Recent Developments at the CMA: 2019–2020

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Abstract

We discuss three important cases that the Competition and Markets Authority (CMA) has completed over the past year: First, the coronavirus pandemic has had implications for a wide range of the CMA's work; we describe the work on price gouging conducted by the CMA's Covid-19 taskforce and respond to the argument that competition authorities should not be concerned about such behaviour. Second, a number of high-profile studies have considered the appropriate application of competition policy in digital industries. The second two cases—the Online Platforms and Digital Advertising market study, and the Google/Looker merger—show the work the CMA has continued to do in this area.

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1 Introduction

The UK Competition and Markets Authority (CMA) is the UK's primary competition authority. This article discusses three important cases for the CMA over the last year.

The first case illustrates the CMA's response to the coronavirus pandemic. The pandemic has fundamentally altered everyone's lives and has had implications for a wide range of the CMA's work. In March 2020 the CMA established a Covid-19 taskforce to focus on the competition implications that have arisen from the pandemic. In March there were prominent reports of panic buying and there have subsequently been numerous media articles that have highlighted significant price rises for products such as hand sanitiser that have suddenly become essentials. This article discusses how the CMA has responded to complaints about 'price gouging' and the role that economics has played in this work. Along the way we address the important question: Is this simply an efficient response to the sudden scarcity of certain products?

The second two cases—the Online Platforms and Digital Advertising market study, and the Google/Looker merger case—illustrate the CMA's ongoing work in relation to digital markets. The appropriate use of antitrust tools in digital markets has been the focus of a number of high-profile reports over the last two years.¹ In the UK the Furman Review² advocated for the establishment of a Digital Markets Unit to support greater competition and consumer choice in digital markets and expressed concerns about underenforcement in mergers involving digital firms. The CMA is in the process of providing advice to the UK Government on the implementation of the Furman Review's recommendations,³ and a number of countries have proposed new regulatory regimes.⁴

The Online Platforms and Digital Advertising market study was a wide-ranging and comprehensive study that focussed on various aspects of digital advertising and in particular Google's role in (i) online search and (ii) open display advertising and Facebook's role in social media. The study considered the sources of market power for these two firms and identified how they are able to exploit that market power. The Google/Looker case demonstrates the ability and willingness of the CMA to scrutinise acquisitions by leading tech companies and to respond to concerns of underenforcement in this area.

¹ For example, HM Treasury (2019) and Stigler Report (2019).

² HM Treasury (2019).

³ See <https://www.gov.uk/government/publications/digital-markets-taskforce-terms-of-reference/digital-markets-taskforce-terms-of-reference--3> (accessed 06/07/2020).

⁴ Including, Australia, the Benelux countries, the European Commission, France, Germany, and Japan.

2 Price Gouging and Covid-19

2.1 Background

The CMA established a taskforce in March 2020 to respond to the novel competition and consumer protection challenges that were raised by the Covid-19 outbreak. One of the issues from the beginning was the appropriate response to the huge numbers of complaints of sharply increased prices for important products.⁵ Other issues, which are not addressed here, related to advice on government support to industries and exclusion orders that provided temporary exemptions from competition law provisions.

Between 10 March and 28 June 2020, the CMA received over 7,600 complaints about businesses that charged high prices. The volume of these complaints peaked in late March, and gradually declined from then on.⁶ The majority of the price-based complaints related to what can be termed essential items, such as: toilet paper, meat, hand sanitiser, flour, rice, and eggs. The large majority of these complaints to the CMA related to independent bricks-and-mortar retailers: a type of business which would not normally be considered to possess significant market power.⁷

This section sets out the CMA's economic assessment of the complaints in the exceptional circumstances of the Covid-19 pandemic, through a competition lens. The crisis immediately changed shopping behaviour with consumers' shopping patterns becoming more local and a shift to greater purchases in the local independent outlets that were the subject of the majority of the complaints.

The first step was to establish an online form for the complaints in which the product specification and outlet were recorded along with the pre-Covid price and the high Covid-period price being complained of. From these data, the median price increase complained of was around 160% (Fig. 1). This varied widely by product, with hand sanitiser seeing median reported price increases of approximately 400%—a quintupling in price.

2.2 Considerations in Evaluating Reports of High Prices

Whether short-term higher prices in an emergency ('price gouging') should be seen as an abusive practice is a controversial matter among economists.⁸ The UK, along with many other countries, does not have specific legal provisions that are targeted

⁵ Hayter (2020) gives an overview of the work of the CMA during the Covid-19 outbreak.

⁶ A large proportion of the non-price related complaints related to difficulties in obtaining refunds from businesses such as wedding venues and holiday cottages.

⁷ There were also complaints that were related to listings on online marketplace platforms—especially those for masks and other kinds of personal protection equipment (PPE).

⁸ Among the Chicago Booth IGM Forum (2012) of prominent economists, only 8% agreed with a proposed anti-price gouging law. Concerns with respect to efficient allocation and supply response were cited as the most common reasons for disagreement. See <https://www.igmchicago.org/surveys/price-gouging/>.

at such conduct, which means that this conduct often falls to be considered as a variation of the abuse of excessive pricing.

Typically price increases are an important signal to induce a supply response while acting to ration demand to those with higher valuations for the goods and services. The concern that enforcement action will undermine the appropriate market responses informs the economic debate on appropriate conditions on excessive pricing.⁹

The CMA's experience highlights where, in exceptional crisis circumstances, prices may be exploitative and unfair, and appropriate competition authority action can safeguard vulnerable consumers without undermining supplier responses. There are good reasons why temporary price spikes during crises may not incentivise supply, and may reflect an exercise of market power to exploit consumers who have particularly poor alternatives. In this, it is important to distinguish between broad-based price changes that reflect supply-side factors, and very high price increases that are well in excess of those of comparable firms, by small numbers of retailers. Such price increases are unlikely to pass useful signals to manufacturers where they reflect the extraction of large profits from sales without leading to retailers' paying higher prices to manufactures.

Fletcher (2020) points out that sharp price increases may be unnecessary in encouraging increases in output even when they do reach manufacturers. Manufacturers may have limited ability in the short run to react to short-run and transitory price increases; and where there is flexibility in output the imbalance between supply and demand may be signalled without the need for a large price increase: for example, through an increase in the volume that is being ordered by customers. Where firms engage in conduct such as strategic hoarding and reselling—and thereby divert goods from their normal supply chains—it is particularly likely that high prices will result without useful market signals' being produced.

In addition, price spikes can be driven by consumers who are stockpiling goods. Such short-run "demand spirals"—where customers faced with uncertainty around future supply choose to buy products when they have the opportunity to do so—do not reflect an increase in demand beyond the very short run. Where such consumer stockpiling leads to higher short-run demand and higher prices, firms will anticipate depressed demand following the price spike as consumers use up their stocks, and so will not invest to increase output during this period. In the case of ordinary household goods that saw no increase in consumption, or small increases due to demand diversion towards in-home consumption, due to the pandemic there is little useful information that is contained in the signal of a very high price.

