display advertising. However, they also suggest that Google is likely to be Facebook's closest competitor. Both Google and Facebook benefit from greater scale and access to user data than their rivals. Both platforms face a degree of competition from a range of sources. While Google's and Facebook's internal documents suggest that they are likely to be each other's closest competitors, a number of other competitors are also mentioned.

Transparency of advertising outcomes

- 5.122 To make informed choices that can drive competition, advertisers need to be able to measure advertising outcomes to assess effectiveness and verify quality, accounting for factors such as viewability, brand safety and ad fraud. Access to the necessary underlying data on advertising outcomes in a form that facilitates these assessments is key.
- 5.123 Several advertisers and agencies commented on the lack of common definitions and standard industry metrics across different search and social media platforms. For instance, different definitions of audiences can mean that data from different platforms is not directly comparable. This makes it difficult to aggregate estimates of reach and frequency across multiple platforms. It can also make it difficult to manage frequency caps and re-targeting and avoid duplication in the course of an advertising campaign.
- 5.124 Some advertisers raised concerns about restrictions on the third-party verification of advertising on inventory owned and operated by Google and Facebook. Responses indicated that although both Google and Facebook do work with a number of 'approved' third-party verification providers, they restrict access to detailed consumer level data in respect of verification for the advertising inventory they own and operate. Other display advertising platforms reported that they do allow advertisers to use tracking tags for third-party verification of impressions served on their advertising inventory. Without access to the underlying raw data and the ability to have full independent verification, there was a perception on the part of advertisers and agencies that Google and Facebook were able, in effect, to 'mark their own homework' in respect of the effectiveness of their own advertising inventory.
- 5.125 In their responses both Facebook and Google referred to the fact that the way in which they compile data – for instance, on the viewability of impressions on their inventory – meets industry standards and is subject to external audit.

Google also argued that it had reviewed the way in which it worked with third parties ahead of the implementation of GDPR. As a result, it had restricted the number of third-party measurement providers that it was able to support on Google Search and YouTube and had stopped accepting other third-party tracking pixels post GDPR.²⁵⁶

5.126 Several advertisers have highlighted to us their previous experience of incidents in relation to the verification of viewability and brand safety in digital advertising. For instance, there have been issues with the misreporting of viewability on the Facebook platform²⁵⁷ and with brand safety on YouTube.²⁵⁸

5.127 We are also aware of concerns about the level of ad fraud in relation to digital advertising, with a number of large scale, systematic frauds being discovered.²⁵⁹

5.128 There are a wide range of estimates of the overall scale of fraud in relation to online advertising. However, a number of stakeholders referenced the most recent report by White Ops and the American Association of National Advertisers (ANA),²⁶⁰ which estimated that the global scale of losses from ad fraud would fall from \$6.5bn in 2017 to \$5.8 billion in 2019 despite estimates that digital ad spending had increased by just over 25% over the same time period. It found three main factors which contributed to this projected decline in ad fraud:

- The use of ads.txt to help publishers create lists of authorized media sellers.²⁶¹ This had worked to reduce desktop spoofing to the lowest levels recorded in the history of the report.

²⁵⁶ We note that Google has introduced the Ads Data Hub option which does enable a degree of matching of Google event-level ad campaign data with advertisers' reporting data to improve attribution and advertising efficiency in a way that protects end-users' privacy. However, some industry stakeholders told us that this process can be time-consuming and so does not provide real-time feedback to advertisers.

²⁵⁷ For instance, in 2016 Facebook acknowledged that it has over-reported the average watch time metric for videos. It was estimated that the extent of the overstatement was between 60-80 per cent. In 2017, it was revealed that videos that were loaded on Facebook's mobile site continued to play even after they were scrolled out of view, leading Facebook to charge advertisers for the background views. Facebook refunded advertisers in full. Source: [Marketingland.com](#), 'FAQ: Everything Facebook has admitted about its measurement errors'.

²⁵⁸ In 2017, a number of large advertisers were reported as having pulled their advertising off YouTube in response to concerns that their adverts were being shown alongside videos promoting extremist and terror groups. Source: [AdWeek, Sep 2019](#), 'As 2020 Election Nears, Twitter Bots Have Only Gotten Better at Seeming Human'.

²⁵⁹ In 2017, Adform reported that it had uncovered the 'Hyphbot' bot network which was estimated to be one of the largest bot networks discovered. Source: [Wall Street Journal](#) 'Fake-ad operation used to steal from publishers is uncovered'.

²⁶⁰ Bot Baseline report, White Ops and the American Association of National Advertisers (ANA) published in May 2019.

²⁶¹ Ads.txt stands for Authorised Digital Sellers. It is a method that allows publishers to publicly declare the companies they authorize to sell their digital inventory. It can thus provide advertisers with more confidence that they are buying authentic inventory. The text file can be updated to provide for flexibility over time.

- It had become more expensive and less efficient to buy sophisticated bot traffic. Efforts by the Trustworthy Accountability Group (TAG) and their Certified Against Fraud program, coupled with groups working together to dismantle botnets, had drastically reduced both the supply and the demand for traffic from vendors that are caught selling bot traffic.
- More digital advertising was being sold through platforms that had built-in fraud prevention measures.

- 5.129 Responses from advertisers and agencies also indicated that the level of ad fraud in the UK was estimated to be relatively low. For instance, a number of responses indicated that the scale of ad fraud was estimated to be less than 2% of impressions.
- 5.130 Respondents were also aware of the main industry initiatives by the IAB, JICWEBs and others aimed at addressing brand safety and fraud issues, and many respondents were also active members of those industry bodies. At the same time, some agencies also reported that such initiatives were not yet fully mature and so there was work still to be done.
- 5.131 As indicated above, a lack of transparency can undermine the functioning of a market. That is, if advertisers cannot be sure that the advertising inventory they are buying is authentic or that the agents they are trading with are legitimate, then that lack of transparency would undermine trust in an industry. Again, it is not clear that reputational incentives would prove sufficient to address this concern.
- 5.132 However, the responses to our information requests indicate that ad fraud is acknowledged as an industry-wide challenge and an issue that requires industry-wide solutions to address it. There is also a perception that ad fraud is more of a risk in relation to the open display market because of a long tail of smaller publisher sites.
- 5.133 Large platforms – such as Google and Facebook – do appear to be engaging with industry initiatives to combat ad fraud eg in terms of seeking industry accreditation for their fraud prevention processes and systems.
- 5.134 However, aside from engaging with measures to tackle ad fraud directly, there remain concerns that the large platforms could do more to improve transparency for advertisers and intermediaries. By restricting full independent verification of their own inventory, Facebook and Google have engineered a degree of opacity into the buying and selling of their own advertising inventory. Advertisers have to rely on the information provided by Google and Facebook. This could weaken competition or potentially result in advertisers

over-paying for the advertising inventory supplied by Google and Facebook relative to other sources of supply.

5.135 In a similar vein, some advertisers expressed the concern that they have to rely on the information on fraudulent impressions provided by platforms. That is, they were not told why impressions were considered to be fraudulent and were not in a position to validate any adjustment or refunds implemented by the platforms. This suggests that there could be scope for greater transparency in relation to the reporting of ad fraud. However, it is not clear to us at this stage how much appetite there is in the industry for this: we are aware that if platforms reveal too much about how ad fraud is detected, that could actually assist those parties seeking to perpetrate ad fraud. We would welcome further views on this.

Barriers to entry and expansion

5.136 Suppliers have identified several barriers that need to be overcome for a provider to be able to effectively compete in display advertising. The barriers to entry and expansion identified fall into the following categories:

- economies of scale;
- network effects in accessing consumer attention;
- accessing user data; and
- incumbency advantages.

Economies of scale

5.137 There are several inputs required to support a display advertising platform. In particular, investments need to be made in technology, such as developing a website/app and back-end functionality to support the platform and technical equipment (eg servers); facilities, such as offices; and equipment and marketing, such as launch and brand awareness campaigns. The investments and fixed costs required to develop and maintain these inputs are likely to give rise to economies of scale. Economies of scale create a cost advantage for larger rivals over smaller potential entrants, giving rise to barriers to entry.

5.138 Facebook submitted that no minimum scale is required for entrants to compete effectively. Facebook submitted that its income statements indicate that while it experienced some economies of scale in its early years, its costs have grown at a faster rate than its user base over the last decade (from 2009-2018). This suggests that, in aggregate, any economies of scale which

Facebook has benefited from appear to have been largely exhausted in its early years of development.

- 5.139 However, in our view, this evidence does not suggest that no minimum scale is required, for several reasons. The two-sided nature of Facebook's platform and the associated dynamics this implies suggest that, in considering the extent to which it benefits from economies of scale, it may not be appropriate to simply focus on how Facebook's user numbers and costs change from year to year.
- 5.140 While user growth on Facebook has decelerated significantly, its advertising revenues per user have continued to grow substantially (albeit at a somewhat decreasing rate) as it has further monetised its platform to benefit from historic investments on the consumer side. We also note that Facebook's current costs may partly reflect investments it is currently making to further enhance the consumer experience and enter new markets in the future. Facebook submits that it did generate economies of scale in its earlier stages, which is most relevant for assessing the prospects of a potential entrant. Further, other platforms told us that significant scale is needed for an entrant to be viable in the long term.

Access to consumer attention

- 5.141 The need for suppliers of display advertising to first grow their user base in order to gain access to consumer attention and data mean that the most important barriers to entry are faced on the consumer side of the market. Several suppliers of display advertising told us that the way to enter display advertising was to first offer a compelling platform which captures consumer attention. Therefore, generating an innovative or engaging product or service for consumers is the first barrier that needs to be overcome. To maintain the attention of consumers, platforms then need to offer improvements to their consumer product position or to offer personalised relevant content. As described in Chapter 3, the consumer services relevant for supporting digital advertising, such as social media, are typically characterised by strong network effects. These network effects result in very high barriers to entry that also restrict competition in display advertising.

Access to consumer data

- 5.142 The academic literature as well as the evidence we have collected to date show that consumer data has a significant value to advertisers in that it allows them to better target audiences. Access to higher quality or more granular data allows for more precise targeting of more specific audiences. Granular data is particularly valuable when combined with high reach among different

audience types using the platform, as this allows for relatively large numbers of very specific audiences to be targeted. These factors can allow platforms with better data to sell their advertising inventory at higher prices. This creates a substantial competitive advantage for Google and Facebook, both of which have access to much richer and higher quality datasets and benefit from much greater scale and reach than their rivals.

- 5.143 This view was largely confirmed by advertisers and media agencies. Several told us that Google and Facebook offer more granular personalised targeting compared to other platforms. Google offers in-depth targeting options, driven by its unique and vast sources of data. Facebook has the advantage of offering the ability to target specific audiences based on demographic characteristics, interests and location. Some advertisers also singled out Facebook's remarketing capability. Facebook's scale allows it to reach a large proportion of advertisers' known customers, using the advertiser's first-party data.
- 5.144 The ability to show effectiveness of advertising is another important driver of advertisers' decisions on how to allocate their advertising expenditure across publishers and platforms. Google and Facebook tags are widely available on advertiser websites. This enables a more sophisticated analysis of attribution because they are more easily able to track a consumer's journey across the internet and provide a single source for the data. A number of responses indicated that Google and Facebook had a competitive advantage in respect of their access to consumer data and an ability to track consumers' behaviour across different websites and measure attribution across their own inventory more accurately.
- 5.145 The use of data both for better targeting of relevant audiences and in measuring performance is of direct benefit to advertisers. However, the inability for smaller platforms and publishers to access equivalent user data to Google and Facebook may raise barriers to entry, as it reduces the ability for these rivals to compete on a level playing field and realise the full value of their advertising inventory.
- 5.146 Suppliers of display advertising told us that consumer data was a key input required to target audiences. The more data and the higher the quality of the data a platform holds the better equipped it is to provide advertisers with exactly what they want. The majority of these platforms offer free analytics tools and metrics to advertisers to create and tailor content and to analyse campaign effectiveness of ads.
- 5.147 However, rival platforms did not suggest that accessing consumer data was an insurmountable barrier to entry. Some submitted that monitoring

consumers on their platform provides enough data to compete effectively, where sufficient activity can be tracked across different consumers. Generating scale on the consumer side of the platform is particularly important because effective analysis of this data is heavily dependent on gaining enough scale in user-generated content.

5.148 Based on the above, it appears that the ability to access consumer data is likely to be closely tied to competition for consumer attention. This adds to the importance of barriers to entry from network effects in the consumer services relevant for supporting digital advertising.

Incumbency advantages

5.149 As discussed in Chapter 3, there have been several recent examples of entry by display advertising platforms. However, with the possible exception of Instagram, we note that these platforms are yet to reach a very significant scale in the supply of display advertising. This raises the question of whether these platforms may face barriers to expanding to a scale sufficient to impose a material competitive constraint on Facebook.

5.150 Barriers to expansion may arise from the need to compete aggressively for consumers to build scale and benefit from consumer side network effects before monetising the platform. Current rivals to Facebook are likely to be limited in their ability to monetise through digital advertising, as this may hamper their ability to compete effectively on the consumer side. This dynamic is supported by Facebook's earlier experience of competing with Myspace. As noted in Chapter 3, Facebook has submitted that its early success in competing with Myspace was due to Myspace's focus on maximising advertising revenue, to the detriment of the consumer experience. By contrast, Facebook reached a much larger scale of users and consequently benefited to a greater extent from consumer-side network effects before it started to monetise through display advertising.

Exploitation of market power

5.151 Our view at this stage is that the dynamics in the display advertising market create the incentive for Facebook to exploit its market power on the consumer side of the platform – by extracting large amounts of data from consumers. This exploitation by Facebook of consumers is then rewarded in the digital advertising market through higher prices paid for its advertising inventory.

5.152 Facebook's large scale may be sufficient to create an incentive for it to exploit market power through limiting the overall quantity of advertising inventory it supplies, thus increasing overall market prices relative to a more competitive

market.²⁶² We note that the need to maintain a high-quality consumer experience already creates an incentive for Facebook to limit its quantity of advertising inventory to some extent. However, market power may create the incentive to restrict the quantity of advertising further than would be the case in a more competitive market. Similar to search, higher advertising costs are likely to be passed on to advertisers' final customers through the impact these costs have on competition in the downstream markets where advertisers compete.

5.153 Facebook's auctions in display advertising are second-price auctions that include adjusting bids for quality. These adjustments can be a benefit to both consumers and advertisers as they reduce the extent to which advertising is shown to consumers that do not want to see it. In a similar way to Google in search, Facebook could influence the prices that advertisers pay through how it adjusts bids for quality, allowing it to extract more economic rent from advertisers.²⁶³

5.154 In principle, Facebook could also extract rents from advertisers by raising its reserve prices. However, [✂].

5.155 Similar to Google in search, our analysis of Facebook's profitability is consistent with exploitation of market power. It shows that Facebook's global returns on capital are also likely to be over 40%, well above its cost of capital.²⁶⁴

Initial findings on display advertising

5.156 The evidence we have reviewed so far suggests that Facebook has market power in display advertising. Our current estimates suggest that Facebook (including Instagram) is by far the largest supplier of display advertising, accounting for [40-50%] of advertising expenditure. Facebook has considerably greater scale than the second largest supplier, YouTube, which has [5-10%] of advertising expenditure.

5.157 Display advertising is subject to significant barriers to entry that limit the actual or potential competitive constraint faced by Facebook. The need for suppliers of display advertising to first grow their user base in order to gain access to consumer attention and data mean that the most important barriers to entry

²⁶² This differs to search advertising where the exploitation of market power implies selling more advertising at the expense of organic search results (which advertisers would otherwise benefit from for free).

²⁶³ The price paid by the winning bidder is determined by the 'total value' of the second-highest bidder, which includes the quality and relevance adjustments Facebook makes to either bid. This may provide Facebook with flexibility to increase the price paid by the winning bidder, either by increasing the quality adjustment applied to the second bid or reducing the quality adjustment applied to the first bid.

²⁶⁴ See Appendix D for more detailed analysis of Facebook's profitability.

are faced on the consumer side of the market. As mentioned in Chapter 3, potential entrants face barriers to entry from network effects.

- 5.158 There have been several recent examples of entry by platforms offering display advertising. However, these platforms are likely to be limited in their ability to monetise through digital advertising, as this may hamper their ability to compete effectively on the consumer side. Their smaller scale means that they are likely to have stronger incentives than Facebook to further increase their scale of users and benefit from network effects. This may create a barrier to them expanding their supply of digital advertising to a scale large enough to impose a material competitive constraint on Facebook.
- 5.159 The inability for smaller platforms and publishers to access equivalent user data to Facebook may also create barriers to entry and expansion, as it reduces the ability for these rivals to compete on a level playing field and realise the full value of their advertising inventory through targeted advertising and provision of attribution and measurement services.
- 5.160 Our view at this stage is that Facebook has an incentive to exploit its market power on the consumer side of the platform – by extracting large amounts of data from consumers. This exploitation by Facebook of consumers would be then rewarded in the digital advertising market through higher prices paid for its advertising inventory.
- 5.161 Facebook’s large scale may also create an incentive for it to exploit market power through increasing overall market prices to advertisers relative to a more competitive market.
- 5.162 In light of these findings, our initial view is that there is a case for intervention to address the source of Facebook’s power on the consumer side of the market (notably resulting from network effects) and to limit its ability to exploit consumers through excessive extraction of data. There may also be a case for intervention in relation to features of the advertising market that reinforce Facebook’s market power. The range of potential interventions on these issues are discussed in the next chapter.

The open display market

- 5.163 This section sets out our initial views on issues in the open display market. It sets out:
- a summary of how digital advertising intermediation works and the main players in the intermediation chain;

- our preliminary analysis of competition at different levels of the intermediation chain;
- concerns that a lack of transparency in the intermediation chain might lead to worse outcomes for advertisers and publishers;
- vertical integration and concerns about whether it can lead to conflicts of interest and whether the platforms (notably Google) can leverage their market power from ‘owned and operated’ advertising into ad tech; and
- possible implications of privacy concerns and the data protection legal framework for the open display market.

5.164 A detailed explanation of how this part of the market functions can be found in Appendix H.

How digital advertising intermediation works

5.165 Digital advertising intermediation is a highly complex industry.²⁶⁵ This section provides a high-level summary of its working. The following description reflects our current understanding, based on extensive engagement and discussions with industry participants. We welcome scrutiny of and feedback on it.

5.166 Many publishers of online content monetise the services they provide, at least in part, through digital advertising. Some of their advertising space (or inventory) is sold through direct deals between the publisher and specific advertisers or media agencies. However, most digital advertising (80% in 2017 according to the IAB) is now sold ‘programmatically’.²⁶⁶ The defining feature of programmatic buying is that the decision on whether to buy a particular impression is made in real time, making use of information not only about the environment (eg webpage) in which the ad will appear, but also about the internet user in front of whom the ad will be placed.

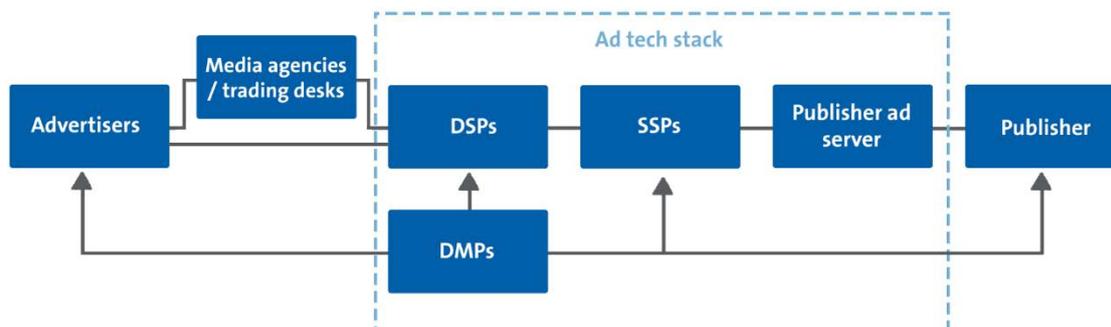
5.167 In order to make programmatic trading possible, a complex ecosystem has emerged, including a range of intermediaries between advertisers and

²⁶⁵ This section deals with intermediation in display advertising. The European Commission, in the context of its Google Search (AdSense) case, has defined a market for online *search* advertising intermediation, where intermediaries provide search adverts to publishers whose websites have a search function embedded. The European Commission found Google to have a dominant position in that market and to have abused it by imposing a number of restrictive clauses in contracts with third-party websites which prevented Google’s rivals from placing their search adverts on these websites (see the [Press release](#)). We do not analyse the market for online search advertising intermediation in this report.

²⁶⁶ In Internet Advertising Bureau UK, 2017 IAB / PwC Digital Adspend Study, page 72.

publishers – the so called ‘ad tech stack’. A simplified version of the intermediation chain is provided in Figure 5.9 below.

Figure 5.9: Simplified scheme of the intermediation chain



Source: CMA.

5.168 On the demand side, the main participants in the ecosystem include:

- Advertisers – interested in serving ads to consumers, their aim can be increasing consumers’ awareness of their brands or inducing a direct response (eg a purchase) from consumers seeing the ad. Advertisers’ aims affect their preferences over which consumers to target with the advertising campaign.²⁶⁷
- Media agencies – often used by large advertisers to plan and deliver an advertising campaign. Media agencies can offer in-house trading desks, which provide the technical expertise to execute programmatic media buying. Media agencies and their trading desks charge advertisers a percentage of their media spend or in proportion to amount of work performed.
- Demand-side platforms (DSPs) – provide a platform that allows advertisers and media agencies to buy advertising inventory from many sources. DSPs bid on impressions based on the buyer’s objectives and on data about the consumers. DSPs usually charge advertisers a percentage of their media spend.

5.169 On the supply side, the main participants include:

- Publishers – operate websites or apps and want to monetise their services selling digital advertising.

²⁶⁷ Advertisers use advertiser ad servers to store the ads, deliver them to publishers, and keep track of this activity.

- Supply-side platforms (SSPs) – provide the technology to automate the sale of digital inventory. They allow real-time auctions by connecting to multiple DSPs, collecting bids from them and performing the function of exchanges.²⁶⁸ They can also facilitate more direct deals between publishers and advertisers. SSPs are typically remunerated through a revenue share agreement with publishers.
- Publisher ad servers – manage the publisher’s inventory and are responsible for the decision logic underlying the final choice of which ad to serve, based on the bids received from different SSPs and the direct deals agreed between the publisher and advertisers. Publisher ad servers typically charge publishers a fee based on the volume of advertising processed.

5.170 The advertising ecosystem also includes further participants involved in the provision and management of data and in advertising analytics:

- Data suppliers – A wide range of companies provide data that can be used to augment the user data already possessed by advertisers and publishers and enhance the ability to target advertising to specific types of audiences.
- Data management platforms (DMPs) – allow other participants along the value chain (advertisers, DSPs, SSPs and publishers) to manage and analyse their data, integrate it with third-party data, and use it to create audiences that can be used for targeting purposes.
- Advertising analytics – services used by advertisers to measure the performance and impact of advertising campaigns.

5.171 In a typical real-time transaction, when a consumer opens a webpage (or navigates through an app), an automated process is put in motion through which

- Multiple SSPs receive ad requests for the advertising space available on the web page. In turn, SSPs send bid requests to multiple DSPs.
- DSPs evaluate the advertising opportunity based on the objectives of the campaigns of all their customers (advertisers and media agencies) and automatically generate bids to be sent to SSPs.

