

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 Play Store and usage of Progressive Web Apps (**PWAs**).¹ 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, there is one Android operating system available on both smartphones and tablets. There are, however, differences in market outcomes between smartphones and tablets and so for completeness, 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.

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

¹ 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.

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.²
- 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.³
- 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.
- 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

² Huawei’s HMS devices are a version of Android that meets Google’s compatibility requirements but uses Huawei Mobile Services instead of GMS.

³ For more detail see [FAQ | Statcounter Global Stats](#).

some differences.⁴ 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 back as 2009). We consider historical trends to be relevant to the assessment of whether Google 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.⁵

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 Google, Apple, Amazon, and Huawei's Mobile Ecosystems in terms of active mobile devices in the UK for the period 2017 to 2024.⁶ This shows that:

- (a) Google's Mobile Ecosystem has accounted for between [30 – 40%] [X] and [40 – 50%] [X] of active mobile devices in each year of the period;⁷
- (b) Apple's Mobile Ecosystem has accounted for between [50 – 60%] [X] of active mobile devices in each year of the period;⁸
- (c) Amazon's Mobile Ecosystem has accounted for between [5 – 10%] [X] of active mobile devices in each year of the period;⁹

⁴ 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.

⁵ CMA194, paragraph 2.61.

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

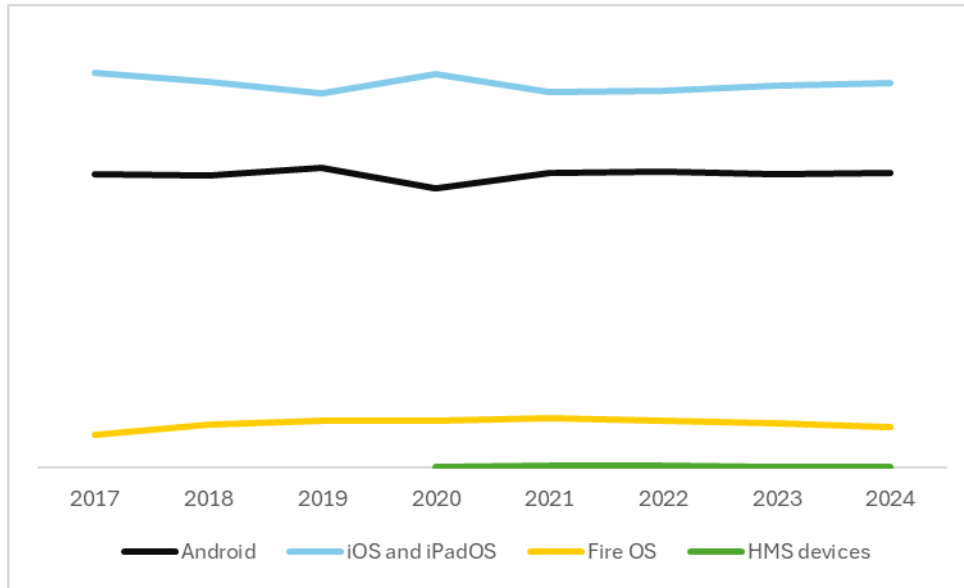
⁷ CMA analysis of data from market participants including Google's response to section 69 notice [X].

⁸ CMA analysis of data from market participants including Apple's response to section 69 notice [X].

⁹ CMA analysis of data from market participants including Amazon's response to section 69 notice [X].

- (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.¹⁰

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 2020.¹¹

A.12 Figure A.2 below shows the shares of supply based on Statcounter data on active mobile devices for Google, Apple, Amazon and Blackberry's Mobile Platforms in the UK since 2012. This shows that:

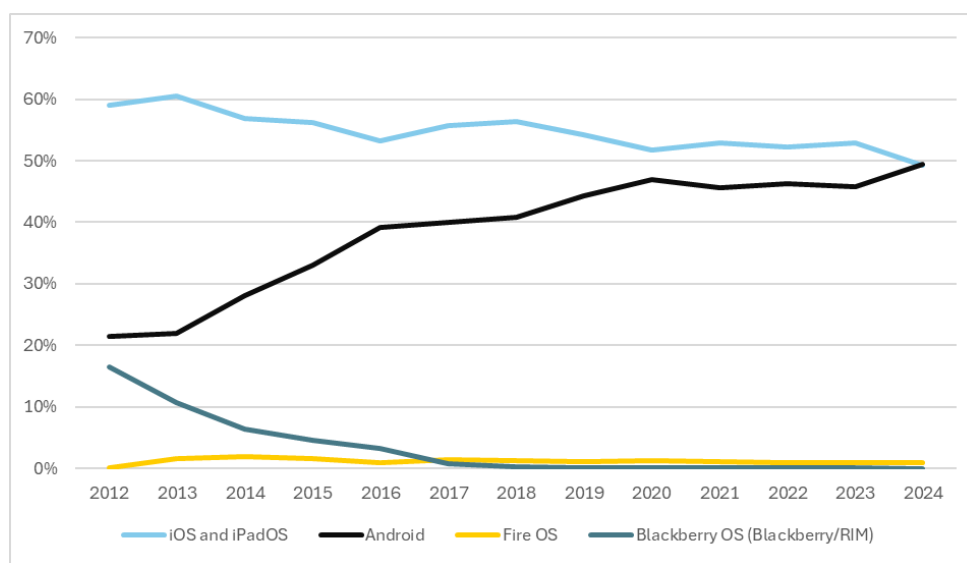
- (a) Google's Mobile Ecosystem has accounted for between 40% and 49% of active mobile devices since 2017. Before this its share grew each year since 2012, increasing from 21% and reaching 39% in 2016;
- (b) Apple's Mobile Ecosystem has accounted for between 49% and 61% of active mobile devices since 2012;
- (c) Amazon's Mobile Ecosystem has accounted for a maximum of 2% of active mobile devices in any year since 2012;

¹⁰ CMA analysis of data from market participants based on Huawei's response to section 69 notice [🔪].

¹¹ 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.¹²

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.¹³

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 (for a description see 'Source of data' within the 'Mobile Ecosystem shares of supply' sub-section).

¹² Blackberry announced that it would stop supporting mobile devices using its operating systems from 4 January 2022 (see [BlackBerry 10 and BlackBerry OS Services FAQ — End of Life](#)).

¹³ See [Amazon Fire Phone UK Release: Handset launches today | Trusted Reviews](#) and [Amazon stops selling Fire smartphone - BBC News](#).