Another function of market prices is to ensure that scarce products are allocated efficiently. However, individuals do not vary widely in the inherent value that they derive from essential goods such as food. Differences in the ability and willingness to pay high prices for essential goods will reflect the incomes of consumers more than differences in level of need. Such inequitable outcomes will be made more

⁹ The debate is reflected in Evans and Padilla (2005), Motta and de Streel (2007), and Ezrachi and Gilo (2008).

Fig. 1 Median reported price increases in complaints. *Note:* This chart is based on 1,969 complaints that provide information on prices both before and after the outbreak, and shows only products with at least 60 complaints

severe by the effects of stockpiling, with the ability to stockpile at high prices being further limited to richer consumers. High prices may discourage stockpiling; but consumers who face uncertainty may see high prices as a signal of scarcity, which encourages stockpiling.¹⁰

Next we explain how these possibilities were tested by the CMA in the actual experience of the Covid-19 pandemic.

2.3 Covid-19 May Strengthen Market Power

Price increases are less likely to serve a useful function in a market, and are more likely to exacerbate poor allocation outcomes without leading to improvements in the timeliness of supply responses, where the firms charging high prices have market power.

The circumstances of the Covid-19 outbreak mean consumers' alternatives have substantially narrowed meaning some local outlets have the potential profitably to raise prices substantially relative to other outlets such as national supermarket chains. This is quite different from higher prices for flights at mid-term, or cinema seats on a Friday evening, which reflects inter-temporal price discrimination consistent with competition not the exertion of market power.

These narrower geographic markets give greater market power to independent retailers in these local areas and, in particular, weaken the constraint on their pricing

¹⁰ This possibility is articulated by Noy (2018).

that is imposed by supermarkets.¹¹ This is especially the case for consumers who rely on public transport—which has also seen its capacity greatly reduced—and for more vulnerable consumers who are less able to stand in queues. Another effect of social distancing was a reduction in the customer capacity of larger supermarkets, with many supermarkets requiring long queues to enter and many consumers avoiding larger stores to reduce their risk of exposure to the virus.

Aside from this, consumers' search costs are greatly increased during the outbreak. Visiting multiple retailers to check the prices they offer is far more costly than normal: due to the additional time required and also the risk of exposure to the virus. These high search costs are compounded by widespread shortages, or perceived shortages, of essential products. Customers will also be unable to observe whether potentially competing retailers have in stock the product that the consumers wish to buy. If a retailer is indeed out of stock, then it will represent no competitive constraint on other retailers—even if it would normally be a strong constraint.

Close examination of the physical retailers with the most complaints made against them find that they are generally located in the most socially and economically disadvantaged areas of the UK. This is consistent with their possessing market power temporarily accrued through the mechanisms described above. Given that essential products account for a larger proportion of the spending of low-income consumers, the welfare harm that is associated with the price increases is larger for these consumers.

The CMA's analysis pointed to the local market issues and underpinned advice that related to the concerns and requests for information from identified outlets with regard to their pricing and the justifications for it. In addition, the CMA engaged with owners of the major symbol groups,¹² who contacted their franchisees and referred to the CMA's attention and the potential negative reputation effects of exploiting a short-term advantage. Monitoring of the complaints and prices by channel confirmed that prices adjusted towards normal levels and no further action was taken, aside from the special case of hand sanitiser.

2.4 The Hand Sanitiser Market During Covid-19

Hand sanitiser complaints stood out in terms of the large volume received by the CMA—over 1,800—and the magnitude of the price increases complained of. These considerations—along with the importance of hand sanitiser in the context of the pandemic following government and scientific advice—led the CMA to focus attention on it. A number of other countries responded to similar price hikes by simply capping retail prices of hand sanitiser.¹³ Ensuring its efficient supply is clearly

¹¹ The CMA's 2017 investigation of the merger between Tesco and Booker found that supermarkets represent a strong competitive constraint on independent grocery retailers during normal times. This merger is discussed in Basso et al. (2018).

¹² Symbol groups are franchises of independently-managed grocery retailers that share a logo. Examples of UK symbol groups are Spar and Costcutter.

¹³ France, Spain, and India all imposed caps on the prices of some hand sanitiser products.

important to mitigating the spread of the virus; and given the strong positive externalities that surround its use, efficient allocation must include its widespread availability to consumers of all income levels.

The CMA's approach involved assessing the supply chain by contacting a number of participants in the hand sanitiser industry, including manufacturers, national chemists' chains, and symbol group owners. This complemented the analysis of electronic point of sale (EPOS) data.¹⁴

The sustained higher demand levels led to volumes of hand sanitiser purchased by consumers increasing during the Covid-19 outbreak that were approximately 15 times the pre-Covid levels.¹⁵ Unlike most other products, hand sanitiser has therefore required a major supply response to meet demand. The CMA's analysis sought to distinguish between pricing that is consistent with the supply response and pricing by some outlets that apparently reflected exploitative conduct at the retail level.

The largest increase in sales of hand sanitiser has been in the grocery multiples retailer channel, which includes large supermarkets and the Boots and Superdrug chains—see Fig. 2. Chemists (pharmacies) also saw a large proportional increase in the volumes of hand sanitiser that were sold. However, sharp decreases in the volumes sold through grocery multiples may be seen at certain times, including at the start of the social distancing regulations at the end of March. This is consistent with customers' being left with little choice but to turn to alternative retailers at this time, including independent grocery retailers and chemists.

Figure 3 plots the prices that were reported in complaints to the CMA for 50 ml containers of hand sanitiser against the average prices that were observed in each of four retail channels. Average prices in supermarkets increased only slightly over time. Average prices in symbol group retailers, independent grocery retailers, and chemists did increase substantially in mid-March and again in early April. Many of the complaints that were made to the CMA, however, involved price increases that were far in excess of those at the elevated levels in non-supermarket outlets. Complaints about such prices persisted beyond the period that was required for supply through the main supermarket channel to ramp up.

An assessment of the manufacturing of hand sanitiser confirmed that material costs had increased, including for the main input: ethanol. However, taking into account other production costs, these increases were consistent with an increase in producer prices of no more than 20–25%. Major manufacturers indicated that they had not increased their wholesaler prices (or had increased them only slightly) and had not generally changed their recommended retail prices.

The major producers of hand sanitisers ramped up supply quickly. However, the spike in demand still meant scarcity relative to demand in the short run. Retailers and wholesalers that still had stocks of hand sanitiser, or who could acquire stock at short notice, were able to collect large rents on this stock. In addition, other sources—including imports—were directed to the local market. Accordingly, up to

¹⁴ Obtained from Nielsen and Retail Data Partnership.

¹⁵ This estimate is based on analysis of Nielsen EPOS data by the CMA, which includes only a subset of physical retail channels.

