

# **Appendix A: Market outcomes**

## Introduction

A.1 This annex presents data on market outcomes. We first present data on outcomes relating to mobile devices and operating systems including shares of supply and the prices of mobile devices. We then set out outcomes relating to native app distribution including summary statistics for the App Store and usage of Progressive Web Apps (**PWAs**)<sup>1</sup>. Finally, we present data on shares of supply for mobile browsers and browser engines.

## Mobile devices and operating systems outcomes

- A.2 As explained in Chapter 4, Apple has separate mobile operating systems for its smartphones (iOS) and tablets (iPadOS) which together are included within Apple's Mobile Platform. This section sets out shares of supply for Mobile Ecosystems across all mobile devices, and a more detailed breakdown of shares of supply in mobile operating systems and devices, separately for smartphones and tablets. We also consider device pricing separately for smartphones and tablets.
- A.3 In this section we present an analysis of:
  - (a) shares of supply in Mobile Ecosystems;
  - (b) shares of supply in mobile operating systems;
  - (c) shares of supply in mobile devices; and
  - (d) mobile device pricing, and differences across devices using different operating systems.

<sup>&</sup>lt;sup>1</sup> Progressive Web Apps (PWAs) refers to particular versions of Web Apps which aim to create an experience even more similar to native apps compared to normal web apps.

## Mobile Ecosystem shares of supply

#### Source of data

- A.4 We consider that users effectively make a choice as to which Mobile Ecosystem they use when purchasing a mobile device as that device will come pre-loaded with an operating system associated with a given ecosystem. The number of users of a mobile ecosystem is therefore consistent with the number of users of the associated mobile operating system(s). This analysis is based on data relating to operating systems.
- A.5 The data underlying this analysis comes from market participants and Statcounter.
- A.6 We received yearly data on the volume of (i) active mobile devices, and (ii) sales of mobile devices from Amazon, Apple, Google and Huawei. The data provided covered the four main operating systems available on mobile devices in the UK in the last decade. Namely, it included data from Amazon on its Fire OS tablets, data from Apple on iPhones and iPads, data from Google on all Android smartphones and tablets, and data from Huawei on its HMS smartphones and tablets.<sup>2</sup>
- A.7 We have also sourced data from Statcounter; a web analytics service which uses tracking code to record page views to over 1.5 million 'member websites' globally. It uses the data this generates to publish Global Stats, including shares of supply for mobile operating systems, smartphones, and tablets based on active devices.<sup>3</sup>
- A.8 We consider that Statcounter's methodology may include the following limitations:
  - (a) The 'member websites' for which Statcounter records data may not be representative of the population of websites. Statcounter does not reweight its data to correct for any potential issues.
  - (b) Some consumers' adblockers and browser preferences may prevent data on those consumers' page views from being sent to Statcounter.

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<sup>&</sup>lt;sup>2</sup> Huawei's HMS devices are a version of Android that meets Google's compatibility requirements but uses Huawei Mobile Services instead of GMS.

<sup>&</sup>lt;sup>3</sup> For more detail see <u>FAQ | Statcounter Global Stats.</u>

A.9 Further, Statcounter does not produce any material assessing the extent of measurement error in its data. We have compared shares of supply calculated using Statcounter data with those calculated using market participant data on active mobile devices and found that they are broadly similar, albeit there are some differences.<sup>4</sup> Therefore, we have primarily relied on data provided by market participants and use Statcounter data to look at historical trends as it is available over a longer period (in some cases as far as 2009). We consider historical trends to be relevant to the assessment of whether Apple meets the SMS condition of substantial and entrenched market power as they can inform whether the firm's market power has persisted over a significant period.<sup>5</sup>

### **Mobile Ecosystems**

### A.10 In this section we set out:

- (a) shares of supply by Mobile Ecosystem based on active mobile devices data provided by market participants; and
- (b) shares of supply by Mobile Ecosystem based on active mobile devices data from Statcounter.
- A.11 Figure A.1 shows the shares of supply based on data from market participants for Apple, Amazon, Google, and Huawei's Mobile Ecosystems in terms of active mobile devices in the UK for the period 2017 to 2024.<sup>6</sup> This shows that:
  - (a) Apple's Mobile Ecosystem has accounted for between [50 60%] [ $\gg$ ] of active mobile devices in each year of the period;<sup>7</sup>
  - (b) Google's Mobile Ecosystem has accounted for between [30 40%] [ $\gg$ ] and [40 50%] [ $\gg$ ] of active mobile devices in each year of the period;<sup>8</sup>
  - (c) Amazon's Mobile Ecosystem has accounted for between [5 − 10%] [※] of active mobile devices in each year of the period;<sup>9</sup>

<sup>&</sup>lt;sup>4</sup> Both datasets feature the same market participants and result in similar shares of supply in Mobile Ecosystems. However Statcounter data shows Apple and Google's Mobile Ecosystems having much closer shares of supply in recent years and Amazon's Mobile Ecosystem as having a smaller share compared to market participant data. <sup>5</sup> CMA194, paragraph 2.61.

<sup>&</sup>lt;sup>6</sup> The following shares have been calculated based on data from market participants. In particular: Apple's response to section 69 notice [≫]; Google's response to section 69 notice [≫]; Amazon's response to section 69 notice [≫]; and Huawei's response to section 69 notice [≫].

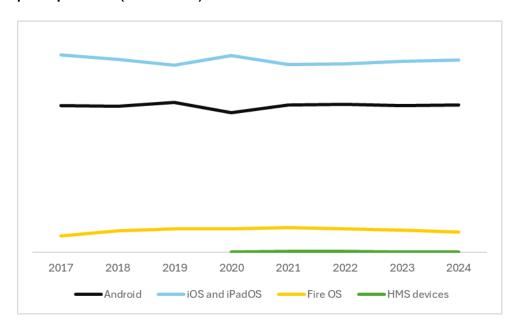
<sup>&</sup>lt;sup>7</sup> CMA analysis of data from market participants including Apple's response to section 69 notice [%].

<sup>&</sup>lt;sup>8</sup> CMA analysis of data from market participants including Google's response to section 69 notice [≫].

<sup>&</sup>lt;sup>9</sup> CMA analysis of data from market participants including Amazon's response to section 69 notice [%].

(d) Huawei's HMS Mobile Ecosystem has accounted for a very small amount ([0 - 5%] [%]) of active mobile devices in each year of the period.<sup>10</sup>

Figure A.1: Mobile Ecosystem shares of supply in active mobile devices in the UK – market participant data (2017 – 2024)



Source: CMA analysis of data from market participants.

Notes: (i) For confidentiality purposes there is no y-axis on this graph. The lines plotted on the graph show the relative positions of market participants in terms of their shares of supply. (ii) HMS devices are devices that meet Google Android compatibility requirements but rely on Huawei's Huawei Mobile Services (instead of GMS). Huawei was only able to provide data from 2020.<sup>11</sup>

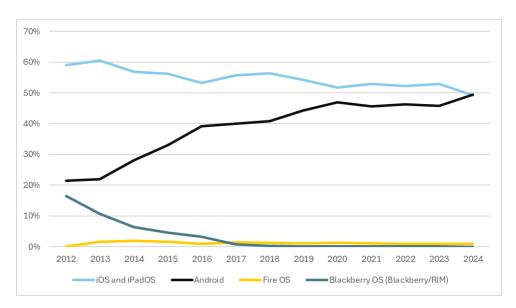
- A.12 Figure A.2 below shows the shares of supply based on Statcounter data on active mobile devices for Apple, Amazon, Google, and Blackberry's Mobile Platforms in the UK since 2012. This shows that:
  - (a) Apple's Mobile Ecosystem has accounted for between 49% and 61% of active mobile devices since 2012;
  - (b) Google's Mobile Ecosystem has accounted for between 40% and 49% of active mobile devices since 2017. Before this its share grew each year since 2012, increasing from 21% and reaching 39% in 2016;
  - (c) Amazon's Mobile Ecosystem has accounted for a maximum of 2% of active mobile devices in any year since 2012;

<sup>10</sup> CMA analysis of data from market participants based on Huawei's response to section 69 notice [≫].

<sup>&</sup>lt;sup>11</sup> Overview of the market section in Chapter 3 of MEMS.

(d) Blackberry's Mobile Ecosystem accounted for 16% of active mobile devices in 2012. Its share in active mobile devices declined as Google's Mobile Ecosystem increased in share, reaching less than 1% in 2017. Blackberry is no longer active in the supply of mobile operating systems.<sup>12</sup>

Figure A.2: Mobile Ecosystem shares of supply in active mobile devices in the UK – Statcounter data (2012 – 2024)



Source: Mobile & Tablet Operating System Market Share United Kingdom | Statcounter Global Stats

Notes: Only Mobile Ecosystems with a share of 5% or more in any one year according to Statcounter data have been included, except Fire OS which is included for consistency. Due to its use of a version of Android, Huawei's HMS devices are likely to be included within Android.<sup>13</sup>

## Mobile operating system shares of supply

### Source of data

A.13 The data underlying this analysis is the same as that used for Mobile Ecosystem shares of supply above (for a description see 'Source of data' within the 'Mobile Ecosystem shares of supply' sub-section).

### **Smartphones**

A.14 In this section we set out:

<sup>&</sup>lt;sup>12</sup> Blackberry announced that it would stop supporting mobile devices using its operating systems from 4 January 2022 (see <u>BlackBerry 10 and BlackBerry OS Services FAQ — End of Life</u>).