²⁶⁸ Advertising exchanges used to be separate from SSPs. The two functions, however, have largely been merged into the same operators.

- SSPs then rank the bids received based on price and on priority levels that may have been set by the publisher, and send the winning bid to the publisher.
- Finally, the publisher ad server compares the bids received, together with any pre-existing direct deals between the publisher and specific advertisers, and decides which ad is to be served on the webpage.

5.172 SSPs can submit their bids into the publisher ad server in several different ways.

- SSPs can be ranked by a publisher according to their expected bids and be called by the publisher ad server sequentially, with the next SSP being asked for a bid only if the previous one had not bought the impression (sometimes known as the ‘waterfall’). If an SSP is vertically integrated with the publisher ad server, it may have the possibility to submit its bid first, using the highest expected bid from the other SSPs as a floor price.
- SSPs can be called and submit their bids simultaneously, before the publisher ad server is called, if the publisher uses a ‘header bidding’ solution.²⁶⁹ Header bidding began to be widely adopted in 2015 as a mechanism to increase competition between SSPs and generate higher revenues for publishers.
- A publisher ad server can provide an alternative mechanism to allow SSPs to submit bids simultaneously. Google Ad Manager, the most widely used publisher ad server, has offered such a service, initially called Exchange Bidding and recently renamed as Open Bidding, since 2018.

Competition in digital advertising intermediation

5.173 The following paragraphs provide an overview of competition among DSPs, SSPs and publisher ad servers and include our initial estimated shares of supply of some of the main providers. We also briefly discuss vertical integration along the intermediation chain and the efficiencies it can generate.

5.174 Our main findings can be summarised as follows:

- In recent years, the industry has been consolidating, with supply increasingly concentrated in a small number of large providers at each level of the value chain.

²⁶⁹ So-called because SSPs are contacted by the consumer’s browser executing code in the webpage’s header.

- Concentration is particularly high at the publisher ad server level, where, based on submissions from industry stakeholders, we believe Google is likely to have a share of supply above 90%.
- There appears to be more competition at DSP and SSP level, although Google has significant shares in these markets as well (50-70% of the value of ads purchased through DSP, 40-60% of the value of ads sold through SSPs).²⁷⁰
- There has been a growing trend towards vertical integration, driven partly by efficiency reasons and partly by pressures resulting from privacy concerns and recent changes in data regulation (eg the implementation of the GDPR). Vertical integration may also have anti-competitive motivations, as discussed in a subsequent section.

DSPs

5.175 There are many DSPs operating in the UK. Some of the largest include Google's DV360 and Google Ads, The Trade Desk, Xandr DSP, Amazon DSP and Criteo.

5.176 Advertisers and media agencies told us they decide what DSPs to use mostly based on two types of consideration:

- the advantages derived from a DSP's access to exclusive inventory, use of exclusive data, or integration with other services offered by the same provider; and
- the technical sophistication, customisation and level of support of the DSP services themselves.

5.177 Based on advertisers' submissions, the strength of some DSPs, such as Google's DV360 and Amazon DSP, appears to be mainly based on access to data and inventory, while other DSPs, such as Xandr and The Trade Desk, are considered relatively stronger on technology and service.

5.178 While larger advertisers and media agencies often use multiple DSPs across advertising campaigns, typically a single DSP is used for a given campaign,

²⁷⁰ We include Google AdX, Google Ad Sense and Google AdMob in our definition of SSPs and Google DV360 and Google Ads in our definition of DSPs. Share estimates at SSP and DSP levels have been computed based on data from the intermediaries we received information from. As our coverage is not complete, Google shares may be over-estimated.

as this allows to manage frequency caps over the entire campaign and facilitates audience management and reporting.

SSPs

- 5.179 SSPs can be broadly divided into two groups: generalist SSPs, such as Google AdX (part of Google Ad Manager), Index Exchange, OpenX, PubMatic, Rubicon Project and Xandr SSP; and specialist providers, such as TripleLift, Sharethrough and Teads, which specialise in particular ad formats such as native display or video.
- 5.180 SSPs need to attract both sellers (publishers) and buyers (DSPs, and ultimately advertisers) to their platform. They operate in a two-sided market which exhibits indirect network effects: on the one hand, advertisers are more willing to work with platforms that have higher access to supply, in order to achieve their goals at scale; on the other hand, companies which are able to work with many advertisers (or DSPs) can provide publishers with greater demand, which is one of the main factors publishers look at when deciding which SSPs to work with. The strength of network effects, however, may be limited by the fact that both DSPs and publishers tend to work with multiple SSPs.

Publisher ad servers

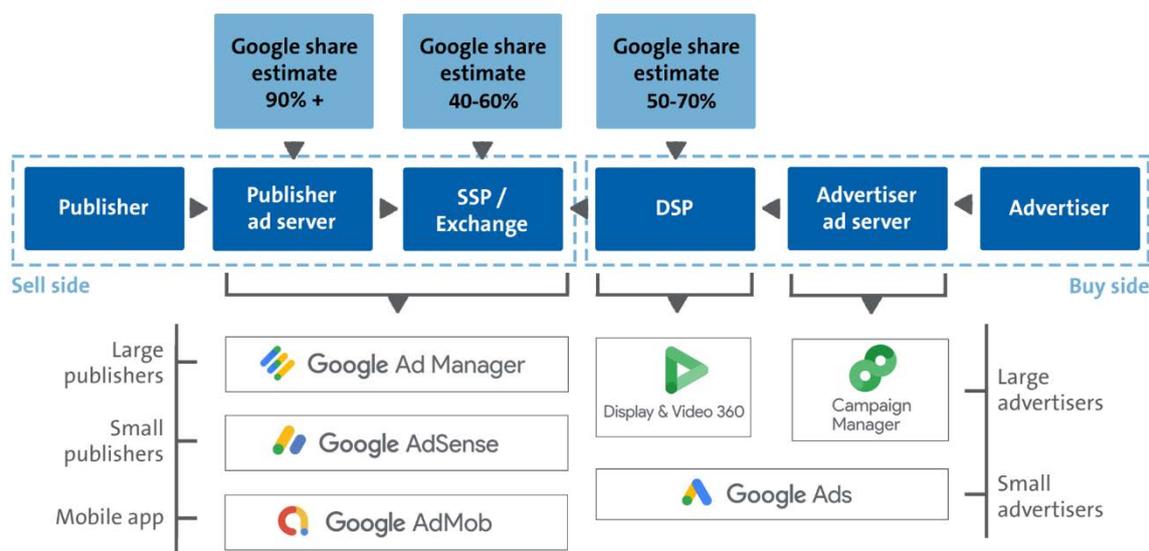
- 5.181 The market for publisher ad serving appears to be very concentrated. Based on submissions from industry stakeholders, we estimate that Google Ad Manager may account for more than 90% of all the display ads served in the UK. Several publishers described Google Ad Manager as the global market leader and superior to other ad servers. Other providers include Xandr and Smart, but their presence as publisher ad servers in the UK market appears to be marginal.
- 5.182 Publishers typically single-home on one ad server, although it is possible to have a secondary ad server in addition to the main one. This appears to be the solution adopted by some publishers whose primary ad server is not Google Ad Manager in order to have access to Google's demand.
- 5.183 Publishers generally told us that switching ad server is a complex and lengthy process which takes several months to complete and involves significant risks of revenue loss. We consider this issue in more detail later in the chapter.

Vertical integration and efficiencies

5.184 Several operators in the advertising intermediation ecosystem provide more than one service along the value chain. One industry participant told us that vertical integration has become the preferred method for rapid growth in the advertising industry. The largest companies are either acquiring smaller companies along the supply chain or building extensions of their own platform stack into new parts of the supply chain. Recent examples include FreeWheel’s expansion from ad serving into SSP through the acquisition of StickyAds in 2016; Adobe’s expansion into the DSP market through the acquisition of TubeMogul in 2017; and Amazon’s launch of a header bidding solution in 2018.

5.185 The case of Google is noteworthy because not only does it operate along the entire value chain, but it also has the largest shares of supply among providers at each level of the chain.

Figure 5.10: Google’s roles in advertising intermediation



Source: CMA.

Note: We include Google AdX, Google Ad Sense and Google AdMob in our definition of SSPs and Google DV360 and Google Ads in our definition of DSPs. Share estimates at SSP/Exchange and DSP levels have been computed based on data from the intermediaries we received information from. As our coverage is not complete, Google shares may be over-estimated.

5.186 Google’s presence across the ad tech chain was initially driven by a series of acquisitions, as set out in Box 5.1. While Google’s suite of products has developed significantly over time, it is notable that Google integrated a number of existing products rather than developing its position organically.

Box 5.1: Google's acquisitions in ad tech

We have been told that Google's most significant acquisitions in ad tech include:

- DoubleClick (April 2007) – Publisher ad server and ad exchange; formed the basis of Google's ad server and AdX (now Google Ad Manager).
- AdMob (November 2009) – Technology for serving ads on apps; formed the basis of Google's AdMob product.
- Invite Media (June 2010) – Media buying optimization technology for the display advertising market; evolved into Google's main DSP product, Google DV360.
- AdMeld (June 2011) – Supply Side Platform; integrated into Google AdX.
- Adometry (May 2014) – Analytics and attribution provider; integrated into Google Analytics to provide improved attribution services.

Google has also made more recent acquisitions in the ad tech space, including mDialog, Directr, Toro and Famebit.

5.187 Vertical integration, especially between DSPs and SSPs, can give rise to technical efficiencies. The main ones relate to cookie matching and latency.

- DSPs and SSPs associate each consumer with a cookie ID. As cookie IDs are specific to each company, if the DSP and SSP are operated by different companies a process of cookie matching is required in order for the DSP to identify the relevant consumer information to associate to a given impression. This process is prone to failure and, according to one ad intermediation provider, can result in approximately 30% failed matching. This inefficiency is avoided when the same company operates both the DSP and the SSP.
- After an SSP sends bid requests, DSPs have a time limit to submit their bids. Latency can therefore result in a bid being received too late and therefore being excluded from the SSP's auction. If the same company operates both the SSP and the DSP, it can locate them close by, reducing the time needed for information to travel between the two.

5.188 Despite the efficiency benefits, vertical integration could raise concerns if it led to conflicts of interest or to risks of anti-competitive foreclosure. We consider these issues later in the chapter.

Lack of transparency in the intermediation chain

- 5.189 Many stakeholders that we spoke to, both on the advertiser and publisher sides of the market, commented on the lack of transparency in the digital advertising sector. This is partly a function of the technical characteristics of programmatic advertising where advertising is displayed in real time to a given consumer, making it difficult to verify exactly when an advert has been seen and by whom. The lack of transparency is exacerbated in the open display market, where publishers and advertisers rely on intermediaries to manage the process of real-time bidding and ad serving but cannot observe directly what the intermediaries are doing or, in some cases, how much they are being charged at different points in the supply chain.
- 5.190 One symptom of this lack of transparency is the significant degree of uncertainty around the average ratio between the amount that publishers receive for their inventory and the amount that advertisers pay, as discussed in Chapter 2 and in Appendix C on market outcomes.
- 5.191 Lack of transparency and asymmetric information can lead to inefficient outcomes – for example, advertisers may be reluctant to purchase advertising if they are unsure whether it will ultimately be viewed by a consumer. However, in some cases we would expect market participants to have a shared interest in trying to overcome the problem – for example, by investing in technology to improve ad verification. Therefore, we have focused on assessing whether there might be situations where the interests of different market participants are not well aligned and where a lack of transparency might be exploited by platforms with market power. We currently consider that the main concerns relate to the transparency of fees paid to different intermediaries and the opportunity for ‘arbitrage’.
- 5.192 Market participants typically do not have visibility of the fees charged along the entire supply chain and are concerned that this limits their ability to make optimal choices on how to buy or to sell inventory, reducing competition among intermediaries. In particular:
- Publishers have complained about lack of visibility of fees to intermediaries used by advertisers (DSPs, DMPs etc), reducing their ability to negotiate directly with advertisers. This may limit the competitive pressure faced by DSPs.
 - Some advertisers and agencies have expressed a concern about not being able to observe the fees that SSPs charge to publishers. Given that publishers decide which ad should be served based on net bids, visibility of these fees could make it easier for buyers to select the cheapest path

to secure specific inventory and for DSPs to decide where to bid. This may limit the extent of competition between SSPs.

- 5.193 In the context of an intermediation process characterised by the presence of sequential auctions, lack of transparency may give rise to rent-seeking behaviour and arbitrage opportunities, ie the possibility for an intermediary (SSP or DSP) to buy impressions at one price and sell them at a higher one, without its customers being aware of this 'hidden fee'.
- 5.194 Some stakeholders have expressed the concern that some SSPs, after running an auction among DSPs, may charge the winning DSP the amount of its bid but submit a lower bid to the next stage, keeping the difference for themselves. While some SSPs have publicly announced that they are no longer adopting these practices, stakeholders believe that other SSPs may still do it.
- 5.195 A similar concern was expressed in relation to Google Ads. Google Ads, which in the open display market operates as a DSP, runs an internal second-price auction among advertisers. While the winning bidder is charged by Google Ads an amount corresponding to the second-highest bid received by Google Ads, the amount that Google Ads bids into SSPs may be different, as Google Ads optimises the bid to achieve a high probability of winning the impression without overpaying for it. Some publishers have expressed their concern that the difference between what advertisers pay and what publishers receive from Google Ads may be substantial. This could be the case, for example, if Google Ads' internal auction were 'thicker' than the subsequent auction, or if advertisers using Google Ads had higher value for the inventory, owing to superior targeting capabilities allowed by the use of Google's data.²⁷¹ Google has provided us an initial estimate of the difference. We will investigate this further in the second part of the study.
- 5.196 Google's high share of supply and market power as a publisher ad server may also allow it to increase arbitrage opportunities. Some publishers have expressed the concern that recent changes in how Google Ad Manager works reduce their ability to respond to what they perceive as the capture of significant rents by intermediaries. These publishers used to set higher floor prices for some DSPs in order to force them to submit higher bids and limit their ability to extract rents. However, Google Ad Manager has recently

²⁷¹ In the case of Google Ads, assessing the difference between what advertisers pay and the bids that Google Ads submits is complicated by the fact that advertisers are often charged on a pay-per-click basis, while the bids submitted into the exchanges are on a cost-per-mille (cost per 1000 impressions) basis.

eliminated the possibility to set different floor prices for different sources of demand.²⁷²

5.197 These hidden fees would result in lower revenue for publishers, therefore reducing their incentives to invest in content, to the detriment of final consumers.²⁷³ The current structure of the market, along with the lack of transparency that exists, appears to create both the incentives and ability for some market participants to charge hidden fees. We will be exploring the extent to which these concerns occur in practice in the second half of our study, and we invite stakeholders to submit any evidence or views on this subject in response to our consultation.

Vertical integration, conflicts of interest and leveraging

5.198 Vertical integration can allow intermediaries to realise technical efficiencies to the benefit of advertisers and publishers. At the same time, vertical integration can also give rise to conflicts of interest and allow companies with market power at one stage of the value chain to leverage it in other parts of the industry, potentially foreclosing competing providers.

5.199 The core concern is that, where a firm controls intermediaries on both the 'buy' and 'sell' side of the market, it may act on behalf of the two counterparties to a commercial transaction, thus creating actual and/or perceived conflicts of interest. When operating on behalf of the publisher, such a firm might have an incentive to favour bids coming through its own advertiser-side intermediaries, rather than necessarily those that are best for the publisher. When operating on the buy-side, it might have an incentive to channel an advertiser's spend to its publisher clients, rather than to the publishers that are best for the advertiser.

5.200 Given the lack of transparency over fees and bids through the intermediation chain, there might be legitimate concerns about any operator having positions on both the buy and sell side of the market, whether or not that operator is in fact acting other than in its clients' best interests. Equity research company Arete suggested that programmatic advertising had similar characteristics to financial markets, because of the real-time nature of the bidding and complexity of the intermediation chain and products. We agree that there are analogies between the two and that there is a case for considering general

²⁷² Google told us that under the newly introduced unified first-price auction per-buyer floor are less relevant.

²⁷³ It is also possible that the reduction in content generation may result in a reduced volume of quality ad space, leading to higher advertising prices. Increased advertising costs can then be expected to be, at least in part, passed on to consumers through higher prices for the goods and services sold by the advertisers.

rules on all market participants to mitigate potential conflicts of interest, similar to those that exist in financial markets.

5.201 However, the concerns about conflicts are greater where firms have market power at certain points in the intermediation chain, because publishers or advertisers will have less ability to switch away from intermediaries with market power, even if they have concerns about potential conflicts of interest. Moreover, vertical integration can enable players with market power at one point in the chain to leverage it into other points, making it harder for independent players at each stage to compete.

5.202 In particular, concerns have been raised that Google, which is present along the entire intermediation chain, may be able to leverage various sources of market power and exploit its position on both sides of the market. Based on our initial discussions with stakeholders, we have identified four main areas of potential concern about Google's behaviour:

- using its market power in inventory and data to advantage its own DSP services (Google Ads and DV360);
- channelling Google Ads demand through Google's SSP (AdX) and limiting the integration of AdX with rival publisher ad servers;
- self-preferencing between Google's publisher ad server and AdX; and
- self-preferencing between Google's DSP and SSP.

5.203 The following paragraphs first summarise Google's sources of market power which are relevant to the open display market, and then describe the various concerns in more detail, outlining the evidence we have received on whether these practices are taking place and on their potential effects.

Google's sources of market power

5.204 We concluded earlier in this chapter that Google has substantial market power in search advertising. In display advertising, while Google's owned and operated inventory is currently smaller than that controlled by Facebook, the value of advertising on its YouTube platform corresponds approximately to [10-25]% of the value of open display advertising in the UK; in video advertising, the value on YouTube is [60-80]% of that of the entire open market. Google also has exclusive access to a large amount of user data that can be used for targeted advertising and for measuring advertising outcomes, collected through its consumer-facing services and through its advertising analytics products. Moreover, the availability of log-in data allows Google to

identify all the computers and mobile devices associated with a user, associating all the data about the user to a single user ID.

5.205 In addition, Google has a very high share of supply for publisher ad serving in the UK, likely in excess of 90%. The number of alternative providers has decreased recently with OpenX, Open Ad Stream, and Verizon Media deciding to stop providing a publisher ad server product.

5.206 Google's position in publisher ad serving is strengthened by the presence of substantial barriers to switching. Most publishers responding to our information requests submitted that switching to another ad server is a technically complex process because of how deeply integrated an ad server is into a publisher's systems. The process would be costly and take several months to complete. In addition to the direct costs of switching, there are operational risks and the possibility of demand losses resulting from the transition. For example, the time and effort that the publisher would need to invest in familiarising itself with the new ad server and learning strategies to optimise revenues on the new system would hamper its ability to innovate to maximise its revenues. Moreover, publisher ad servers typically do not support the transfer of data between them. Loss of historical data after the switch makes accurate inventory forecasting impossible, which can result in either over or underselling.

Google's ability to use its market power in inventory and data to advantage its own DSP services

5.207 The first set of concerns is that Google uses the importance for advertisers of its owned and operated inventory and the richness of its data for targeted advertising to strengthen its position as a DSP provider in open display.

5.208 As discussed above, Google has access to very rich user data. These data allow Google to create detailed audiences, which are made available for targeting in open display only through Google's own DSP services (DV360 and Google Ads). In addition, advertisers can buy YouTube inventory programmatically only through Google's DSPs. This affects advertisers' choice of DSP for non-Google inventory as well, because a single DSP is typically used for a given campaign. Using a single DSP gives advertisers the ability to manage frequency across the entire campaign, making sure that the same ad is not served too frequently to the same consumer. Therefore, if an advertiser wants to include YouTube in a campaign, it has a strong incentive to use Google's DSP for the entire campaign.

5.209 The effectiveness of this strategy is confirmed by submissions we received from advertisers in relation to DV360, which is used by larger advertisers and

media agencies to buy display advertising.²⁷⁴ Every respondent to our information request used DV360, although in many cases they also used other DSPs, depending on the campaign. All those advertisers who had decided to use a single DSP across all their campaigns chose DV360. Based on advertisers' submissions, the main reasons for choosing DV360 include the use of Google's proprietary data and affinity audiences, and exclusive access to YouTube inventory, in addition to its integration with the rest of Google's ad stack and its access to a large advertising inventory across the internet.

5.210 We heard three main counterarguments from Google:

- Having an advantage in terms of data or inventory is not unique to Google. For example, Facebook and Amazon have extensive user data that can be used for targeting purposes and make it available to advertisers only through their platforms; they also control, especially in the case of Facebook, a large advertising inventory on their consumer-facing platform. However, Facebook has a limited presence in the open display market, and Amazon is currently a much smaller competitor to Google as a DSP (although it is growing rapidly).
- Although YouTube inventory has not been available on AdX, and therefore not accessible to non-Google DSPs, since 2016, even before that third-party DSPs accounted for [a small percentage] of spend on YouTube. YouTube mobile inventory was never available to third-party DSPs, nor was TrueView inventory,²⁷⁵ which is sold using proprietary algorithms and pricing models different from the real-time bidding model used by DSPs bidding into AdX.²⁷⁶ However, the fact that YouTube inventory was only available on a restricted basis even before 2016 does not remove the potential concerns about the impact on current market conditions of the tying of YouTube inventory to Google's DSP.
- Some other DSPs have been able to attract advertisers by investing on their technology and providing a more customised service and easier integration of advertisers' own data. However, these appear to be significantly smaller than Google, and have told us that one of the main

²⁷⁴ Our analysis indicates that DV360 has a larger share of supply than any non-Google DSPs (see Appendix C).

²⁷⁵ TrueView allows users to skip an ad after five seconds, and the advertiser behind a TrueView ad is only charged if the user watches the full ad or 30 seconds, whichever is shorter.

²⁷⁶ Google introduced the programmatic buying of TrueView inventory through DV360 in response to advertiser demand. Google told us that launching this in a manner that protected consumer privacy was a resource intensive and technically complex endeavour, which took almost three years to accomplish.

barriers they face is the ability of Google to tie its inventory into its DSP services.

5.211 Finally, Google may be also able to leverage its market power in search inventory into display advertising. Google Ads is the main route through which advertisers, especially smaller ones, buy Google's search inventory. The importance of search inventory for advertisers makes Google Ads an extremely popular buying platform. Advertisers using Google Ads for their search campaigns can easily extend the scope of their campaigns to display advertising. Indeed, Google Ads includes both Search and Display Network by default when an advertiser sets up a campaign on Google Ads.²⁷⁷ Moreover, Google Ads makes it extremely easy for small advertisers to build a display ad, offering a free tool for creating it and even providing pre-made images that can be added to text ads.²⁷⁸ All this makes it very attractive for smaller advertisers to use Google Ads not only for search, but also for display advertising on third-party websites. As a result, Google Ads constitutes an important source of demand for publishers.²⁷⁹

Links between Google Ads, Google AdX and Google's publisher ad server

5.212 The second set of concerns is that Google has made it difficult to access its advertiser demand (especially from Google Ads) through alternative publisher ad servers, thereby increasing its market power in ad serving and making it difficult for other providers to compete on the merits.