16% of the hand sanitiser sales recorded in the Nielsen data relates to brands with little or no presence in the UK prior to the outbreak. While more expensive, the costs of airfreighted imports did not justify the price hikes that were observed in some of the complaints.

The CMA identified a set of retailers that had been reported multiple times for charging particularly high prices for hand sanitiser products, and that had maintained these prices for a sustained period of time. Information requests were sent to these retailers, with the key information requested being the cost prices that were paid for the high-priced products—to ensure that the retailers were indeed setting high markups rather than passing along high costs—and the number of sales made at the high prices: to establish that they did indeed possess the market power necessary to make substantial sales at the high prices. Formal cases of potential excessive pricing were opened in the case of some retailers.

In almost all cases investigated by the CMA, retailers voluntarily adjusted their prices to reflect a normal level of markup. Additionally, the CMA and the General Pharmaceutical Council released a joint letter to all registered pharmacies in the UK that emphasised that the charging of high prices by some pharmacies may damage the public's trust and confidence in pharmacies, and asking pharmacies to ensure that their prices for essential products are fair and do not reflect large increases in markups over normal levels.¹⁶

2.5 Conclusions

The Covid-19 outbreak required the CMA to be flexible and responsive in analysing markets for essential products, understanding the reasons for the price hikes being complained of, and deciding on the appropriate steps to take.

In the case of price gouging, this led to the CMA identifying that the reported high prices were charged mainly by independent outlets. The increases observed in complaints were far in excess of the average increases by comparable retailers, as well as being much higher than the averages that were observed across all retail channels including the main national supermarket and pharmacy chains.

Higher-than-usual prices are generally a signal for increased supply. However, the very high prices being observed were not reflective of the changes in average retail prices nor of increases at the producer level. The increases reflected two main factors at work: First, the impact of Covid on shopping patterns meant that consumers had much narrower alternatives than was normally the case and local outlets had market power—at least temporarily. This was especially the case in areas that were already relatively poorly served by main supermarket chains—that happen also to be relatively low-income urban areas with less car ownership. It is in line with concerns that the CMA has found in earlier matters such as the Tesco-Booker merger, where the markets that were served by local convenience stores were scrutinised.

¹⁶ The letter, dated 29 June 2020, may be read at: <https://www.gov.uk/government/publications/joint-letter-from-the-cma-and-the-general-pharmaceutical-council-pricing-during-the-covid-19-pandemic>.

Fig. 2 Volume of hand sanitiser sold, by retail channel. *Note:* Figures are based on Nielsen data. Grocery multiples includes the major UK supermarkets, including Boots and Superdrug; Symbol group retailers includes retailers which are members of UK symbol groups; Independents includes independent grocery retailers and convenience stores; Chemists includes independent pharmacies and chemist chains

Fig. 3 50 ml hand sanitiser prices reported in complaints, and average prices by retail channel. *Note:* Dots indicate prices in complaints made to the CMA. Darker dots indicate multiple complaints made on the same day at similar prices. Three complaints of very high prices—between £19 and £30—are not shown to avoid compressing the chart. Average channel prices are based on Nielsen data. Grocery multiples includes the major UK supermarkets, including Boots and Superdrug; Symbol group retailers includes retailers which are members of UK symbol groups; Independents includes independent grocery retailers and convenience stores; Chemists includes independent pharmacies and chemist chains

Fig. 4 Distribution of the percentage of Google search events that were for queries that were seen by Bing, and vice versa, by the frequency of their search query. *Source:* CMA analysis of Google and Bing data. *Notes:* We define the head as the 15% of queries seen most often in a dataset and the tail as the 30% of queries seen least often

Second, simply allowing prices to spiral upwards to clear the market risks fueling panic buying. Anxious wealthier consumers may purchase all of the stock at the hiked prices while others, who may need products such as hand sanitiser even more, are faced with empty shelves. The result is not a socially optimal allocation of the product, but simply an inability of the less well-off to acquire it. In such circumstances, quantity rationing—restrictions on the number of the same item a consumer can purchase—rather than rationing on the basis of ability to pay, is likely to lead to better outcomes. Some retailers, that are concerned about their longer-term reputation, have implemented such quantity rationing.

The CMA's role has effectively been one of market monitoring and assessment. Simply analysing the complaints and following-up with retailers has brought about price adjustments. Other market participants, such as symbol groups, and industry regulators have highlighted the harm from opportunistic price hikes. In other cases, the CMA has engaged informally with firms and has encouraged price reductions for goods that were reported in complaints. Through these means, the CMA has aimed to maintain public trust in markets by preventing the most severe abuses while taking care to not disrupt supply responses. It also contrasts with countries where there has been direct regulation of prices of some products.

The experience highlights the challenges to competition authorities in responding flexibly and at speed and the importance of understanding the nuances of how markets work in practice, and how consumers make choices as circumstances change.

3 Online Platforms and Digital Advertising Market Study

3.1 Introduction

In July 2020, the CMA published the final report of its market study of online platforms and digital advertising in the UK. The study was launched in the context of concerns—that have been raised in the UK and globally—about the market power that is held by a small number of online platforms. It investigated a range of issues and aimed to inform the broader debate on the regulation of online platforms, as explored in the Furman¹⁷ and Stigler Center¹⁸ reviews. These reviews concluded that relying solely on existing competition law was not sufficient and that a new pro-competition approach should be taken to regulating platforms.

These reviews also identified a number of themes that were central to the CMA's market study: One is that in many cases, digital markets are subject to 'tipping' in which a winner takes most of the market. This results in highly concentrated markets, which may ultimately lead to consumer harm. Firms with market power may raise effective prices or innovate less, as they have less to fear from new entrants. Another is the trend for large platforms to create ecosystems of multiple services that retain consumer attention and harvest valuable data. This trend can be harmful if it provides multi-market firms with opportunities to leverage a strategic gateway position in one market to other adjacent markets, by self-preferencing or exploiting an advantage in data. Recent literature has also highlighted possible 'platform envelopment' theories of harm, where expansion into adjacent markets can protect a platform's market power in its core market.¹⁹

We do not attempt to report on all of the issues that are covered by the study here. Instead we focus on the main components of the CMA's analysis on the sources of market power held by online platforms and how this market power affects competition in the markets for digital advertising. First we outline the sources of Google's market power in search and how it has exploited this market power when selling search advertising.²⁰ We then discuss the CMA's analysis of Google's role in the open display market, where intermediaries provide various technologies that allow online publishers to sell advertising inventory and advertisers to buy it. This includes both the way Google has leveraged its strong position in its wider set of interlinked online services (its 'ecosystem') into the open display market and the potential for Google to exploit its position on both sides of the intermediation chain to self-preference its own activities, thereby reinforcing its market power. Finally, we look at the sources of Facebook's market power in social media and how it has exploited this market power.

¹⁷ HM Treasury (2019).

¹⁸ Stigler Report (2019).