<sup>&</sup>lt;sup>13</sup> See Amazon Fire Phone UK Release: Handset launches today | Trusted Reviews and Amazon stops selling Fire smartphone - BBC News.

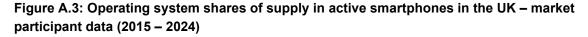
- (a) shares of supply by operating system based on active smartphones data provided by market participants; and
- (b) shares of supply by operating system based on active smartphones data from Statcounter.
- A.15 Figure A.3 shows the shares of supply based on data from market participants for Android, iOS, and Huawei's HMS devices in terms of active smartphones in the UK for the period 2015 to 2024.<sup>14</sup> This shows that:
  - (a) Between [ $\gg$ ] [50 60%] of active smartphones in each year of the period have been Apple's iOS devices;<sup>15</sup>
  - (b) Between [ $\gg$ ] [40 50%] of active smartphones in each year of the period have been Android devices;<sup>16</sup> and
  - (c) A very small amount ([ $\gg$ ] [0 5%]) of active smartphones in each year of the period have been Huawei's HMS devices.<sup>17</sup>

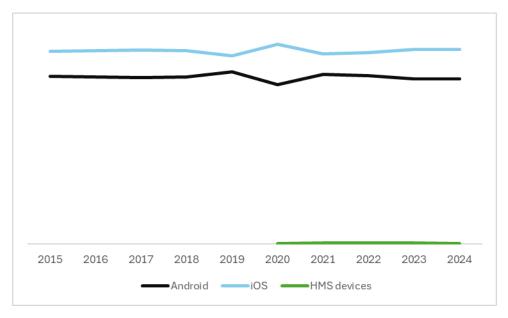
<sup>&</sup>lt;sup>14</sup> The following shares have been calculated based on data from market participants. In particular: Apple's response to section 69 notice [≫]; Google's response to section 69 notice [≫]; and Huawei's response to section 69 notice [≫]

<sup>&</sup>lt;sup>15</sup> CMA analysis of data from market participants including Apple's response to section 69 notice [※].

<sup>&</sup>lt;sup>16</sup> CMA analysis of data from market participants including Google's response to section 69 notice [※].

<sup>&</sup>lt;sup>17</sup> CMA analysis of data from market participants including Huawei's response to section 69 notice [%].





Source: CMA analysis of data from market participants.

Notes: (i) For confidentiality purposes there is no y-axis on this graph. The lines plotted on the graph show the relative positions of market participants in terms of their shares of supply. (ii) HMS devices are devices that meet Google Android compatibility requirements but rely on Huawei's Huawei Mobile Services (instead of GMS). Huawei was only able to provide data from 2020. 18

- A.16 Figure A.4 below shows the shares of supply based on data from Statcounter for Android, iOS, Blackberry OS, Symbian OS and Windows in the UK since 2009. This shows that:
  - (a) Apple's iOS devices have had a share of supply between 40% and 52% throughout the period. It has been the largest provider of operating systems for active smartphones in every year since 2009 except 2016, 2019 and 2024.
  - (b) Google's Android was the fourth largest provider of operating systems for smartphones in 2009 with a share of just 2%. Its share grew rapidly to 25% in 2012, and it became the second largest provider of smartphone operating systems by 2013. Since 2015 Google's Android operating system has had a share of over 40%, reaching a peak of 51% in 2024.
  - (c) Blackberry OS (17%) and Symbian OS (16%) were the second and third largest providers of operating systems in 2009. Blackberry OS initially grew its share to a peak of 37% in 2011, before declining rapidly as

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<sup>&</sup>lt;sup>18</sup> Overview of the market section in Chapter 3 of MEMS.

Android devices increased in share. During this period Symbian OS was owned by Nokia, and its share of supply declined quickly from 2009, falling by more than half between 2009 and 2010, and reaching 1% by 2012. Blackberry OS, Symbian OS and Windows (whose share peaked at 3% between 2013 and 2016) are no longer active in the supply of smartphone operating systems.<sup>19</sup>

50%
50%
40%
20%
10%

Figure A.4: Operating system shares of supply in active smartphones in the UK – Statcounter data (2009 – 2024)

Source: Mobile Operating System Market Share United Kingdom | Statcounter Global Stats

2010 2011

Android

Notes: Only operating systems with a share of 5% or more in any one year have been included, except Windows which is included for illustrative purposes. Due to its use of a version of Android, Huawei's HMS devices are likely to be included within Android. In addition, Fire OS is likely to be included within Android as it is an Android fork, however we understand Fire OS was only used in Amazon's Fire Phone, which was on the market between September 2014 and 2015.<sup>20</sup>

2013 2014 2015 2016 2017

Blackberry OS (Blackberry/RIM)

2018 2019

Windows

2020

2021

2022

SymbianOS (Nokia)

2023 2024

A.17 We have calculated shares in the supply of smartphone operating systems using additional data sources (market participant data on the volume of sales of

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0%

<sup>&</sup>lt;sup>19</sup> Blackberry announced that it would stop supporting mobile devices using its operating systems from 4 January 2022 (see <u>BlackBerry 10 and BlackBerry OS Services FAQ — End of Life</u>). Nokia announced that it would stop using Symbian as its main mobile operating system in 2011 and it released the last mobile device using Symbian OS in 2021 (see <u>From birth to death: why Nokia's Symbian was the future of mobile tech | TechRadar and 'Android before Android': The long, strange history of Symbian and why it matters for Nokia's future | ZDNET). Microsoft announced that there would be no further updates to its last mobile operating system (Windows 10 Mobile) in 2017 and that it would no longer support the operating system in 2019 (see <u>Saying goodbye to Windows 10 Mobile: Microsoft ends support for its mobile OS - GSMArena.com news</u> and <u>Windows Phone was a glorious failure - The Verge</u>).
<sup>20</sup> See <u>Amazon Fire Phone UK Release: Handset launches today | Trusted Reviews</u> and <u>Amazon stops selling Fire smartphone - BBC News</u>.</u>

new devices, and IDC data on unit shipments) and have elected to set out shares of supply based on market participant data and Statcounter data on active devices because:

- (a) Market participants are likely to be the most accurate data source, and data on active smartphones provides an overall view of shares of supply (including new and existing devices); and
- (b) Statcounter data is available over a longer time period and therefore shows historical trends.
- A.18 While the various shares of supply calculated using different data sources differ slightly,<sup>21</sup> they show consistent findings: Apple's iOS and Google's Android have been the largest suppliers of smartphone operating systems for at least a decade, accounting for around half of supply each.

### **Tablets**

- A.19 In this section we set out shares of supply by operating system based on active tablets data provided by market participants.
- A.20 Figure A.5 shows the shares of supply based on data from market participants for iPadOS, Android, Amazon's Fire OS and Huawei's HMS devices in terms of active tablets in the UK for the period 2017 to 2024.<sup>22</sup> As can be seen:
  - (a) Between [ $\gg$ ] [50 60%] of active tablets in each year since 2017 have been Apple iPads;<sup>23</sup>
  - (b) Between [ $\gg$ ] [20 30%] of active tablets in the period have been Android tablets;<sup>24</sup>
  - (c) Between [%] [10 20%] and [%] [20 30%] of active tablets in the period have been Amazon's Fire OS tablets. Its share in active tablets increased from 2017 until it became tied with Android as the second largest supplier

<sup>&</sup>lt;sup>21</sup> This is expected given the different data sources and basis of the measurements.

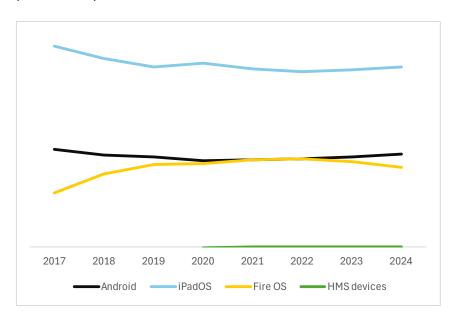
<sup>&</sup>lt;sup>22</sup> The following shares have been calculated based on data from market participants. In particular: Apple's response to section 69 notice [≫]; Google's response to section 69 notice [≫]; Amazon's response to section 69 notice [≫]; and Huawei's response to section 69 notice [≫].

<sup>&</sup>lt;sup>23</sup> CMA analysis of data from market participants including Apple's response to section 69 notice [%].

<sup>&</sup>lt;sup>24</sup> CMA analysis of data from market participants including Google's response to section 69 [※].

- of operating systems for active tablets in 2021 and 2022, before decreasing again more recently;<sup>25</sup> and
- (d) A very small amount ([ $\gg$ ] [0 5%]) of active tablets in each year have been Huawei's HMS devices.<sup>26</sup>

Figure A.5: Operating system shares of supply in active tablets in the UK – market participant data (2017 – 2024)



Source: CMA analysis of data from market participants.

Notes: i) For confidentiality purposes there is no y-axis on this graph. The lines plotted on the graph show the relative positions of market participants in terms of their shares of supply. (ii) HMS devices are devices that meet Google Android compatibility requirements but rely on Huawei's Huawei Mobile Services (instead of GMS). Huawei was only able to provide data from 2020.<sup>27</sup>

- A.21 We have calculated shares in the supply of tablet operating systems using additional data sources (market participant data on the volume of sales of new devices, IDC data on unit shipments, and Statcounter data on the volume of active devices) and have elected to set out shares of supply based on market participant data on active tablets because:
  - (a) market participant data is likely to be the most accurate, and data on active tablets provides an overall view of shares of supply over time (including new and existing devices); and
  - (b) Historically there have been fewer tablet operating systems that have gained a share of 5% or more in the period covered by Statcounter data

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<sup>&</sup>lt;sup>25</sup> CMA analysis of data from market participants including Amazon's response to section 69 notice [%].