5.213 Demand from advertisers for third-party display inventory through Google Ads is overwhelmingly channelled through Google's own exchange, AdX (now part of Google Ad Manager). Between September 2018 and August 2019, the aggregate value of the impressions won by Google Ads through AdX was [several] times that of impressions won through other third-party exchanges. This suggests that publishers place a high premium on being able to access AdX demand.

5.214 In turn, it is difficult for publishers to efficiently access AdX demand from a non-Google ad server. Although AdX can receive requests from, and submit bids to, other ad servers, its demand cannot be easily placed in real-time competition with that from other SSPs. Unless an SSP is vertically integrated with the publisher ad server, the only way for it to compete with other SSPs with real-time bids is through a header bidding solution (or, if a publisher uses Google Ad Manager, through Google's Open Bidding). AdX, however, does

²⁷⁷ [AdHawk Blog: 7 Default Settings in AdWords That Lower Your ROI.](#)

²⁷⁸ See [Google Display Network, 'Build your ads'](#)

²⁷⁹ Our current estimate of Google Ads' share of supply is reported in Appendix C.

not participate in header bidding. As a result, if the publisher uses a non-Google ad server, AdX would compete with an 'expected' price, rather than with an actual bid. This system is inefficient for the publisher.

5.215 While other publisher ad servers may provide a technical solution to integrate AdX demand, this is not as efficient as header bidding and presents several limitations. An ad server provider told us that the only way publishers using its ad server can benefit from Google Ads demand is to first run an auction of all non-Google demand and, then, to dynamically call an ad unit in Google Ad Manager, setting a floor price equal to or higher than the price returned from the auction for all non-Google demand. Google will then run its own auction. This process is highly inefficient. The main issue is around latency, as the publisher has to wait for two separate auctions to complete in sequence. Latency degrades the customer experience of the publishers' users, and risks loss of revenue if the impression is lost due to the delay in serving an ad. The process also increases costs, because the publisher has to pay ad serving fees to both the main ad server provider and Google. This system also potentially gives Google a 'last look' advantage, as Google knows the winning price of the non-Google demand before it runs its auction. Finally, this is a technically complex set-up that requires significant effort by both the publisher and the ad server provider to implement and maintain.

5.216 Google told us that its decision not to participate in header bidding was due to several reasons, including the fact that header bidding increases latency and harms consumer experience, the lack of transparency about what header bidders actually pay, and the impossibility of ensuring that impressions sold via header bidding are sold in compliance with data protection laws.

5.217 The effect of linking Google Ads demand to AdX and AdX to Google's publisher ad server is to increase the barriers publishers face in switching from Google to a different ad server, reducing competition in ad serving. The main concern some publishers expressed around switching to a non-Google ad server was not related to the costs and risks discussed above, but to the risk of not being able to access demand from AdX, and therefore from Google Ads, in an efficient manner.

5.218 In addition, linking Google Ads demand – where Google may be able to extract a significant rent – with the publisher ad server may provide Google with a greater incentive to foreclose rival providers along the intermediation chain.

- First, this link may allow Google to soften rivals' ability to compete. Google could implement such a strategy by credibly committing to price aggressively on the ad serving market, leading to the exit of competitors

or depriving them of economies of scale. In this regard, we have been told that Google has implemented a very aggressive sales strategy for its publisher ad server, charging very low prices for ad serving and, in some cases, offering guaranteed media spend to publishers signing up to Google Ad Manager. We will explore these concerns in the second part of the study.

- Second, Google has an incentive to degrade the quality of rival providers, by favouring its own intermediation services, so that rivals are less attractive to publishers, making a foreclosure strategy less expensive to implement. In the following paragraphs, we explain how Google may have historically favoured, and may still be favouring, its own SSP.

Self-preferencing between Google's publisher ad server and AdX

5.219 A third area of concern is that Google may be able to use its position as the largest publisher ad server to favour its own demand from AdX.

5.220 Historically, and at least until the most recent changes to how Google Ad Manager operates, AdX had an advantage over other SSPs when Google's publisher ad server was used. The nature of this advantage changed through the years as a result of the evolution of the intermediation ecosystem; this is discussed in Appendix H.

5.221 Google has recently announced its decision to change how its publisher ad server works, introducing a unified first-price auction in which the winning header bidding SSP, the DSPs bidding into AdX, and SSPs participating in Open Bidding will take part. As part of this transition, Google has made the policy decision to remove AdX's ability to observe the bids submitted by header bidding SSPs before running its own auction, the so-called 'last look' advantage. While this decision should lead to a fairer competition between different SSPs, some publishers told us that the bidding information they receive from Google Ad Manager does not allow them to effectively verify that the auction is conducted fairly. Google still has the incentive to favour its own services and some other changes introduced with the move to a unified auction may still give AdX an advantage, as we discuss below.

5.222 Publishers typically measure the value of their SSPs based on the incremental revenue driven by each provider. Doing so requires the ability to compare the winning bids received from an SSP with the second-highest bids received for the same impressions: the higher the difference, the higher the value of that SSP for the advertiser. Following recent changes in the bidding data that Google Ad Manager provides to publishers, it will no longer be possible for them to compare the performance of non-Google SSPs versus

AdX, ie comparing the winning bid from a non-Google SSP with the bid received from AdX. As a result, SSPs will find it increasingly difficult to demonstrate how they add value for publishers, while publishers will have less incentive to sustain the costs of integrating non-Google SSPs through header bidding.

- 5.223 In relation to this change, Google told us that the data files that include AdX non-winning bids were only made available in August 2017 as an ‘alpha’ feature, giving buyers the option to opt out of sharing their bid data with publishers. The possibility to opt out was removed with the transition to unified auction. This, however, required Google to eliminate the possibility to link non-winning bids to specific impressions, and therefore to individual consumers. The restriction was also prompted by consumer privacy considerations.
- 5.224 Google has also introduced a new piece of information that Google Ad Manager will send to AdX and to Open Bidders after an auction is completed – the ‘minimum bid to win’. These bidders will receive information on the minimum bid that would have allowed them to win an auction. Google told us that this benefits buyers by allowing them to improve the competitiveness of their bid; in turn, the increased demand-side transparency and bid accuracy benefits publishers by improving auction competition, which drives publisher revenues. While this information cannot be used to bid on the same auction, as it is provided ex-post, it is useful for training bidding algorithms in future auctions. This information is provided to SSPs bidding through Open Bidding but cannot be provided to those bidding through header bidding, as Google Ad Manager does not know the identity of header bidders. As a result, it provides an incentive for non-Google SSPs to use Open Bidding rather than header bidding. When using Open Bidding, however, SSPs are charged an additional fee, placing them at a disadvantage compared to AdX.

Self-preferencing between Google’s DSP and SSP

- 5.225 The fourth area of concern is that Google could potentially be favouring its own SSP by preferring it when DV360 decides where to submit its bids. As publishers typically work with multiple SSPs, DSPs receive multiple bid requests related to the same ad opportunity. While there is currently no way to efficiently de-duplicate such requests, some DSPs have developed systems to reduce the volume of bid requests that reach them, reducing the costs they have to sustain to listen to the bid stream and respond to bid requests. It is therefore possible that a company operating a DSP may favour its own vertically integrated SSP when deciding where to bid. One advertiser told us that the activity reports it receives from DV360 show that it heavily relies on AdX.

- 5.226 However, Google told us that DV360 submits a bid for each bid request with a suitable impression according to the parameters set by the advertiser. Moreover, we note that there are efficiency reasons why a DSP would tend to buy impressions from its vertically integrated SSP more often than from other SSPs. As discussed earlier in this section, when the DSP and the SSP are operated by the same company, they use the same user identifier, eliminating the loss of data due to failed cookie matching. In addition, the low level of latency in the communications between the DSP and SSP means that the bid submitted by the DSP will always reach the SSP before the auction closes, unlike with third-party SSPs.
- 5.227 On the other hand, these technical efficiencies, in the context of the issues discussed above – Google’s market power in ad serving and the preferential treatment of AdX by Google’s publisher ad server – provide a further advantage for DV360 over competing DSPs, in addition to those already discussed above. When Google’s ad server is used by the vast majority of publishers and AdX has an advantage compared to other SSPs when bidding into it, a DSP like DV360 which does not suffer from loss of data or latency when bidding into AdX becomes an even more attractive option for advertisers.

Potential impacts of privacy concerns and data protection legislation

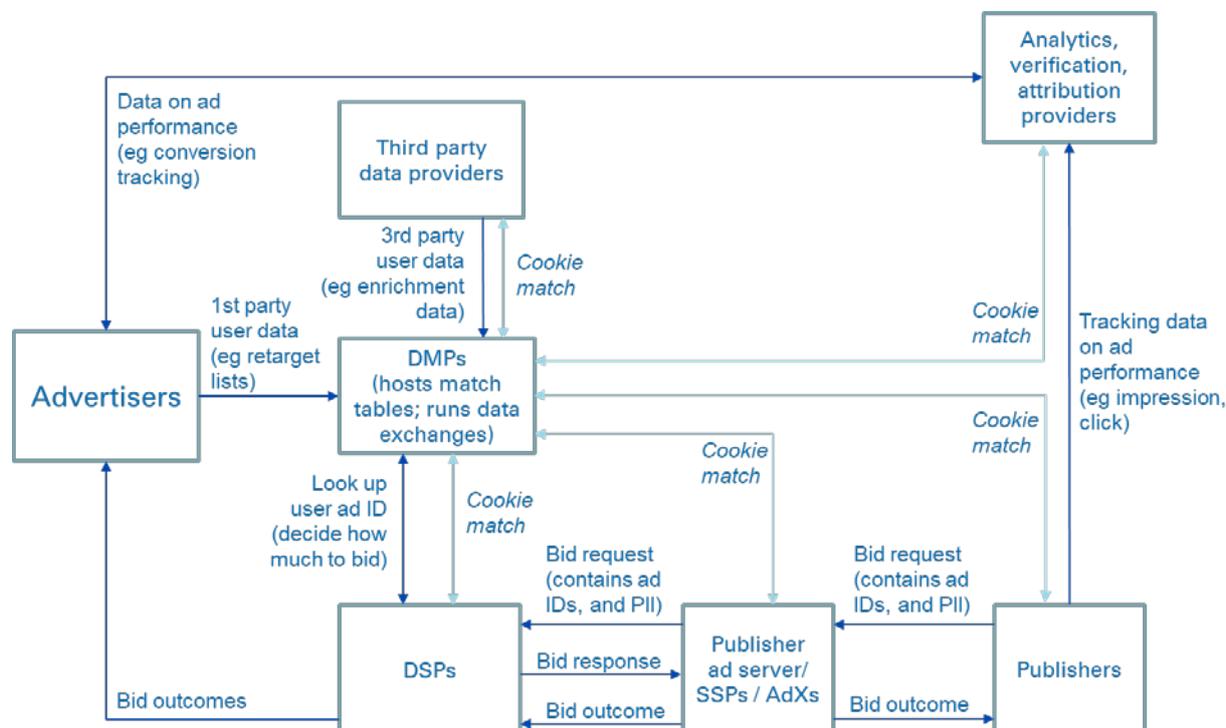
- 5.228 As discussed in Chapter 4, one of the overarching concerns highlighted by market participants was the potential impact of privacy concerns and data protection legislation (including GDPR) on how the open display market might develop. We heard two broad areas of concern:
- first, that the GDPR might lead to continuing consolidation of the display advertising market within vertically integrated ‘walled gardens’ and make it harder for independent intermediaries to compete with the likes of Google in the open display market; and
 - second, that GDPR and privacy concerns have been used to justify a reduction in sharing of data with other market participants including publishers, which exacerbates the concerns about lack of transparency in the market.

Impact on competition in the open display market

- 5.229 Programmatic advertising relies on an extensive chain of data flows. When publishers make a bid request, advertisers and DSPs attempt to match a publisher’s user ID with their own data about the individual in order to provide

personalised advertising. Figure 5.11 illustrates the typical flows of data between parts of the open advertising chain.

Figure 5.11: Example flows of data in open real-time bidding (browser impression)



Source: CMA.

5.230 There are relatively few transfers of personal data between different entities for a transaction conducted entirely within a vertically integrated platform because the platform can make use of its own data on the individual in order to provide personalised advertising – ie the data flows remain within the ‘walled garden’. By contrast, third-party intermediaries in the open display market rely on being able to match different sources of third-party data, for example by using cookie-matching.

5.231 The ICO has stated that, due to the provisions of the PECR, which provide specific rules regarding the use of cookies and similar technologies, consent is required for the processing of personal data in bid requests, and that in practice consent is also the most appropriate lawful basis for other processing. Where personalisation does not involve processing activities to which PECR applies, legitimate interests may also be considered on a case by case basis. The ICO’s Update Report into Adtech and RTB also stated that in the current ecosystem it is not possible for consumers to provide valid consent to the processing of their personal data (including special category data such as political opinions, religious beliefs and data relating to health). This is due to PECR’s requirements and also because of the nature of the processing. The data may be shared with an unknowable (from the

perspective of the consumer) and large number of parties, with unknowable controls and security measures. This means that the consumer would never be fully informed about what happens to their data and would not be able to exercise their rights over that data.

5.232 For reasons discussed in detail in Appendix H, it is challenging for intermediaries that do not offer user-facing services to obtain consent. At the extreme, this could mean that third-party intermediaries would need to radically reduce the number of other parties they shared a consumer's personal data with to a level the consumer could realistically understand so as to give valid consent to targeted personalised advertising. This would increase, potentially very significantly, the data advantage of the large platforms that have their own rich sources of first-party user data. We expect that this in turn would increase the competition concerns in the open display market outlined above.

Reduction in data sharing by the platforms

5.233 We have also heard concerns that data protection legislation is being used by the platforms to justify moves to limit the amount of data that is shared with other market participants. Examples of decisions that have led to such data limitations include:

- Google's decision to remove time stamp data from bid requests – previously publishers could attempt to match their own information on advertising impressions with advertiser-side data by using the time stamp of the impression as a common identifier of that consumer. We were told that Google has recently made the time stamp information less precise, so that publisher and advertiser-side data on a consumer can no longer be matched. Publishers have told us that this reduces their ability to understand financial flows across the ad tech chain.
- Google's decision to prevent the DoubleClick user IDs being accessed by ad buyers – the DoubleClick ID pulls together data from the company's various ad and consumer-facing products around a unique user ID associated with the DoubleClick cookie. It allowed ad buyers to pull data out of DoubleClick Campaign Manager (now part of the Google Marketing Platform) for reporting on ad performance and ad attribution. Although advertisers can now access reporting, attribution and measurement insights using Google Ads Data Hub, they cannot export the data. Google indicated that the DoubleClick ID could be tied to sensitive information like user search histories and could violate the strict data privacy requirements of GDPR. Ad buyers have suggested that stripping out the DoubleClick ID cuts off visibility to user activity within the DoubleClick

ecosystem, which made it almost impossible to compare ad performance between ads purchased through the Google ad tech stack and ads purchased through other intermediaries. Advertisers have also suggested that the change made independent ad attribution much more difficult.

5.234 It is not clear whether these examples go beyond the requirements of data protection legislation. However, they illustrate a basic tension between privacy concerns about the sharing of personal data and the desire of market participants to gain access to additional information on consumers to both to target advertising to the right people and to evaluate how effective their adverts are in respect of particular consumers, in order to be able to compete more effectively with the large platforms. We discuss some potential interventions in Chapter 6 which may reduce, but not completely remove, the trade-off between user privacy, activities that contribute to the efficiency of the digital advertising market (behavioural targeting, verification and measurement), and the ability of market participants to compete effectively with the large platforms.

Initial findings on open display

5.235 The evidence we have reviewed so far suggests that lack of transparency on fees is a significant issue in the open display market. This may limit the extent of competition between SSPs, reduce the competitive pressure faced by DSPs, and give rise to rent-seeking behaviour and arbitrage opportunities. The outcome would be lower revenue for publishers, leading to a reduced incentive for them to invest in content, to the detriment of final consumers.

5.236 Moreover, the evidence suggests that, in recent years, the intermediation ecosystem has been going through a process of consolidation and vertical integration. While vertical integration can generate technical efficiencies to the benefit of both advertisers and publishers, it can also give rise to conflicts of interest and allow companies with market power at one stage of the value chain to leverage it in other parts of the industry, potentially foreclosing competing providers.

5.237 Specific concerns have been raised about Google, which is present along the entire intermediation chain. Google may be able to exploit its position on both sides of the market and to leverage its market power in search advertising, its advantages with respect to user data and its control over a large own-and-operated display inventory to strengthen its position in advertising intermediation. In particular, Google:

- may be able to use the importance for advertisers of its owned and operated inventory and the richness of its data for targeted advertising to strengthen Google’s position as a DSP provider;
- has made it difficult to access its advertiser demand (especially from Google Ads) through alternative publisher ad servers, thereby increasing its market power in ad serving and making it difficult for other providers to compete on the merits;
- may be able to use its position as the largest publisher ad server to favour demand from its own SSP; and
- may also favour its own SSP by preferring it when its DSPs decide where to submit their bids.

5.238 Privacy concerns and the application of GDPR are likely to have a significant impact on the market, reinforcing the trend towards vertical integration and potentially increasing the data advantage of the large platforms that have their own sources of first-party user data, making it harder for third parties to compete. These trends could exacerbate the existing competition concerns.

5.239 Refer to Appendix H for a more detailed explanation of how intermediation in open display advertising operates. Potential interventions to tackle our concerns about transparency and conflicts of interest are set out in the Chapter 6.

The relationship between large digital platforms and publishers

5.240 The previous section discussed the issues faced by publishers when they sell digital advertising via intermediaries in competition with walled gardens. In this section we examine the other relationships publishers have with Google and Facebook.

5.241 Publishers of online content rely on Google and Facebook to host content or for referrals of traffic to their online properties, which they can then monetise by displaying advertising to these visitors. However, online publishers consider that they face an imbalance of bargaining power with Google and Facebook, which disadvantages their businesses in a number of ways.

5.242 This section draws on evidence we have received from a number of large publishers of online content aimed at a UK audience.²⁸⁰ These submissions

²⁸⁰ Guardian News and Media, Independent News and Media, Reach UK, Daily Mail, The Telegraph, Reach plc, Sky, Vice, JPI Media and eBay.

come from a range of publishers including traditional news publishers – who have transitioned from print-based distribution of content towards either a mix of print and online distribution or solely online distribution – and ‘digital-first’ publishers.

5.243 Below we first set out the various relationships publishers have with Google and Facebook and then our preliminary analysis of the potential imbalance in bargaining power between publishers and these platforms.

Relationships between publishers and large digital platforms

5.244 Publishers typically identified Google and Facebook as being by far the most important digital platforms for their businesses. Apple, in its role as a supplier of a large mobile operating system and its Apple News service, was also mentioned as being important by a number of publishers, but its importance was generally rated as being significantly below that of Google and Facebook.

Publisher business models

5.245 Publishers describe employing three broad types of business model to monetise their digital properties. The type of digital business model affects how the publisher generates revenues and how it interacts with Google and Facebook. Broadly the three types of business model are:

- Subscription based – where the prime focus of the publishers is to turn an engaged audience into paying subscribers;
- Traffic/digital advertising based – where the main goal is to drive traffic towards the publisher’s webpages and monetise this in the form of targeted digital advertising displayed to visitors; and
- Monetisation of content on posted third-party platforms – publishers post content on third-party platforms, usually social media, and use the monetisation tools made available by those platforms – such as the sharing of advertising revenues – to generate revenue.

5.246 In practice, most of the publishers blend some aspects of all three of these business models and depend to a significant degree on Google and Facebook for the success of their business models.

Interaction with Google’s consumer-facing services

5.247 Online publishers interact with the consumer-facing services of Google in a number of ways.

- 5.248 The most important interaction is with Google Search, which is a very significant referrer of traffic to online publisher websites both via organic and, to a lesser extent, paid search results.²⁸¹ Prominence in the organic results of relevant Google searches is considered extremely important by online publishers. As a result, significant resources are devoted to optimising the positioning of web pages in Google search results (an activity known as search engine optimisation – SEO). In addition, almost all publishers we spoke to told us that they engage in paid search activity to increase the prominence of their web pages in Google search results.
- 5.249 YouTube was also considered very important for their businesses: all of the publishers we received submissions from reported that they post content on YouTube. Their aims in doing so are threefold: firstly, to drive traffic back to their websites; secondly, to generate awareness to their content and brand; and thirdly, to generate revenue via YouTube advertising and, to a lesser extent, subscriptions.
- 5.250 Publishers of content on YouTube can be eligible for a share of advertising revenue on YouTube if the content meets certain standards and a threshold number of views is passed. Where this is the case, YouTube sells advertising, displayed at the beginning (pre-roll) and during (in-stream) of publisher content. Publishers told us that they receive around 55% of any consequent advertising revenue. In some cases, publishers can arrange for their directly sold advertising to appear alongside their content. In addition, content publishers have the option to earn revenue from subscriptions.²⁸²
- 5.251 One other aspect of Google’s consumer-facing services that is considered very important by publishers is Accelerated Mobile Pages (AMP). AMP is a publishing format for mobile devices that enables the fast loading of content in browsers. In order to enable fast page loading, AMP employs an optimised and restricted version of the code used to build web pages, and web pages are cached within the AMP ecosystem.²⁸³ As pages are cached, usually by Google, consumers remain within the Google ecosystem whilst browsing an AMP page.²⁸⁴

²⁸¹ For search items considered to have ‘news intent’, Google Search may also present the consumer with a ‘Top Stories’ carousel sourced from news results that Google crawls and places in a separate index to its standard search index. Results delivered via the separate ‘news’ and ‘video’ tabs can also be important sources of traffic for online publishers.

²⁸² See [Google.com ‘How to earn money on YouTube’](#).

²⁸³ This means that pages are effectively pre-loaded to the AMP system to enable faster upload to the consumer device. See how [‘AMP pages are cached’](#).

²⁸⁴ There are two currently operators of AMP caches, Google and Bing. Content publishers do not choose which cache to use, as this is selected by the platform’s themselves such as Google.

5.252 Publishers told us that they need to put web pages in AMP format, because they think that gives them greater prominence in mobile search results. In particular, it was noted that only AMP pages will appear in the ‘Top Stories’ carousel that are shown in the results of searches with ‘news intent’. Publishers considered that, for the most part, AMP pages operated in a similar way to their regular mobile web pages. However, as is discussed in more detail below, they have concerns around restrictions on their ability to monetise these pages and their ability to access data generated from consumers’ interaction with them.

5.253 Another Google consumer-facing service that was mentioned by several publishers was the Google News website and app. However, its importance was considered to be much lower than that of Google Search and YouTube. Google News collects information from other online publishers and presents it to consumers as a collated, curated product.²⁸⁵ In principle, publishers are eligible for a share of any advertising revenue for ads that appear alongside their content, but Google does not currently display advertising on Google News.

Interaction with Facebook’s consumer-facing services

5.254 Facebook is another key source of consumer traffic for publishers. Publishers post content on their own Facebook pages with the aim of generating awareness of their content and brand and of referring traffic back to their websites and apps. Publishers report that they have little or no opportunity to directly monetise what might be termed standard content on their Facebook pages.