¹⁹ For example see Condorelli and Padilla (2020).

²⁰ 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 in which a user is interested.

3.2 Search and Search Advertising

The CMA found that Google has significant and enduring market power in both search and search advertising. Google has had around 90% or more of the search market in the UK for over 10 years and accounts for 97% of searches on mobile devices.²¹ Bing (owned by Microsoft) is the only other at-scale search provider in the UK. This finding is consistent with the results of several other investigations, such as the ACCC Digital Platforms Inquiry²² and various European Commission investigations.²³

3.2.1 Sources of Market Power

Innovation played an important role in Google's initial growth. However, scale has now become very important in search. Strong network effects, economies of scale, and default positions²⁴ reinforce Google's position and act as a barrier to entry and expansion for rivals.

The relevance of search results is the most important dimension of search quality. One of the key inputs to producing more relevant search results is 'click-and-query' data: information on the search queries received by a search engine and how consumers have interacted with the results that they were served. Search engines use click-and-query datasets to improve their algorithms and return more relevant results.

Click-and-query data are subject to network effects: As the search engine acquires more users and hence more click-and-query signals, the quality of the service for other users increases. The CMA found that the marginal benefit of additional click-and-query data is higher for uncommon queries—which are also known as 'tail queries'. It analysed all of the 3–4 billion²⁵ search events seen by Google and Bing in a one-week period in the UK (Fig. 4). Google saw 16 times more distinct queries than did Bing in this period. As shown in the figure below, Google saw around 30% of Bing's tail queries, whereas Bing saw only around 1% of Google's tail queries. This demonstrates Google's advantage in being able to serve more relevant results to uncommon queries and reinforces consumers' perceptions of Google as the highest-quality search engine.

²¹ All figures are for the UK. Shares for ten-year time series sourced from Statcounter. Shares in mobile search are from CMA analysis of parties' data and relate to December 2019.

²² ACCC (2019).

²³ Case AT. 39,740 (Google Search (Shopping)). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/IP_17_1784.

Case AT.40099 (Google Android). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4581.

Case AT. 40,411 (Google Search (AdSense)). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1770.

²⁴ I.e. the positions as the default search engine on mobile devices and web browsers.

²⁵ Throughout this article some numbers are presented as ranges, and precise numbers are redacted for confidentiality reasons.

Another key input to producing more relevant search results is an extensive and up-to-date web-index. Web-indices are repositories of data about the information contained on websites and webpages across the internet. They are used by search engines to select and return relevant search results when a consumer enters a search query. Developing and maintaining a web-index is subject to cost-based economies of scale: The costs that are associated with crawling and indexing the web are substantial and do not increase proportionally with the number of users of the search engine.²⁶ Web-indexing is also subject to cross-side network effects: the more users that a search engine has, the more value that it offers to webmasters, and the greater is the incentive that they have to make their websites accessible to that search engine.

In addition, Google holds extensive search default positions, including on Apple's Safari browser, Android devices, and browsers such as Mozilla Firefox. Google paid around £1.2 billion in default payments in 2019 in the UK alone, with the substantial majority of this being paid to Apple. Consistent with research in other settings, the CMA found that defaults have a significant impact on consumer behaviour in search. The evidence supporting this includes Google's relatively higher share of search on mobile devices (where it holds more default positions) as compared to desktop devices,²⁷ the limited case studies in which browsers have switched default, and internal documents in which Google and Microsoft modelled the search volumes that they would lose and gain respectively, if Apple were to switch the Safari default from Google to Bing.

From a competition perspective, the problem is that device manufacturers and browsers generally choose defaults based on search engine quality and financial compensation (typically a search advertising revenue share). Search engines other than Google face barriers to competing on either of these dimensions. Google's strong brand and perceived higher quality means that other search engines would likely have to offer at least as much financial compensation as Google in order to win a default contract. However, Google can generate more queries through a given default position than can other search engines and has superior monetisation per query due to its greater scale. As one competitor put it: 'There is a feedback loop between Google's position as the largest search engine and its ability to acquire extensive default positions that entrench and reinforce this dominance'.

Therefore, existing rivals to Google and prospective entrants face a series of self-reinforcing barriers to entry and expansion that limit the competitive threat that Google faces. Google's scale helps it to improve further the quality of its search results and to pay for extensive default positions. In contrast, rivals lack the scale that would enable them to improve their quality and monetisation, which in turn

²⁶ For example, Microsoft estimated that its indexing investments added up to billions of dollars over time, while other estimates have suggested that Google and Bing spend hundreds of millions of dollars a year on this activity.

²⁷ Google Search has default agreements that cover much more of the mobile device sector (at least 94%) than the desktop PC sector (29%). In turn, Google has a relatively higher share of supply in mobile search (97%) than it does in desktop search (84%).

restricts their ability to access consumers, build their scale, and compete more effectively.

3.2.2 Competition with Specialised Search

The CMA also examined the competition that Google faces from specialised search providers: businesses that specialise in paid listings in particular sectors, e.g. Booking Holdings²⁸ in travel. A small proportion of ‘commercial’ search queries generate most of Google’s search revenues, and rival specialised search services are active in each major commercial content category.

The CMA found that the relationship between specialised search and Google search is more vertical rather than horizontal, with Google being a ‘gatekeeper’ for traffic to specialised search websites. While specialised search providers exercise some competitive constraint on Google, through attempting to attract consumer traffic directly rather than via Google’s search engine, the CMA’s analysis of traffic data²⁹ shows that in most cases they were still heavily reliant on Google as the main route for access: Most rely on Google for at least 40% of their traffic. The CMA also found that these specialised search providers spent on average around 25% of their UK revenues on search advertising on Google in 2019, with most spending between 15 and 30%.

The CMA found that Google is able to exploit this dependency by employing strategies that limit the traffic to specialised search providers, making it more difficult for them to develop their services and brands and limiting the competition that Google faces over the longer term. The CMA heard concerns about various such strategies whereby Google may leverage its market power in search to specialised search markets: First, Google is able to self-preference its own specialised search services by placing links to them in ‘One-boxes’ that are prominently at the top of the search engine results where the user is more inclined to click. Second, Google may exploit the data it collects from its ecosystem to get a competitive advantage over specialised search rivals. Third, Google may update its organic search algorithms to demote traffic to specialised search rivals: for example, by favouring organic content directly from merchants over those of specialised search providers. These concerns are consistent with Google pursuing a platform envelopment strategy in order to protect its core search advertising revenues.

3.2.3 Exploitation of Market Power

The CMA considered the extent to which Google’s market power enables it to earn higher revenues than its competitors in digital advertising. Ultimately, if advertising

²⁸ Booking Holdings is the owner of travel-related websites such as Booking.com, Agoda and OpenTable.

²⁹ Based on information from a sample of the following specialised search providers: travel (Skyscanner, Booking.com, Expedia, eDreams, TripAdvisor), local search (TripAdvisor and Yelp), consumer finance (GoCompare, Compare the Market, Money Supermarket and Confused.com), and retail (Kelkoo).

costs are higher, we would expect consumers to be harmed because they face higher prices for final goods and services.