<sup>&</sup>lt;sup>26</sup> CMA analysis of data from market participants including Huawei's response to section 69 notice [💉].

<sup>&</sup>lt;sup>27</sup> Overview of the market section in Chapter 3 of MEMS.

than smartphone operating systems, <sup>28</sup> such that shares of supply of tablets calculated using Statcounter data and market participant data show the same set of operating systems.

- A.22 While the various shares of supply calculated using different data sources show some differences in the positions of the different tablet operating systems,<sup>29</sup> they show that:
  - (a) Apple has been the largest supplier of tablet operating systems in the UK since at least 2018, accounting for around half of supply in more recent years (since around 2021);
  - (b) By most measures, Android has been the second largest supplier of tablet operating systems since at least 2019. Only shares of supply based on data from market participants on active tablets showed Fire OS as competing with Android for this position in more recent years (2020 to 2022).

### Mobile device shares of supply

#### Source of data

- A.23 The data underlying this analysis comes from market participants, IDC, and Statcounter.
- A.24 We received yearly data on the volume of sales of mobile devices from Amazon, Apple, Google, Huawei and Samsung.<sup>30</sup> While we requested data from a limited number of manufacturers, as noted previously in 'Source of data' within the 'Mobile Ecosystem shares of supply' sub-section, the data provided covered the four main operating systems available on mobile devices in the UK in the last decade. This meant we were able to estimate total supply using operating systems data, and then estimate shares of supply for the five manufacturers listed above.

<sup>&</sup>lt;sup>28</sup> Statcounter data covers the period 2010 to present for smartphone manufacturers and 2012 to present for tablet manufacturers.

<sup>&</sup>lt;sup>29</sup> This is expected given the different data sources and basis of the measurements.

<sup>&</sup>lt;sup>30</sup> We also received yearly data for the same market participants relating to active devices, however we have not estimated volume shares based on active devices for manufacturers. This is because we were not able to obtain robust data on the number of active devices from all market participants.

- A.25 We have also sourced data from IDC, a global market intelligence firm.<sup>31</sup> We used data from IDC's Worldwide Quarterly Mobile Phone Tracker and Worldwide Quarterly Personal Computing Device Tracker.<sup>32</sup> This data covered mobile devices in the UK for the period 2015 to 2024, in particular (i) smartphones and feature phones,<sup>33</sup> and (ii) tablets.
- A.26 We consider that IDC data may have the following limitations:
  - (a) IDC's tracking methodology for indirect sales (ie those not direct to endusers) is based on a mixed approach of sales-in, sales-through, and sales-out projections. This may result in discrepancies with sales-out data on a monthly or quarterly basis due to the time gap and inventory management.
  - (b) IDC's pricing data reflects the end-user price level, and its value calculations are the result of unit shipments multiplied by the average selling price (ASP) for each model. The ASP is an estimate of the final price paid by the average end-users from multiple channels. It includes all shipping and handling fees (such as freight, insurance and tariff costs) but not point-of-sale taxes (eg value-added tax (VAT)). Specific purchasing conditions and channel rebates are also not taken into account (eg discounts offered by mobile network operators) however high-volume purchases by a retailer or large business will weigh into the average selling prices of mobile devices.
- A.27 Despite these potential limitations, we understand that IDC data is widely used within the industry, and that IDC itself conducts and provides clients with analysis based on price bands similar to that which we have conducted.
- A.28 We have compared IDC data on device shipments with the data received from market participants on the number of new device sales in the UK. We note that there are some differences in volumes of mobile devices across the two datasets. This is to be expected as the datasets are based on different measures. We have presented our analysis based on IDC data for the period (i) 2016 to 2024 for smartphones, and (ii) 2019 to 2024 for tablets. In these years the difference in volumes across the IDC data and market participant data was less than 25% for smartphones and less than 30% for tablets.

<sup>32</sup>See Worldwide Quarterly Mobile Phone Tracker and Worldwide Quarterly Personal Computing Device Tracker.

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<sup>&</sup>lt;sup>31</sup> For more detail see IDC - About - Home.

<sup>&</sup>lt;sup>33</sup> Our analysis has focused on smartphones only. Feature phones are mobile phones with reduced features and functionality compared to smartphones, which may come with a small non-touch screen and press buttons.

A.29 We have also sourced data from Statcounter. The Statcounter data underlying this analysis is the same as that used for the mobile operating system shares of supply provided above (albeit for different market participants). We describe this data and potential limitations in 'Source of data' within the 'Mobile Ecosystem shares of supply' sub-section. In line with the approach taken for mobile operating system shares of supply, we have primarily relied on data provided by market participants and use Statcounter data to look at historical trends.

### **Smartphones**

- A.30 In this section we set out:
  - (a) shares of supply by manufacturer based on new smartphones data provided by market participants;
  - (b) shares of supply for Apple and Samsung based on IDC data on both (i) total number of units of smartphones shipped into the UK, and (ii) total value of smartphones shipped into the UK; and
  - (c) shares of supply by manufacturer based on active smartphones data from Statcounter.
- A.31 Figure A.6 shows the shares of supply based on data from market participants for Apple, Google, Huawei and Samsung in terms of new smartphones in the UK for the period 2015 to 2024.<sup>34</sup> As can be seen:
  - (a) Apple has been the leading manufacturer of new smartphones in the UK in each year of this period, with a share of supply between [ $\gg$ ] [40 50%].<sup>35</sup>
  - (b) Between [≫] [20 30%] of new smartphones sold in each year of the period have been Samsung phones, such that Samsung has been the second largest manufacturer and largest manufacturer of Android smartphones.<sup>36</sup>
  - (c) Huawei was the third largest manufacturer of smartphones and second largest manufacturer of Android smartphones in 2018 and 2019, with its

<sup>&</sup>lt;sup>34</sup> The following shares have been calculated based on data from market participants. In particular: Apple's response to section 69 notice [ $\gg$ ]; Samsung's response to section 69 notice [ $\gg$ ]; Huawei's response to section 69 notice [ $\gg$ ]; and Google's response to section 69 notice [ $\gg$ ].

<sup>&</sup>lt;sup>35</sup> CMA analysis of data from market participants including Apple's response to section 69 notice [≫].

<sup>&</sup>lt;sup>36</sup> CMA analysis of data from market participants including Samsung's response to section 69 notice [%].

- share peaking at [ $\gg$ ] [5 10%].<sup>37</sup> Huawei's sales declined since it moved to using Huawei Mobile Services in 2019 and no new Huawei smartphone models have been made available in the UK market since early 2023.<sup>38</sup>
- (d) Google has been the third largest manufacturer of smartphones and second largest manufacturer of Android smartphones since it overtook Huawei in 2021. Nonetheless, a small amount of new smartphones in each year have been Google Pixels since it was released in October 2016,<sup>39</sup> with its share of supply peaking at [≫] [0 − 5%] in 2023.<sup>40</sup>

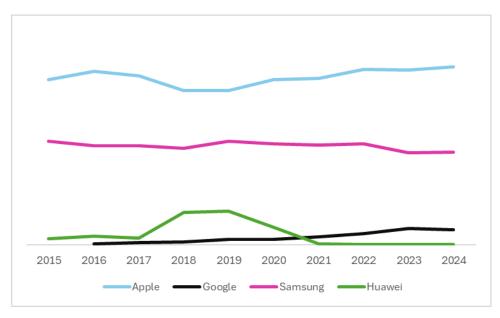
<sup>&</sup>lt;sup>37</sup> CMA analysis of data from market participants including Huawei's response to section 69 notice [%].

<sup>&</sup>lt;sup>38</sup> Huawei's response to section 69 notice [%].

<sup>&</sup>lt;sup>39</sup> Google's response to section 69 notice [※].

<sup>&</sup>lt;sup>40</sup> CMA analysis of data from market participants based on Google's response to section 69 notice [※].

Figure A.6: Manufacturer shares of supply in the sale of new smartphones in the UK – market participant data (2015 – 2024)



Source: CMA analysis of data from market participants.

Notes: (i) As we have received data from a limited number of manufacturers, we have based the total volume of new devices on operating systems data (which covers all devices). As such, the shares shown for this set of manufacturers do not add to 100%. We have received data from smartphone manufacturers with a share of supply of at least 10% in any year since 2015 according to Statcounter data, and Google. (ii) For confidentiality purposes there is no y-axis on this graph. The lines plotted on the graph show the relative positions of market participants in terms of their shares of supply. (iii) Huawei's data includes both its GMS and HMS devices. HMS devices are devices that meet Google Android compatibility requirements but rely on Huawei's Huawei Mobile Services (instead of GMS).<sup>41</sup>

- A.32 Figure A.7 shows the shares of supply based on data from IDC for Apple and Samsung in terms of both the total number of units and total value of smartphones shipped into the UK for the period 2022 to 2024. As can be seen:
  - (a) Apple has the largest share of supply in terms of volume (between 53% and 57%) and value (between 72% and 74%) throughout the period. Consistent with the pricing analysis set out below, Apple's share of total value is higher than its share of total volume of mobile devices shipped into the UK. Since 2022 the ratio of Apple's share of supply in volume to value share has been fairly stable.<sup>42</sup>
  - (b) Samsung is the second largest supplier in terms of volume (between 25% and 27%) and value (17%) throughout the period. Its share of total value is lower than its share of total volume of mobile devices shipped into the UK.