Smartphones

A.14 In this section we set out:

- (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 2024.¹⁴ This shows that:

- (a) Between [REDACTED] [50 – 60%] of active smartphones in each year of the period have been Apple's iOS devices;¹⁵
- (b) Between [REDACTED] [40 – 50%] of active smartphones in each year of the period have been Android devices;¹⁶ and
- (c) A very small amount ([REDACTED] [0 – 5%]) of active smartphones in each year of the period have been Huawei's HMS devices.¹⁷

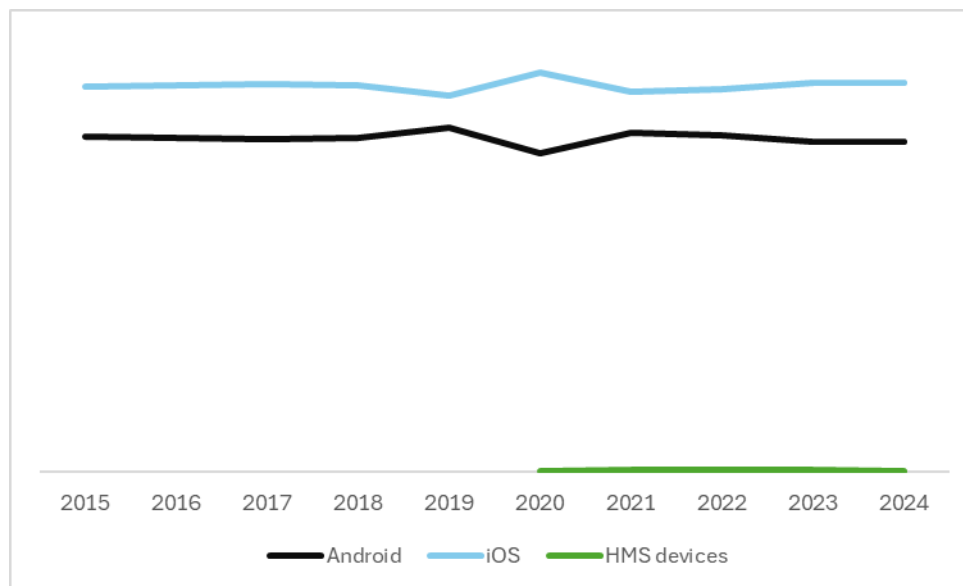
¹⁴ The following shares have been calculated based on data from market participants. In particular: Apple's response to section 69 notice [REDACTED]; Google's response to section 69 notice [REDACTED]; and Huawei's response to section 69 notice [REDACTED].

¹⁵ CMA analysis of data from market participants including Apple's response to section 69 notice [REDACTED].

¹⁶ CMA analysis of data from market participants including Google's response to section 69 notice [REDACTED].

¹⁷ CMA analysis of data from market participants including Huawei's response to section 69 notice [REDACTED].

Figure A.3: Operating system shares of supply in active smartphones in the UK – market participant data (2015 – 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 2020.¹⁸

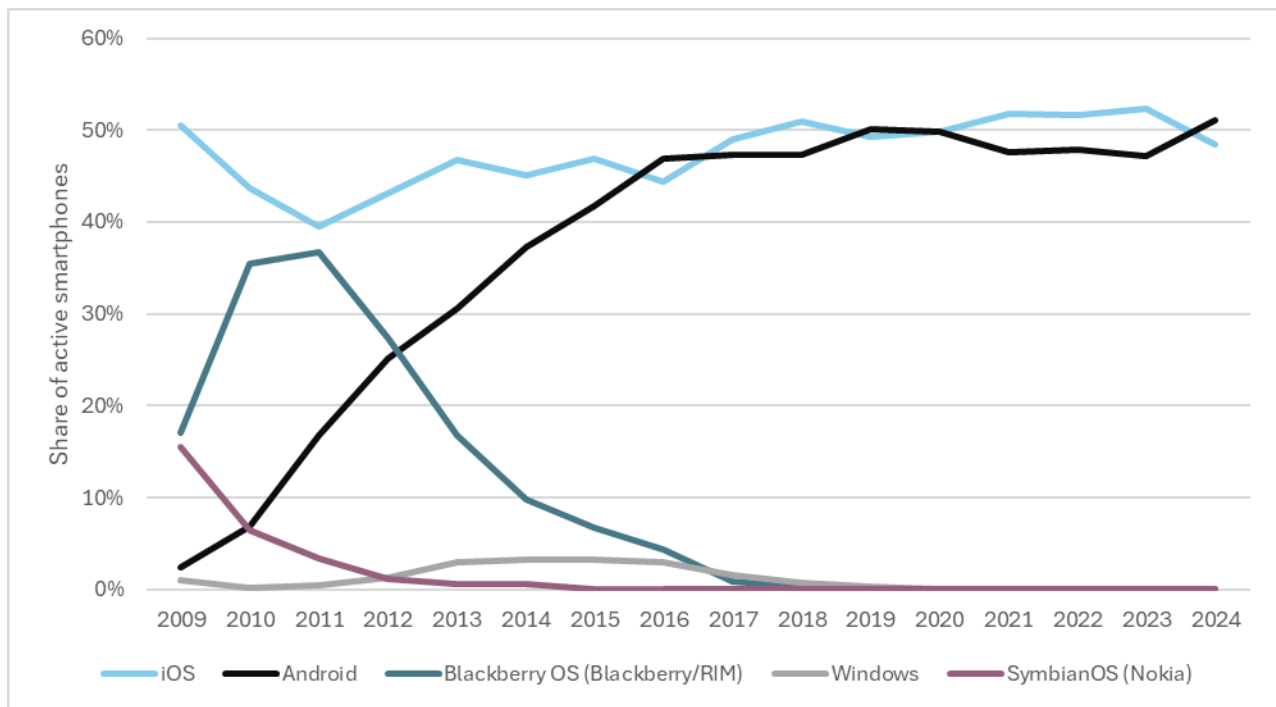
A.16 Figure A.4 below shows the shares of supply based on data from Statcounter for Android, iOS, Blackberry OS, Symbian OS and Windows in the UK since 2009. This shows that:

- (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

¹⁸ 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.¹⁹

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](#)

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 2015.²⁰

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

¹⁹ Blackberry announced that it would stop supporting mobile devices using its operating systems from 4 January 2022 (see [BlackBerry 10 and BlackBerry OS Services FAQ — End of Life](#)). 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 [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 [Saying goodbye to Windows 10 Mobile: Microsoft ends support for its mobile OS - GSMArena.com news](#) and [Windows Phone was a glorious failure - The Verge](#)).

²⁰ See [Amazon Fire Phone UK Release: Handset launches today | Trusted Reviews](#) and [Amazon stops selling Fire smartphone - BBC News](#).

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,²¹ 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 Android, iPadOS, Amazon's Fire OS and Huawei's HMS devices in terms of active tablets in the UK for the period 2017 to 2024.²² As can be seen:

- (a) Between [REDACTED] [50 – 60%] of active tablets in each year since 2017 have been Apple iPads;²³
- (b) Between [REDACTED] [20 – 30%] of active tablets in the period have been Android tablets;²⁴
- (c) Between [REDACTED] [10 – 20%] and [REDACTED] [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

²¹ This is expected given the different data sources and basis of the measurements.

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

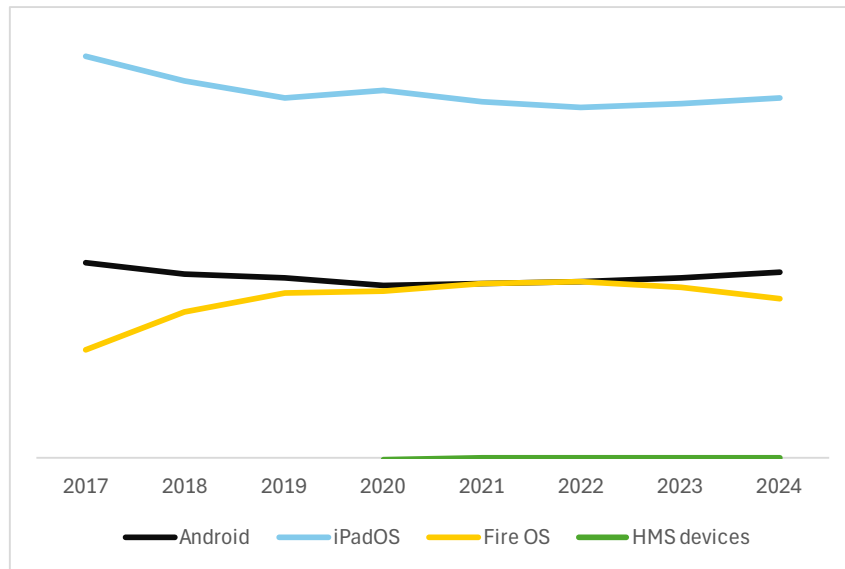
²³ CMA analysis of data from market participants including Apple's response to section 69 notice [REDACTED].