First, the CMA compared the advertising prices charged by Google and Bing on the same search terms. The CMA collected data on all the search queries that were submitted to Google and Bing in the UK in a single week in 2020 (several billion queries in total) and matched identical queries observed by both Google and Bing before comparing prices. Carrying out the comparison on like-for-like overlapping queries allowed the CMA to isolate differences in prices driven by market power from differences driven by the distribution of queries across Google and Bing. This analysis found Google's prices are on average 30–40% higher than Bing's across the one-week sample. It also found that Google has a higher price-bid ratio³⁰ for like-for-like queries on average, by 10–20% on desktop and 20–30% on mobile. This suggests that Google is able to extract more advertiser revenues from its auctions than can Bing. This is consistent with Google exploiting market power in its search auctions. It is also consistent with Google benefiting from a superior product that is able to drive greater advertising returns, in part due to data or scale advantages arising from Google's market power on the consumer side of the market.

Second, the CMA examined how Google's ability to monetise search has changed over time. Google's search advertising revenues have been steadily increasing over the past 10 years, from £2.1bn in 2010 to £6.8bn in 2019. These revenues have grown at a significantly faster rate than the number of searches, implying that the revenue earned by Google for each search has increased from a low of £0.02–0.03 per search in 2011 to a high of £0.04–0.05 per search in 2019.

The CMA examined the drivers of this increase in monetisation: It found that prices have been fairly stable and that the number of searches that show ads has also remained stable. However, the quantity of advertising sold (the number of clicks) for each search showing ads has increased substantially. This implies that a major driver of Google's increasing monetisation over time is the 'click-through rate': the propensity for consumers to click on ads rather than organic links.

Google can influence the click-through rate by determining both the overall limit on the number of ads that appear in search results (the 'ad load') and how these ads are presented alongside organic search results. Showing a greater proportion of ads relative to organic search results can increase the propensity of users to click on ads, which drives up the quantity of ads sold. Over the past 10 years, Google made several significant changes in the way that it presents ads: Most notably in 2016 it removed right-hand side ads and increased from three to four the number of ads that are eligible to appear above the organic search results.

A higher ad load can lead to higher costs for advertisers because it will tend to reduce the proportion of clicks that go to organic search, which websites receive

³⁰ The price-bid ratio measures the difference between the winning bid and the price paid. It therefore gives an indication of the efficiency of the auction from the platform's perspective: its ability to extract revenues from advertisers. The price-bid ratio helps to control for any difference in the value of a click to an advertiser on Google as opposed to Bing (for example driven by differences in the audiences on Google and Bing).

for free, rather than to paid advertising. Therefore, businesses that rely on accessing consumers through general search will need to pay increased advertising costs in order to maintain the same volume of overall traffic.

3.3 Open Display

In addition to Google's ability to exploit market power by earning revenues from search advertising, the CMA also considered Google's ability to extend its market power into other markets. One important example relates to Google's role in the open display market, where online publishers sell advertising space on their website through third party intermediaries.

The CMA's analysis focused primarily on three main issues: first, Google's position in the adtech intermediation; second, its ability to leverage its strong position in search advertising and its wider ecosystem into the open display market; and third, the potential for Google to exploit its market power and integrated position across the open display market to self-preference its own activities, thereby reinforcing its market power.

3.3.1 Google's Position in Open Display

Publishers, such as online newspapers, rely on intermediaries to sell their advertising inventory³¹ in the open display market. These intermediaries—which are sometimes known as the 'ad tech stack'—provide technologies that achieve the complicated task of selecting an ad to be served in real time and establishing the price to be paid for doing so.

The main intermediaries in open display include:

- a. Demand Side Platforms (DSPs)—provide a platform that allows advertisers and media agencies to buy advertising inventory from many sources.
- b. 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.
- c. 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 that are received from different SSPs (possibly through header bidding solutions) and the direct deals agreed between the publisher and advertisers.

The CMA found that Google has a very strong position at all of the main stages of the adtech stack, as shown in Fig. 5.

³¹ Space available for advertisers to purchase.

3.3.2 Leveraging Market Power from Outside Open Display

Google's presence across the open display market was initially driven by a series of acquisitions of publisher-facing services including DoubleClick, which formed the basis for Google's publisher ad server. In addition to these acquisitions, Google has been able to leverage its position from its wider ecosystem into open display in several ways.

Google has been able to leverage the importance of YouTube for advertisers to increase its market power in the DSP market by allowing advertisers to buy YouTube inventory programmatically only through Google's DSP: DV360. For the many advertisers who want to include YouTube inventory in their campaigns, there is a strong incentive to use DV360 for the entire campaign.

Google has leveraged its search advertising customer base through the convenience to advertisers of buying search and display advertising together in its other DSP: Google Ads. Google Ads is the main route through which advertisers—especially smaller ones—buy Google's search inventory. By providing a one-stop shop for those advertisers that genuinely want to make use of both search and display advertising, and by nudging other small advertisers into using display ads through default settings, Google has leveraged part of its search advertiser base to increase its importance as a source of demand in open display.

Google has also leveraged the data that are collected from its customer-facing services, including its search engine, by making these data available only to those advertisers who use its DSPs. Google has exclusive access to a large amount of user data that can be used for targeted advertising. Data that are collected on its dominant search platform are particularly valuable for targeting purposes in open display as the data reveal users' purchasing intent.

3.3.2.1 Leveraging Within Open Display Google's strong integrated competitive position gives it the incentive and ability to self-preference its own activities at each stage of the adtech stack. On the advertiser side of the market its DSPs benefit from access to unique inventory, data, and its search advertising customer base. On the publisher side, there are high costs to switching ad servers, and Google supplies nearly the whole market. In a future scenario where auctions are run by browsers, Google would be in the position of being able to integrate the most commonly used browser—Chrome—with the largest DSPs.

Google's ability to self-preference is further supported by the lack of transparency in open display. Advertisers and publishers are unable to observe easily all of the intermediaries that are involved in the buying and selling of advertising inventory along the supply chain, and there is limited visibility of fees or bidding data in advertising auctions. This makes it more difficult for advertisers and publishers to understand or monitor potential conflicts of interest.

The publisher ad server is particularly important as it is responsible for the decision logic that underlies the final choice of which ad to serve. This enables it to set or influence aspects of the auction processes in open display that other intermediaries then need to abide by. Google has used its position as the largest publisher ad server to influence auction processes in various ways that favour its own DSPs and

Fig. 5 Google's roles in advertising intermediation. *Source:* CMA: 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

SSP (AdX), though its approach has evolved rapidly along with the evolution of the technologies that are used in open display.