5.255 Facebook’s News Feed is another key source of traffic.²⁸⁶ To post content in Facebook’s News Feed, a number of publishers put their web pages in into Facebook’s Instant Articles (IA) format. Similar to AMP, IA is a publication format that has been designed to allow mobile pages to load faster,²⁸⁷ but in the case of IA it is only in use on the Facebook mobile app. Publishers receive a [majority] share in advertising revenue generated by Facebook from adverts that appear alongside their IAs. They also have the option to insert their own

²⁸⁵ Consumers are presented with news stories collated under a series of categories such as ‘Top Stories’, ‘For You’ and ‘Your Local News’. Stories are presented as a headline, usually with a hyperlink back to the source website, although some content may be viewed within Google News itself.

²⁸⁶ The News Feed is the constantly updating list of stories in the middle of a consumer’s home page, including status updates, photos, videos, links, app activity and likes from people, pages and groups the consumer follows on Facebook.

²⁸⁷ Facebook states that [Instant Articles](#) load 10 times faster than standard mobile web articles and that consumers read 20 per cent more Instant Articles on average and are 70 per cent less likely to abandon an Instant Article than a standard mobile web article.

directly sold advertising alongside their IA and, where they do this, they receive 100% of the advertising revenue.²⁸⁸

5.256 Several publishers also post content on Facebook’s video hosting service Facebook Watch, although several considered that doing so was not worth their while, given the effort required. Where they post content of Facebook Watch, publishers may be eligible for a share of advertising revenue where the content meets certain standards and a threshold of views is surpassed, and they receive approximately 55% of any revenue for advertising displayed alongside their content.²⁸⁹

Google and Facebook as a source of traffic for publishers

5.257 We have analysed website traffic data from a number of large publishers.²⁹⁰ This data shows that in 2018 and 2019 these publishers relied on Google and Facebook properties for around between 36% and 38% of total traffic to their websites, see Table 5.1 below.

Table 5.1: Sources of Website traffic for online publishers

Year	Website traffic from Google, Facebook and Direct visits ²⁹¹								
	All traffic			Desktop/Laptop			Mobile		
	Google	Facebook	Direct	Google	Facebook	Direct	Google	Facebook	Direct
2019	25%	13%	43%	26%	4%	55%	25%	17%	38%
2018	26%	10%	44%	29%	4%	52%	25%	14%	40%

Source: CMA analysis of publisher data

5.258 Based on publisher submissions in 2018 and 2019 (up until June) the average proportions of traffic to their websites that were referred via Google properties was 26% and 25% respectively (for 2019 min was 8% and max was 57%). Referrals from Facebook properties were responsible on average for 10% of website visits in 2018 and 13% in 2019 (for 2019 min was 2% and max was 47%). Direct website visits were the most important source of traffic with 44% of visits being direct in 2018 and 43% being direct in 2019 (for 2019 min was 6% and max was 57%). Other visits come from what are termed ‘other third-party referrals’, for example referrals from Snapchat or Instagram.

²⁸⁸ See [Facebook.com ‘Monetise your Instant Articles with Audience Network’](#).

²⁸⁹ See [Facebook.com ‘About rules for monetisation’](#).

²⁹⁰ This analysis includes traffic data for the following websites: The Independent, The sun, The Times, The Daily Mail, The Telegraph, Reach PLC websites, Sky websites, and all Vice websites.

²⁹¹ Other visits come from what are termed ‘other third-party referrals’ for example referrals from Snapchat or Instagram.

The balance of bargaining power between online publishers and Google and Facebook

5.259 Publishers have told us that they view Google and Facebook as ‘must have’ partners. This is primarily due to a substantial proportion of the traffic referred to their websites coming from Google and Facebook properties and a degree of reliance on prominence on Google and Facebook properties for content discovery and brand awareness.

5.260 As a consequence of this reliance on Google and Facebook for traffic, publishers told us that they suffer from an imbalance of bargaining power when dealing with these platforms. This was an issue that was also raised as part of the Cairncross Review, which concluded that ‘Google and Facebook also increasingly control the distribution of publishers’ content online’ and that as a consequence ‘these platforms can impose terms on publishers without needing to consult or negotiate with them’.²⁹²

5.261 This potential imbalance of bargaining power has led to publishers expressing a number of concerns about how their relationships with Google and Facebook result in them being disadvantaged. The most significant of these are explained below.

Unexpected and unexplained changes to search algorithms

5.262 Most publishers expressed some concern about unexpected and unexplained changes to Google and Facebook search algorithms, most notably in relation to Google Search and Facebook News Feed. Specific examples of several algorithm changes which significantly impacted website traffic were mentioned, including:

- Facebook’s announcement on 18 January 2018 that from that day its News Feed ranking algorithm would prioritize ‘meaningful interactions’ from friends and family over content from brands.²⁹³ This change had the impact of deprioritising content from some online content publishers in the News Feed ranking of many Facebook users.
- Google’s 3 June 2019 core search algorithm update announced a change being implemented the following day which resulted in a step change in the daily traffic arriving at many news websites via Google Search. Some

²⁹² See page 57 ‘The Cairncross Review: A sustainable Future for Journalism’ February 2019.

²⁹³ See [Hootsuite blog, April 2018, ‘How the Facebook algorithm works and how to make it work for you’](#).

sites saw an increase in daily traffic arriving via Google Search, but others saw significant decreases.^{294,295}

- 5.263 Publishers have argued that a reduction in website traffic resulting from an algorithm change has a direct financial consequence for their business in the form of lost opportunities to monetise these visits through advertising. Furthermore, they told us that sudden, unexplained and significant algorithm changes make planning and financial decision-making more complicated and can lead to significant, potentially wasteful, expenditure on understanding these opaque algorithms and optimising content to appear high up in the rankings.
- 5.264 Publishers broadly are of the view that they do not get sufficient warning of algorithm changes or sufficient explanation of their impact or of what they might do to mitigate any loss of traffic. A number of publishers have suggested that there should be a role for a regulator to monitor and report on the main Google and Facebook search ranking algorithms.
- 5.265 Whilst some publishers feel very strongly about algorithmic transparency and considered it to be of critical importance to their businesses, for others it was less of an issue and was viewed more as a consequence of doing business with Google and Facebook which they have, to a degree, grown used to.
- 5.266 Whilst publishers have a number of issues with the approach taken by Google and Facebook to updating their algorithms, we note that there are legitimate reasons for regularly updating search algorithms as these are central to improving the consumer experience of Google and Facebook properties. There are also arguments to support the idea that too much transparency regarding these algorithms might be counter-productive as providing too much information might allow businesses to effectively ‘game’ the algorithm by knowingly drafting or changing content to increase their rankings.

Use of Publisher content for ‘free’

- 5.267 Publishers provide content into the Google and Facebook ecosystems in three main ways: firstly, by posting content on their social media platforms, such as Facebook’s main site and YouTube; secondly, through hyperlinks and short explanatory ‘snippets’ of content that appear within Google’s organic search ranking pages; and thirdly when utilising the publication formats AMP and IA.

²⁹⁴ See [Google SearchLiaison update 2 June 2019](#).

²⁹⁵ See [Searchengineland.com update 6 June 2019](#).

- 5.268 Some publishers argue that Google and Facebook effectively ‘free ride’ on content produced by third-party publishers and that this includes professionally produced content – whether that be breaking news, analysis, features, entertainment or sport, produced by publishers under their editorial responsibility and legal liability. They argue that, without this, Google and Facebook would attract less traffic to their platforms and would consequently generate less advertising and have fewer opportunities to collect valuable user data.
- 5.269 Some publishers have also argued that there is an increasing tendency for content to be consumed within the Google and Facebook ecosystems without clicking through to the source websites. A European Commission report in 2016 reported that 47% of UK individuals surveyed said that when they access the news via news aggregators, online social media or search engines, they most often browse and read the main news of the day without clicking on links to access the whole articles.²⁹⁶
- 5.270 A couple of publishers referenced a recent study by the News Media Alliance (NMA). This estimated that Google receives \$4.7 billion in revenue from News Publishers’ Content worldwide in 2018.²⁹⁷ The methodology of this study is however limited²⁹⁸ and, as Google pointed out in response, ‘the overwhelming number of news queries do not show ads’²⁹⁹ and no advertising is currently displayed on Google News.
- 5.271 Publishers have also mentioned that, while they consider that Google and Facebook benefit significantly from using their content, they cannot always easily monetise content that is hosted on Google and Facebook properties. As we note above, publishers do not benefit from advertising that is placed next to ‘standard’ Facebook content. Publishers can benefit from advertising revenue that is generated from their own content posted on YouTube, Facebook Watch and through IA. However, several publishers have suggested that the mechanism by which they receive the remuneration is opaque and that any revenues they receive are limited. Publishers have also suggested that their ability to monetise content hosted on AMP is significantly reduced when compared to their standard mobile web pages. One of the reasons suggested for this was that AMP does not currently support client-

²⁹⁶ [‘Internet users’ preferences for accessing content online’, European Commission, Flash Eurobarometer 437 \(March 2016\), page 33.](#)

²⁹⁷ [See News Media Alliance, June 2019, ‘New Study Finds Google Receives an Estimated \\$4.7 Billion in Revenue from News Publishers’ Content’.](#)

²⁹⁸ It takes an estimate stated by a Google executive for news related revenue in 2008 (\$100m) and simply extrapolates this to 2018 by assuming that Google revenue from news represents that same proportion of total revenue from Google properties in 2018 as it did in 2008.

²⁹⁹ As referenced in [New York Times article, 9 June 2019.](#)

side header bidding and that, whilst a form of server-side header bidding is supported, the number of partners they are able to integrate into this is limited to five or less.³⁰⁰

5.272 Google and Facebook have previously argued that they do not receive third-party content for free from online publishers, but that in fact the publishers receive a significant volume of web traffic in return for their content. In response to the NMA study, Google stated that ‘Google News and Google Search drives over 10 billion clicks to publishers’ websites, which drives subscriptions and significant ad revenue’.³⁰¹ In a submission to the EU, as part of its development of the EU Copyright Directive, Google submitted research that it said showed that News publishers in the EU benefited significantly in financial terms from traffic referred to their websites by third parties (including Google Search).

5.273 One potential development in this area is the EU Copyright Directive,³⁰² which was approved in April 2019. The Directive provides media businesses with rights governing the online use of their content by information society service providers (which would include digital platforms). However, it explicitly states that this right shall not apply to the ‘acts of hyperlinking’ and ‘in respect of the use of individual words or very short extracts of a press publication’.

5.274 Publishers were sceptical that the Directive would have any material effect of their ability to negotiate with Google and Facebook over the use of their content even if it were to be adopted into UK law. Although one noted that, in principle, it could enable publishers to negotiate licensing agreements for the distribution of journalism through search and social platforms with market power, the prevailing views were that either its impact was highly uncertain or that there would be very little impact. Particular points of concern were that implementation of the Directive would lead to less content appear on these platforms or that publisher would have little choice but to enter into licencing agreements with the platform for no remuneration in return.

Giving up of valuable user data without reciprocation

5.275 Google and Facebook are able to collect and use individual data from consumers who interact with content on the publisher platform. Often the use of Google and Facebook analytics services by a publisher leads to the placing of a cookie when the service is accessed or a pixel on the publisher website. In addition, if content is consumed within the AMP or IA publication of formats,

³⁰⁰ See: [Github.com ‘AMP Real time config’](https://github.com/ampproject/amphtml/blob/master/extensions/amp-analytics/amp-analytics.js).

³⁰¹ As referenced in [Guardian article, 10 June 2019, ‘Google made \\$4.7bn from news sites in 2018, study claims’](#).

³⁰² See [EU Copyright Directive](#).

then the consumer remains in the Google or Facebook ecosystem and, therefore they have access to data on the consumer interaction. Google and Facebook are able to use this data to develop their services, to deliver targeted digital advertising and improve their ability to undertake ad analytics including ad attribution.

5.276 Publishers do not have access to the same level of data on consumer interaction with their own content, when hosted on Google and Facebook properties. Publishers report that they generally receive data that is very aggregated and anonymised, which they cannot match to their own first-party data to create consumer profiles across domains. Publishers expressed specific concerns about this with regard to Facebook, IA and YouTube.³⁰³ Publishers told us that the reason why data is only provided in an aggregated and anonymised form is generally stated as being due to privacy.

5.277 One impact of this ability of Google and Facebook to observe consumer interaction on many publisher sites is to reinforce the advantages they have over most other online publishers in offering targeted advertising due to their greater access to online data. In particular, this reinforces Google's and, to a lesser extent, Facebook's ability to track consumers across different web domains.³⁰⁴

5.278 There is also the possibility that access to data on consumer interactions on many publisher sites may undermine the value of that data to the publishers themselves. Access to this data by Google, may lead to it being used for targeting by Google ad tech companies for ads on sites other than the original publisher website. Therefore, data on a publishers' unique audience may be 'commoditised' and used to target ads on cheaper sites and apps, which might undermine the value of advertising inventory on a publisher's own website.

GDPR

5.279 A further example of the imbalance of bargaining power, cited by several publishers, was the approach taken by Google to updating its terms and conditions shortly before the introduction of GDPR. At the beginning of May 2018, just weeks before the GDPR came into effect, Google released its updated online T&Cs, to cover changes to its advertising services. The terms describe Google as a co-controller of data for certain of their advertising

³⁰³ This is much less of an issue with AMP where publishers report that they are able track the interactions of individual consumers although some have commented that they have difficulty matching this to their own first-party data.

³⁰⁴ A paper by [Engelhardt and Narayanan \(2016\)](#) 'Online Tracking: A 1-million-site Measurement and Analysis' suggests that Google is able to track 75%+ of web domains and Facebook around 25% of web domains.

products and require publishers to gain consumers' consent on Google's behalf to gather and utilise their data. Publishers consider that these changes were made in a non-negotiable way and that they had no choice but to accept this update to the T&Cs.

Initial findings on relationship between platforms and publishers

5.280 We have found that publishers frequently depend on large platforms as a significant gateway to consumers – for example through Google Search or the Facebook news feed. This can give platforms significant bargaining power over some publishers.

5.281 Manifestations of this relationship between publishers and platforms include:

- Changes in the platforms' search or ranking algorithms can have significant impacts on publishers' traffic, and ultimately their revenues.
- Platforms are able to use publishers' content to increase their attractiveness to consumers, and to monetise part of the value of that content through the sale of advertising.
- In some cases, publishers have to give data to the platforms as a condition for gaining access to consumers. This data can help the platforms to increase the value of their advertisers, and in some cases might also help the platforms in establishing their own additional consumer-facing services.

5.282 In Chapter 6 we consider potential interventions which might help prevent platforms from being able to unfairly exploit their bargaining position with respect to publishers.

Initial findings

5.283 Our initial analysis outlined in this chapter suggests that competition in digital advertising is driven primarily by competition for consumers' attention and data. Advertisers are attracted to online platforms and publishers that reach a large volume of consumers and can target advertising at individuals for whom their advertising is particularly salient. Where platforms have market power on the consumer side, this enables them to increase their rate at which they monetise consumer attention, either by increasing the volume of advertising or by increasing advertising prices, leading to worse outcomes for consumers.

5.284 Digital advertising is distinguished from traditional advertising in how data is used both to target specific audiences and to measure outcomes. Advertiser

choice is data-driven using measurable KPIs that broadly range from awareness to performance. The complexity of this process results in some transparency issues that could weaken competition or create potential for outcomes to be misreported.

- 5.285 Although all forms of advertising compete for consumer attention to some extent, advertisers use different forms of advertising for different purposes. Within digital advertising, search, display and classified advertising serve distinct purposes, with only limited substitutability between them. There is also a distinction within display advertising between video and non-video advertising. This means that platforms that control a significant share of a particular type of advertising inventory are able to exercise a degree of market power over advertisers.
- 5.286 Google has significant market power in search advertising. It has a very large share of search advertising revenues, reflecting its high share of searches on the consumer side. Other search engines face significant barriers to attracting advertisers, in addition to the barriers to building share on the consumer side. Google is viewed as a 'must have' channel for search advertising given its scale, and there are incentives for advertisers (particularly smaller advertisers) to single-home. Google is also able to use its access to data across a large proportion of the internet to provide higher-quality analytics and attribution services which increases the value of the advertising in a way that is very hard for other smaller search providers to compete with. These factors are reflected in the higher revenues per user that Google is able to earn relative to its competitors.
- 5.287 In display advertising, there are a large number of online publishers and apps selling inventory to advertisers. However, a significant majority of advertising revenues go to a small number of platforms. Facebook and Instagram jointly account for nearly half of display advertising revenues, and YouTube (owned by Google) is also a significant seller of video advertising. The large platforms have a significant data advantage over smaller competitors and publishers, which both increases the value of their advertising inventory and creates additional barriers for their competitors to overcome. As with search advertising, there are also incentives for smaller advertisers to single-home. As a result, the largest platforms are able to exercise significant market power over advertisers.
- 5.288 Other online publishers wishing to monetise their content through advertising have to sell inventory through the open display advertising market. This market relies on a complex chain of intermediation to auction advertising in real time and provide data for audience-targeting. The market has been consolidating largely through acquisitions over time, partly driven by efficiency

reasons, and more recently by concerns about the privacy implications of transferring data on consumers between third parties. As a result, there now appears to be significant concentration at several levels, with a continuing trend towards consolidation.

5.289 Google has a particularly strong position in the ad tech stack. This raises two main sets of concerns. First, Google's position as a provider of advertising intermediation services to both publishers and advertisers creates a conflict of interest, which is exacerbated by the lack of transparency in the market. Second, Google may be able to leverage the market power from its 'owned and operated' advertising inventory into the open display market, both extending its market power and protecting its core position in search advertising and data. As a result, we are concerned that publishers are likely to face worse outcomes than in a more competitive market.

5.290 We are continuing to carry out evidence-gathering and analysis on many of the issues highlighted in this chapter, so we would expect these interim findings to evolve during the study. In particular, we are carrying out further work in the following areas:

- further evidence-gathering to better understand advertiser behaviour, including differences between large and small advertisers and the degree of single-homing vs. multi-homing;
- more detailed analysis of money flows within the ad tech stack; and
- further analysis of advertising outcomes and the potential effects of market power.

6. Potential Interventions

- The evidence we have seen at this stage strongly supports the case for the development of a pro-competitive regulatory regime for online platforms funded by digital advertising, as envisaged by the Furman Review.
- An enforceable code of conduct would be a valuable regulatory tool in helping to address some of the concerns we have identified in the consumer-facing and digital advertising markets. As envisaged by the Furman Review, the code would apply to online platforms with strategic market status; our initial view is that this would include Google and Facebook. Overarching principles within a code could relate to: ‘fair trading’; ‘open choices’; and ‘trust and transparency’.
- Potential interventions to tackle the source of Google’s market power in search include third-party access to click-and-query data, and mechanisms for determining the default search engine on devices and browsers.
- In social media, potential remedies to tackle the source of Facebook’s power relate to increasing its interoperability with other platforms.
- We are considering options that would give consumers greater control over their data, including the ability to turn off personalised advertising and still receive the same service. We are also considering a fairness by design duty on platforms to ensure that they do not use defaults and choice architecture to unduly influence consumers’ decisions.
- We are considering a range of options to tackle the conflicts of interest and lack of transparency in the intermediated market for display advertising. These range from requiring greater transparency to various forms of separation of Google’s intermediation activities in the open display market.
- We recognise that several of these would be major interventions and therefore need careful consideration. We are seeking views from stakeholders on the costs and benefits of these potential remedies.

Introduction

6.1 In this chapter we present our initial views on potential regulatory interventions (also referred to as remedies) that could address the concerns identified in the previous chapters. The options discussed here draw on views and proposals put to us by stakeholders during the first half of the study. They also build on the proposals set out in the Furman Review for a stronger ex ante regulatory regime to govern the behaviour of online platforms, but take the discussion beyond high level principles to assess which specific interventions might be required in the markets within the scope of the study.

- 6.2 We have identified a range of concerns that are likely to require some form of intervention, but we have not yet reached a final view on them, or on the need for any specific intervention. Rather, our aim in this chapter is to highlight potential interventions for consultation, and to seek the views of stakeholders on the case for, and appropriate form of, these interventions. This will inform the conclusions we reach at the time of the final report, including on the appropriate next steps.
- 6.3 To support this chapter we have produced a series of appendices in which we consider the potential interventions in more detail, and seek views from stakeholders on a range of issues including: whether the intervention in question would be effective in addressing the concerns identified in this report; whether the costs of the intervention would likely outweigh the benefits; and how the intervention should be designed to minimise costs and maximise benefits.³⁰⁵
- 6.4 The chapter discusses the following:
- an overview of our approach to interventions in this area, based on the development of a robust pro-competitive regulatory regime;
 - our initial views on a potential code of conduct to govern the behaviour of platforms with strategic market status;
 - options for potential interventions to promote competition in search and social media, addressing the issues identified in Chapter 3;
 - options for potential interventions to give consumers greater control over, and protection in relation, to the use of their data, addressing the issues identified in Chapter 4; and
 - options for potential interventions to promote competition and improve transparency in digital advertising markets, addressing the issues identified in Chapter 5.

Overview: development of a pro-competitive regulatory regime

- 6.5 The work we have carried out in the study to date has strengthened the view we expressed in our statement of scope that there is a strong argument for

³⁰⁵ These remedy appendices are: I: Potential practices to be tackled through a code of conduct; J: Potential interventions in general search; K: Potential interventions in social media; L: Potential approaches to improving personal data mobility; and M: Potential interventions in digital advertising.

the development of an ex ante regulatory regime to regulate the activities of online platforms funded by digital advertising.

- 6.6 This would be a ‘pro-competitive’ regulatory regime, in that its objectives would be: to encourage competition by overcoming barriers to entry and expansion and thus tackling sources of market power; and to protect both competition and consumers where online platforms have a position of market power, by governing their behaviour to ensure they act fairly (and in particular, do not engage in exploitative or exclusionary practices).
- 6.7 While we have an open mind at this stage on the merits of some of the specific interventions that might be contained within it, we think that such a regime would be an important complement to our existing antitrust tools. In view of the fast-moving nature of the markets we have reviewed and the number and complexity of the issues arising within them, our view is that ex post enforcement is not sufficient to protect competition but needs to be bolstered with stronger and clearer ex ante rules.
- 6.8 Alongside addressing the specific concerns that we have identified in digital advertising markets and the consumer-facing services that are financed through digital advertising, we have aimed to inform the broader debate about the need to regulate the behaviour of large online platforms. In this context, our study supports the high-level positions set out in the Furman Review³⁰⁶ and the Stigler Center Review³⁰⁷ earlier this year, both of which called for stronger ex ante rules to address the competition concerns arising from the increasingly important role that large online platforms play in the economy.
- 6.9 In the UK specifically, we have aimed to support the government’s response to the Furman Review and its broader thinking on the case for regulating online platforms. While our study covers a subset of online platforms (those funded by digital advertising) these include some of the largest global platforms, and this focus has allowed us to explore concerns and potential interventions in more depth. As noted in our statement of scope, we believe that recommendations for government legislation in this area are likely to be one of the most valuable outcomes of our work. We will engage with the newly-elected government to understand its perspective on these issues in the second half of the study.

³⁰⁶ Furman Review (2019), [Unlocking digital competition](#).

³⁰⁷ Stigler Center (2019), Committee for the Study of Digital Platforms: [Report by the Market Structure and Antitrust Subcommittee](#).