²⁴ CMA analysis of data from market participants including Google's response to section 69 notice [REDACTED].

of operating systems for active tablets in 2021 and 2022, before decreasing again more recently;²⁵ and

- (d) A very small amount ([REDACTED] [0 – 5%]) of active tablets in each year have been Huawei’s HMS devices.²⁶

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 2020.²⁷

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

²⁵ CMA analysis of data from market participants including Amazon’s response to section 69 notice [REDACTED].

²⁶ CMA analysis of data from market participants including Huawei’s response to section 69 notice [REDACTED].

²⁷ Overview of the market section in Chapter 3 of MEMS.

than smartphone operating systems,²⁸ 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,²⁹ 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.³⁰ 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.

²⁸ Statcounter data covers the period 2010 to present for smartphone manufacturers and 2012 to present for tablet manufacturers.

²⁹ This is expected given the different data sources and basis of the measurements.

³⁰ 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.³¹ We used data from IDC's Worldwide Quarterly Mobile Phone Tracker and Worldwide Quarterly Personal Computing Device Tracker.³² This data covered mobile devices in the UK for the period 2015 to 2024, in particular (i) smartphones and feature phones,³³ 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 end-users) 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 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.

³¹ For more detail see [IDC - About - Home](#).

³² See [Worldwide Quarterly Mobile Phone Tracker](#) and [Worldwide Quarterly Personal Computing Device Tracker](#).

³³ 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 2024.³⁴ 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 [X] [40 – 50%].³⁵
- (b) Between [X] [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.³⁶
- (c) Huawei was the third largest manufacturer of smartphones and second largest manufacturer of Android smartphones in 2018 and 2019, with its

³⁴ The following shares have been calculated based on data from market participants. In particular: Apple’s response to section 69 notice [X]; Samsung’s response to section 69 notice [X]; Huawei’s response to section 69 notice [X]; and Google’s response to section 69 notice [X].

³⁵ CMA analysis of data from market participants including Apple’s response to section 69 notice [X].

³⁶ CMA analysis of data from market participants including Samsung’s response to section 69 notice [X].

share peaking at [REDACTED] [5 – 10%].³⁷ 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 2023.³⁸

- (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 2016,³⁹ with its share of supply peaking at [REDACTED] [0 – 5%] in 2023.⁴⁰

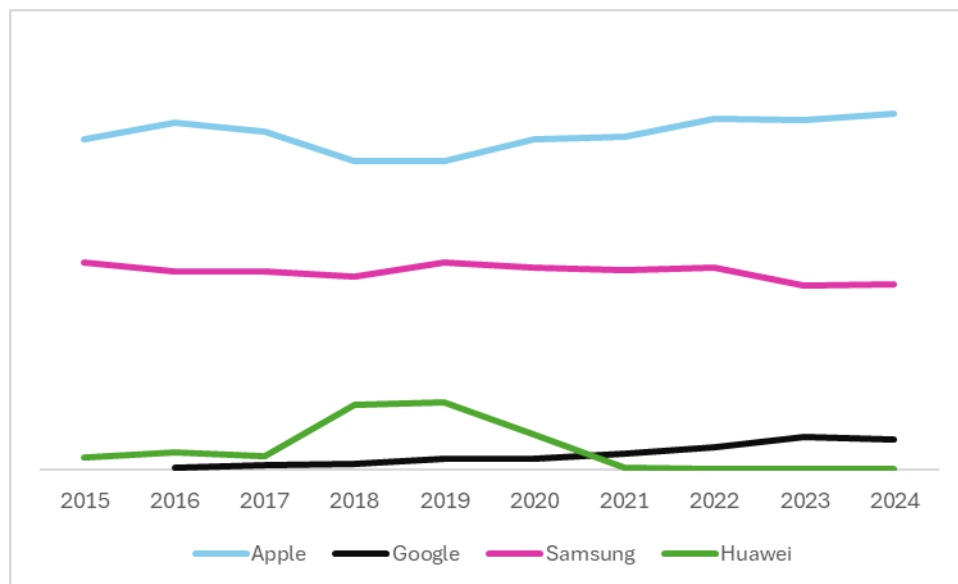
³⁷ CMA analysis of data from market participants including Huawei's response to section 69 notice [REDACTED].

³⁸ Huawei's response to section 69 notice [REDACTED].

³⁹ Google's response to section 69 notice [REDACTED].

⁴⁰ CMA analysis of data from market participants based on Google's response to section 69 notice [REDACTED].

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).⁴¹

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:

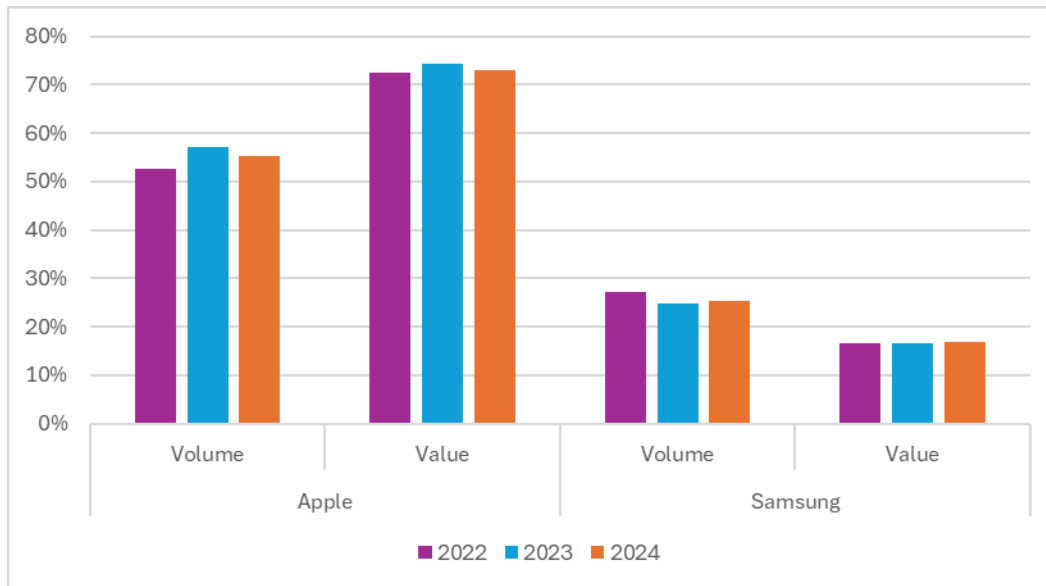
- (a) Apple has the largest share of supply in terms of volume (between 53% and 57%) and value (between 72% and 74%) throughout the period. Consistent with the pricing analysis set out below, Apple's share of total value is higher than its share of total volume of devices shipped into the UK. Since 2022 the ratio of Apple's share of supply in volume to value share has been fairly stable.⁴²
- (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 devices shipped into the UK. Since

⁴¹ Overview of the market section in Chapter 3 of MEMS.