<sup>&</sup>lt;sup>41</sup> Overview of the market section in Chapter 3 of MEMS.

<sup>&</sup>lt;sup>42</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker".

Since 2022 Samsung's share of supply in value has remained constant, while its share in volume fell slightly between 2022 and 2023.<sup>43</sup>

80% 70% 60% 50% 40% 30% 20% 10% 0% Volume Value Volume Value Apple Samsung ■ 2022 ■ 2023 ■ 2024

Figure A.7: Apple and Samsung shares of supply based on total volume and value of smartphones shipped into the UK – IDC data (2022 – 2024)

Source: CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

Notes: [ $\gg$ ] and [ $\gg$ ] have not been included on this graph as their volume and value shares based on this data were less than 10% in any year shown, and neither was found to have a larger share in value than volume for any year during the period. Other manufacturers have been excluded as they did not have a share of supply of more than 5% in value or volume in any year shown. As noted earlier in 'Source of data' in this sub-section on 'Mobile device shares of supply', IDC figures for value exclude VAT.

- A.33 Figure A.8 shows the shares of supply based on data from Statcounter for Apple, Google, Samsung, Huawei, RIM (more widely known as Blackberry), Sony, HTC and Nokia in the UK since 2010. This shows that:
  - (a) Apple has consistently been the largest manufacturer of active smartphones over the last fifteen years, with a share of over 40%;
  - (b) Samsung has been the second largest manufacturer for the last twelve years, since it overtook RIM (Blackberry) in 2013; and
  - (c) Google's share in active smartphones has grown in recent years but it remains small at 4%.

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<sup>&</sup>lt;sup>43</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker". These findings are consistent with MEMS which analysed Apple and Samsung shares of supply in smartphone shipments into the UK by volume and value in 2019 and 2021 (see the 'Mobile device shares of supply' sub-section of MEMS <u>Appendix B: Market outcomes</u>).

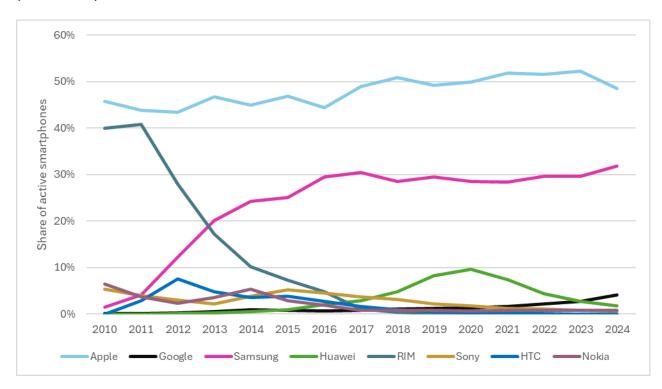


Figure A.8: Manufacturer shares of supply in active smartphones in the UK – Statcounter data (2010 – 2024)

Source: Mobile Vendor Market Share United Kingdom | Statcounter Global Stats

Notes: apart from Google, only manufacturers with a share of 5% or more in any one year have been included.

- A.34 While the various shares of supply calculated using different data sources differ slightly,<sup>44</sup> they show consistent findings:
  - (a) Apple has been the leading smartphone manufacturer for at least a decade, accounting for around half of supply.
  - (b) Samsung has been the second largest smartphone manufacturer and largest manufacturer of Android smartphones for at least a decade, accounting for at least a quarter of supply.

#### **Tablets**

A.35 In this section we set out:

 (a) shares of supply by manufacturer based on new tablets data provided by market participants; and

<sup>&</sup>lt;sup>44</sup> This is expected given the different data sources and basis of the measurements.

- (b) shares of supply by Amazon, Apple and Samsung based on IDC data on both (i) total number of units of tablets shipped into the UK, and (ii) total value of tablets shipped into the UK.
- A.36 Figure A.9 shows the shares of supply based on data from market participants for Amazon, Apple, Google, Huawei and Samsung in terms of new tablets in the UK for the period 2015 to 2024.<sup>45</sup> As can be seen:
  - (a) Apple has been the largest tablet manufacturer for every year in the period except 2017. Its share has fluctuated over time, between a low of [ $\gg$ ] [30 40%] in 2017 and a peak of [ $\gg$ ] [40 50%] in 2022. Its share has been fairly stable since 2021, ranging between [ $\gg$ ] [40 50%].<sup>46</sup>
  - (b) Amazon has been the second largest tablet manufacturer for most of the period considered. Its share has fluctuated over time, growing materially from [ $\gg$ ] [10 20%] in 2015 to [ $\gg$ ] [30 40%] in 2017 before declining to [ $\gg$ ] [10 20%] in 2024.<sup>47</sup>
  - (c) Samsung has been the largest manufacturer of Android tablets throughout the period, and the third largest tablet manufacturer for most of the period. In 2023 it overtook Amazon as the second largest manufacturer of new tablets. Its share of new tablets has been fairly consistent over time, ranging between [≫] [10 – 20%] and [≫] [10 – 20%].<sup>48</sup>
  - (d) Huawei's sales declined since it moved to using Huawei Mobile Services in 2019, with a very small share (between [ $\gg$ ] [0 5%]) of new tablets being sold by Huawei since 2020.<sup>49</sup>

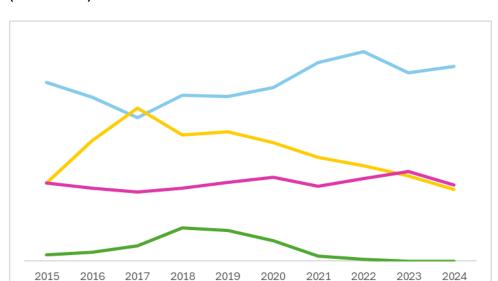
<sup>&</sup>lt;sup>45</sup> The following shares have been calculated based on data from market participants. In particular: Apple's response to section 69 notice [ $\gg$ ]; Amazon's response to section 69 notice [ $\gg$ ]; Samsung's response to section 69 notice [ $\gg$ ]; Huawei's response to section 69 notice [ $\gg$ ]; and Google's response to section 69 notice [ $\gg$ ]. We note that Google has been excluded from this chart as it has had a very small share ([ $\gg$ ] [0 – 5%]) in active tablets since it released its Pixel tablet in 2023 (see Google Pixel Tablet Release Date, Price & Specs - Tech Advisor).

<sup>&</sup>lt;sup>46</sup> CMA analysis of data from market participants including Apple's response to section 69 notice [≫].

<sup>&</sup>lt;sup>47</sup> CMA analysis of data from market participants including Amazon's response to section 69 notice [※].

<sup>&</sup>lt;sup>48</sup> CMA analysis of data from market participants including Samsung's response to section 69 notice [≫].

<sup>&</sup>lt;sup>49</sup> CMA analysis of data from market participants including Huawei's response to section 69 notice [%].



Amazon

Figure A.9: Manufacturer shares of supply in new tablets in the UK - market participants data (2015 - 2024)

Source: CMA analysis of data from market participants.

Apple

Notes: (i) As we have received data from a limited number of manufacturers, we have based the total volume of new devices on operating systems data (which covers all devices). As such, the shares shown for this set of manufacturers do not add to 100%. We have received data from tablet manufacturers with a share of supply of at least 10% in any year since 2015 according to Statcounter data, and Google and Huawei. Google has been excluded from this chart as it has had a very small share ([ [ ] [0 - 5%]) in active tablets since it released its Pixel tablet in 2023.<sup>50</sup> (ii) For confidentiality purposes there is no y-axis on this graph. The lines plotted on the graph show the relative positions of market participants in terms of their shares of supply. (iii) Huawei's data includes both its GMS and HMS devices. HMS devices are devices that meet Google Android compatibility requirements but rely on Huawei's Huawei Mobile Services (instead of GMS).51

Samsung

-Huawei

- A.37 Figure A.10 shows the shares of supply based on data from IDC for Amazon, Apple and Samsung in terms of both the total number of units and total value of tablets shipped into the UK for the period 2022 to 2024. As can be seen:
  - Apple has the largest share of supply in terms of volume (between 48% and 54%) and value (between 69% and 74%) throughout the period. Consistent with the pricing analysis set out below, Apple's share of total value is higher than its share of total volume of mobile devices shipped into the UK. Since 2022 the ratio of Apple's share of supply in volume to value has been fairly stable. 52
  - Samsung is the second largest supplier in terms of volume (between 17% and 18%) and value (between 14% and 16%) for most of the period. Its

<sup>50</sup> CMA analysis of market participant data including Google's response to section 69 notice [≫]. Google released its Pixel tablet in June 2023 (see Google Pixel Tablet Release Date, Price & Specs - Tech Advisor).

<sup>&</sup>lt;sup>51</sup> Overview of the market section in Chapter 3 of MEMS.

<sup>&</sup>lt;sup>52</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

share of total value is slightly lower than its share of total volume of mobile devices shipped into the UK in each year of the period. Its share in volume was consistent between 2022 and 2023 before falling in 2024, and its share in value fell between 2022 and 2023 and remained stable in 2024.<sup>53</sup>

(c) Amazon is the third largest supplier in terms of volume (between 12% and 21%) and value (between 4% and 8%) for most of the period. It had a larger volume but not value share compared to Samsung in 2022. Its share of total value is considerably lower than its share of total volume of mobile devices shipped into the UK in each year of the period. Over time its share in volume and value has decreased.<sup>54</sup>

<sup>53</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

<sup>&</sup>lt;sup>54</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker". These findings are consistent with MEMS which analysed Amazon, Apple and Samsung's shares of supply in tablet shipments into the UK in 2021 (see the 'Mobile device shares of supply' sub-section of MEMS Appendix B).