6.10 Internationally, we have also engaged extensively with competition authorities in several countries in the first half of our study, many of whom are considering similar challenges to those we have identified in this study. These have included authorities in the US,³⁰⁸ Australia,³⁰⁹ Germany,³¹⁰ Japan,³¹¹ Netherlands,³¹² France³¹³ and Spain.³¹⁴ Given the fact that many of the issues we are considering are international in nature, we believe that it is highly desirable – particularly for any significant interventions that would have a major impact on a platform’s business model – that there is a broad consensus on the case for intervention. We hope that this study will help contribute to such a consensus.

Elements of the regulatory regime

6.11 The interventions that we assess in this chapter fall into two broad categories:

- principles and rules to govern the behaviour of platforms with market power, taking the form of an enforceable code of conduct; and
- interventions to address specific concerns relating to market power, lack of transparency and conflicts of interest, to promote competition and to protect consumers.

6.12 These two categories of intervention have distinct functions. The first category of intervention comprises rules to govern the behaviour of firms that enjoy a position of market power. Its intention is to address the harmful effects that can arise from the exercise of market power, rather than tackling the underlying causes. It would focus on changing the behaviour of online platforms that enjoy market power through the use of an enforceable code of conduct for platforms with strategic market status (SMS), as envisaged by the Furman Review. The principles set out in this code would target concerns that we have identified across themes 1 to 3.

6.13 The second category of intervention would aim to address specific concerns that we have identified within the markets we have reviewed, and in particular

³⁰⁸ The FTC established a [digital platform taskforce](#) earlier this year, the DOJ is [reviewing the practices of market-leading online platforms](#) and a collection of US State Attorney Generals have initiated investigations into each of [Google](#) and [Facebook](#).

³⁰⁹ The ACCC has recently completed [a market study into digital platforms](#), including effects on digital advertising.

³¹⁰ The Bundeskartellamt is currently undertaking a [sector inquiry](#) into market conditions in online advertising.

³¹¹ The [Secretariat of the Headquarters for Digital Market Competition](#) has recently been established in Japan.

³¹² The Netherlands Authority for Consumers and Markets is currently undertaking [work in relation to online choice architectures for consumers](#).

³¹³ The Autorité de la concurrence published an Opinion in 2018 on [data processing in the online advertising sector](#). The Autorité is also currently considering a [complaint in this market](#).

³¹⁴ The Comisión Nacional de los Mercados y la Competencia is currently undertaking [a market study into online advertising](#).

address sources of market power, by tackling issues on both the demand and supply side of those markets. These include a number of types of intervention suggested by the Furman Review – in particular, data-related remedies including the provision of third-party access to data, giving customers control of their data and measures to increase interoperability – as well as remedies not directly considered by the Review, including structural measures. Many of these would be very significant interventions, the costs and benefits of which would need to be considered very carefully. We consider the case for these interventions under each of themes 1 – 3 below.

- 6.14 At a high level, an important benefit of behavioural interventions as enshrined in the code is that they allow for considerable flexibility in tackling problems as they arise, which is an important consideration in the rapidly-changing digital advertising markets that we have reviewed. In contrast, the benefit of interventions falling into the second category is that they provide for the possibility of solving problems at source, reducing the need for ongoing and costly regulatory controls. However, these interventions could change the nature of competition in fundamental ways, and close attention would need to be paid to the potential costs and unintended consequences of such measures.
- 6.15 In principle, elements of the second category of intervention could be implemented alongside the code, or considered only once the code has been up and running for a period of time. We would welcome views on this, and ask questions about the sequencing of interventions in Chapter 8.

Institutions and legal powers

- 6.16 All of the interventions that we consider in this chapter would need some form of regulatory body to implement them. This is consistent with the findings of the Furman Review, which called for a Digital Markets Unit to be created in the UK, and the Stigler Center Review, which called for the creation of a Digital Authority in the US.
- 6.17 At this stage in our study, we have focused our assessment on the case for potential new regulatory functions rather than on which institutions might discharge those functions. Accordingly, in the rest of this chapter, we use the term ‘regulator’ to refer to the body empowered to implement the regulatory functions we are considering. We note that this regulator could be a new or an existing institution, or that regulatory functions could be assigned across several bodies. We expect to give further consideration to the question of institutional design in our final report and would welcome any views from stakeholders on this question.

6.18 Any regulator would need to have legal powers to enforce both the provisions of the code and any specific remedies to address sources of market power. We anticipate that any such powers will need to be assigned through primary legislation and in this study we are looking to inform the scope and direction of such legislation. We note that the CMA already has powers to impose some of the interventions discussed in this chapter, in the context of a market investigation. In Chapter 7 we consider the case for launching a market investigation in the near term, to address the concerns we have identified.

Code of conduct for online platforms with strategic market status

6.19 As noted above, the Furman Review proposed that the behaviour of online platforms with market power should be governed by a pro-competitive code of conduct. The code would set out principles or rules to govern the behaviour of platforms with strategic market status (SMS),³¹⁵ requiring them to act in a way that ensures that consumers and businesses dealing with them are fairly treated and vigorous competition can take place.

6.20 Our initial view is that such **a code has the potential to address several of the concerns that we have identified in both consumer-facing and digital advertising markets**. In this section we:

- assess the case for the use of a code as a complement to existing enforcement tools in addressing the concerns we have identified;
- consider the criteria for identifying the firms that the code should apply to; and
- consider the principles or rules that could be set out in the code and how these relate to the concerns we have identified in the study to date.

The case for a code

6.21 On the basis of the work we have carried out so far, our initial view is that an enforceable code of conduct as set out above would be a valuable regulatory tool in helping to address the concerns we have identified in the consumer-facing and digital advertising markets.

6.22 In principle, a code could have a number of advantages over existing ex post enforcement:

³¹⁵ We discuss the notion of SMS and its potential application to platforms funded by digital advertising later on in this chapter.

- The markets we have reviewed are extremely fast moving and dynamic, and harm to competition can occur rapidly. A code could therefore be helpful in changing behaviour much more rapidly than is possible through existing antitrust tools, where there is either a risk of harm to competition or of an adverse effect on consumers.
- A code would allow action in respect of concerns which might fall short of the test of breaching competition law but might nevertheless have an adverse effect on customers through weakening competition.³¹⁶
- A code of conduct, which would be subject to consultation, could provide increased certainty over what represents acceptable behaviour of the platforms when interacting with consumers and competitors.³¹⁷
- The markets we have reviewed are highly complicated, both from a technical perspective and (in the open display market) in terms of market structure. It may therefore be beneficial to have a dedicated regulator (or regulators) to enforce the code, as this body will be able to develop its expertise over time.
- A code could be a valuable tool in improving transparency and hence trust in the market. The regulator enforcing the code could be given powers to audit and scrutinise the workings of opaque algorithms and to investigate concerns around conflicts of interest or discriminatory treatment of some customers. This would potentially address much of the opacity and lack of trust which has developed in the markets we have reviewed.

6.23 Introducing a code would also create costs, particularly for those platforms subject to the code, which would need to comply with reporting requirements and with investigations. The code might also require large firms to implement new measures to be able to demonstrate compliance, or new systems to be able to demonstrate that customers are being treated equally. And there is a risk that changes brought about through the code of conduct may introduce inefficiencies into platforms' operations.

6.24 Based on our review to date, we consider that there are a number of potentially problematic practices in consumer-facing and digital advertising markets that could be investigated under the code with likely improvements both to competition and trust. A regulator ordering a change of behaviour

³¹⁶ This is particularly important in the open display digital advertising market, where we have found that potential harm can take the form of a range of practices that in combination may lead to material harm. See Chapter 5 for further discussion of this.

³¹⁷ Again, this maybe particularly helpful in new, fast-moving digital markets, where there is less of a corpus of relevant past cases from which to draw precedents.

under the code would need to assure itself that there were sufficient benefits to outweigh the costs on a case-by-case basis, having regard to the evidence.

- 6.25 In our view, a code of conduct operating along the lines set out above would not preclude competition enforcement in appropriate circumstances. Such enforcement would still be appropriate in cases of egregious or repeated anti-competitive behaviour, serving as a deterrent against such behaviour in the future. Competition or consumer enforcement remains a potential outcome from this study.
- 6.26 We note that a substantial number of stakeholders have indicated to us, both in responses to the statement of scope and in subsequent interactions, that they are in support of the establishment of a code, highlighting the benefits identified above.³¹⁸ We would welcome further views from stakeholders on this topic as part of the consultation on the interim report.

Which firms would the code apply to?

- 6.27 At this stage, based on the analysis carried out in the first half of the study, our view is that the code should apply to a small number of platforms around which potential competition concerns arising from their behaviour are likely to be most significant.
- 6.28 The notion of ‘strategic market status’ (SMS) was introduced by the Furman Review to define the category of firms to which the code of conduct would apply.³¹⁹ SMS is not explicitly defined in the report. It is described variously as a position of enduring market power/control over a strategic gateway market with the consequence that the platform enjoys a powerful negotiating position resulting in a position of business dependency.³²⁰
- 6.29 We note that the approach to SMS designation will be considered by government as part of the process of responding to the Furman Review, and that this process will take account of the characteristics of a broader range of online platforms than we have considered in this study. We have, however, given some consideration to how SMS might be defined in the case of platforms funded by digital advertising, drawing on our own analysis and the high-level principles in the Furman Review.

³¹⁸ Several stakeholders told us that the code of conduct should curtail platforms’ self-preferencing and leveraging behaviour. Both Match Group and Daily Mail also called for algorithmic transparency, with the Daily Mail arguing that platforms currently impose significant changes without proper warning, explanation or means of redress.

³¹⁹ Furman Review (2019), [Unlocking digital competition](#), page 5. The report proposes that a code of conduct ‘would be applied only to particularly powerful companies, those deemed to have ‘strategic market status.’

³²⁰ Ibid.

- 6.30 Our initial view is that the following criteria provide a useful starting point for assessing whether a digital platform should be considered to have SMS and hence be subject to the code of conduct:
- the platform has enduring market power over a relevant market;
 - the platform acts as an important gateway for businesses to access a significant portion of consumers; and
 - businesses depend on the platform to access users on ‘other’ side of the market.
- 6.31 Evidence likely to be relevant in making this assessment for platforms funded by digital advertising include: share of consumer time spent on the platform; level of reach of consumers; share of digital advertising revenues; control over the rules or standards which apply in the market, and the ability to obtain and control unique data that is applicable outside the market.
- 6.32 Our initial view is that both Google and Facebook would likely be considered to have SMS against these criteria. Google has had around 90% or more of the search market for over 10 years, as well as having a share of over 90% in the key ad server market. It has a reach of over 90% of UK internet users and various businesses depend on Google for accessing these consumers – both advertisers wanting to secure conversions and newspapers and content providers seeking traffic. It has unrivalled access to data through its consumer services, tags on third-party websites and Android devices.
- 6.33 Facebook has a reach of 85% of UK internet users,³²¹ and over 75% of the time spent on social media for a number of years,³²² and a share of over 40% of the display advertising market. It also has extensive access to data – as discussed in Chapter 5, advertisers have told us that only Facebook is able to provide the targeting of advertising that is most valuable for certain campaigns. Facebook also has an important role in driving consumer traffic to content providers.
- 6.34 We note that other platforms may be considered to have SMS when considering their role in other markets outside the scope of this study.
- 6.35 Our initial view is that SMS status would apply to the corporate group as a whole, with obligations under the code applying to the markets in which the firm has market power and adjacent markets, in which that market power can

³²¹ See Figure C.2 of Appendix C. Comscore MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, June 2019, UK.

³²² Comscore MMX MP, Total Digital Audience, Desktop aged 6+, Mobile aged 13+, July 2015 – June 2019, UK.

be leveraged, but that there would be an opportunity to consider some limitation on the scope of the obligations under the code where the firm operates in clearly distinct markets. The regime would need to build in a mechanism such that SMS designations can be reviewed, and candidates for new SMS designations can be assessed, within a reasonable timescale.

6.36 We welcome views on this broad approach to identifying the scope of the code of conduct for platforms funded by digital advertising.

Content of the code

6.37 Our initial view is that the code should take the form of high-level principles rather than detailed and prescriptive rules. Given the complex and rapidly-changing nature of the markets within scope and the issues we have identified, there is a risk that overly prescriptive rules would soon become redundant or fail to anticipate important new developments. It is likely, however, to be necessary for the regulator to issue periodic guidance to help with interpretation.

6.38 In the markets that we have reviewed in this study, the code could seek to address concerns relating to a range of different relationships between SMS platforms, consumers and business users, including:

- advertisers' and publishers' relationships with platforms in relation to buying and selling digital advertising;
- publishers' and content providers' relationships with platforms as a gateway for hosting content and accessing consumers via the platform;
- business users' relationships with platforms where they are providing services via platforms but which could also compete with the platforms' own service offerings (for example, price comparison sites or online travel agents); and
- consumers' direct interactions with platforms (eg using a search engine or accessing a social media page)

6.39 In practice, the content of the code could differ between platforms, and it may be appropriate to consult on the content of the code at the time of SMS designation. At a high level, however, our current view is that, for platforms funded by digital advertising, the key provisions of the code could be summarised in the form of three overarching principles: **'fair trading'**; **'open choices'**; and **'trust and transparency'**. In the following sections, we set out our initial views on the key components of each of these principles.

Fair trading

- 6.40 The principle of fair trading would require the SMS platform to trade on fair and reasonable terms for services where they are an unavoidable trading partner as a result of their market position. In effect, this principle is intended to address concerns around the potential for exploitative behaviour on the part of the SMS platform.
- 6.41 In practice, the principle for fair trading could entail a number of requirements such as:
- a requirement that both prices and non-price terms should be objectively justifiable, for example that customers should not be required to provide data to platforms which are not necessary for satisfaction of the contract;
 - a ‘fairness by design’ obligation in relation to the design of consumer consents to data use and choice architecture (as discussed in the next section); and
 - a requirement that contracts should not put any unreasonable restrictions on how users use the services.

Open choices

- 6.42 The principle of open choices would be intended to require the SMS platform to allow users to choose freely between elements of the platform’s services and those offered by competitors. This principle is intended to address the potential for exclusionary behaviour on the part of the SMS platform. There are likely to be two main domains in which this principle is important: contractual terms and commercial behaviour; and technical standards and interoperability.
- 6.43 In relation to contractual terms, this principle could include requirements:
- not to bundle services in markets where the SMS platform has market power with services in competitive markets, or where they are sold together to offer comparable terms for the bundled and separate services;
 - not to impose restrictions on customers’ ability to use other providers that compete with the SMS platform; and
 - to avoid other forms of self-preferencing behaviour – for example, ensuring that search and ranking algorithms do not preference the platform’s own services above those of competitors; and ensuring that

consumers are given a neutral choice between services operated by the platform and those of competitors.

6.44 In relation to technical standards, this principle would seek to ensure that the SMS platform allows third parties to interoperate with the platform's essential inputs, and complies with common standards. This could include requirements:

- to design core services to be interoperable, eg through APIs, at a cost-based price which is objectively justifiable, with reasonable endeavours to manage privacy or technical concerns;
- not to withhold, withdraw, or deprecate APIs or otherwise change them in a way which has a material adverse effect on users without (i) sufficient consultation and (ii) objective justification for the change;
- to comply with common standards where these are developed by independent third parties and approved by a suitable regulatory body; and
- to ensure that any standards developed by the platforms themselves are interoperable, and do not favour the platforms' other businesses.

Trust and transparency

6.45 The principle of trust and transparency is designed to ensure that SMS platforms provide sufficient information to users, including both consumers and businesses which transact with the platform, so that they understand how the platform operates and how decisions that affect them are made. Users should also have confidence that decisions are being made fairly and according to publicly-stated criteria.

6.46 This principle could include:

- a requirement to explain the operation of search and ranking algorithms and advertising auctions and to allow audit and scrutiny of their operation by the regulator;
- a requirement to give fair warning about changes to the operation of algorithms where these are likely to have a material effect on users, and to explain the basis of these changes;
- a requirement that platforms provide clear information to consumers about the services they receive and the data the platform takes in return, in a format which can realistically be read and understood;

- a requirement that platforms are transparent about fees they charge; and
- a requirement for large firms to agree to reasonable requests to access certain data on a fair, reasonable and non-discriminatory basis, subject to GDPR and IP rights, where that data is unmatchable as a result of their market power.

How do these principles relate to the specific concerns we have identified?

- 6.47 In Appendix I we explain how the principles set out above relate to some of the concerns we have identified in Chapters 3 to 5. This is summarised in Table 6.1 below, which identifies a range of practices that could be investigated under each of the three main principles. The practices set out in Table 6.1 cover a range of different relationships between platforms, consumers and business users, including advertisers and publishers, reflecting the multi-sided nature of these markets.
- 6.48 We are not drawing any conclusions about the outcome of any investigation of these practices under the code. In some cases, there may be efficiency arguments for the practices in question, for example. Rather, our objective is to demonstrate that:
- there is a wide range of concerns across the markets we have reviewed;
 - the number and complexity of issues are such that antitrust alone is unlikely to be sufficient to resolve them; and
 - there is therefore a robust case in practice for the establishment of a code.

Table 6.1: Concerns we have heard in the study that could be investigated under the code

Principle	Example of concern that could be investigated
<p>Principle 1: Fair trading. Platforms offer services on fair terms: including pricing, non-price terms, requirements to share data, and any restrictions on how customers can use the services.</p>	<p>Data gathering from business customers: Concerns that some platforms require access to publishers’ data and other customers’ data, in some cases without sharing that data with the publisher (Chapter 5).</p> <p>Consumer data extraction: Concerns that social media platforms use choice architecture to nudge consumers into giving away data and gives insufficient choice to consumers over personalised advertising (Chapter 4).</p> <p>Unfair balance of power: Concerns that publishers do not have reasonable levels of control or flexibility over how they choose to sell their own inventory and present content on platforms (Chapter 5).</p>
<p>Principle 2: Open Choices Platforms which operate across multiple markets should offer consistent terms across the markets to allow consumers and business customers a fair choice between their own services and their competitors.</p> <p>As part of supporting more effective competition in markets, platforms should offer open APIs or interoperability with their core services</p>	<p>Bundling competitive services with ‘must have’ services: Concerns that platforms bundle core services with services in more competitive markets (eg Google ad server and SSP) and fail to inter-operate properly with alternatives (Chapter 5).</p> <p>Unfair restrictions on competitors: it appears that platforms impose restrictions that impede companies’ ability to compete eg syndication (Chapter 3).</p> <p>Self-preferencing / undue prominence to own products: Within the open display market, concerns that Google sets the rules for the auction in Ad Manager in a way that favours its own sources of advertising demand (Chapter 5).</p> <p>Restrictions on interoperability: Concerns that platforms restrict interoperability and degrade APIs to competitors. For example, Facebook has in the past imposed restrictions on the use of APIs, by not allowing them to be used for competing services (Chapter 3).</p>
<p>Principle 3: Trust and Transparency</p> <p>Platforms should provide sufficient information to users, both consumers and businesses which transact with the platform. Platforms should be open and transparent in how they operate their core services.</p>	<p>Changing how core services work without due notice: Concerns that platforms change their algorithms without warning in a way that can materially affect publishers and retailers that rely on the platforms (Chapter 5).</p> <p>Lack of transparency in digital advertising: Concerns that platforms do not provide sufficient data for advertisers to test against fraud and understand what they are getting for their money, or to publishers to understand bid behaviour and effectively commercialise content (Chapter 5).</p> <p>Conflicts of interest: Google and some other intermediaries operate on buy and sell side of multiple auctions, leading to concerns around hidden fees for both advertiser and publisher customers (Chapter 5).</p> <p>Encouraging consumers to share too much data: There are concerns that platforms do not make it easy enough for consumers to understand and control what data they are agreeing to share (Chapter 4).</p>

Enforceability of the code

- 6.49 The code would give a regulator the power to order firms to comply with its findings following an investigation into a breach of the code. The regulator would be able to carry out own-initiative investigations, with powers of audit, scrutiny and transparency. It would also have a key role in hearing complaints and resolving disputes between industry players under the code. Where appropriate, the regulator would publish reports on its work and the industry more generally.
- 6.50 It would be important for the code to be directly enforceable by the regulator so that there is a strong deterrent to breaching the code and urgent issues can be dealt with. The regulator would therefore need the power to investigate effectively – this may include the power to:
- compel information from SMS firms (and other industry players where necessary to fulfil the code’s objectives);
 - suspend decisions of SMS firms pending the result of an investigation, including the imposition of interim measures;
 - block decisions of SMS firms at the end of an investigation; and
 - appoint a monitoring trustee to monitor and oversee compliance by an SMS firm.
- 6.51 We would be interested to hear views on whether the regulator would need to be able to direct SMS firms to implement, or reverse, measures for the purpose of fulfilling the objectives of the code. We would also be interested to hear views on whether a breach of orders under the code should be subject to other sanctions such as financial penalties (and if so, what impact that might have on the speed and effectiveness of the regime, including any appeal process).
- 6.52 We would expect that there would be a right of appeal by the SMS firm or other materially-affected person against decisions of the regulator, but that this could be applied in a much more timely manner and to a different standard than applies for competition enforcement, as the objectives of the code would be undermined if its enforcement was not timely.

Relationship with other initiatives

6.53 We note that the broad content of the code suggested above covers a number of the areas of concern set out in Cairncross Review into the sustainability of journalism. The Review set out a proposal for codes of conduct to rebalance the relationship between online platforms and publishers, subject to the oversight of a regulator, covering a range of areas including transparency over fees and ranking algorithms and forewarning of significant changes to algorithms. While our study has not focussed explicitly on the sustainability of journalism, there is an overlap between the proposed provisions of the code set out above and the proposal for multiple codes in relevant digital markets under the Cairncross Review. Government may therefore wish to note these synergies with the potential code of conduct set out above in considering how to take forward this element of the Review's recommendations.

Other rules applying to SMS platforms

6.54 Other rules and regulations not explicitly covered by the code could apply to SMS platforms.

6.55 The interaction between a code for SMS platforms and the UK mergers regime was considered by the Furman Review. As recommended by the Furman Review, we are currently updating our own Merger Assessment Guidelines to better reflect our understanding of how digital markets function and recent practice in our assessment of mergers, including in the digital space. We are also continuing to reflect on, and to put into practice where appropriate, the learnings identified in the report we commissioned from the economic consultancy, LEAR on the ex-post assessment of previous digital merger investigations. We will keep under review whether there is a case for requesting changes to our existing merger control tools for companies designated as having SMS, or whether a parallel regime for acquisitions undertaken by such companies would be appropriate.

6.56 In addition, aspects of some of the potential interventions set out below, designed to address sources of market power, could be designed with reference to SMS. We note where this is the case in the discussion below.

Interventions to address specific concerns under themes 1 to 3

6.57 As discussed above, our initial view is that a code of conduct would bring benefits in the markets within this review, by helping to avoid behaviour on the part of platforms with SMS that might harm competition and consumers.

- 6.58 We have also considered a number of interventions that are designed to address specific concerns that we have identified under themes 1 to 3 of the study. These include, particularly in relation to themes 1 and 3, potential interventions to address sources of market power directly, by overcoming barriers to entry and expansion to increase competition. These largely draw on proposals that have been put to us by stakeholders in the course of the study, and include a number of types of intervention suggested by the Furman Review – in particular, data-related remedies – as well as remedies not directly considered by the Review, including structural measures.
- 6.59 We recognise that several of these would be major interventions, which have the potential to change the nature of competition substantially, and therefore need careful consideration. We are seeking views from stakeholders on the potential costs and benefits of these remedies, as well as on which, if any, of these remedies should be implemented as a priority either by the CMA or by a regulatory body in the future.
- 6.60 In this section we summarise the main interventions we are considering, to address the issues set out in Chapters 3 to 5 respectively. This summary is supported by Appendices I to M, which provide further details.