⁴² CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

2022 Samsung's share of supply in value has remained constant, while its share in volume fell slightly between 2022 and 2023.⁴³

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”

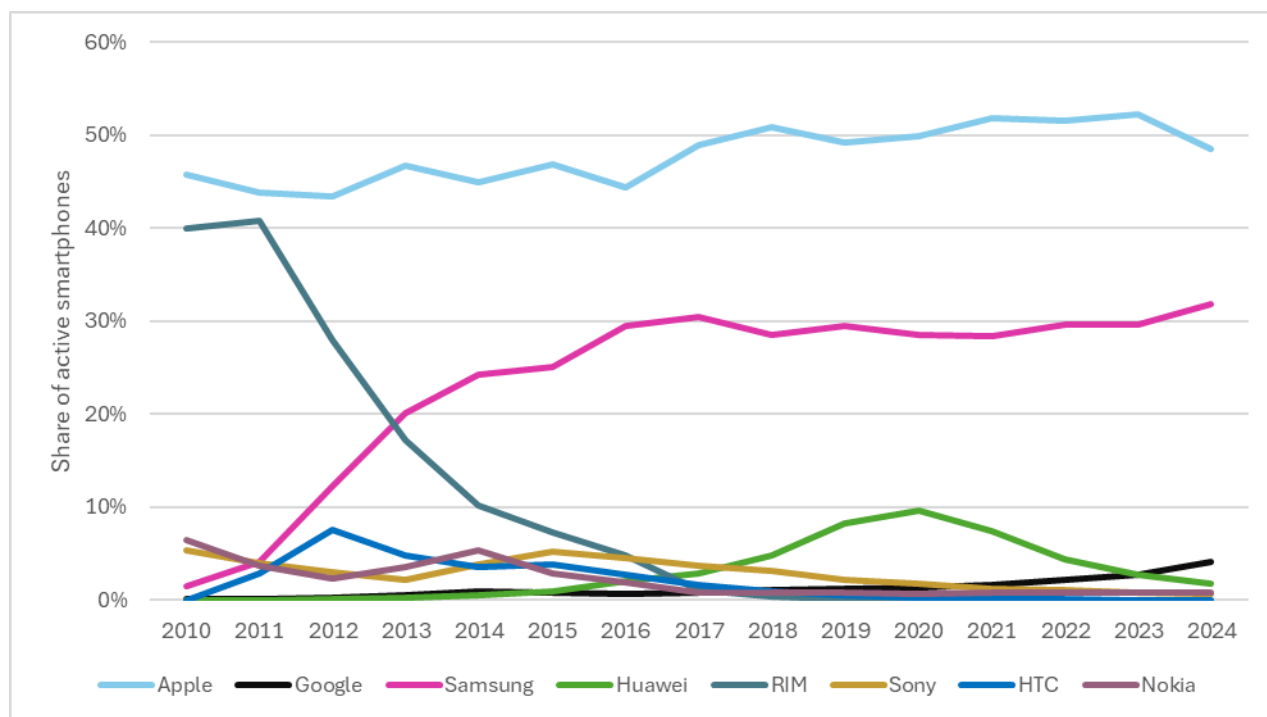
Notes: [X] and [X] have not been included on this graph as their volume and value shares based on this data were less than 10% in any year shown, and neither was found to have a larger share in value than volume for any year during the period. Other manufacturers have been excluded as they did not have 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%.

⁴³ 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 [Appendix B: Market outcomes](#)).

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,⁴⁴ 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

⁴⁴ 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 2024.⁴⁵ This figure is included for illustrative purposes only, and we note that Google has been excluded from this chart as it has had a very small share ([REDACTED] [0 – 5%])⁴⁶ in active tablets since it released its Pixel tablet in 2023.⁴⁷ 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 [REDACTED] [30 – 40%] in 2017 and a peak of [REDACTED] [40 – 50%] in 2022. Its share has been fairly stable since 2021, ranging between [REDACTED] [40 – 50%].⁴⁸
- (b) Amazon has been the second largest tablet manufacturer for most of the period considered. Its share has fluctuated over time, growing materially from [REDACTED] [10 – 20%] in 2015 to [REDACTED] [30 – 40%] in 2017 before declining to [REDACTED] [10 – 20%] in 2024.⁴⁹
- (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 [REDACTED] [10 – 20%] and [REDACTED] [10 – 20%].⁵⁰
- (d) Huawei’s sales declined since it moved to using Huawei Mobile Services in 2019, with a very small share (between [REDACTED] [0 – 5%]) of new tablets being sold by Huawei since 2020.⁵¹

⁴⁵ The following shares have been calculated based on data from market participants. In particular: Apple’s response to section 69 notice [REDACTED]; Amazon’s response to section 69 notice [REDACTED]; Samsung’s response to section 69 notice [REDACTED]; Huawei’s response to section 69 notice [REDACTED]; and Google’s response to section 69 notice [REDACTED].

⁴⁶ CMA analysis of market participant data including Google’s response to section 69 notice [REDACTED].

⁴⁷ Google released its Pixel tablet in June 2023 (see [Google Pixel Tablet Release Date, Price & Specs - Tech Advisor](#)).

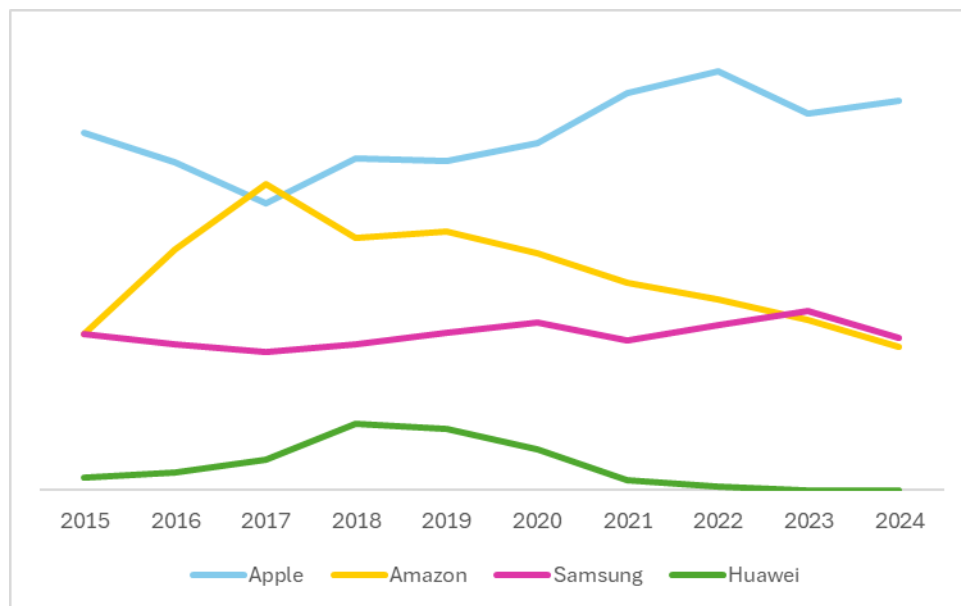
⁴⁸ CMA analysis of data from market participants including Apple’s response to section 69 notice [REDACTED].

⁴⁹ CMA analysis of data from market participants including Amazon’s response to section 69 notice [REDACTED].

⁵⁰ CMA analysis of data from market participants including Samsung’s response to section 69 notice [REDACTED].

⁵¹ CMA analysis of data from market participants including Huawei’s response to section 69 notice [REDACTED].

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.

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 2023.⁵² (iii) 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. (iv) Huawei's data includes both its HMS and HMS devices. HMS devices are devices that meet Google Android compatibility requirements but rely on Huawei's Huawei Mobile Services (instead of HMS).⁵³

A.37 Figure A.10 shows the shares of supply based on data from IDC for Amazon, Apple and Samsung and 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:

- (a) 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 devices shipped into the UK. Since 2022 the ratio of Apple's share of supply in volume to value has been fairly stable.⁵⁴

⁵² CMA analysis of market participant data including Google's response to section 69 notice [38]. Google released its Pixel tablet in June 2023 (see [Google Pixel Tablet Release Date, Price & Specs - Tech Advisor](#)).