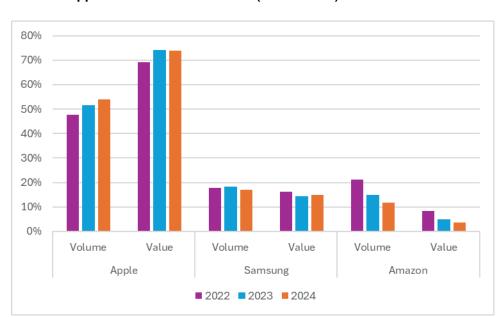


Figure A.10: Apple, Samsung and Amazon shares of supply based on total volume and value of tablets shipped into the UK – IDC data (2022 – 2024)

Source: CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

Notes: consistent with tablet shares estimates based on data from market participants, shares of supply based on IDC data exclude Windows and Chrome tablets. [ ] and [ ] have not been included on this graph as their volume and value shares were 5% or less in any year shown, and neither was found to have a larger share in value than volume for any year in the period. Other manufacturers have been excluded as they did not have a share of supply of more than 10% in value or volume in any year shown. As noted previously in 'Source of data' in the sub-section on 'Mobile device shares of supply', IDC figures for value exclude VAT.

- A.38 We have calculated manufacturer shares in the supply of tablets using an additional data source (Statcounter data on active tablets) and have elected to set out shares of supply based on the above data sources because:
  - (a) Market participants are likely to be the most accurate source of data.
  - (b) The IDC was the only data source containing information on device pricing and value, and therefore we present volume and value shares based on IDC data. We only present these shares for Apple, Samsung and Amazon as no other manufacturer had volume or value shares above 10%. We do not present value shares at the operating system level due to the differences in Apple and Google's business models in relation to their respective operating systems and how they obtain value from these (Apple does not license its operating system to other mobile device manufacturers, whereas Google does).
  - (c) Historically there have been fewer tablet manufacturers that have gained a share of 5% or more in the period covered by Statcounter data than

- A.39 While the various shares of supply calculated using different data sources differ slightly,<sup>57</sup> they show consistent findings:
  - (a) Apple has been the largest tablet manufacturer since at least 2018 and has accounted for around half of supply in recent years.
  - (b) Amazon and Samsung are the next largest tablet manufacturers.
  - (c) By all measures Samsung has been the second largest tablet manufacturer in 2023 and 2024, and the largest Android tablet manufacturer for at least a decade.

## Mobile device pricing

#### Source of data

A.40 The data underlying this analysis is the same IDC data used for mobile device shares of supply provided above (for a description see 'Source of data' within the 'Mobile device shares of supply' sub-section).

## **Smartphones**

- A.41 In this section we set out:
  - (a) iOS and Android shares of supply in smartphones sold for £300 or less and in smartphones sold for more than £300; and
  - (b) the proportion of smartphones shipped into the UK by £100 price bands for iOS and Android respectively.
- A.42 Figure A.11 shows the shares of supply for iOS and Android in new smartphones sold for £300 or less and in new smartphones sold for more than

<sup>&</sup>lt;sup>55</sup> Statcounter data covers the period 2010 to present for smartphone manufacturers and 2012 to present for tablet manufacturers.

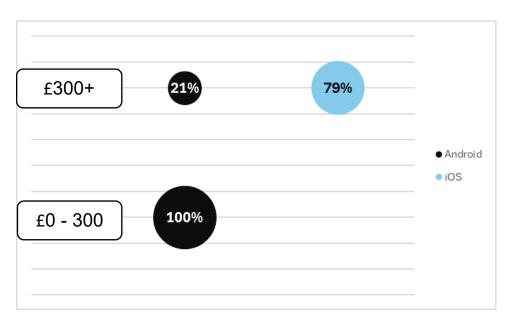
<sup>&</sup>lt;sup>56</sup> CMA analysis of data from market participants based on Google's response to section 69 notice [≫]; and Apple's response to section 69 notice [≫].

<sup>&</sup>lt;sup>57</sup> This is expected given the different data sources and basis of the measurements.

£300 in 2024, based on IDC data on the total number of units of smartphones shipped into the UK. The IDC data shows:

- (a) In 2024, Android's share of new devices sold for £300 or less was 100%, and no new iOS devices were sold in this price range. This has been the case since 2020.<sup>58</sup>
- (b) Both iOS and Android are active in the range above £300. However, in 2024 iOS's share of new devices sold for more than £300 was 71% (and Android's was 29%), and this has been fairly consistent since 2020.<sup>59</sup> As such, iOS devices hold a higher share of higher priced smartphones.<sup>60</sup>

Figure A.11: Operating system shares of supply based on total volume of smartphones shipped into the UK in devices sold for £300 or less and devices sold for more than £300 (2024)



Source: CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

Notes: for the purposes of this analysis we have not split out Huawei's HMS devices from Android devices.

A.43 We note that the picture does not change materially if we apply a different cut off. For example, looking at new smartphones sold for £600 or less, we find that in 2024 Android's share of such devices was 82% while iOS's share was 18%,

<sup>&</sup>lt;sup>58</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

<sup>&</sup>lt;sup>59</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

<sup>&</sup>lt;sup>60</sup> These findings are consistent with MEMS which analysed iOS and Android shares of supply in smartphones shipped into the UK sold for £300 or less and in those more than £300 in 2021 (see the 'Mobile device pricing' subsection of MEMS Appendix B).

and considering devices sold for more than £600, Android had a share of 18% in 2024 and iOS 82%. These shares have been fairly stable since 2021.<sup>61</sup>

- A.44 Figure A.12 shows the proportion of new smartphones shipped into the UK by £100 price bands in 2024, separately for iOS and Android. As can be seen, the evidence is consistent with iOS devices holding a higher share of higher priced smartphones, and devices using Google's Android holding a higher share in the sale of lower priced tablets. In particular, the IDC data shows:
  - (a) Android accounted for 100% of new smartphones sold for less than £300 in 2024, and new iOS smartphones did not feature in this price range.
     Among all new Android smartphones, 51% were sold for less than £300 in 2024.<sup>62</sup>
  - (b) Android and iOS are both active in new smartphones priced between £300 and £600 in 2024, with 27% of new Android smartphones and 14% of new iOS smartphones being sold in this price range.<sup>63</sup>
  - (c) Android and iOS also both active in new smartphones priced at £600 or more in 2024. The majority of new iOS smartphones (86%) were sold in this price range compared to a much smaller proportion of new Android smartphones (23%).<sup>64</sup>

<sup>&</sup>lt;sup>61</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker".

<sup>62</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker".

<sup>&</sup>lt;sup>63</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker".

<sup>&</sup>lt;sup>64</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker". These findings are consistent with MEMS which analysed the proportion of iOS and Android smartphones shipped into the UK by £100 price bracket in 2017 and 2021 (see the Mobile device pricing sub-section of MEMS Appendix B). However we note that (i) [≫] and (ii) for [≫].

£1400+ £1300-1400 £1200-1300 £1100-1200 £1000-1100 £900-1000 £800-900 ■ Android £700-800 ■ iOS £600-700 £500-600 £400-500 £300-400 £200-300 £100-200 £0-100 30% 25% 20% 15% 10% 5% 5% 10% 15% 20%

Figure A.12: Proportion of smartphones shipped into the UK by £100 price bracket for iOS and Android respectively (2024)

Source: CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

Notes: for the purposes of this analysis we have not split out Huawei's HMS devices from Android devices.

- A.45 As previously noted, the IDC is the only source of data that features information on device pricing.
- A.46 We have conducted additional smartphone pricing analysis based on IDC data for Apple and Samsung (as Samsung has been the largest Android smartphone manufacturer for at least a decade). This analysis is consistent with that for iOS and Android: Apple iPhones hold a higher share in the sale of higher priced smartphones and Samsung smartphones hold a higher share in the sale of lower priced smartphones in 2024 and over time. This is also consistent with the analysis of Apple's and Samsung's volume and value shares of supply set out earlier in this Annex, which shows that Apple's share of supply by value has been larger than its share by volume and Samsung's share by value has been smaller than its share by volume in each year since 2022.<sup>65</sup>

24

<sup>&</sup>lt;sup>65</sup> These findings are also consistent with MEMS, which analysed smartphone pricing in 2017 and 2021 (see the 'Mobile device pricing' sub-section of MEMS Appendix B).

A.47 IDC data therefore suggests that smartphone supply is largely segmented between iOS and Android and has been over time, with sales of the majority of smartphones using these operating systems falling in different price segments.

### **Tablets**

- A.48 In this section we set out the proportion of tablets shipped into the UK by £100 price bands for Android, Fire OS and iPadOS respectively.
- A.49 Figure A.13 shows the volume of new tablets shipped into the UK by £100 price bands in 2024, separately for Android, Fire OS and iPadOS. As can be seen, the evidence is consistent with iPadOS devices holding a higher share of higher priced tablets, and devices using Google's Android and Fire OS holding a higher share in the sale of lower priced tablets. In particular, the IDC data shows:
  - (a) The majority of new Android tablets (86%) and all new Amazon Fire OS tablets (100%) were sold for £300 or less in 2024, compared to 24% of new Apple iPads.<sup>66</sup>
  - (b) Android and Apple are both active in tablets priced between £300 and £600 in 2024, although a much larger proportion of new Apple iPads (56%) were sold in this price range compared to new Android tablets (8%).
     No new Fire OS tablets were sold in this price range.<sup>67</sup>
  - (c) Android and Apple are both active in tablets priced for more than £600 in 2024. 20% of new Apple iPads were sold in this price range, compared to only 6% of new Android tablets. No new Fire OS tablets were sold in this price range.<sup>68</sup>

<sup>&</sup>lt;sup>66</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker".