Google has also made it difficult to access its advertiser demand 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. One aspect of this is that Google channels much of the demand from its DSPs to its own SSPs. The other is that publishers have a strong incentive to use Google's ad server to ensure that there is real-time competition between AdX and rival SSPs, because AdX does not participate in header bidding.³²

3.3.2.2 Effects of Google's Behaviour in Open Display The CMA found evidence that intermediaries—including Google—capture at least 35% of the value of advertisers' purchases across the open display market as a whole, which is consistent with the findings from other studies on ad tech 'take rates',³³ including a recent ISBA/PWC study,³⁴ the Plum report,³⁵ and the ANA analysis.³⁶

Google's position and behaviour in open display is a source of concern for three reasons: First, although we did not find evidence that Google is currently charging higher fees than its competitors, Google would have the ability to increase fee levels in the future once its dominance is consolidated. Second, the reduction in competition in parts of the ad tech stack could also have dynamic effects, with a reduction in pressure to innovate and create new products—which could ultimately harm advertisers and publishers. Third, there is also the possibility that part of Google's reason for establishing a strong position in open display is to protect its position in other markets. For example, entry into open display could be a way to protect Google's search advertising business from potential competition if Google envisages a trend towards greater convergence of search and display advertising.

³² Header bidding is a technology that is used by publishers that allows publishers to receive bids from multiple SSPs simultaneously, which makes SSPs compete against each other for each impression.

³³ The proportion of total advertising expenditure that goes to intermediaries rather than to publishers.

³⁴ ISBA/PWC (2020).

³⁵ Plum Consulting (2019).

³⁶ ANA (2017).

3.4 Social Media and Display Advertising

The CMA found that Facebook has significant and enduring market power in social media and display advertising. On the user side of its platforms, Facebook (including Instagram and WhatsApp) has a reach of over 85% of UK internet users and around 75% of the time spent on social media for a number of years. This finding is consistent with the results of other investigations, such as the ACCC Digital Platforms Inquiry.³⁷

3.4.1 Sources of Market Power

Network effects are a key source of Facebook's market power. Social media platforms—particularly those that focus on communication—become more valuable to users as other people that they want to interact with join the platform. Facebook's very large network of connected users means that people can use it to network with close contacts (the most important reason why consumers access Facebook) and more distant connections alike.

Cross-side network effects further reinforce Facebook's position and act as a barrier to expansion for smaller platforms. In addition to social networking, Facebook serves content-related needs such as video streaming, and other needs such as gaming and shopping. Cross-side network effects have supported this in several ways: First, Facebook's large network of connected users attracts app developers and content providers, which further increases its value to consumers. Second, Facebook's many users have increased its value to advertisers, providing it with high revenues and greater scope to invest in its platform and broaden its services.

Entrants have responded by differentiating and building different types of services, rather than social networks that compete more directly with Facebook. For example, Snapchat is primarily used to communicate with close friends and family members, and LinkedIn offers professional networking. This differentiation limits the degree of substitutability between social media platforms for consumers and means that the constraint placed on Facebook is limited. There has been no successful entry in the last 10 years by a direct competitor with a comparable set of services to those provided by Facebook, with Google's attempt (Google+) having failed.

Although many consumers use multiple social media platforms, they generally use third-party platforms alongside—rather than as an alternative to—Facebook. For example, as is seen in Fig. 6, 80% or more of the audiences of TikTok, Snapchat, and Twitter also use Facebook. Conversely, a much smaller proportion of Facebook's audience also visits these third-party platforms.³⁸

Facebook is also able to affect the competitive conditions it faces. Interoperability between platforms has the potential to reduce the extent to which network effects act as a barrier to entry and expansion. However, Facebook provides only limited

³⁷ ACCC (2019).

³⁸ This result also holds for the other third-party platforms that we analysed, including LinkedIn, Reddit, Pinterest and Tumblr.

interoperability with other platforms and in some cases has changed or reduced the interoperability that it offers. For example, the deprecation of two functionalities appears to have harmed the ability of other platforms to grow:

- a. “Find Friends”—historically, third-party developers could enable their users to invite their Facebook friends (including friends not using the relevant app) to use an app through tools such as App Invites. The removal of this functionality in 2018 meant that the list of Facebook friends that can be invited is limited to those friends who have also signed up to that app: ‘in-app friends’.
- b. “Publish Actions”—historically, this enabled third-party applications to publish posts to Facebook as the logged in user so that users could easily share content on Facebook that they have created elsewhere. This functionality was deprecated in 2018.

3.4.2 Exploitation of Market Power

Facebook’s market power is likely to have several negative impacts for consumers. First, it means that Facebook has weaker incentives to innovate and to develop its platforms in ways that are valued by consumers. Second, Facebook can extract more consumer data or worsen the terms that it offers consumers for these data. Third, consumers are harmed indirectly through higher prices for other goods and services if Facebook raises the prices it charges for display advertising above competitive levels.

Facebook’s market power on the consumer side of its social media platform has allowed it to gain a large share of consumer attention that can be monetised through digital advertising. It also has a significant data advantage over smaller platforms and publishers, which both increases the value of its advertising inventory and creates additional barriers for its competitors to overcome. This has led to Facebook also benefiting from market power in display advertising and has allowed it to earn substantially higher revenues per user than its competitors, increasing from an average of £0–5 in 2011 to £50–60 in 2019 (see Fig. 7). Facebook (including Instagram) generated over half of UK display advertising revenues in 2019.

Another way in which Facebook is able to take advantage of its market position in social media is through leveraging its market power into related markets: for example, through its Marketplace and Gaming services and its Portal devices. The CMA heard a range of concerns about potentially exclusionary practices. For example, there were concerns that Facebook is able to bundle new services into its pre-existing social media platform and that it can unfairly obtain access to data on its rivals’ customers when it provides these rivals with advertising services or the developer tools that are needed to interoperate with Facebook’s social media platform.

The CMA found that Facebook may have the ability and incentive to engage in exclusionary practices in related markets. Facebook’s ability stems from its position in social media, which results in its being a critical partner for businesses in related markets, including those that rely on its ‘free’ developer tools and/or its advertising services. Facebook may also have the incentive to engage in

Fig. 6 Consumer cross-visiting behaviour, February 2020 UK. *Source:* Comscore MMX Multi-Platform, Total Digital Population, Desktop aged 6 +, Mobile aged 13 +, February 2020, UK

Fig. 7 Average annual revenue per user for selected platforms (2011–2019). *Source:* CMA analysis based on parties' data. *Notes:* Users have been accounted by monthly average users (MAU). Y-axis redacted for confidentiality

exclusionary practices to protect its position in social media, or to gain additional profits from the most lucrative related markets by offering these products itself.

3.5 Conclusions

The CMA found that both Google and Facebook have entrenched market power, that has arisen primarily from network effects and other scale advantages from the consumer sides of their platforms. They are able to exploit this market power by monetising the consumer attention and data through digital advertising for which they can charge high prices. Both Google and Facebook have behaved in ways that entrench their market power or leverage it when expanding into other related markets. In the long run, this may have a substantial negative impact on incentives for innovation and investment.