⁵³ Overview of the market section in Chapter 3 of MEMS.

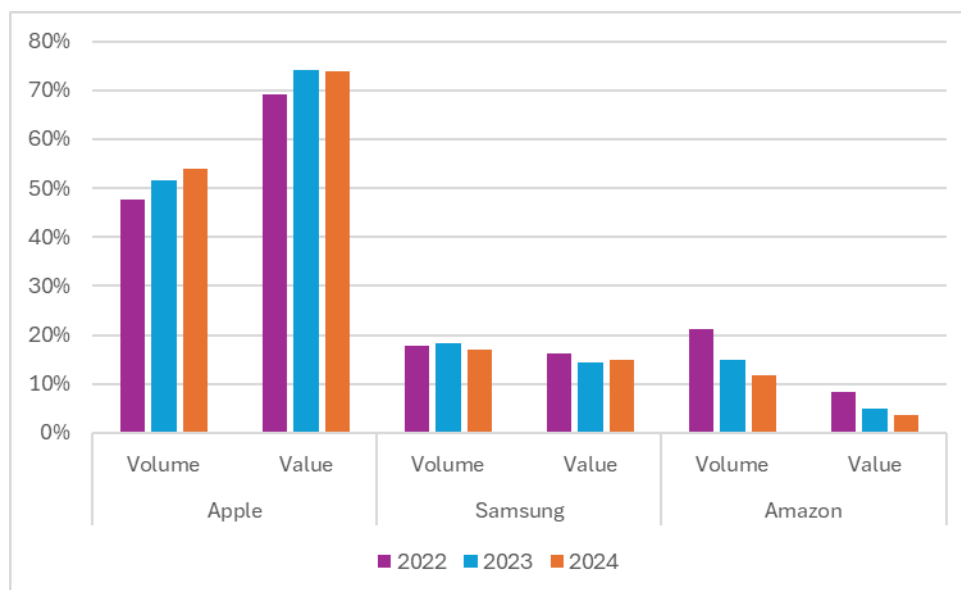
⁵⁴ CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

- (b) 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 share of total value is slightly lower than its share of total volume of 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 2024.⁵⁵
- (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 devices shipped into the UK in each year of the period. Over time its share in volume and value has decreased.⁵⁶

⁵⁵ CMA analysis of IDC data from “IDC Worldwide Quarterly Personal Device Tracker”

⁵⁶ 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. [X] and [X] 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

smartphone manufacturers,⁵⁷ such that shares of supply of tablets calculated using Statcounter data and market participant data show the same set of manufacturers. In addition, since 2015 tablets have represented only [10 – 25%] [§] to [§] of UK mobile device sales.^{58,59}

A.39 While the various shares of supply calculated using different data sources differ slightly,⁶⁰ 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) Android and iOS 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 Android and iOS respectively.

A.42 Figure A.11 shows the shares of supply for Android and iOS in new smartphones sold for £300 or less and in new smartphones sold for more than

⁵⁷ Statcounter data covers the period 2010 to present for smartphone manufacturers and 2012 to present for tablet manufacturers.

⁵⁸ CMA analysis of data from market participants including Google’s response to section 69 notice [§].

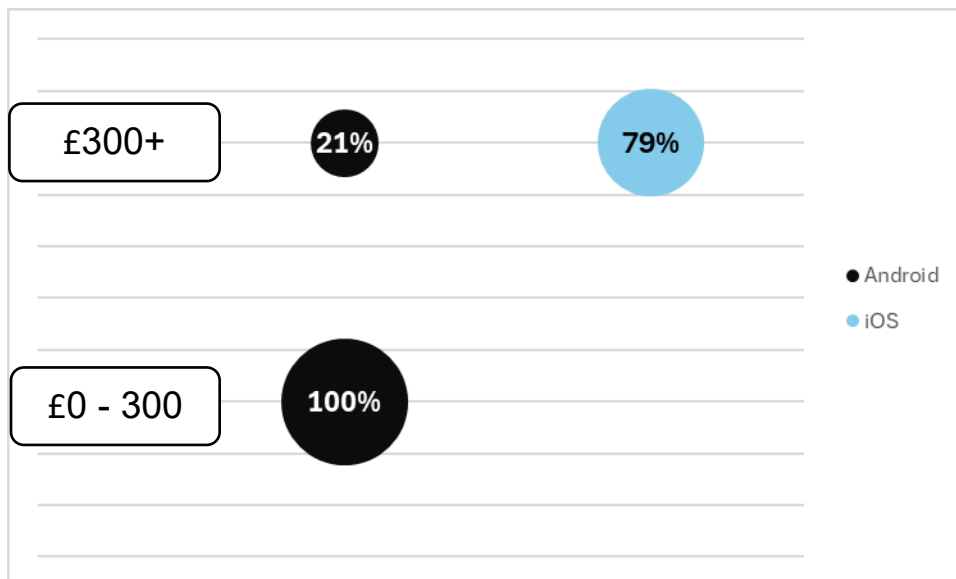
⁵⁹ CMA analysis of data from market participants including Apple’s response to section 69 notice [§].

⁶⁰ 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 mobile devices sold for £300 or less was 100%, and no new iOS mobile devices were sold in this price range. This has been the case since 2020.⁶¹
- (b) Both iOS and Android are active in the range above £300. However, in 2024 iOS's share of new mobile devices sold for more than £300 was 71% (and Android's was 29%), and this has been fairly consistent since 2020.⁶² As such, iOS devices hold a higher share of higher priced smartphones.⁶³

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%, and considering mobile devices sold for more than £600, Android had a share

⁶¹ CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

⁶² CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

⁶³ 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' sub-section of MEMS Appendix B).

of 18% in 2024 and iOS 82%. These shares have been fairly stable since 2021.⁶⁴

A.44 Figure A.12 shows the proportion of new smartphones shipped into the UK by £100 price bands in 2024, separately for Android and iOS. The evidence is consistent with iOS mobile 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 mobile devices. 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 2024.⁶⁵
- (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.⁶⁶
- (c) Android and iOS are 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%).⁶⁷