<sup>&</sup>lt;sup>67</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker".

<sup>&</sup>lt;sup>68</sup> CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker". These findings are consistent with MEMS which analysed the proportion of iOS, Android and Fire OS tablets shipped into the UK by £100 price bracket in 2019 and 2021 (see the Mobile device pricing sub-section of MEMS Appendix B).

1,400,000

1,000,000

800,000

400,000

200,000

0

cp red color c

iPadOS

Figure A.13: Volume of tablets shipped into the UK by £100 price bracket for iPadOS, Android and Fire OS respectively (2024)

Source: CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

Notes: Consistent with shares estimates based on data from market participants, this analysis excludes Windows and Chrome tablets

Fire OS

- A.50 As noted above in relation to smartphones, the IDC is the only source of data that features information on device pricing.
- A.51 We have also conducted analysis based on IDC data on: (i) operating system shares of supply by volume of new tablets shipped into the UK in devices sold for £300 or less and devices sold for more than £300 between 2019 and 2024, and (ii) tablet pricing analysis based on IDC data for Apple, Amazon and Samsung (as Samsung has been the largest Android tablet manufacturer for at least a decade). These analyses are consistent with that set out above: Apple's iPads hold a higher share in the sale of higher priced tablets, and devices using Google's Android (including Samsung devices) and Amazon's Fire OS hold a higher share in the sale of lower priced tablets in 2024 and over time.<sup>69</sup>
- A.52 IDC data therefore suggests that tablet supply is largely segmented between Android and Amazon's Fire OS, and iPadOS and has been over time, with sales

<sup>&</sup>lt;sup>69</sup> These findings are also consistent with MEMS, which analysed tablet pricing between 2019 and 2021 (see the Mobile device pricing sub-section of MEMS Appendix B).

of the majority of tablets using these operating systems falling in different price segments.

## Native app distribution outcomes

- A.53 In this section we present an analysis of:
  - (a) summary statistics on the App Store, including the number of native app downloads, the availability of native apps and app developers, and the number of users of the App Store;
  - (b) customer billings, net revenues and commissions rates on the App Store;and
  - (c) usage of web apps (including PWAs) on Apple mobile devices.

## Mobile app store summary statistics

#### Source of data

- A.54 The data underlying this analysis comes from Apple.
- A.55 We received monthly data<sup>70</sup> on the volume of first-time native app downloads, the number of users that downloaded a native app<sup>71</sup>, the number of native apps available through the App Store, and the number of app developers distributing through the App Store. The data was gathered in respect of each of smartphones and tablets which collectively represent Mobile Devices.
- A.56 The data covered the period from January 2015 to December 2024 with some differences between the various metrics.<sup>72</sup>

### **Outputs**

A.57 Table A.1 shows summary statistics for the App Store, based on the number of first-time native app downloads, the number of users that downloaded a native app, the number of native apps available and the number of app developers

<sup>&</sup>lt;sup>70</sup> Monthly data is as at the end of each month.

<sup>&</sup>lt;sup>71</sup> We use the term 'users' to describe data Apple provided on 'transacting accounts' which it explained are user accounts that made a free or paid app download or paid in-app purchase or subscription from Apple's iPhone App Store or iPad App Store during the relevant time period.

<sup>&</sup>lt;sup>72</sup> Apple's data on the number of native apps available through the App Store and the number of app developers distributing through the App Store covered the period April 2019-December 2024.

distributing their native apps on the App Store on Apple mobile devices in the UK for the period 2015-2024. As can be seen:

- (a) The total number of native app downloads increased over the period 2015-2024, growing from [≫] [1-1.5] billion to [≫] [1-1.5] billion, reaching a high of [≫] [1.5-2] billion in 2020.
- (b) The average number of monthly users that downloaded an app through the App Store also showed a gradual increase from [≫] [10 - 20] million in 2015 to [≫] [20 - 30] million in 2024.
- (c) The average number of native apps available remained fairly stable throughout the six-year period of 2019 to 2024, ranging between [≫] [1 2] million and [≫] [1 2] million.
- (d) The average number of app developers distributing via the App Store slightly increased between 2019-2024 from [ $\gg$ ] [0 1] million to [ $\gg$ ] [0 1] million.

Table A.1: The number of native app first-time downloads<sup>73</sup>, number of native apps available<sup>74</sup>, number of transacting accounts<sup>75</sup> and the number of app developers distributing via the app store on Apple mobile devices<sup>76</sup> in the UK (2015-2024)

				millions
Year	Number of native app first time downloads	Number of native apps available	Number of monthly transacting accounts that made a free or paid app download or paid in-app purchase or subscription in the App Store	Number of app developers distributing via the App Store
2024	[%] [1,300-1,400]	[※] [1-2]	[%] [20-30]	[※] [0-1]
2023	[%] [1,300-1,400]	[※] [1-2]	[%] [20-30]	[※] [0-1]
2022	[%] [1,300-1,400]	[※] [1-2]	[%] [20-30]	[※] [0-1]
2021	[%] [1,400-1,500]	[※] [1-2]	[%] [20-30]	[※] [0-1]
2020	[%] [1,500-1,600]	[※] [1-2]	[%] [20-30]	[%] [0-1]
2019	[%] [1,200-1,300]	[※] [1-2]	[%] [20-30]	[%] [0-1]
2018	[%] [1,100-1,200]	-	[%] [20-30]	-

<sup>&</sup>lt;sup>73</sup> Apple's response to section 69 notice [%].

<sup>&</sup>lt;sup>74</sup> Apple's response to section 69 notice [%].

<sup>&</sup>lt;sup>75</sup> Apple's response to section 69 notice [≈].

<sup>&</sup>lt;sup>76</sup> Apple's response to section 69 notice [≈].

2017	[%] [1,100-1,200]	-	[%] [20-30]	-
2016	[※] [1,100-1,200]	-	[%] [10-20]	-
2015	[%] [1,000-1,100]	-	[※] [10-20]	-

Notes: The values transacting accounts may include [%].

- A.58 The number of first-time downloads based on smartphones in the UK points to a similar pattern, with steady increases from [ $\gg$ ] [0.5-1] billion in 2015 to [ $\gg$ ] [1-1.5] billion in 2024. On the other hand, based on tablets, the number of first-time downloads in the UK showed a constant decrease from [ $\gg$ ] [0-0.5] billion over the ten-year period.
- A.59 Similarly, the average number of monthly users that downloaded a native app on smartphones in the UK grew from [≫] [10 20] million to [≫] [20 30] million, while for tablets, this number declined from [≫] [5 10] million to [≫] [0 5] million in the period 2015-2024.
- A.60 There were no differences in trends observed for smartphones and tablets respectively for the number of apps available and the number of app developers distributing via the App Store in the UK.

## Revenues and commission rates on the App Store

### Source of data

- A.61 The data underlying this analysis comes from Apple.
- A.62 We received monthly data on the total value of customer billings<sup>77</sup> made through Apple's proprietary payment system, the total value of revenue earned from the customer billings through Apple's proprietary payment system ('net revenue') and the average commission rates on mobile devices in the UK. The data was gathered in respect of each of smartphones and tablets which collectively represent mobile devices.
- A.63 The data covered the period from January 2015 to December 2024.

<sup>&</sup>lt;sup>77</sup> Customer billings refers to the total billings processed in the UK App Store by Apple's IAP on mobile devices. The data received from Apple includes consumer spend on paid app downloads and in-app purchases.

- A.64 The data on customer billings and net revenue was provided in USD. We converted this into GBP using an exchange rate index from the Bank of England.<sup>78</sup>
- A.65 Additionally, we received annual data on the average commission rates paid by app developers (including zero commission where applicable) on the App Store. The data was provided in bands that give proportions of app developers for each band of average commission rates. The data covered the period 2020-2025.
- A.66 We also received annual data on the proportion of UK App Store revenue generated from commission fees and Apple Search adverts in the App Store respectively. The data covered the period 2020-2024.

### **Outputs**

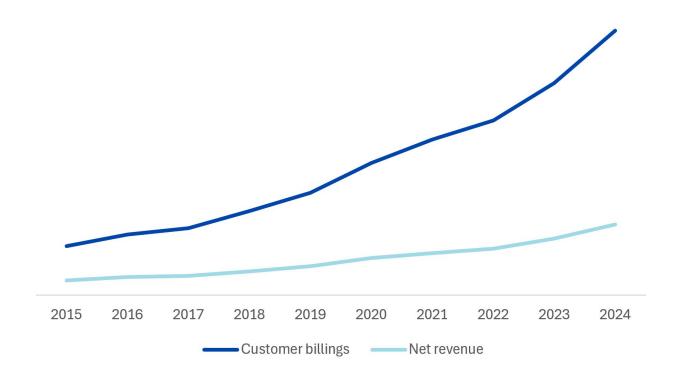
- A.67 As of 2024, the value of customer billings and net revenue on the App Store on mobile devices in the UK were £ [ $\gg$ ] [0 5] billion and £ [ $\gg$ ] [0 2] billion respectively.<sup>79</sup>
- A.68 Figure A.14 shows changes in customer billings and net revenue on the App Store through Apple's proprietary payment system on mobile devices in the UK for the period 2015-2024.<sup>80</sup> As can be seen:
  - (a) Customer billings grew steadily over the period from £ [ $\gg$ ] [0 5] billion to £ [ $\gg$ ] [0 5] billion.
  - (b) Similarly, net revenue grew over the period from £ [≫] [0 2] billion to £[≫] [0 2] billion.