Potential interventions to address market power in general search

- 6.61 As explained in Chapter 3, we have found that the ability of general search engines to compete with Google is constrained by the need to overcome a number of barriers to entry and expansion, on both the supply and the demand side of the market.
- 6.62 On the supply-side, to produce independent search results, search engines must overcome: economies of scale in crawling and indexing; and scale advantages with respect to the number of search queries and the information gained from consumers' interaction with search. Google and Microsoft are the only two providers that undertake English-language web-crawling and indexing at a scale that can support a competitive search engine in the UK, and the greater scale of English-language queries seen by Google is likely to support its ability to deliver more relevant search results compared to its competitors, especially in relation to uncommon and fresh queries.
- 6.63 On the demand side, Google is the default search engine for most search entry points in the UK. These default arrangements harm competing search engines' ability to access consumers and are consistently described by these parties as the most significant barrier to growing their userbase, monetising their operations and improving the quality of their search results.

6.64 Finally, other search engines including Yahoo Search, DuckDuckGo and Ecosia access organic search results and adverts through negotiated agreements with Bing (in most cases) or Google. Both Google and Bing place restrictions on these search engines, such as how they can present search results to consumers. This makes it harder for these competitors to differentiate themselves and innovate, for example in developing their own algorithms or in approaches to presenting search results to consumers.

Third-party access to click and query data

6.65 Rival search engines have suggested that Google should be required to **provide click and query data to third-party search engines** to allow them to improve their search algorithms, thus helping to overcome Google's scale advantages.

6.66 Our initial view is that this intervention has the potential to overcome the data advantages that Google has on account of having a much larger userbase. In particular, it should allow rival search engines to provide more relevant searches to fresh and tail queries and could in principle lead to a situation in which several search engines are able to compete on relevance even for unusual queries.

6.67 However, there are significant challenges with such an intervention, which may radically change the nature of competition in the general search market. Google has expressed the concern that this remedy would create risks to consumers' privacy and potentially lead to a situation in which inappropriate parties could gain access to the data for the purposes of gaming Google's algorithm. We would welcome views on whether this intervention could be implemented in way that avoided these risks.

6.68 Further, the impact of this intervention on dynamic incentives needs to be given careful consideration. There is a risk, if an extensive range of data is required to be shared with third parties in a way that reveals aspects of Google's algorithm, that this will reduce Google's incentives to innovate and improve its algorithm. Our initial view is that the overall effect on competition is likely to be dependent on a number of factors, including the specific type of data to be shared (query data alone, click and query data, or click and query data and search results) and whether third parties are required to pay for access. We would welcome views on these issues.

Mechanisms for determining the default search engine on devices and browsers

6.69 We have been struck by the very substantial payments that are made to be the default search engine on browsers and devices and the significant impact

being the default search engine appears to have on consumer take up. Several stakeholders told us that Google's control over Android defaults and its ability to pay more than its rivals to be the default on browsers such as Safari is one of the most significant barriers to entry and expansion in general search. We have heard two broad proposals to address these barriers.

- 6.70 The first proposal we have heard is that there should be some form of **restriction or limit on the ability of Google to buy default positions** and/or a restriction on the ability of device manufacturers and browsers to sell defaults. Given the importance of defaults in search, such a restriction would be a major change in the sector. 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 any potential consumer harm arising from such restrictions, and the possible impacts on the costs of devices.
- 6.71 The second proposal concerns a potential **requirement to offer choice screens to consumers on devices and browsers and rules regarding their design**. We are aware that Google has recently introduced choice screens on all new Android phones and tablets in Europe, following the European Commission's Android case. There have been concerns around the design and implementation of these choice screens, including concerns that Google auctions slots to be on the choice screen and unduly restricts the number of slots to maximise its revenues from the auction. We have heard several proposals intended to restrict Google's ability to extract rent from these choice screens, including the use of non-monetary criteria to allocate slots and, more generally, greater involvement from a regulator in the design of choice screens. We have also heard proposals to extend the requirement to offer choice screen beyond Android devices.
- 6.72 We would welcome stakeholders' views on all these issues.

Syndication agreements

- 6.73 Some parties have suggested that Google should be subject to obligations to supply syndicated search results on FRAND terms, and that such terms should also apply to Bing when syndicating to much smaller search engines. We welcome views on the effect this would be expected to have on competition, and on how terms should be set, including whether prices could be set at a level that is low enough to provide an incentive to enter the market but high enough to reward providers of search results and maintain the incentive for third parties to develop their own web index.

- 6.74 These three potential interventions are likely to interrelate with one another. For instance, if a choice screen led to rival search engines receiving sufficiently high levels of search click and query data, then it may be the case that a data access remedy would no longer be required or proportionate. Another example could be that if provision of access to the web-index and search click and query data is successful at reducing the reliance of smaller search engines on syndication from Google and Bing, there may be no need to impose obligations on the form of such agreements. **We therefore welcome views on the interdependencies of these remedies and whether a gradual, stepped approach to their introduction would be more appropriate, or conversely, whether these remedies would only be effective if rolled out together, as a package.**
- 6.75 See Appendix J for a more detailed consideration of these potential interventions, and a list of specific consultation questions.

Potential interventions to address market power in social media

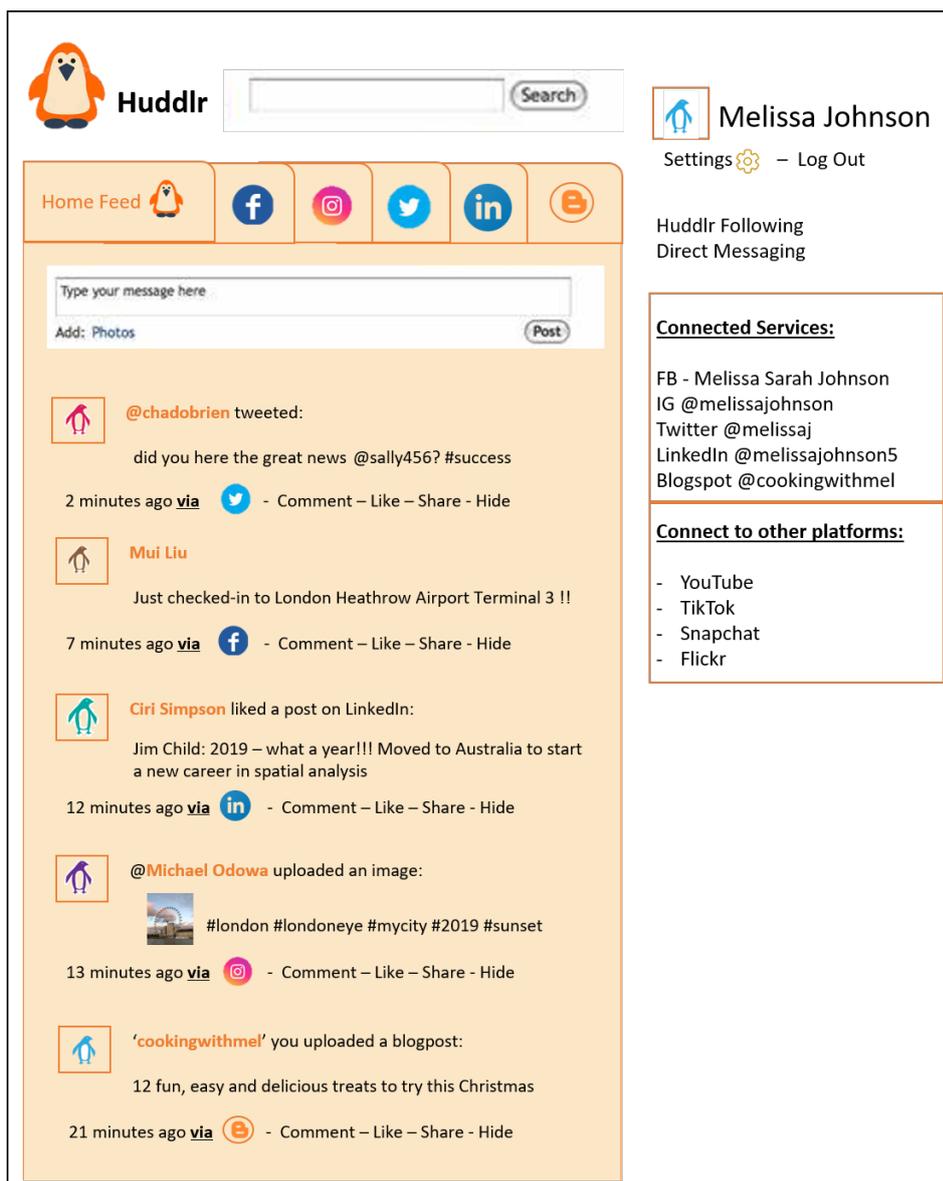
- 6.76 We have found that Facebook appears to be subject to limited direct competition from close substitutes in the social media sector. Rather, successful entry in this sector over the last ten years has tended to be characterised by the development of more specialised consumer services that are clearly differentiated from Facebook.
- 6.77 The CMA is aware of calls for Facebook and Instagram (and possibly also WhatsApp) to be structurally separated, with the purpose of incentivising these large social platforms to compete with one another for user attention and for Instagram to challenge the market power of Facebook. Such an intervention, in principle, might lead Instagram to compete more closely with Facebook for users, and lead to greater choice for advertisers in social display advertising. The high degree of interoperability that currently exists between Facebook and Instagram could also be retained to the benefit of users. However, we recognise that a forced separation would also have significant costs and complexity, and it could lead to a loss in efficiencies for users.
- 6.78 As discussed in Chapter 3, Facebook faces limited competitive threat due to the strong network effects that it enjoys and which act as a barrier to expansion for its rivals in respect of services which are directly comparable to those of Facebook. Therefore, there is a risk that the structural separation of Facebook and Instagram would only deliver short-term benefits, with the market eventually tipping back to one supplier. However, users would at least enjoy the benefits of competition in the meantime, and other remedies such as interoperability measures could be brought into force to reduce the risk, and adverse consequences, of tipping.

- 6.79 A forced separation of Facebook and Instagram would clearly be a significant step to take, and it would require careful consideration. If other measures, such as the interoperability measures discussed in the rest of this section, are not successfully implemented, then it may be necessary to consider separation of Facebook.com and Instagram. We welcome views on this.
- 6.80 One way of achieving greater competition between social media platforms would be through increased interoperability with Facebook's large network of users. Interoperability requirements enable the positive network effects stemming from large userbases to extend to other platforms. We are **considering the extent to which increased interoperability would improve outcomes in this sector and whether any specific features or functionalities should be subject to interoperability requirements.**
- 6.81 Since interoperability involves some form of standardisation, there is a cost to mandating interoperability (potentially in terms of reduced innovation and variety in respect of the functionality that is standardised) as well as a benefit. Reflecting this, most stakeholders that we have spoken to in the first half of the study, including challenger social media platforms, have not supported so-called 'full protocol interoperability' in which all the functionality of social media platforms would be made interoperable. There has, however, been support for specific functions being made interoperable.
- 6.82 In principle, the case for interoperability is greater in respect of functionality which is both directly helpful in overcoming identified network effects and yet not highly innovative (or not recently innovative). We are interested in hearing views as part of this consultation as to which elements of functionality would be strong candidates for interoperability against these criteria.
- 6.83 In particular, we are interested in views on whether Facebook should be required to interoperate specific features of its current network with existing competitors, and if so which features or functions should be made interoperable and how this would increase competition amongst social media platforms. For instance, forms of interoperability which have been suggested are:
- the ability to identify and make contact with friends or other potential contacts from other social platforms;
 - the ability to post content across several platforms simultaneously;
 - the ability to view posts from friends on other social platforms;

- the ability to consolidate and view updates across social platforms, allowing consumers to search for content across their aggregated services in real-time; and
- the engage with content by commenting or 'liking' it.

6.84 An illustration of a maximalist approach to social media interoperability, encompassing all the functionalities described above, is set out in Figure 6.1. We note that any increased interoperability will need to balance the potential to increase direct competition to Facebook in social media services against any adverse effects, as well as its overall impact on incentives to invest and innovate in this sector. We seek views on the size both of these potential beneficial effects and costs.

Figure 6.1: Content interoperability³²³



Source: CMA.

6.85 We are also seeking views on whether **there should be limits on Facebook’s ability to impose restrictions on competitors’ use of the interoperable features**. We note that Facebook may wish to restrict competitors’ ability to develop services that compete directly with Facebook. For example, it has previously included a clause in its Developer Policy, which stated: ‘Add something unique to the community. Don’t replicate core functionality that Facebook already provides’. This clause was removed in

³²³ We have sought to illustrate content interoperability by designing a fabricated social media platform, Huddlr, which contains fictitious usernames and posts. The penguin images and social media platform logos were obtained from Google Images.

2018, but similar clauses in the future could undermine the objectives of any interoperability remedy.

- 6.86 A further intervention we wish to consider is **whether past API access should be restored**. Facebook has told us that it operates a largely open source environment which has incentivised innovation by enabling developers to build complementary services based on the social network's existing systems. However, an interoperability remedy could seek also to facilitate the development of directly competing services. We understand that Facebook recently scaled back APIs which used to enable consumers to invite their friends to other applications or enable the cross-posting of content across platforms. We have been told that these deprecations have harmed competition in these markets, and we are interested in whether or how this level of access could or should be restored;
- 6.87 Finally, regarding the scope of any interoperability remedies, we are interested in views as to whether any rules requiring interoperability should be applied to Facebook only, or to other existing social media platforms. Potential new entrants would benefit from broader interoperability from social media platforms which have reached a scale which is large, albeit smaller than Facebook, particularly in terms of digital advertising revenue from social media.
- 6.88 See Appendix K for a more detailed consideration of these potential interventions, and a list of specific consultation questions.

Potential interventions to give consumers greater control over their data.

- 6.89 In Chapter 4, we identified a number of factors that undermine consumer control over the use of their data. These include: restricted choices, with some platforms not allowing consumers to turn off personalised advertising, and difficulties in exercising choice, due to defaults that nudge consumers into accepting data extraction, and the complexity and length of privacy policies. Consumer engagement with privacy policies and controls is correspondingly low.
- 6.90 In this section, we set out potential interventions designed to give consumers greater control over their data. By empowering consumers, most of these interventions should serve both to promote competition and protect privacy. We welcome views from a wide range of stakeholders on the case for these interventions, and the impact they might be expected to have.
- 6.91 We note that there is a wide range of existing regulation in respect of personal data, including the GDPR and PECR, which are enforced by the ICO in the

UK and the DPC for some multinational platforms including Google and Facebook which have their main establishment in Ireland. In the context of this regulatory landscape, the interventions discussed below could take a variety of forms, including:

- engagement with the ICO, DPC or (and indeed the courts who ultimately decide these questions) regarding the interpretation of existing legislation and prioritisation of enforcement action³²⁴;
- recommendations to the UK government to legislate to strengthen the current regulatory regime;³²⁵ and
- direct action by the CMA using the order making powers available to it through a market investigation.

6.92 For each of the main interventions discussed below, we consider which of these forms would be most appropriate. The potential interventions relate to five main areas:

- giving consumers a choice over personalised advertising;
- changing defaults for personalised advertising on SMS platforms;
- imposing a fairness by design duty on all platforms with an additional duty on SMS platforms to ensure they test the design of their services;
- designing regulations that work for small, as well as large, companies; and
- options for the future: data mobility and privacy-preserving technologies.

Giving consumers a choice over personalised advertising on all platforms

6.93 We noted in Chapter 4 that several social media platforms, including Facebook, do not give consumers full control over their data by allowing them to turn off personalised advertising. Rather, accepting personalised advertising is a condition of using the platform. We have considered whether platforms should provide consumers with more control over the use of their

³²⁴ We note however that the European law on which PECR is based, the ePrivacy Directive, is not subject to the GDPR's consistency mechanism for any issue that is governed by its specific rules.

³²⁵ Recital 10 to the GDPR notes that 'this Regulation does not exclude Member State law that sets out the circumstances for specific processing situations, including determining more precisely the conditions under which the processing of personal data is lawful.'

data, by giving them a choice over whether to receive personalised advertising or not.

- 6.94 We would welcome views on whether all platforms should be required to give consumers an **option to use their services without requiring in return the use of consumers' data for personalised advertising**. In practice, this would mean that the consumer could go to their settings on the platform and turn off personalised advertising.
- 6.95 Under such an approach, platforms would still be able to offer advertising as a precondition of using the service – this intervention would not allow consumers to turn off advertising altogether. If consumers chose not to receive personalised advertising, they would instead receive other non-personalised advertising, such as contextual advertising based on the content they are viewing.
- 6.96 To strengthen the control that consumers have, we are also seeking views on the principle that **irrespective of whether or not a consumer has turned off personalised advertising the core service they receive will be the same, with only the nature of the advertising content being varied**.
- 6.97 A further important question in considering such an intervention is whether platforms should be able to offer incentives to consumers to accept personalised advertising, such as offers, reward schemes, payments or a reduced number of ads. **Our initial view is that it is important that platforms do have the ability to offer such incentives, as this provides a mechanism by which consumers can benefit more fully in the value of their data** and attention, and in turn, this may encourage greater consumer engagement in the future and promote competition. There should be no detriment for consumers who choose not to receive personalised advertising, meaning that such incentives should not affect the core service being provided.
- 6.98 We recognise that this would be a significant intervention for those companies that do not offer such a choice currently, and we would need to think carefully though the implications of such a change. In particular, there may be significant financial implications for platforms, given the evidence discussed in Appendix E that suggests that targeting with consumer data can have a substantial impact on the value of inventory, and would need to be weighed up against the privacy and control-related benefits of the intervention.³²⁶ This

³²⁶ See the discussion in Appendix E of a recent experiment undertaken by Google, which found that disabling personalised advertising for publishers (when others were able to use personalised advertising) decreased

financial impact would be driven in large part by the proportion of consumers who would choose to opt in to personalisation, and we would be interested to see any evidence that may shed light on this question.³²⁷

- 6.99 Facebook told us that personalised advertising leads to a better consumer experience as it leads to more relevant advertising that the consumer is more likely to find genuinely useful. It therefore argued that restricting personalised advertising may lead to consumer harm. We agree that many people may prefer personalised to purely contextual advertising, and may therefore not choose to turn off personalised advertising – but we do not consider this to be a strong argument for restricting consumers’ ability to choose.
- 6.100 Our current view is that such an intervention, if introduced, should apply to all platforms, including notably the four social media platforms, Facebook, Instagram, Snapchat and Twitter, which, as noted in Chapter 4, do not currently provide a choice to consumers over whether to accept personalised advertising. To date, we have not yet considered whether a similar obligation should apply to publishers, such as newspapers, and will consider this in the second half of the market study. We also welcome views on whether the choice to turn off personalised advertising should apply more broadly.
- 6.101 We have also considered the legal context for this type of intervention. As discussed in Chapter 4, our initial view is that requiring consumers’ have control over whether their data is used for personalised advertising is consistent with the emerging interpretation of GDPR that ‘consent’ is the appropriate lawful basis to process personal data for personalised advertising. We have, for example, noted that there is an open statutory investigation by the DPC into ‘whether Facebook has discharged its GDPR obligations in respect of the lawful basis on which it relies to process personal data in the context of behavioural analysis and targeted advertising on its platform’.³²⁸
- 6.102 Enforcement and the appeals process through the courts may, therefore, establish in the coming years that GDPR requires consumers to be in control of whether their personal data is processed for personalised advertising, as proposed under this potential intervention.
- 6.103 However, in the same way that we consider there is a role for ex ante regulation in this space alongside competition law, we think there may be

revenues by over 50%. We note that this was in the open display market and we have not seen comparable evidence of impact in owned and operated platforms.

³²⁷ In Chapter 4, we noted that some consumers value relevant advertising and some are concerned by it, so we would expect consumers to make different choices over whether to accept personalised advertising.

³²⁸ DPC Annual Report 25 May-31 December 2018, page 50, table ‘Multinational Technology Companies Statutory Inquiries commenced 25 May-31 December 2018.’

good reasons for providing clarity now that consumers must be given this control, by having the choice not to have their data used for personalised advertising whilst still receiving the core service. This could be set out in UK legislation, and enshrined in an enforceable code of conduct or another instrument.³²⁹ We welcome views on these issues.

Changing default settings for personalised advertising for SMS platforms

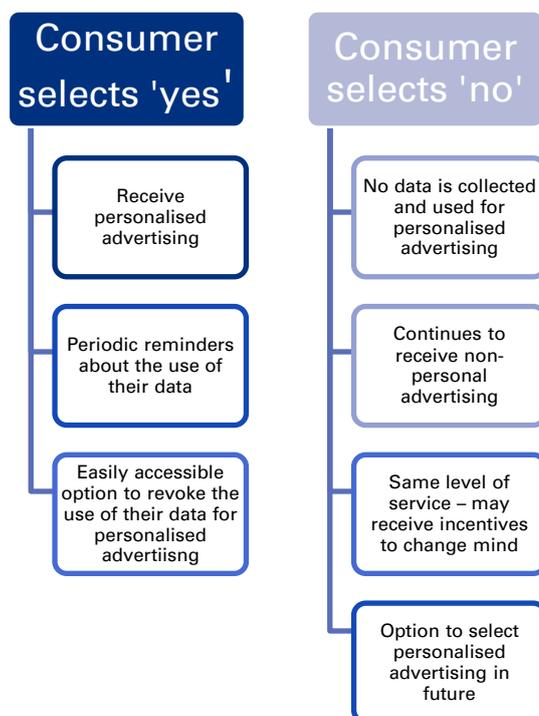
- 6.104 We have also considered whether SMS platforms should have additional duties to ensure that consumers are making fully informed choices about personalised advertising.
- 6.105 **We welcome views on whether SMS platforms should be prevented from using personalised advertising by default**, but instead be required to present consumers with a clear and open choice up front – with a ‘yes’ and ‘no’ option available – on whether to accept data collection for personalised advertising purposes.
- 6.106 Under this approach, the choice screen or upfront notice would require consumers to make a choice about the collection and use of their data for personalised advertising, and platforms could not serve personalised advertising until the consumer had actively clicked ‘yes’. These rules would apply to SMS platforms, ensuring that all consumers on SMS platforms made active choices over the use of their data for personalised advertising. Consumers could also receive periodic reminders about their choices.
- 6.107 Where large platforms rely on consumer consent, we think there is a sound basis for holding SMS firms to a high standard in terms of securing consent from consumers which is ‘freely given and informed’. Since SMS firms have market power, there are likely to be circumstances in which consumers have little meaningful choice of whether to use the platform, resulting in an imbalance of power between controller and consumers, necessitating special measures to ensure consent is ‘freely given’.³³⁰ However these rules to give consumers control over their data by default would apply to all large platforms, irrespective of whether or not they currently rely on another basis for processing personal data, such as contract, as discussed above.
- 6.108 As shown in Figure 6.2, under such an approach, if a consumer selected ‘yes’ they would receive personalised advertising, periodic reminders about their choice so they remain aware that they are receiving personalised advertising,

³²⁹ The GDPR provides for industry led codes of conduct and certification mechanisms subject to the approval of the data protection supervisory authority. These mechanisms offer an alternative to legislation.