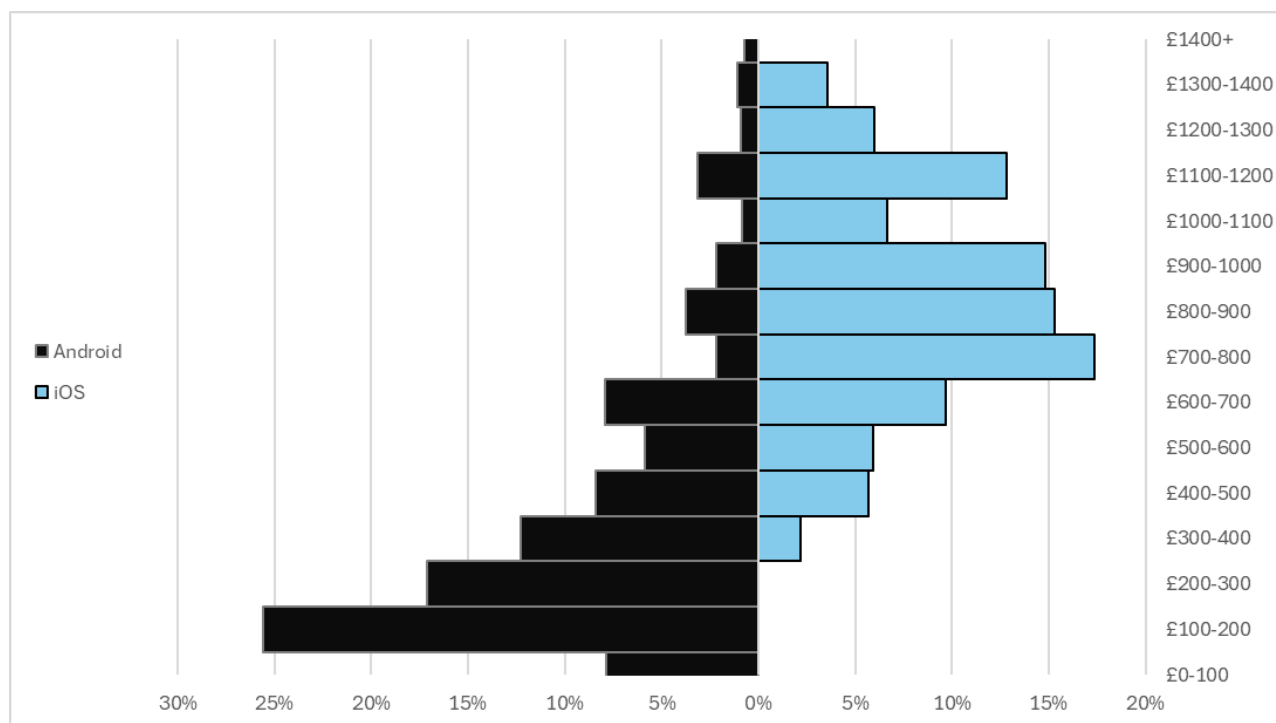
⁶⁴ CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

⁶⁵ CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

⁶⁶ CMA analysis of IDC data from "IDC Worldwide Quarterly Mobile Phone Tracker"

⁶⁷ 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) [REDACTED], and (ii) [REDACTED].

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 2022.⁶⁸

⁶⁸ 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

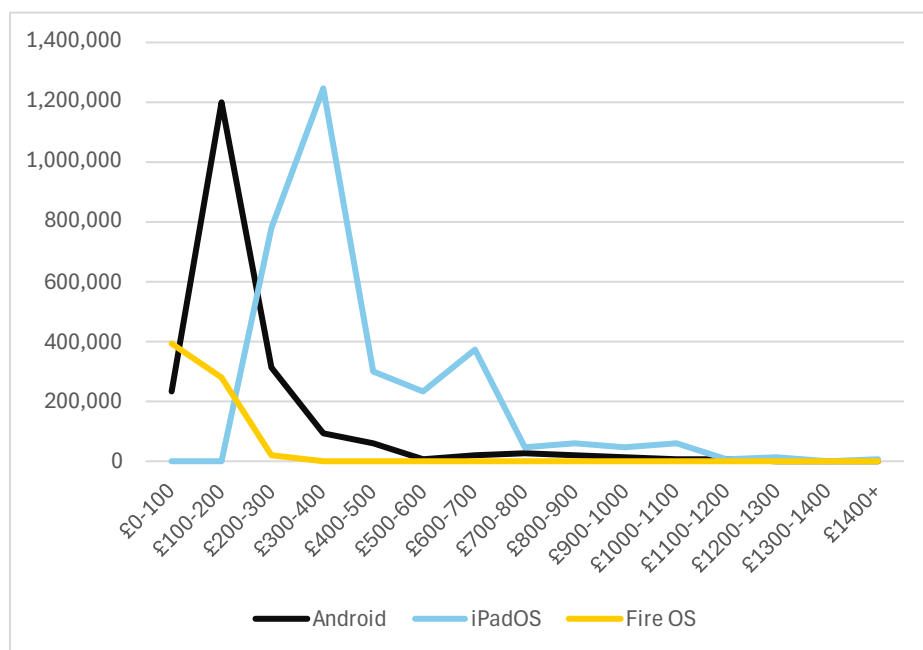
- A.48 In this section we set out the proportion of tablets shipped into the UK by £100 price bands for Android, Fire OS and iPadOS respectively.
- A.49 Figure A.13 shows the volume of new tablets shipped into the UK by £100 price bands in 2024, separately for Android, Fire OS and iPadOS. The evidence 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.⁶⁹
 - (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.⁷⁰
 - (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.⁷¹

⁶⁹ CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

⁷⁰ CMA analysis of IDC data from "IDC Worldwide Quarterly Personal Device Tracker"

⁷¹ 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).

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.

- 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 Amazon, Apple 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.⁷²
- 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

⁷² 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 within Google's Mobile Ecosystem

A.53 In this section we present an analysis of:

- (a) shares of supply in mobile app stores;
- (b) the availability of native apps and app developers on mobile app stores;
- (c) revenues and commission rates⁷³ on mobile app stores; and
- (d) usage of alternative distribution methods, including sideloading and web apps (including PWAs).

Mobile app store shares of supply

Source of data

- A.54 The data underlying this analysis comes from market participants, Google, Samsung, Xiaomi, Oppo and Aptoide.
- A.55 We received either monthly or annual data from those market participants on the volume of first-time native downloads⁷⁴ and daily or monthly data for the number of users that downloaded a native app.⁷⁵ The data was gathered in respect of each of smartphones and tablets – which collectively represent mobile devices.⁷⁶
- A.56 The data covered the period from June 2015 to December 2024 – with some differences between market participants.⁷⁷

⁷³ Commission rates relate to Google service fees.

⁷⁴ Monthly data was provided by Google and Samsung. Annual data was provided by Xiaomi, Oppo and Aptoide.

⁷⁵ Daily data was provided by Google and monthly data was provided by Samsung. Data on the number of users was not gathered from Xiaomi, Oppo and Aptoide.

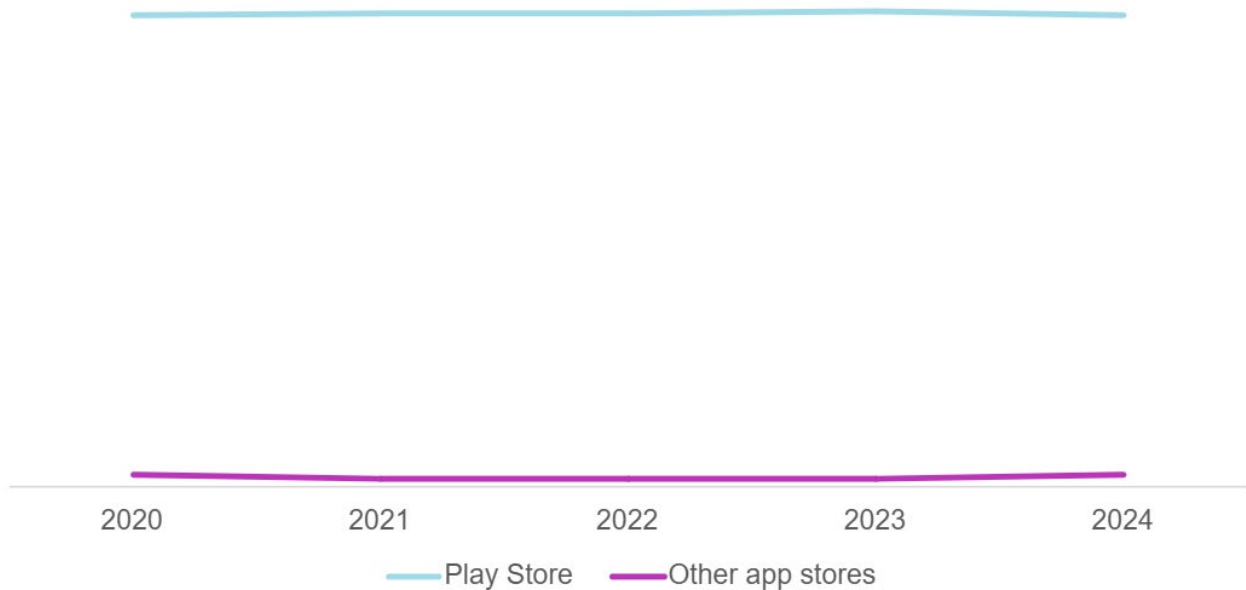
⁷⁶ Disaggregated data was provided by Google (volume of first-time downloads). Data received from Google (number of users that downloaded a native app), and Samsung was aggregated.