The CMA concluded that Google and Facebook have such entrenched market power that the CMA's current tools are not sufficient to protect competition. Tackling such issues requires an ongoing focus, and the ability to monitor and amend interventions as required. In addition, the markets in which Google and Facebook operate are fast-moving, and the issues within them are wide-ranging, complex, and rapidly evolving.

Therefore, the CMA made recommendations to government to develop a pro-competition *ex ante* regulatory regime for online platforms. This regime would be comprised of two elements: an enforceable code of conduct, and a range of pro-competition interventions.

The function of the enforceable code of conduct would be to govern the behaviour of platforms that enjoy a position of market power. It would apply to platforms with 'strategic market status' (SMS), as envisaged by the Furman review. The objective of the code would be to address the harmful exercise of market power.

The CMA proposed that the code of conduct would take the form of high-level principles rather than detailed and prescriptive rules and would be organised around three high-level objectives: Fair trading principles are intended to address concerns about the potential for exploitative behaviour on the part of the SMS platform. Open choices principles are intended to address the potential for exclusionary behaviour. Trust and transparency principles are designed to ensure that the SMS platform provides sufficient information to users, so that they are able to make informed decisions.

Pro-competitive interventions, in contrast, would be designed to tackle the sources of market power and promote competition and innovation. The CMA proposed that powers to introduce the following three forms of intervention were necessary:

- a. Data-related interventions, such as increasing consumer control over data, mandating third-party access to data, mandating interoperability, or mandating data separation. These proposed interventions reflect the fact that differential access to data is at the heart of many important barriers to entry and expansion.

- b. Consumer choice and default interventions, which restrict platforms' ability to secure default positions, such as Google has done in securing default positions for its search engine on browsers and devices.
- c. Separation interventions, which address the potential for vertically integrated platforms to self-preference their own activities.

4 Google/Looker

4.1 Introduction

On 13 February 2020, the CMA cleared Google's \$2.6bn acquisition of Looker.³⁹ This was one of the largest acquisitions by a major tech firm since the publication of the Furman Review.⁴⁰ That review, and a number of other studies,⁴¹ had expressed concerns about underenforcement in mergers involving digital firms and the need for competition authorities carefully to consider a comprehensive range of possible competition concerns.⁴² This case was an early opportunity for the CMA to address those concerns.

The acquisition of Looker added to Google's cloud computing business. Google is currently the third largest cloud computing provider behind Amazon and Microsoft. One of Google's cloud computing products is its data warehouse: Google BigQuery. Data warehouses are databases that are designed to enable analytics, and they are often used to combine data from multiple sources. Possible sources of these data include data from Google's advertising and web analytics products. Firms commonly analyse the data that are stored in a data warehouse with the use of a business intelligence (BI) tool. BI tools are used to analyse, visualise, and interpret data to support corporate decision-making. Looker is a provider of BI tools.⁴³ The rationale for the merger was to improve Google's cloud computing offering, which would allow it to compete more effectively with the leading cloud computing providers: in particular, Amazon and Microsoft.

The CMA's focus was on the potential for Google to foreclose competing BI tools by restricting access to data that are: (i) stored in Google BigQuery; and (ii) generated by Google's advertising and web analytics products. This assessment illustrates:

- a. The adaptability of the UK's mergers regime to consider a wide range of theories of harm—in this case a non-price foreclosure strategy that involves data;

³⁹ CMA (2020).

⁴⁰ HM Treasury (2019).

⁴¹ Stigler Report (2019) and Lear (2019).

⁴² For example, HM Treasury (2019, p. 6).

⁴³ For example, BI tools can simplify the process of data analysis and can be used to ensure that everyone in an organisation analyses data on a consistent basis (e.g., by using common definitions for key metrics).

- b. The value of seeking to understand the acquirer's business model and strategy so as to understand the role of the transaction;
- c. The value of an inter-disciplinary approach and taking advantage of wider institutional knowledge when assessing such cases;
- d. The role that considering a wider ecosystem of products can play in assessing market power and when assessing a foreclosure strategy; and
- e. The wide range of evidence that the CMA draws on in its assessments.

4.2 The CMA's Phase 1 Process, and the Theory of Harm

The case was a 'Phase 1' merger assessment: In these cases the CMA engages in an initial period of evidence gathering and focusses on information requests to the merging firms. Once the CMA is satisfied with the information that has been provided by the firms, the formal investigation is launched. The CMA then has 40 working days to complete its assessment. It is primarily during this period that the CMA collects evidence from third parties and provides the merging firms with an opportunity to respond to any preliminary concerns. At the end of the 40-working-day period the CMA must conclude (amongst other things) whether there is a realistic prospect of a substantial lessening of competition. If this test is met, the case moves to a more in-depth Phase 2 assessment unless satisfactory remedies are offered.

In this case, the CMA initially sought to understand the set of products that are provided by Google and Looker. In doing so, the CMA also drew on the expertise of its Data, Technology and Analytics team, who provided important specialist input, and on the findings from the CMA's Digital Advertising Market Study.

The large number of products involved and the various relationships between them meant that there was a range of possible theories of harm. The CMA's focus was on identifying linkages between Looker and areas where Google has market power. By the end of the initial period of evidence gathering the CMA identified the potential foreclosure of competing BI tools with the use of Google's web analytics and online advertising products as the main area for concern. This theory of harm focussed on the possibility of non-price foreclosure where access to data from these Google products was the mechanism used to foreclose.

Specifically:

- a. Google provides a number of advertising and web analytics products that generate data which is then analysed using BI tools such as Looker;
- b. Google also provides a data warehouse, Google BigQuery, that can be used to aggregate data for analysis using a BI tool;
- c. Therefore, Google could use its services that generate data and Google BigQuery to foreclose competing BI tool providers: for example, by removing or impeding the ability of competing BI tools to connect to the data sources that Google controls.

4.2.1 The CMA's Assessment

The CMA assesses foreclosure theories of harm using the standard ability, incentive, effect framework.

4.2.1.1 Assessing Google's Ability to Foreclose In its assessment of Google's ability to foreclose competing BI tools the CMA considered:

- a. The extent to which accessing data from Google's web analytics and online advertising product is important for users of BI tools;
- b. Whether Google has market power in relation to web analytics and online advertising services; and
- c. The mechanisms that Google could use to achieve a foreclosure strategy.

To assess these questions the CMA drew on a significant number of Google and Looker internal documents and evidence from Google and Looker's customers and their competitors.

Another important source of evidence—particularly when assessing Google's market power—was the CMA's Online Platforms and Digital Advertising market study that was discussed above.⁴⁴ The study published its interim report during the course of the merger inquiry, which highlighted Google's strong position in online advertising services. Google's web analytics product was also used by approximately 80% of UK web domains—vastly more than any other web analytics product.