³³⁰ We note that the ICO in its [detailed consent guidance](#), explains ‘Freely given consent will also be more difficult to obtain in the context of a relationship where there is an imbalance of power’, pointing to recital 43.

and have an easy way to change their choice and turn it off. Alternatively, if a consumer selected 'no', no data about them would be used for personalised advertising and they would continue to receive non-personalised advertising, such as contextual advertising. They will receive the same level of service and have an easy way to change their choice and turn personalised advertising on.

Figure 6.2: Example choice architecture for personalised advertising



Source: CMA.

Imposing a 'fairness by design' requirement on all platforms

6.109 For consumers to have genuine control over their data, they must not only have a choice in principle as to whether to provide or withhold access to it – they must also find it easy to exercise that choice freely in practice. We have seen in Chapter 4 how platforms use defaults, choice architecture and other behavioural nudges to encourage consumers to provide consent for the use of data. We have seen in particular the power of defaults in these markets: where consumers are presented with a more prominent option, ie a form of default option, then the majority tend to choose that default option and do not amend their settings.

6.110 To ensure that consumers have genuine control over their data, we have considered whether an intervention is required to ensure that platforms do not nudge consumers into decisions that they may not have made if given a free choice or make it difficult for them to exercise choices, such as placing controls in obscure places on the platform and/or several clicks away.

- 6.111 In principle, and as set out in Chapter 4, there are many dimensions of choice architecture that could be adjusted to help consumers make the right choices, including the use of defaults, the prominence given to choices to accept or decline data use, ease of access to privacy controls and the length and ease of understanding of privacy policies.³³¹
- 6.112 For many of these dimensions, there is an active debate within the data protection community about which option is ‘best’ for facilitating informed consent. For example, in relation to the question of ‘bundled’ consents, we think it is likely that consumers will find it easier to consent once for an appropriate variety of linked data purposes rather than many times. However, we note this practice is potentially in tension with the principle that consent should be ‘specific’ (which would imply that multiple, more granular, consents should be sought).
- 6.113 In the light of these uncertainties, we think that, rather than making prescriptive rules on each of these dimensions, which may soon become redundant and/or lead to unintended consequences, a better approach would be to set out high level principles that platforms would be required to implement.
- 6.114 Our initial view, therefore, is that **there is a good argument for introducing an overarching ‘fairness by design’ duty on platforms in the design of their data collection practices to complement the GDPR ‘data protection by design’ duty.**³³² This would put a duty on platforms to ensure fairness in the design of data collection processes (including by facilitating informed consent by consumers) and would allow early intervention by a regulator / consumer authority to ensure that the duty is adhered to ex ante at the design stage rather than purely ex post enforcement (as under current consumer protection powers).
- 6.115 It would be for the relevant regulator to set the high-level basis of compliance with this principle. Options include:
- ‘neutrality’ (the presentation of choices to consumers in a neutral way, so as to avoid bias);

³³¹ Appendix G provides a summary of the implications of academic research and survey data for the design of choice architecture to facilitate consumer engagement and choice.

³³² The data protection by design provisions of the GDPR are set out in Article 25. Fairness by design would be intended to complement the GDPR data protection by design provision and that the potential interplay between the two concepts will be further explored in the next half of the study.

- ‘minimising friction’ (making it easy to access controls and change them); and
- ‘engagement and understanding’ (seeking to ensure that customers understand and are comfortable with the options available to them on an ongoing basis).³³³

6.116 Our initial view is that a fairness by design duty along these lines could apply to all platforms. To date, we have not yet considered whether a similar obligation should apply to publishers, such as newspapers, and will consider this in the second half of the market study.

6.117 In addition to the overall fairness by design duty, **we also welcome views on whether platforms with SMS should have an additional requirement to trial and test the choice architecture they adopt.** The results of such rigorous testing could be reviewed by the appropriate regulator to ensure that the design and choice architecture used is fully informed by rich evidence on how consumers behave. As noted in Chapter 4, we were surprised to find out how little testing is done by platforms in relation to consumer control over data and use of privacy settings, which stands in stark contrast to the very extensive trialling done on a daily basis in other parts of the business. This intervention would address this gap, by using the analytical capabilities and huge reserves of data available to platforms to empower and protect consumers.

6.118 At this stage, we think that such an intervention should apply to platforms with SMS status and the rules could therefore form part of the code of conduct. This is partly on proportionality grounds – since the costs of extensive trialling and testing may be disproportionate for small platforms and publishers. In addition, as noted above, since SMS firms have market power, there are likely to be circumstances in which consumers have little meaningful choice of whether to use the platform, resulting in an imbalance of power between controller and consumers. This provides a justification for special measures to ensure ‘freely given consent’ for SMS platforms.

Designing regulations that work for small as well as large companies

6.119 As noted in Chapter 4, we have heard concerns that aspects of the design and interpretation of current data protection regulation risks creating competition concerns by unduly favouring the business model of large,

³³³ This could also include a requirement to help educate consumers about the use of their data in a manner agreed by the appropriate regulator.

vertically-integrated platforms over smaller, non-vertically-integrated publishers.

- 6.120 For example, we have observed that the GDPR may incentivise firms that operate services which rely on using a consumer's personal data at different levels of the supply chain to vertically integrate. We have heard concerns that a vertically integrated firm, or a conglomerate firm, can much more easily secure consent from the consumer of personal data for multiple purposes through a single process which is then applied across its businesses to combine and process personal data. Smaller, non-vertically-integrated competitors have told us this approach creates a competitive disadvantage for them, since they require granular, specific and informed consent for each step. We have seen evidence of integration in this market.
- 6.121 Further, we have heard concerns that the GDPR potentially raises a fundamental question about the lawfulness of processing within the current disaggregated open display market on which many publishers depend, since it relies on an individual consenting to share data with a large number of organisations at once, and such consent cannot be considered to be freely given and informed.
- 6.122 We are mindful that the GDPR, and the data protection authorities responsible for enforcing it, have a duty to protect consumers' privacy. However, we think **it is very important for competition and data protection authorities to consider jointly the interface between consumer, competition and data protection law**, as this is likely to produce the best outcomes for consumers in assessing conduct with overlaps across these regimes. Such cooperation is particularly important at the current time, when the interpretation and practical application of GDPR is still evolving.
- 6.123 We have had constructive engagement in this study with the ICO, and it is in this context that we offer some views on factors that we think should be taken into account when deciding how to prioritise enforcing the GDPR. We would welcome comments on these initial views.
- 6.124 In relation to the concerns about the current open display market, we welcome the pragmatic approach that the ICO has taken to date on this topic, reflecting the importance of this market for newspapers and other content providers. We also recognise the security concerns arising from the sharing of data between multiple firms and think that DPAs could facilitate and enable appropriate sharing of data between firms by prioritising support for the

development of codes of conduct³³⁴ and certification regimes³³⁵ under the GDPR which would facilitate the secure sharing of a consumer's personal data.

- 6.125 For example, with this infrastructure in place, a consumer would be able to choose to use a publisher website, having seen that the advertising consent option has (for example) an established quality mark, and provides that the named advertising providers are all members of an effective certification regime which complies with a recognised GDPR compliant code of conduct.
- 6.126 Such a system would reduce the benefits to a firm from vertically integrating: the perceived incentives in the market may be quite different once this GDPR infrastructure is in place, particularly if enabled in a pro-competitive manner.
- 6.127 In the medium term we think it would also be helpful if DPAs, the EDPB and the European Commission were open to exploring the extent to which mechanisms, at application, browser, system or device level, can be supported or adopted to give effective control to consumers, by balancing the need for specific, informed and granular consent, against the risk of consent fatigue. We think this could in principle both benefit consumers and ensure neutrality in respect of larger and smaller firms seeking data.
- 6.128 An example of this sort of approach is in the Commission's original draft of the proposed ePrivacy Regulation,³³⁶ and the accompanying impact assessment, which observed that 'end-users are overloaded with requests to provide consent', and intended to 'empower end-users' via 'centralising consent'. The draft proposal called for a 'Regulation [which] enhances end-user's control by clarifying that consent can be expressed through appropriate technical settings':

Article 9(2) 'where technically possible and feasible, ... , consent may be expressed by using the appropriate technical settings of a software application enabling access to the internet.'³³⁷

- 6.129 These are intended as illustrative examples of interpreting GDPR and adopting an approach to prioritising enforcement which seeks to achieve consistency between different business models in the market, which in the

³³⁴ Article 40 GDPR. We note that steps are already underway in this respect.

³³⁵ Article 43 GDPR.

³³⁶ [ePrivacy Explanatory Memorandum](#).

³³⁷ We note that this builds on the existing approach provided for in the ePrivacy Directive, but considers effective implementation of the type of approach to give application, browser, system or device level controls, to address consent fatigue may provide mechanisms to give more effective control to consumers.

long term will help give consumers greater choice and keep them in control. We welcome views from stakeholders on these points.

Options for the future: data mobility and privacy-enhancing technologies

6.130 Finally, we consider two contrasting future developments that could help protect privacy, increase competition and ensure that consumers can benefit to a greater extent from the value of their data. These are: mechanisms for increasing data mobility, which would allow consumers to share the data that platforms hold on them with other platforms; and privacy-enhancing technologies, which would reduce the extent of data collection for digital advertising by shifting a significant proportion of the data processing to the device itself.

6.131 Both of these approaches have promise, but neither have yet taken off at scale. In this section we describe each approach, set out the potential benefits and explain what regulatory action may need to be taken to encourage their adoption. We welcome views from stakeholders on the case for pursuing either or both of these approaches, and whether these approaches may be usefully combined.

- *Data mobility*

6.132 GDPR is not only about data protection. Article 20 of the GDPR introduces a new right of data portability, which allows for data subjects to receive the personal data that they have provided to a data controller, and to transmit this data to another data controller without hindrance.

6.133 The Furman Review recommended that its proposed Digital Market Unit should pursue a related concept of personal data mobility where this will deliver greater competition and innovation. It said that personal data mobility would ‘give consumers greater control of their personal data so they can choose for it to be moved or shared between the digital platform currently holding it and alternative new services.’ The Review noted that ‘Open Banking has shown the potential for data mobility to provide new opportunities to compete and innovate in this way.’³³⁸

6.134 There have been some attempts to implement versions of data mobility in the markets within our scope, notably through an initiative called the Data Transfer Project (DTP),³³⁹ a joint exercise between Google, Facebook, Microsoft, Apple and Twitter to allow individuals to move their data between

³³⁸ [Unlocking Digital Competition, Report of the Digital Competition Expert Panel](#), p9.

³³⁹ [Data Transfer Project](#).

online service providers whenever they want. Further information about the Project is set out in Box 6.1 below and Appendix K.

6.135 We welcome this initiative, as it should help consumers do a variety of useful things, such as transferring photos from a social media platform to a photo book service or transferring music playlists. However, given the current use cases proposed by the DTP, we think the initiative on its own is unlikely to be transformative at improving competition.

Box 6.1: Data Transfer Project

The Data Transfer Project (DTP) was launched in 2018, with the stated aim of creating an open-source, service-to-service data portability platform so that all individuals across the web could easily move their data between online service providers, in a seamless, direct, user-initiated manner.

The contributors to the DTP include both Google and Facebook, as well as other large digital platforms such as Microsoft, Twitter and Apple. These contributors have stated that they consider data portability and interoperability to be central to innovation and that this initiative will facilitate competition, empowering individuals to try new services and switch between suppliers.

The DTP has sought to illustrate its potential benefits with some illustrative case studies such as:

- Transferring photographs from a social network to a photo printing service;
- Moving music playlists from one streaming service to another; and
- Transferring loyalty card data between retailers.

Stakeholders' views on the DTP as well as our initial assessment of the possible effectiveness of the DTP, and data mobility more generally, at improving competition within social media, are provided in Appendix K.

6.136 We have considered other proposals for more radical forms of data mobility in digital advertising markets, that have the potential to give consumers greater control over the use of their data and a greater share in its value. In particular, we have considered proposals put to us about products such as Personal Information Management services (PIMs) and Personal Data Stores (PDS) which may improve privacy protection and also enhance competition in the provision of services which rely on data to be effective.

6.137 The different ways in which this approach to data mobility could work are set out in detail in Appendix L, but at a high level, it would enable the consumer to instruct a platform or an intermediary to share the information held on them with either the publisher of a site they were visiting or with an intermediary.

The consumer would instruct the intermediary to share some or all of that data with parties they had specified, for specified purposes and for a set period of time, and for which the consumer would receive monetary or other incentives. The intermediary would create a consent dashboard for the consumer enabling them to vary or revoke their consents whenever they chose to do so. This could therefore form part of a long-term solution to the problem of consent fatigue.

- 6.138 We have engaged with a variety of PIM businesses, which in principle could play a comparable function to the new banking intermediaries using Open Banking, and mirror the ongoing development in the utility sectors of services which negotiate good deals on customers' behalf. However, it seems to us that these services have a long way to go to be commercially viable.
- 6.139 There are a number of reasons for this and a potential role for regulation in addressing these issues. First, Article 20 of the GDPR states that the right to data portability applies to personal data provided to the controller by the data subject, and therefore does not cover 'inferred' or 'derived' data – whilst the GDPR as a whole applies to derived and inferred data where it is personal data, the specific right in Article 20 does not (for example, regarding 'derived' data, an individual could make a subject access request but not a portability request).³⁴⁰ These data sharing requirements may therefore need to be strengthened.
- 6.140 Second, the PIM may find it difficult to create the right incentives for advertisers and consumers to participate: consumers would be unlikely to sign up unless advertiser-funded incentives were available, but advertisers would be unlikely to use a PIM until sufficient customers had joined. Some of the regulatory changes we have discussed above may start to create stronger awareness of the value of their data among consumers and stronger incentive to engage in such initiatives in the future.
- 6.141 There is also a potential role for a future regulatory body in providing certain safeguards which support confidence and data security for approved intermediaries, then it is an area where innovation could develop. We discuss these services further in Appendix L. We would welcome views on whether this form of data mobility has merit in principle, and what if any form of regulatory intervention is required to support it.

³⁴⁰ See the [ICO website](#).

- *Privacy-enhancing technologies*

- 6.142 In the current system, data generated by consumers can be used to track their identities across online and offline activities, serve individually targeted ads, and measure how these ads affect their behaviour. For these purposes, data gathered from consumers' devices is processed remotely by various actors in the supply chain.
- 6.143 Privacy-enhancing technologies (PETs) are a class of technologies that seek to mitigate privacy risks associated with the collection, transfer, and analysis of data, while still allowing for useful results to be obtained from said data. PETs encompass a wide range of approaches, with different degrees of maturity and applicability.
- 6.144 One particular type of PET, client-side (or on-device) PETs, seek to shift a significant proportion of the data processing to the device itself, reducing the amount and granularity of the information that gets transferred away from it. In this way, the ability of ad tech actors to identify and profile individual consumers during their online activity is potentially curtailed. Nevertheless, these approaches preserve some of the ability for advertisers to provide ads that are targeted to consumers' interests. The fundamental difference is that a higher proportion of the processing (eg assigning consumers to segments or matching impressions to ads) happens on the device, rather than remotely.
- 6.145 The attraction of these approaches in principle is that they can potentially be implemented without compromising the free ad-supported model that underlies a significant proportion of online content creation by publishers, while reducing the need of large-scale data collection, storage, and resale with digital advertising, which can constitute a significant challenge to privacy.
- 6.146 A version of this approach has been proposed by Brave, which recently launched a new advertising platform that operates on top of Brave browser. The platform pushes to the consumer's devices both a catalogue of ads and a targeting model, which is used to decide which ads from the catalogue are to be shown. In this way, no data about the consumer's identity or browsing habits leaves the device. Consumers are rewarded with 70% of the gross ad revenue, in the form of 'Basic Attention Tokens'. These tokens can be transferred by consumers to publishers and content creators of their choice.
- 6.147 To achieve roll out of these approaches at scale, there may be a case for regulatory intervention to facilitate coordination around an appropriate set of privacy-preserving standards. In particular, since most proposed privacy-preserving approaches in digital advertising are implemented in browsers, having these technologies rolled out by default in commonly used browsers

and devices would provide a powerful incentive for publishers and advertisers to adhere. This could potentially be directly mandated as a standard.

- 6.148 There is a possibility that many of the functions of a PIMS provider (discussed above in the section on data mobility) may be performed on-device, and thus combining the features of both PIMS and privacy-enhancing technologies.
- 6.149 Again, we would welcome views on whether the potential costs and benefits of client-side privacy-enhancing approaches (or indeed, other types of PETs that are applicable to online platforms and digital advertising), and whether any regulatory intervention is desirable to facilitate their development.
- 6.150 See Appendix L for a more detailed consideration of these potential interventions, and a list of specific consultation questions.

Potential interventions to address concerns around transparency, conflicts and market power in digital advertising markets

- 6.151 As set out in Chapter 5, our initial view is that Google and Facebook's market power in the sale of their own advertising inventory could lead to worse outcomes for advertisers in search and display advertising respectively, ultimately leading to worse outcomes for consumers. The main sources of this market power appear to come from barriers to entry and expansion on the consumer side in search and social media. We have set out above the possible ways that these barriers might be addressed. However, Chapter 5 also identified specific features of the digital advertising market which might exacerbate the concerns about outcomes for advertisers and publishers.
- 6.152 In the open display market, we noted Google's strong position stemming from its access to advertising inventory and user data, combined with its very high share of supply in publisher ad serving and other parts of the ad tech chain. This leads to potential concerns about:
- conflicts of interest between Google's role on the buy and sell sides of the open display market;
 - its ability to exploit lack of transparency in costs and fees in advertising intermediation to increase returns; and
 - the potential for Google to leverage its market power from its owned and operated advertising inventory into the open display market and to foreclose potential competitors in advertising intermediation.
- 6.153 We also noted specific concerns from publishers about lack of transparency over fees in the open display market. This may limit the extent of competition

between SSPs, reduce the competitive pressure faced by DSPs, and lead to publishers earning lower overall revenues from selling their advertising inventory.

6.154 More generally, we identified a series of broader issues relating to lack of transparency and the data advantages of the large platforms which could limit competition in digital advertising:

- the large platforms' processes for auctioning inventory are not transparent and there is limited ability to independently verify the effectiveness of advertising because of lack of access to data; and
- the data advantages of the large platforms in targeting advertising means they can monetise their content much more effectively than other platforms/publishers, increasing their market power.

6.155 We expect that a code of conduct as discussed above may in the short-term be the most effective way to address some of these problems. It could require platforms to trade on fair and reasonable terms, including a reasonable transfer of data to and from the platforms. In the open display market, the code of conduct could require platforms not to prefer their own customers over third parties who use other intermediaries. A code of conduct could also resolve disputes about how Google runs its ad tech auctions, for example requiring Google's auctions to give equal treatment to Google and third-party exchanges.

6.156 However, a potential limitation of a code of conduct is that it may not restrict all of Google and Facebook's incentives to exploit the market position that they have built up to their own advantage. A code of conduct can set rules that restrict certain behaviours, but in a fast moving and very complex market such as digital advertising it may be difficult for the regulator to monitor every change that is made by the incumbents.

6.157 We therefore consider in this section the case for additional interventions, over and above a code of conduct, designed to tackle directly the lack of transparency and conflicts of interest that we have observed. We consider first potential separation remedies and then remedies to improve transparency.

Options for the separation of integrated platforms

6.158 One of the more intrusive remedies available to competition authorities and regulators is to require vertically integrated firms to separate their businesses to address competition problems that arise from operating in multiple markets.

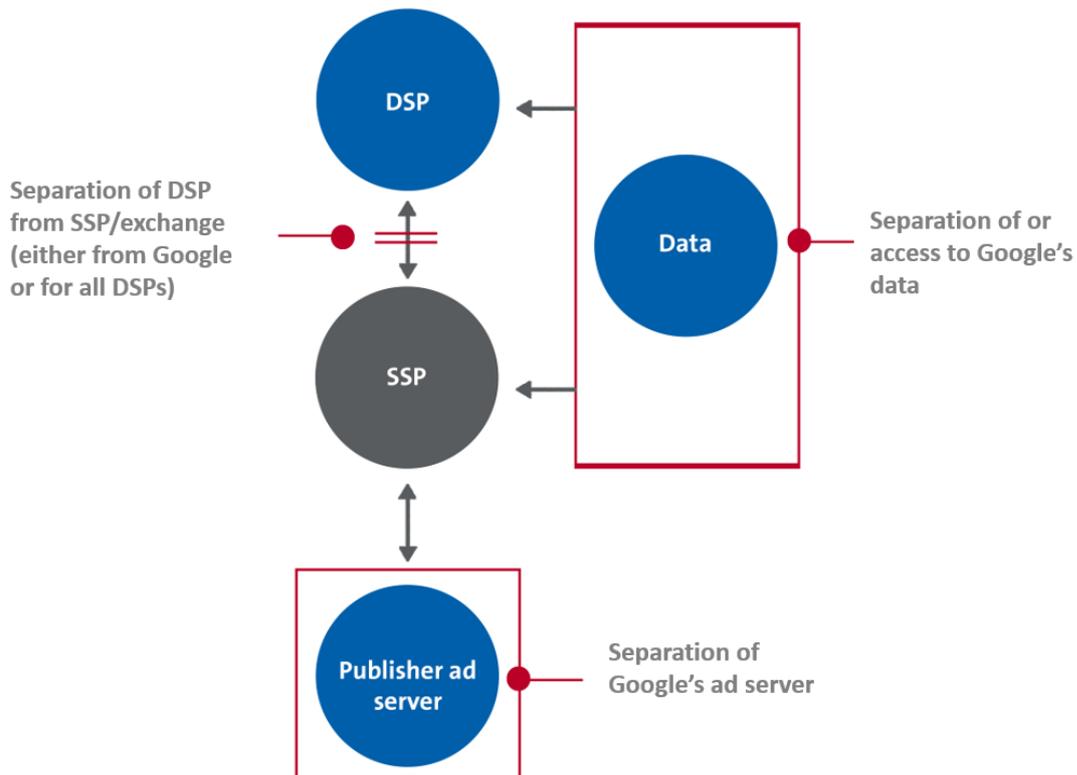
The idea of ‘breaking up’ the large tech firms has been highlighted in some submissions to us, as a way to limit the effects of market power across the multiple markets in which they operate.

- 6.159 Separation, and particularly ownership separation, has the potential to deliver significant benefits in markets where one large player is able to affect the proper working of competition across a number of markets. In such circumstances, separation can be most effective where it can be used to re-establish a more effective competitive process, which can bring new products to consumers and lower prices to businesses.
- 6.160 We have considered the case for **interventions to separate aspects of the businesses of large integrated platforms, encompassing a range of options from accounting and management separation to full ownership separation**. We are aware that the threshold for such interventions is high and that we need to think very carefully about the likely costs and benefits arising from them. Our aim in surfacing these options now is to attract views from a range of affected stakeholders on these questions.
- 6.161 We have received several representations that there is a strong case for separating aspects of Google’s vertically integrated business in the intermediated open display market. This is an area where our analysis suggests that there are material conflicts of interest arising from Google’s position on several sides of the market and where we have heard a range of concerns from market participants about Google’s incentive and ability to leverage its market power to undermine competition. Accordingly, this has been the main focus of our assessment.
- 6.162 Recognising that conflicts of interest in the intermediated open display market are not limited to Google, we have also considered whether separation might also be appropriate where other firms operate in conflicting parts of the value chain, such as those operating both demand-side and supply-side platforms.
- 6.163 We are seeking views on the potential benefits and costs of the following interventions, which represent different forms of separation in the intermediated display market:
- whether Google should be required to separate its publisher ad server or operate this service independently;
 - whether Google and other platforms operating both a DSP and an SSP should be required to separate these activities to avoid a conflict of interest; and

- whether Google should be required to separate the operations of its advertising business from certain aspects of its data businesses.