<sup>&</sup>lt;sup>78</sup> The index used is the 'End month Spot exchange rate, US\$ into Sterling', XUMLUSS Bank of England | Database

<sup>&</sup>lt;sup>79</sup> Apple's response to section 69 notice [%].

<sup>&</sup>lt;sup>80</sup> Apple's response to section 69 notice [%].

Figure A.14: The value of customer billings and net revenue through Apple's proprietary payment system on the App Store in the UK (2015-2024)



- A.69 The value of customer billings and net revenue on the App Store in the UK through smartphones in 2024 were £ [ $\gg$ ] [0 5] billion and £ [ $\gg$ ] [0 2] billion respectively.
- A.70 The value of customer billings and net revenue on the App Store in the UK through tablets in 2024 were £ [ $\gg$ ] [0 5] billion and £ [ $\gg$ ] [0 2] billion respectively.
- A.71 Table A.2 shows the annual average commission rate for the fees charged on app developers' revenues on the App Store on mobile devices in the UK for the period 2015-2024.<sup>81</sup> As can be seen:
  - (a) The App Store's annual average commission over the ten-year period gradually decreased within the range [20 30]% in the period between 2015-2024.

<sup>&</sup>lt;sup>81</sup> The annual commission rates are determined by dividing total net revenue by total customer billings in each period.

(b) There were no considerable differences in trends observed across smartphones and tablets respectively for the annual weighted commission rates over the ten-year period.

Table A.2: Annual average commission rates on the App Store in the UK (2015-2024)82

Year	Commission rates
2024	[%] [20-30]%
2023	[%] [20-30]%
2022	[※] [20-30]%
2021	[※] [20-30]%
2020	[※] [20-30]%
2019	[%] [20-30]%
2018	[%] [20-30]%
2017	[※] [20-30]%
2016	[※] [20-30]%
2015	[%] [20-30]%

Source: CMA analysis of data from Apple.

- A.72 Table A.3 shows the proportion of app developers that incurred each band of average commission fee rates on their customer billings on the App Store in the UK based on data from Apple for the period 2020-2024. As can be seen:
  - (a) The proportion of app developers that incurred an average commission rate of 29% or greater decreased from [%] [10 - 20]% in 2020 to [%] [0 -10]% in 2024.
  - (b) Conversely, app developers that incurred a commission rate of between 15-19.99% increased over that period from [%] [0 - 10]% to [%] [0 - 10]%.
  - (c) The proportion of app developers across the remaining commission bands, including app developers with no billings, remained broadly stable over the five-year period.

Table A.3: The proportion of app developers that incurred each band of blended commission fee rates on their customer billings on the App Store in the UK (2020-2024)83

Year	No billings	Below	15-19.99%	20-24.99%	25-28.99	29% and
		14.99%				above

<sup>&</sup>lt;sup>82</sup> Apple's response to section 69 notice [%].

<sup>&</sup>lt;sup>83</sup> Apple's response to section 69 notice [%]. Apple's response to section 69 notice [%].

2024	[ <b>※</b> ] [80- 90]%	[%] [0-10]%	[%] [0-10]%	[%] [0-10]%	[%] [0-10]%	[※] [0-10]%
2023	[》》] [80- 90]%	[》] [0-10]%	[》] [0-10]%	[》》] [0-10]%	[》[0-10]%	[》》] [0-10]%
2022	[》[80- 90]%	[》] [0-10]%	[》] [0-10]%	[》》] [0-10]%	[》》] [0-10]%	[》》] [0-10]%
2021	[》[80- 90]%	[》] [0-10]%	[》》] [0-10]%	[》》] [0-10]%	[》》] [0-10]%	[》》] [0-10]%
2020	[》] [80- 90]%	[%] [0-10]%	[%] [0-10]%	[%] [0-10]%	[%] [0-10]%	[※] [10- 20]%

Note: The data was provided in 1% bands, except for average commission rates between zero and 10% and 29%+ - which were both single bands. We chose the above bands, particularly those in 15%+, to have as consistent banding as possible.

- A.73 Table A.4 shows the total value of App Store revenue earned by Apple, the net revenue generated from customer billings through Apple's proprietary payment system, the revenue generated from Apple's Search adverts in the App Store, and the proportion of App Store revenue earned by Apple, split between Apple commission fees and Apple search adverts in the App Store in the UK, based on data from Apple for the period 2020-2024. As can be seen:
  - (a) Revenue from App Store commission fees accounts for the larger proportion of the two sources across the five-year period, ranging from [≫]% to [≫]%.
  - (b) The App Store commission fee proportions were highest in 2020, declined through to 2022, and then grew again through to 2024.

Table A.4: The total value of App Store revenue earned by Apple, the net revenue generated from customer billings, the revenue generated from Apple's Search adverts in the App Store, and the proportion of App Store revenue earned by Apple in the UK, split between App Store commission fees and Apple search adverts in the App Store (2020-2024) 84

Year	App Store combined revenue	App Store net revenue	Apple search adverts revenue	App Store commission fees	Apple search adverts
2024	[%]	[%] [0-2] billion	[%]	[%]	[%]
2023	[%]	[%] [0-2] billion	[%]	[%]	[%]
2022	[%]	[%] [0-2] billion	[%]	[%]	[%]
2021	[%]	[%] [0-2] billion	[%]	[%]	[%]

<sup>84</sup> Apple's response to section 69 [≫]. Apple's response to section 69 notice [≫]. The index used is the 'End month Spot exchange rate, US\$ into Sterling', XUMLUSS Bank of England | Database.

Note: Apple Search Adverts revenue includes revenue generated from the sale of ad placements on the UK App Store.

## **Usage of web apps (including PWAs)**

### Source of data

- A.74 The data underlying this analysis comes from Apple.
- A.75 We received data on the number of users of PWAs that were installed on mobile devices and the number of activations of PWAs to mobile devices.
- A.76 The data covered the period August 2023 February 2025, with monthly data points every 3 months in the period.
- A.77 We provide further detail about the nature of Apple's data below:
  - (a) Data was sourced from a sample of Apple mobile devices.85
  - (b) **Device count**: The unique number of mobile devices from the sample that activated any home screen web app at least once during the month, per respective device type.
  - (c) **Activations**: The number of times any home screen web app was launched during the month across all mobile devices in the device count column.

## **Outputs**

- A.78 Table A.5 shows data from Apple on the number of mobile devices that used PWAs and the number of PWA activations in the UK for the period August 2023 to February 2025. As can be seen:
  - (a) The number of mobile devices in the sample that used web apps was consistently under [≫] across the seven monthly data points in the period August 2023 to February 2025.

<sup>&</sup>lt;sup>85</sup> Apple's data was drawn from a [҈≪] sample among an opt-in population of users. We do not have information on the size of the opt-in population.

- (b) The number of web apps activated in that period also remained fairly consistent, in the range of [≫] [5 - 10] million.
- (c) It is important to note that these figures are based on a sample of mobile devices, which are drawn from an opt-in population and therefore the magnitude of the absolute numbers, eg number of devices and number of activations, will not represent the likely true number if data were available for all Apple mobile devices in the UK.

Table A.5: Monthly number of devices that used PWAs and the number of PWA activations on Apple mobile devices in the UK (Aug 2023 – Feb 2025)<sup>86</sup>

		Millions
Period	Number of devices in sample that used PWAs	Number of PWA activations by sample
February 2025	[%] [0-1]	[%] [5-10]
November 2024	[%] [0-1]	[%] [5-10]
August 2024	[%] [0-1]	[%] [5-10]
May 2024	[%] [0-1]	[%] [5-10]
February 2024	[%] [0-1]	[%] [5-10]
November 2023	[%] [0-1]	[%] [5-10]
August 2023	[%] [0-1]	[‰] [5-10]

Notes:

- A.79 Of the devices in the sample that used PWAs, [%] [80 90]% were smartphones and [%] [10 20]% were tablets across each of the seven monthly data points.
- A.80 The number of PWAs activated by smartphones in the sample ranged from [%] [5-10] million to [%] [5-10] million. In comparison, the number of PWAs activated by tablets ranged from [%] [0 5] million to [%] [0 5] million.

# Mobile browsers and browser engines outcomes

A.81 In this section we present an analysis of:

<sup>1.</sup> Data on the number of devices that used PWAs is based on a sample of [>|| % of Apple mobile devices that opt-in to provide this information – so does not reflect the total number for all Apple mobile devices.

<sup>2.</sup> Number of PWA activations reflects the number of times any home screen web app was activated, and therefore is not a proxy for the number of unique home screen web apps activated on iPhone and iPad.

<sup>&</sup>lt;sup>86</sup> Apple's response to section 69 notice [%].

- (a) Mobile browser shares of supply on all mobile devices;
- (b) Mobile browser shares of supply on Apple's Mobile Ecosystem.