In its assessment of Google's market power, the CMA also placed significant weight on Google's ability to offer a set of inter-related products. Not only did each of Google's advertising and web analytics products have a strong market position in isolation, but Google's ability to offer a set of inter-related products reinforced this market position. For example, advertisers value data on the performance of their advertising campaign when deciding where to advertise and which products to use. Google's web analytics product allows it to offer richer data to advertisers than would otherwise be the case. This finding was supported by evidence from Google's internal documents. The CMA's approach here illustrates the important role that a firm's 'ecosystem' of products can play in the assessment of the effects of a merger.

Input from the CMA's Data, Technology and Analysis team was important in assessing the mechanisms that could be used to foreclose competing BI tools. This assessment was necessarily technical and required an understanding of the means by which BI tools access and analyse data and Google's ability to control these.

The CMA ultimately identified three possible foreclosure mechanisms (illustrated in Fig. 8):

- a. Some BI tools access Google data sources directly using Google's application programming interface (API) (Route A in Fig. 8). Google can control the func-

⁴⁴ CMA (2020).

Fig. 8 Simplified illustration of the CMA's theory of harm

tionality of this API, and therefore the ability of competing BI tools to access these data, in a variety of ways.

- b. Many customers will move data from Google data sources to a data warehouse, a BI tool will then be used to analyse the data in the data warehouse (Route B in Fig. 8). Data are moved to a data warehouse using the same API as above, and therefore, the same foreclosure mechanisms could be used.
- c. Finally, a customer may move the data to Google's data warehouse (Google BigQuery) before analysing it with a competing BI tool (Route C in Fig. 8). In this case, Google could control the Google BigQuery API to hamper the ability of competing BI tools to analyse the data.

On the basis of this evidence the CMA concluded that Google would have the ability to use a range of non-price foreclosure mechanisms to hamper competing BI tools from accessing data from Google's advertising and web analytics products, and from Google BigQuery.⁴⁵

4.2.1.2 Assessing Google's Incentive to Foreclose A common starting point for assessing incentives to foreclose is the vertical arithmetic framework. This framework considers the extent to which customers may switch away from⁴⁶ the merging parties' products in response to a foreclosure strategy and the profit margins on those products to identify the costs and benefits of a foreclosure strategy.⁴⁷

In this case, a foreclosure strategy had the potential to increase Google's profits due to:

- a. Switching to using Looker leading to an increase in sales and possibly higher prices for Looker; and

⁴⁵ The CMA also found that Google had the ability to engage in price foreclosure.

⁴⁶ Switching away could involve reduced usage as well as total switching.

⁴⁷ See Riordan and Salop (1995).

- b. Switching to Google BigQuery, if the foreclosure strategy involved hampering the ability of users to transfer data from Google's products to competing data warehouses (Routes A and B in Fig. 8).

On the other hand, Google might suffer from a reduction in profits due to:

- a. Switching away from or reduced usage of the Google products that generate the data; and
- b. Switching away from Google BigQuery, if foreclosure involved hampering the ability of competing BI tools to analyse data that are contained in Google BigQuery (Route C in Fig. 8).

As well as providing a framework for identifying the costs and benefits of any foreclosure strategy, the vertical arithmetic framework can also be applied to assess whether there is in fact an incentive to foreclose. Specifically, profit margins can be used to calculate the relative degree of switching to Google's products which would be necessary for foreclosure to be profitable. This can then be compared to estimates of the actual degree of switching that would be likely to occur.⁴⁸

The CMA sought evidence of product specific profit margins from Google and Looker. However, the global and highly integrated nature of the businesses meant that it was not possible meaningfully to identify profit margins for the products of interest. This was particularly so because some products have a wider contribution than would be indicated by looking at their margins alone. For example, Google provides a free version of its web analytics software in part because of this software's contribution to its wider advertising business.

Instead, the CMA considered a range of alternative evidence including:

- a. Internal documents and the merger rationale to assess Google's view of the profitability of different strategies;
- b. Evidence on the relative ease of switching to and from different products;
- c. Evidence on the ability to target any foreclosure strategy at competing BI tools; and
- d. Google's pre-merger behaviour and an assessment of the extent to which this would be affected by the merger.

Evidence on the ability to target any foreclosure strategy was of particular importance. A wide range of products might seek to access data that are generated by Google's products or might seek to access Google BigQuery. Many of these products will not be in competition with Looker and will be complementary to Google's other products. Consequently, a foreclosure strategy that would be targeted at competing BI tools that analyse data only from Google products would involve

⁴⁸ In some cases this may be based on a quantitative analysis. In many cases it will be a more qualitative assessment.

substantially less loss of revenue than an untargeted strategy that affected all third-party products.

The CMA considered that a foreclosure strategy could not be targeted using Google BigQuery (Route C in Fig. 8). In large part this was because Google has no ability to ascertain the source of the data that is being analysed via Google BigQuery. The CMA considered that as a result Google would not use Route C to attempt to foreclose competing BI tools, particularly because such a strategy would risk losing Google BigQuery customers. It would also be inconsistent with the merger rationale of enabling Google to compete more effectively with the leading cloud computing providers. In reaching this conclusion, the input of the CMA's Data, Technology, and Analytics team was once again invaluable in properly assessing the ability of Google to target foreclosure.

The above finding had important implications for the assessment since, in theory, Google already had some incentive to use the other foreclosure mechanisms (Routes A and B in Fig. 8) to favour Google BigQuery prior to the merger. However, there was no evidence that Google had pursued this strategy pre-merger. Furthermore, pursuing a more limited foreclosure strategy (using only Routes A and B) would lessen the extent to which customers would be steered towards using Looker. As a result, the benefits of any foreclosure strategy would be significantly reduced, as would the effect of the merger on Google's incentives.

Ultimately, the CMA considered that Google was unlikely to have an incentive to foreclose competing BI tools as a result of the merger. Since the CMA found that Google would not have an incentive to foreclose, it was not necessary to consider the effect of any foreclosure strategy.

4.3 Conclusions

The Google/Looker merger investigation illustrates the adaptability of the CMA's merger assessment framework to consider a diverse range of theories of harm—in this case the possibility of partial foreclosure using access to data. The CMA was able to consider comprehensively a complex theory of harm within its Phase 1 merger process and thereby demonstrated the UK merger regime's ability to address the concerns that have been raised in the Furman Review and in other reports. The assessment shows the importance of specialist knowledge and advice when analysing such theories of harm. In this case advice from the CMA's Data, Technology, and Analytics team was invaluable in evaluating the theory of harm. Finally, an important aspect of the CMA's analysis was a thorough understanding of the merging firms' business models and of the merger rationale.

5 Conclusion

The three cases that have been presented in this article demonstrate the variety and significance of the work that was undertaken by the CMA over the last year. Its economists have been absolutely central to that work, and the cases that have been

discussed in this article reflect the value of economic input in guiding appropriate interventions.

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