6.164 These are illustrated in Figure 6.3.

Figure 6.3: Potential separation options in the intermediated display market



Source: CMA.

6.165 In relation to the first of these options, we understand that Google Ad Manager has a share of supply of over 90% for publisher ad serving. Publishers tell us that Google uses its publisher ad server to exercise control over the auction process for intermediated display advertising and favour its own businesses. The potential benefit of separation would be to address this conflict of interest and associated self-preferencing behaviour, strengthening competition in the intermediated market. There would also be potential costs, arising from the loss of efficiency gains from Ad Manager integration.

6.166 More broadly, if Google were required to establish a separated and independent publisher ad server, it is likely that this would change the competitive dynamics in this part of the ad tech value chain quite substantially. Publishers told us that Ad Manager (which currently integrates ad server and exchange functions) is a high quality product, which compares well with other ad servers in terms of reporting and integration with demand. We have also heard that there are some benefits in the integration of ad

server and exchange functions in Google Ad Manager, including operational efficiencies, more effective yield management and reduced impression loss. The consequences of a separation involving Ad Manager for how publishers procure advertising would therefore need to be carefully assessed.

- 6.167 A further option for addressing concerns around conflicts of interest in publisher-facing services would be to require separation of SSP and DSP services. Google operates its SSP and DSP services together and determines the rules of multiple auctions in a way which works for both its SSP and DSP businesses, as do some other ad tech intermediaries. Both customers and competitors have suggested this may represent a conflict of interest, as the SSP and DSP should be acting independently, in the interests of publishers and advertisers respectively. The benefit of separation here would be to address the conflict of interest and potential for arbitrage behaviour arising from it, while we would also need to consider potential efficiency losses from separation.
- 6.168 Finally, the analytics parts of Google's business could in principle be separated from the rest of Google's advertising business. Currently, Google has a competitive advantage over third-party advertising firms because it has access to more data than any of its competitors, gathering data through its user-facing services, Android and its analytics businesses including Google Tags. Separating Google's analytics business from its other activities could help to address these competitive advantages and also deal with a number of concerns relating to conflicts and a lack of independent verification of outcomes in the market.
- 6.169 At this stage, this appears to be the most challenging option for separation, given the extent of integration of these aspects of Google's business. As an alternative, and subject to privacy considerations, Google might be required to offer analytics services to third parties on comparable terms. A remedy which required Google to provide access to certain data where only Google currently has access would need careful design, but if it could be made to work, it could be positive for competition and innovation in digital advertising.
- 6.170 There are multiple forms of separation, each of which could apply to the above options. Full ownership separation ('divestiture') is the strongest form of separation, which requires the owner of the common businesses to first separate and then sell one of the businesses to be separated. This remedy is sometimes used in merger control and has the advantage of being clear-cut and requiring no ongoing regulatory supervision. Where separation is expected to result in a significant increase in dynamic competition and innovation, divestiture is most likely to achieve these benefits. However, we are conscious that a remedy of this type would be likely to have significant

impacts on other markets outside the UK and may need to be coordinated with other authorities internationally.

- 6.171 Operational separation, sometimes called ring-fencing, is a less intrusive version of separation, which requires firms to put in place measures which ensure that different businesses operate independently. This could include internal measures such as separate management responsibility, separate incentives, requirements to trade at arms-length, or even physical separation of different activities. Under operational separation, there would be no obligation to divest either of the separate businesses, and operational separation therefore relies on a common owner having limited ability to control the behaviour of the separated businesses that it owns. Operational separation is sometimes used by utility regulators seeking to ensure that incumbent businesses do not favour their own businesses operating in competitive markets.³⁴¹ A more limited form of ring-fencing is also used in markets such as financial services, where there are legal requirements on buy-side and sell-side operations to act independently.
- 6.172 Our initial view is that operational separation may be feasible in respect of Google's ad server or SSP businesses, which we understand already both trade with both Google's own digital advertising businesses and third-party digital advertising intermediaries. An operational separation would include a requirement on Google to treat these internal and external digital advertising businesses consistently.³⁴² In practice would require ongoing monitoring and evaluation by a regulatory body, and there would be challenges in designing the operational separation. In particular, defining a form of operational separation and a definition of equivalent treatment between Google's own businesses and third parties may be difficult. It is likely that operational separation would need a combination of regulatory oversight and also some changes in how Google operates to be truly effective.
- 6.173 A more limited form of separation is accounting separation, which is designed to ensure that the separated entities are required to report as if they were independent firms, with the intention that it would also encourage the firms to act independently. Accounting separation is normally imposed alongside other remedies such as mandatory access or operating separation. We expect that accounting separation could be required if we or a future regulatory body were

³⁴¹ The 'structural separation' which Ofcom requires BT to apply to Openreach represents a strong form of operational separation including the separation of Openreach into a different legal entity.

³⁴² In legal terms this could be a requirement to not unduly discriminate between Google's own businesses and third parties.

to implement the operational separation or access requirements which we have identified in this section.

- 6.174 We would welcome views on each of these options and on the appropriate timescales for any interventions. For example, we would welcome views on whether we should consider separation options in the near term, or only once the code of conduct has been in place for a sufficiently long time to establish whether it is sufficient for dealing with the concerns we have identified.

Access to inventory

- 6.175 One of the issues identified by a wide range of stakeholders was that an additional advantage Google has in digital advertising intermediation is that it has preferential access to its own inventory. A number of participants have expressed concerns about Google's decision to offer its YouTube inventory only through its own DSP, which also participates in the intermediated display and video digital advertising markets.
- 6.176 An effective code of conduct could address most of the issues that we are aware of relating to Google's inventory. It could address concerns that Google does not offer comparable access to third parties when it auctions this inventory in the open market. The code of conduct might not however address the concern that Google does not offer YouTube inventory at all in the intermediated market, even though the display and video advertising on YouTube is comparable to those on other publishers' websites. Until 2016, Google offered at least some of its YouTube inventory to third-party intermediaries. We welcome views on whether Google could be required to offer access to some or all of its YouTube inventory on reasonable request to third-party DSPs.

Interventions addressing a lack of transparency in digital advertising

- 6.177 We are also considering the case for specific interventions to address the concerns that digital advertising markets do not work well because there is insufficient transparency for advertisers and publishers. Some of these could be particular obligations on SMS platforms to comply with rules, where there is evidence that their behaviour is driving the lack of transparency, while others might apply to all firms.
- 6.178 We would welcome views on the following interventions, drawing on views we have heard in the first half of the study:

- (a) **A requirement to provide transparency over fees charged for intermediary services.** Both publishers and advertisers have raised

concerns that there is an 'ad tech tax' imposed by intermediaries which is hidden by the existence of multiple auctions and the lack of evidence linking what is paid by advertisers for digital advertising to what is received by publishers. A rule requiring all intermediaries to disclose evidence as to the fees that they extract from the process of buying and selling digital advertising could enhance trust and transparency in the sector;

- (b) **A requirement to apply a consistent transaction ID for each digital advertising transaction** to allow more effective monitoring and verification. Advertisers have said they are frustrated by the challenges involved in identifying what they are buying when they purchase digital advertising, how they can be sure that advertising is properly verified and not fraudulent, and how they can assess the return on investment for what they are buying. In turn, publishers have expressed concerns at recent moves to reduce the transparency of bid data. We understand there are a number of initiatives to move towards industry standards in respect of transaction IDs, and welcome views on whether these could be made to work across the sector;
- (c) **A requirement to provide sufficient data to allow for effective ad verification and attribution analysis.** We are told that some platforms and other intermediaries do not provide enough data to advertisers or publishers to properly understand the effectiveness of ad campaigns. Platforms may be able to provide extensive information about attribution, but will not provide the underlying data to allow the advertisers or intermediaries acting on their behalf to interpret that information. A rule which specified what data should be provided, at least by SMS platforms, may improve trust in the information which is provided on the effectiveness of different forms of digital advertising;
- (d) **Sharing of bid data with publishers.** Google Ad Manager is the ad server for the large majority of publishers. We have heard concerns about the level and quality of information provided to publishers relating to bids for inventory, and the fact that this has recently been reduced. While there are some competition concerns to be considered, in principle, a requirement to provide better quality data to market participants could improve both trust in the outcomes of the auction process and the ability of publishers to plan their approach to managing and monetising future digital advertising inventory. We are seeking views on what data it is reasonable to expect Google and other intermediaries to share with the publishers of digital advertising.

- 6.179 While the above interventions would involve the provision of data to market participants, we have also considered whether in some cases, notably where the provision of data would raise privacy, competition or fraud concerns, trust might be increased through allowing a regulator to carry out scrutiny on behalf of market participants.
- 6.180 Such an approach might be taken to the operation of auctions, for example, which, as discussed in Chapter 5, create concerns relating to a lack of transparency about how digital advertising is sold and at what price. A regulatory body might be able to audit the processes followed by both platforms and intermediaries. We welcome views on the feasibility of an effective auditing regime for the process followed in undertaking auctions of digital advertising.
- 6.181 We would welcome views on whether the above improvements to transparency are technically and commercially feasible, and desirable, both from the perspective of privacy and competition. If so, we seek views on whether industry should be able to agree standards to provide additional transparency, or whether an enforceable set of rules or standards should be applied by a regulatory body.
- 6.182 See Appendix M for a more detailed consideration of these potential interventions, and a list of specific consultation questions.

Initial findings

- 6.183 In this chapter, we have explained why we consider there to be a strong argument for the development of an ex ante regulatory regime to govern the activities of large online platforms funded by digital advertising.
- 6.184 Our initial view is that an enforceable code of conduct has a number of advantages over ex post enforcement and would be a valuable tool in helping to address the competition concerns we have identified in consumer-facing and digital advertising markets.
- 6.185 We have considered criteria that could be used to assess whether a digital platform that is funded by digital advertising should be considered to have SMS, and hence be subject to the code of conduct. At this stage, we consider that Google and Facebook would likely be considered to have SMS against these criteria.
- 6.186 Our initial view is that these platforms should be subject to three overarching principles: **fair trading**, which would require the SMS platform to trade on fair and reasonable terms for services where they are an unavoidable trading

partner as a result of their market position; **open choices**, which would be intended to require the SMS platform to allow users to choose freely between elements of the platform's services and those offered by competitors; and **trust and transparency**, designed to ensure that SMS platforms provide sufficient information to users, including both consumers and businesses which transact with the platform.

- 6.187 This chapter also sets out certain specific interventions that have the potential to address the sources of market power, lack of transparency and conflicts of interest in search, social media and digital advertising markets. These include data access remedies, interventions to increase interoperability, measures to give consumers greater control over their data and separation remedies. We recognise that some of these interventions would be very significant and would need to be considered very carefully.
- 6.188 We have an open mind regarding the merits of these potential regulatory interventions, some of which are explored in further detail within Appendices I-M, which also contain a number of consultation questions. We welcome views on these specific proposals, as well as responses to the key questions set out in Chapter 8 of our interim report.

7. Views on a market investigation reference

- 7.1 Since issuing our market study notice on 3 July 2019, we have received five representations from parties for us to make a market investigation reference (MIR).
- 7.2 We are therefore required to consult on a proposal within six months of launching the study (by 2 January 2020) on whether to make a market investigation reference. The timing of this interim report is a result of that requirement. We are required to publish our decision on whether to launch a market investigation in our final report, which we must publish on or before 2 July 2020.
- 7.3 We received representations to make a MIR from:
- a UK media company;
 - an online platform;
 - Dr Ryan and Dr Lynksey;
 - The News Media Association; and
 - Privacy International.
- 7.4 These representations are summarised in Appendix B, which sets out the key points made by stakeholders in response to our statement of scope. These five stakeholders have raised different concerns that they wish to see addressed through a market investigation. For example, the News Media Association told us it would like a market investigation to ensure that publishers earn a fair return for their content, whereas Privacy International told us it would like an investigation to include the aim of strengthening the enforcement of consumers' rights against abusive practices.
- 7.5 The CMA can make a market investigation reference when:
- the findings of a market study give rise to reasonable grounds for suspecting that a feature or combination of features of a market or markets in the UK prevents, restricts or distorts competition;³⁴³ and

³⁴³ Section 131, Enterprise Act 2002.

- a market investigation reference appears to be an appropriate and proportionate response.

7.6 We have published the following four criteria that we consider as part of any decision:³⁴⁴

- the scale of the suspected problem is such that a reference would be an appropriate response (ie that the adverse effect on competition is likely to be significant based on the size of the market, the proportion of the market that is affected and the persistence of the market features);
- there is a reasonable chance that appropriate remedies would be available;
- it would not be more appropriate to address the concerns through undertakings in lieu of a reference (UILs); and
- it would not be more appropriate to address the competition issues through alternative powers available to the CMA or through the powers of sectoral regulators.

7.7 We have drawn the scope of our market study broadly, covering a wide range of related markets, so that we can better understand the full range of challenges and concerns that arise in relation to online platforms that are funded by digital advertising, and the relationships between these issues. There are, therefore, several individual markets that could in principle be reviewed through a market investigation.

7.8 Based on our initial findings, as well as the representations made by the parties above, we believe there are reasonable grounds for suspecting that features of the following markets could be restricting or distorting competition in the UK:

- the open display advertising market, with a focus on the lack of transparency, Google's market power and the conflicts of interest Google faces at several parts of its vertically integrated chain of intermediaries;
- general search and search advertising, with a focus on barriers to entry and expansion arising from Google's scale advantages in data and Google's payments to be the default search engine on devices and browsers; and

³⁴⁴ [Guidance about the making of references](#) under Part 4 of the Enterprise Act, OFT 511, paragraph 2.1.

- social media and display advertising, with a focus on the network effects enjoyed by Facebook and the lack of interoperability between Facebook and rival services.
- 7.9 Given the size and value of these individual markets, and the number of consumers affected by them, a market investigation would appear to be a proportionate response. Some of the potential interventions we discussed in the previous chapter could be implemented through the order making powers available to the CMA within a market investigation.
- 7.10 For example, order making powers could be used to introduce increased interoperability in social media, or third-party access to click and query data in search, or changes to the arrangements for determining the default search engine on browsers and devices. We could in principle also use them to make one-off interventions to tackle the structural issues within the open display advertising market.
- 7.11 We therefore consider a decision on whether to propose a market investigation in any or all of these areas to rest primarily on whether it is the most appropriate mechanism for assessing the issues and delivering the required outcomes.
- 7.12 We said in our statement of scope that **we see recommendations to government as the most likely outcome of the study**, as we did not 'expect that a "one-off" intervention by the CMA, such as could be achieved through a market investigation, would be sufficient to provide a sustainable long-term framework for the sector.'³⁴⁵ This reflected the fast-evolving nature of concerns in these markets, suggesting that an ongoing regulatory regime would be more appropriate. Although it is a finely balanced judgement, we continue to hold this view and have concluded that we should consult on not making a market investigation reference at this stage. **There are three key factors behind our current thinking.**
- 7.13 **First, the government has been committed to regulatory reform in this area.** If this remains the case, we believe there are good prospects that any recommendations coming from our study would be implemented in practice.
- 7.14 Our judgement is that a market investigation reference is not at this stage the most appropriate way forward in either of general search and search advertising, or social media and display advertising. Two of the main potential interventions that we have identified within these two areas would be specific applications of the Furman Review proposals for data remedies, which it said

³⁴⁵ CMA (2019), [Online platforms and digital advertising market study – statement of scope](#).

should be implemented and overseen by the proposed Digital Markets Unit. Given that the government has committed to the setting up of the Digital Markets Unit,³⁴⁶ and to regulatory reform more broadly in relation to online platforms, covering a wider range of issues than those we have considered in this study, we think that it is better to inform the development of that regulatory regime through recommendations rather than risk cutting across it through a major intervention at this stage.

- 7.15 The Furman Review did not study the open display advertising market in any detail, recommending instead that we conduct this market study. It is therefore less clear whether the interventions proposed by the Furman Review could, if taken forward by government, be implemented in such a way that would effectively tackle the structural issues we have surfaced. However, there is a case for reviewing the scope and potential impact of a new ex ante regime – and in particular a code of conduct, which would attempt to address the concerns arising from the exercise of market power – before deciding to take forward more intrusive measures.
- 7.16 **Second, the concerns we have identified regarding online platforms such as Google and Facebook are a truly global antitrust challenge facing governments and regulators.** Therefore, in relation to some of the interventions we are considering, and in particular any significant structural remedies, such as those involving ownership separation, we need to be pragmatic about what changes could efficiently be pursued unilaterally by the UK.
- 7.17 This is an important factor behind our proposal not to make a market investigation reference into the open display advertising market at this stage. We have been engaging extensively with our international counterparts, and have made significant progress in identifying areas of shared interest and common understanding. We will continue this work with the aim of developing a coordinated position and response. We hope that the government can assist us in driving forward this programme of international cooperation to the fullest extent possible.
- 7.18 **Third, we still have considerable work to do to understand the nature and extent of the issues in the market, and what the appropriate range of remedies might be to address them.** We hope to test our initial findings through this consultation, gather more evidence through the second half of the study, and come to more precise judgements in our final report. At this stage we cannot confidently say which set of interventions should be taken forward,

³⁴⁶ PM speech opening London Tech Week, June 2019.

and so the most appropriate mechanism for implementation is similarly unclear.

- 7.19 **Based on these three factors, we are not minded to propose a market investigation reference at this stage.** Our preferred approach to tackling the problems we have identified continues to be through recommendations to government for regulatory reform.
- 7.20 We will revisit this conclusion in the light of consultation responses that we receive, our assessment of market developments including through continued engagement with our international partners, and the UK government's emerging position on regulatory reform in this area.
- 7.21 We would like to receive views from a broad range of parties on this proposed way forward.

8. Next steps

8.1 This document provides an update on the progress we have made to date in this market study. It sets out our initial findings on a wide range of potential concerns within each of our three themes, including on:

- barriers to entry and expansion in general search and social media markets;
- consumers' control over collection of their personal data; and
- concerns around transparency, conflicts of interest and market power in digital advertising markets.

8.2 Going forwards, we want to gather more evidence to test and refine our thinking in these areas, and to identify which are the most appropriate interventions for tackling these issues. This consultation is an important first step in that process.

This consultation

8.3 We are using this consultation to gather views and information from stakeholders on the following five topics:

- our understanding of the markets within our scope;
- our initial findings and concerns under each theme;
- the merits and challenges of the potential interventions identified;
- the case a market investigation; and
- the further work we propose to do over the second half of the study.

8.4 The key questions we have under each topic are set out in Box 9.1.

Box 9.1: Our key questions

Our understanding of the markets within our scope

- 1) Do you agree with our descriptions of general search services and social media service, as set out in Chapters 2 and 3?
- 2) Do you agree with our explanation of the different forms of digital advertising, as set out in Chapter 5?

- 3) Do you agree with our explanation of how the intermediated open display market operates, as set out in appendix H?
- 4) Do you agree with our understanding of the role of data, as set out in Appendix E?

Our initial findings and concerns under each theme

- 5) Do you agree with our analysis and findings in relation to competition in search and social media, as set out in Chapter 3?
- 6) Do you agree with our analysis and findings in relation to consumer control over data, as set out in Chapter 4?
- 7) Do you agree with our analysis and findings in relation to competition in digital advertising, as set out in Chapter 5?

The merits and challenges of the potential interventions identified

- 8) Do you agree with our assessment of the merits of a code of conduct for large online platforms funded by digital advertising?
- 9) Do you agree with the range of possible practices we have identified that could be considered under such a code of conduct?
- 10) Have we identified the appropriate range of potential interventions to address the sources of market power for Google and Facebook?
- 11) Have we identified the appropriate range of remedies to improve consumers' control over their data?
- 12) Have we identified the appropriate range of remedies to address conflicts of interest and a lack of transparency in digital advertising markets?
- 13) We have set out a number of specific questions relating to the potential interventions, which are discussed in the following appendices:
 - I: Potential practices to be tackled through a code of conduct
 - J: Potential interventions to address market power in general search
 - K: Potential interventions to address market power in social media
 - L: Potential interventions to improve personal data mobility
 - M: Potential interventions in digital advertising markets

Do you have any views on the more specific questions in these documents?

- 14) Do you have any views about the appropriate sequencing of the remedies we have identified?

Market investigation

15) Do you agree with our assessment of the potential candidates for a market investigation, and what are your views on the merits of each?

16) Do you agree with our proposal not to make a market investigation reference at this stage?

17) Do you support recommendations to government as an effective route to implementing interventions in these areas?

Further work we propose to do over the second half of the study

18) Do you agree we have identified the right areas for further work in the second half of the study (set out below), and are there any significant gaps?

How to respond

8.5 To respond to this consultation, please email or post your submission to:

Email: onlineplatforms@cma.gov.uk

Post: Online Platforms Market Study
Competition and Markets Authority
25 Cabot Square
London
E14 4QZ

8.6 Please respond by no later than 5pm on 12 February 2020.

8.7 For transparency and to inform public debate, we intend to publish all responses we receive. In providing responses:

- Please supply a brief summary of the interests or organisations you represent, where appropriate.
- Please consider whether you are providing any material that you consider to be confidential, and explain why this is the case. Please provide both a confidential and non-confidential version of your response.

8.8 If you are an individual (ie you are not representing an organisation), please indicate whether you wish for your response to be attributed to you by name or published anonymously.³⁴⁷

³⁴⁷ An explanation of how we will use the information provided to us is set out in the annex to our [statement of scope](#).

The next six months

Further work

- 8.9 During the second half of the study, we will focus on obtaining further evidence on specific issues to develop our assessment, as well as continuing to review the evidence we have obtained, and progressing our assessment of the potential interventions. Specific areas for further and more detailed analysis that we have identified include:
- market outcomes in search, social media, and digital advertising markets;
 - fees and revenues in the open display advertising value chain;
 - the characteristics, objectives, and behaviour of advertisers;
 - the interaction between controls over data at the platform level and those at the device or browser level;
 - the controls given to consumers over the use of their data by publishers;
 - the ability of platforms to influence auction outcomes;
 - the merits of each potential intervention, and the risks and challenges to implementing them, including practices most suited to inclusion within a code of conduct to govern online platforms with a strategic market status.
- 8.10 In addition to reviewing the responses we receive to this interim report, we will gather more evidence through continued engagement with stakeholders, further requests for information from parties, and remain open to conducting or commissioning targeted research.

Our final report

- 8.11 We will publish our final report by 2 July 2020, which will include a decision on whether we will make a market investigation reference.
- 8.12 It will set out our findings on the extent of competition faced by the largest online platforms funded by digital advertising, and on the extent of concerns in the markets within which they operate. It will also include our conclusions on the most appropriate interventions to solve the range of issues we identify. As indicated in Chapter 6 of this document, we currently expect this to include a number of recommendations to government for regulatory reform.