⁷⁷ Google's data on volume of first time downloads covered period Mar 2020-Dec 2024 and data on the daily number of users that downloaded a native app covered period Jan 2019-Dec 2024; Xiaomi's data covered period 2019-2024; Oppo's data covered period 2024 and Aptoide's data covered period 2020-2024.

Outputs

- A.57 Figure A.14 shows the shares of supply of native app downloads within Google’s Mobile Ecosystem in the UK for the period 2020-2024.⁷⁸ As can be seen:
- (a) The Play Store is the primary app store, with [redacted] [1,500 – 2,000] million downloads in 2024. In comparison, there were [redacted] [0 – 100] million downloads across all other app stores in 2024.
 - (b) This meant that the Play Store represented [redacted] [90 – 100]% of native app downloads in the UK in 2024, whilst the combined number of native app downloads through alternative app stores in 2024 accounted for [redacted] [0 - 10] %.
 - (c) The Play Store’s share holds relatively consistent over the period of 2020-2024, with a range of [redacted] - [redacted] [90 - 100] %.

Figure A.14: The proportion of native app downloads by app store within Google’s Mobile Ecosystem in the UK (2020-2024)



Source: CMA analysis of data from Google, Samsung, Xiaomi, Oppo and Aptoide.

⁷⁸ Google’s response to section 69 notice [redacted]. Samsung’s response to section 69 notice [redacted]. Xiaomi’s response to section 69 notice [redacted]. Oppo’s response to section 69 notice [redacted]. Aptoide’s response to section 69 notice [redacted].

Notes:

1. Based on first-time downloads.
2. We have estimated the number of downloads for Google in the period Jan-Feb 2020 using the monthly average from the data covering Mar-Dec 2020.
3. Data from Oppo only covers 2024.

- A.58 The vast majority of downloads occurred on smartphones with [REDACTED] [1.5 – 2] billion first-time downloads through the Play Store compared to [REDACTED] [0 – 100] million across all other app stores in 2024.⁷⁹ The shares of supply based on first-time smartphone downloads over the five-year period were consistent with those observed on mobile.
- A.59 On tablets, first-time downloads from the Play Store reached [REDACTED] [0-0.5] billion in 2024, while downloads from alternative app stores totalled [REDACTED] [0 – 50] million.⁸⁰ Between 2020 and 2024, the Play Store accounted for between [REDACTED] [90 – 100]% of first-time downloads on tablet.
- A.60 In terms of user activity, an average of [REDACTED] [2 – 3] million users downloaded a native app from the Play Store each day in 2024.⁸¹ This figure remained reasonably consistent throughout the period from 2022 to 2024.⁸²
- A.61 Samsung provided monthly data for its user activity of the Galaxy Store.⁸³ On average [REDACTED] [0 – 1] million monthly users downloaded a native app from the Galaxy Store in 2024, with some variation over the three-year period.
- A.62 While not directly comparable due the difference in data format, the data shows that a significantly lower number of users downloaded a native app through the Galaxy Store in an average month than the number of users that downloaded an app in an average day through the Play Store in 2024.

⁷⁹ Due to the lack of device specific data available, the proportion of active Samsung mobile devices accounted for by smartphones was applied to the total number of Galaxy Store downloads to estimate the number of downloads on smartphones.

⁸⁰ Due to the lack of device specific data available, the proportion of active Samsung mobile devices accounted for by tablets was applied to the total number of Galaxy Store downloads to estimate the number of downloads on tablets.

⁸¹ Google's response to section 69 notice [REDACTED].

⁸² We have not aggregated this data to calculate a monthly number as at least some users are likely to have downloaded native apps on multiple days during the period.

⁸³ Samsung's response to section 69 notice [REDACTED].

Availability of native apps and app developers

Source of data

- A.63 The data underlying this analysis comes from market participants, Google, Samsung, Xiaomi, Oppo, Aptoide, and Epic.
- A.64 We received either monthly or annual data from those market participants on the total number of native apps available through the app store and total number of app developers with a native app available through the app store.
- A.65 The data covered the period from January 2015 to December 2024 – with some differences between parties.⁸⁴

Outputs

- A.66 Tables A.1 and A.2 show the average monthly number of native apps available on mobile devices and the average number of app developers with a native app on mobile devices through app stores in the UK for the period 2020-2024 based on data from market participants Google, Samsung, Xiaomi, Oppo and Aptoide. As can be seen:
 - (a) The Play Store had the largest number of native apps and app developers, ranging from [X] – [X] [2 - 3] million - [3 - 4] million and [X] – [X] [0 - 1] million - [1 - 2] million, respectively over the five-year period.⁸⁵
 - (b) All other app stores maintained an average annual figure of under [X] [0 – 1] million native apps and under [X] [0 – 50,000] app developers over the five-year period.

Table A.1: Annual average number of native apps available each month on mobile devices on app stores in the UK (2020-2024)

Party	Time period					Millions
	2020	2021	2022	2023	2024	

⁸⁴ Google's data for number of app developers with a native app available through the app store covered period Jun 2017-Dec 2024; Xiaomi's data covered period 2020-2024; Oppo's data covered period 2024; Aptoide's data did not include the number of native apps available through its app store; and Epic's data covered the period 2024 for the number of native apps available through its app store.

⁸⁵ The decline in the Play Store's number of apps available and app developers in 2024 is in part due to the removal of dormant app developer accounts from Google Play.

Play Store ⁸⁶	[REDACTED] [2-3]	[REDACTED] [3-4]	[REDACTED] [3-4]	[REDACTED] [3-4]	[REDACTED] [2-3]
Samsung Galaxy Store ⁸⁷	[REDACTED] [0-1]	[REDACTED] [0-1]	[REDACTED] [0-1]	[REDACTED] [0-1]	[REDACTED] [0-1]
Other app stores ⁸⁸	[REDACTED] [0-1]	[REDACTED] [0-1]	[REDACTED] [0-1]	[REDACTED] [0-1]	[REDACTED] [0-1]

Source: CMA analysis of data from Google, Samsung, Xiaomi, and Oppo.