### Mobile browser shares of supply on all mobile devices

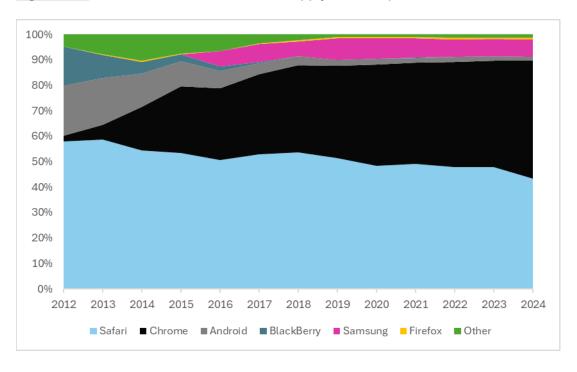
### Source of data

- A.82 The data underlying this analysis comes from Statcounter.
- A.83 We examine publicly available aggregate level data from Statcounter on browser usage from 2012 to 2024 (inclusive) across mobile devices (comprising smartphones and tablets) including both Apple's and Google's Mobile Ecosystems in the UK.87

### **Outputs**

A.84 Figure A.15 shows each mobile browser's share as a percentage of all mobile browser usage for each year from 2012 to 2024 on smartphones and tablets.



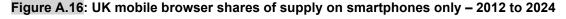


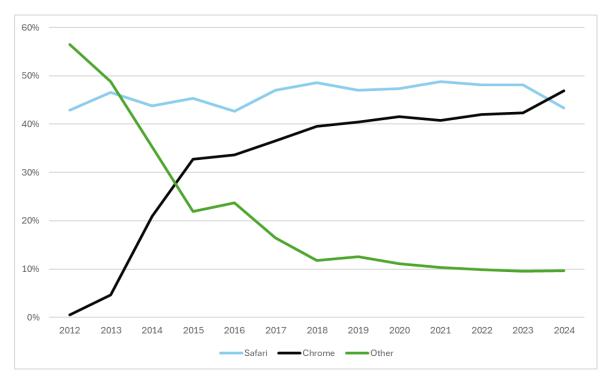
<sup>&</sup>lt;sup>87</sup> Statcounter collect data on an ongoing basis covering year-to-date data for 2025. Only full year data is presented graphically. The most recent 2025 data do not show any material difference from 2024. The possible limitations of Statcounter data described above also apply to the data examined here.

Source: Statcounter, Mobile & Tablet Browser Market Share United Kingdom.

Notes: (i) The CMA uses its own definition of 'mobile devices' to refer to both smartphones and tablets (ii) Android refers to AOSP-based browsers developed on top of the web browser apps made available through the Android Open-Source Project. European Commission, Google Android Decision, footnote 1034.

- A.85 Figure A.15 shows that Safari's share of supply has decreased from 58% in 2012 to 43% in 2024. Chrome's share of supply has increased from 2.2% to 46% over the same timeframe.
- A.86 Apple and Google have had a persistent high share over time. Chrome's share has risen over time, in part driven by Android (on which Chrome has a high share of supply) having a growing operating system share on both smartphones and tablets.<sup>88</sup>
- A.87 There are differences in mobile browser share of supply trends between smartphones and tablets. Figure A.16 shows mobile browser shares of supply on smartphones, while Figure A.17 shows mobile browser shares of supply on tablets.





<sup>&</sup>lt;sup>88</sup> 'Mobile Operating System Market Share United Kingdom | Statcounter Global Stats' & 'Tablet Operating System Market Share United Kingdom | Statcounter Global Stats', accessed 30 June 2025.

Source: Statcounter, Mobile & Tablet Browser Market Share United Kingdom.

Notes: (i) The CMA's definition of 'mobile devices' refers to both smartphones and tablets, however, Statcounter considers 'tablets' separately from 'mobile' (ii) Android is included in the other category and refers to AOSP-based browsers developed on top of the web browser apps made available through the Android Open-Source Project. European Commission, Google Android Decision, footnote 1034.

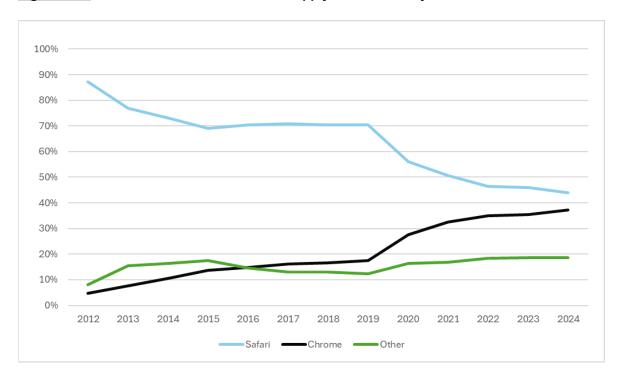


Figure A.17: UK mobile browser shares of supply on tablets only - 2012 to 2024

Source: Statcounter, Mobile & Tablet Browser Market Share United Kingdom.

Notes: (i) The CMA's definition of 'mobile devices' refers to both smartphones and tablets, however, Statcounter considers 'tablets' separately from 'mobile' (ii) Android is included in the other category and refers to AOSP-based browsers developed on top of the web browser apps made available through the Android Open-Source Project. European Commission, Google Android Decision, footnote 1034.

- A.88 Safari's share of supply on smartphones was relatively stable between 2019 and 2024 and remained within the range of 43-49%. Safari's share of supply on tablets decreased considerably over the same period, from 70% in 2019, to 44% in 2024. Chrome's share of supply on smartphones was relatively stable between 2019 and 2024 and remained within the range of 40-47%. Over the same period, Chrome's share of supply in tablet browsers increased from 17% to 37%.
- A.89 This trend is aligned with a decline in Apple's share of supply in tablets as measured by Statcounter data. This indicates that Safari's decline may be

explained by a change in the composition of device sales rather than Safari losing share to rivals on Apple tablets.89

### Mobile browser shares of supply on Apple's Mobile Ecosystem

### Sources of data

- A.90 The data underlying this analysis comes from Cloudflare Radar, and App Annie.
- A.91 We examine publicly available data from Cloudflare Radar. Cloudflare Radar accelerates and protects web traffic for a large part of the internet. It uses metadata gathered through its network to measure mobile browser usage. 90 lt provides shares of supply data for browsers by UK web traffic for Apple's Mobile Ecosystem from October 2022 to March 2025.
- A.92 We also consider App Annie data which provides data on time spent on different browser apps on Apple's Mobile Ecosystem from January 2018 to September 2021 in the UK. App Annie relies on a global panel of millions of users that report data to App Annie. The data is then extrapolated to be representative of the mobile population.

### **Outputs**

A.93 Table A.6 shows mobile browser shares of supply by web traffic on Apple's Mobile Ecosystem in March 2025, according to Cloudflare Radar. 91

Table A.6 UK browser and browser engine share of supply on Apple's Mobile Ecosystem in March 2025

Browser	Browser engine	Share
Safari	WebKit	86%
Chrome	WebKit	12%
Smaller browsers (e.g. DuckDuckGo,	WebKit	2%

Source: Cloudflare Radar, see Market Share by Country and OS.

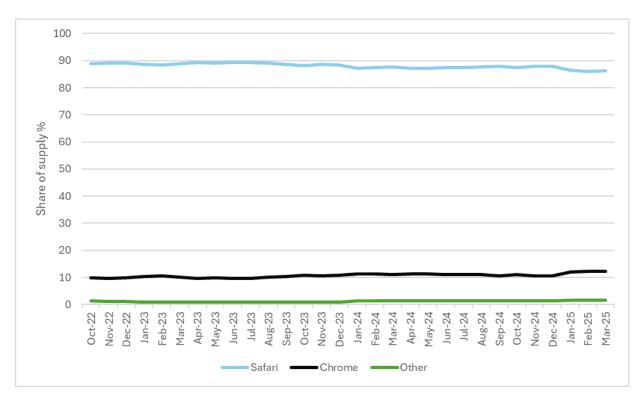
Note: smaller browsers include DuckDuckGo, Edge, Firefox, Aloha, Ecosia, Vivaldi, Yandex, Opera and UC.

<sup>89 &#</sup>x27;Tablet Vendor Market Share United Kingdom', accessed 19 June 2025.

 <sup>90 &#</sup>x27;Browser Market Share Report for 2025 Q1', accessed 15 May 2025.
 91 Figures include tablets, but there might be a slight underreporting of iPad users if devices on later versions of iPadOS mimic a macOS user agent.

- A.94 Table A.6 shows that Safari was the leading mobile browser on Apple's Mobile Ecosystem in March 2025 with a share of supply of 86%.
- A.95 Chrome was the second largest mobile browser on Apple's Mobile Ecosystem with a share of supply of 12%.
- A.96 Smaller browsers accounted for 2% of supply on Apple's Mobile Ecosystem.
- A.97 All mobile browsers on Apple's Mobile Ecosystem use the WebKit browser engine, as Apple does not currently permit the use of alternative browser engines on its Mobile Ecosystem.
- A.98 Figure A.18 shows that mobile browser shares of supply on Apple's Mobile Ecosystem have been consistent from October 2022 and March 2025.

Figure A.18: UK mobile browser shares of supply on Apple's Mobile Ecosystem from October 2022 to March 2025 using Cloudflare Radar data on web traffic



Source: Cloudflare Radar

A.99 Cloudflare Radar also provides data including in-app browsing on Apple's Mobile Ecosystem. Based on this data, in March 2025, Safari had the largest

share of supply with 68%. Facebook and Instagram (both developed by Meta) had a combined share of 19%. Chrome had a share of 9.7%. 92

A.100 App Annie data is consistent with Cloudflare data on browser usage minutes. App Annie data shows that Safari had the largest share of supply in mobile browsers on Apple's Mobile Ecosystem in the earlier period of 2018 to 2021. 93

<sup>92 &#</sup>x27;Browser Market Share Report for 2025 Q1', accessed 15 May 2025.

<sup>93</sup> CMA analysis of [X] response to section 69 notice [X].