Note: The Other app stores row in the table is comprised of data from Xiaomi, and Oppo. Data from Epic was not included in the above table. In 2024 Epic had 3 native apps available on its app store.⁸⁹

Table A.2: Annual average number of app developers with a native app on mobile devices through app stores in the UK (2020-2024)

Party	Time period					Thousands
	2020	2021	2022	2023	2024	
Play Store ⁹⁰	[REDACTED] [0-1,000]	[REDACTED] [0-1,000]	[REDACTED] [1,000-2,000]	[REDACTED] [1,000-2,000]	[REDACTED] [0-1,000]	
Samsung Galaxy Store ⁹¹	[REDACTED] [0-50]	[REDACTED] [0-50]	[REDACTED] [0-50]	[REDACTED] [0-50]	[REDACTED] [0-50]	
Other app stores ⁹²	[REDACTED] [0-50]	[REDACTED] [0-50]	[REDACTED] [0-50]	[REDACTED] [0-50]	[REDACTED] [0-50]	

Source: CMA analysis of data from Google, Samsung, Xiaomi, Oppo and Aptoide.

Note: The Other app stores row in the table is comprised of data from Xiaomi, Oppo and Aptoide.

Mobile app store revenues and commission rates

Source of data

- A.67 The data underlying this analysis comes from market participants Google, Apple, Samsung, Amazon, and Huawei.
- A.68 We received monthly data on the total value of customer billings⁹³ made through the proprietary payment system, the total value of revenue earned by app stores from the customer billings through the proprietary payment system

⁸⁶ Google's response to section 69 notice [REDACTED].

⁸⁷ Samsung's response to section 69 notice [REDACTED].

⁸⁸ Xiaomi's response to section 69 notice [REDACTED]. Oppo's response to section 69 notice [REDACTED].

⁸⁹ Epic's response to section 69 notice [REDACTED].

⁹⁰ Google's response to section 69 notice [REDACTED].

⁹¹ Samsung's response to section 69 notice [REDACTED].

⁹² Xiaomi's response to section 69 notice [REDACTED]. Oppo's response to section 69 notice [REDACTED]. Aptoide's response to section 69 notice [REDACTED].

⁹³ Customer billings refers to the total billings processed through proprietary payment systems on mobile devices. The data received from Google and Apple includes consumer spend on paid app downloads and in-app purchases whereas we understand that the data received from Samsung, Amazon and Huawei reflect in-app purchases only.

(‘net revenue’) and the average commission rates on mobile devices in the UK. This data was gathered in respect of each of smartphones and tablets – which collectively represent mobile devices.⁹⁴

- A.69 The data covered the period from January 2015 to December 2024 – with some differences between parties.⁹⁵
- A.70 The data on customer billings and net revenue from each of these parties was provided in USD. We converted this into GBP using an exchange rate index from the Bank of England.⁹⁶
- A.71 Additionally, we received annual data on the proportion of app developers and customer billings that incurred each commission rate (including zero commission where applicable) on the Play Store, from market participant Google. The data covered the period 2020-2025.
- A.72 We also received annual data on the proportion of UK Play Store revenue generated from service fees and adverts respectively, from market participant Google. The data covered the period 2023-2024.

Outputs

- A.73 Figure A.15 shows changes in customer billings and net revenue on the Play Store⁹⁷ through Google’s proprietary payment system on mobile devices in the UK for the period 2018-2024. As can be seen:
- (a) As of 2024, the value of customer billings and net revenue on the Play Store were £[REDACTED] [0 - 5] billion and £[REDACTED] [0 – 2] billion.
 - (b) Customer billings and net revenue on the Play Store increased year on year from 2018 values of £[REDACTED] [0 – 5] billion and £[REDACTED] [0 – 2] billion, with the exception of 2022, when net revenues slightly declined.

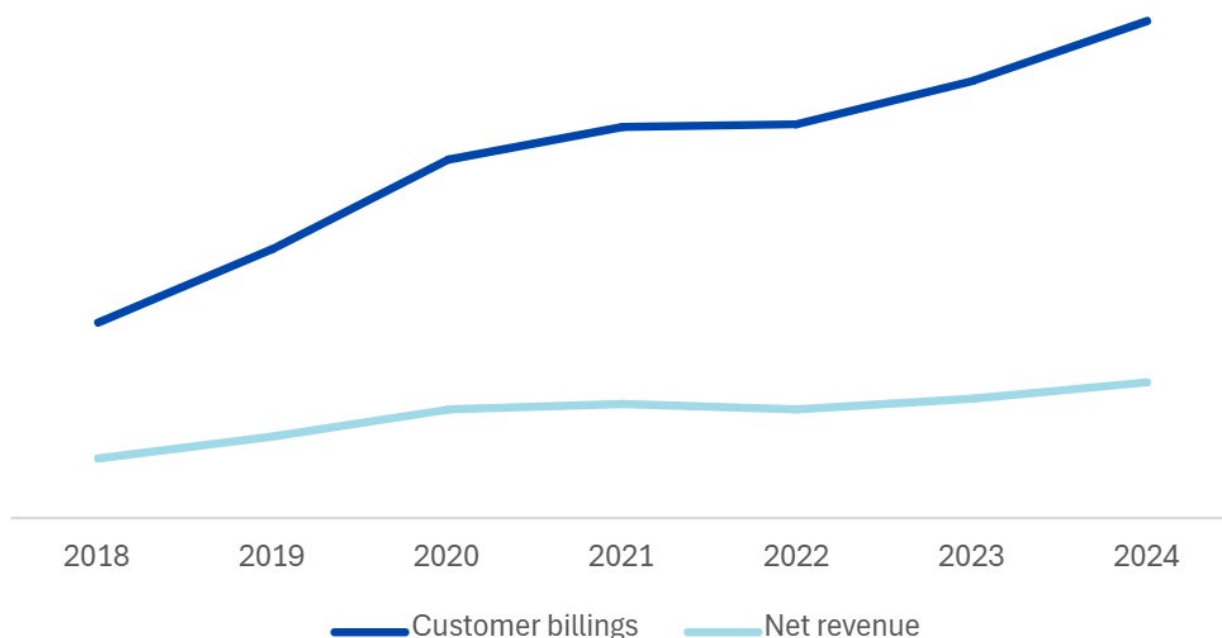
⁹⁴ Disaggregated data was provided by Google, Apple, Amazon and Huawei. Data received from Samsung was aggregated.

⁹⁵ Data from Google on customer billings and net revenue covers the period January 2018 – December 2024. Data from Amazon on customer billings and net revenue covers the period January 2020 – December 2024. Data from Huawei on customer billings and net revenue covers the period from Jan 2021 – December 2024.

⁹⁶ The index used is the ‘End month Spot exchange rate, US\$ into Sterling’, XUMLUSS [Bank of England | Database](#)

⁹⁷ Data does not include recurring native app subscription payments beyond the initial purchase. Google’s response to section 69 notice [REDACTED].

Figure A.15: The value of customer billings and net revenue through Google’s proprietary payment system on the Play Store in the UK (2018-2024)



Source: CMA analysis of data from Google.

- A.74 In comparison, customer billings and net revenue on the Galaxy Store reached £[redacted] [0 – 50] million and £[redacted] [0 – 50] million, respectively in 2024.⁹⁸
- A.75 This also represented year on year increases in customer billings and net revenue from 2018 figures of £[redacted] [0 – 5] million and £[redacted] [0 – 5] million respectively, with the exception of 2022, when customer billings and net revenue fell.⁹⁹
- A.76 The value of customer billings and net revenue on the Play Store through smartphones in 2024 were £[redacted] [0 – 5] billion and £[redacted] [0 – 2] billion respectively.
- A.77 The value of customer billings and net revenue on the Play Store through tablets in 2024 were £[redacted] [0 – 5] billion and £[redacted] [0 – 2] billion respectively.

⁹⁸ Samsung's response to section 69 notice [redacted].

⁹⁹ Samsung's response to section 69 notice [redacted].

A.78 Tables A.3 and A.4 show the shares of customer billings made through app store's proprietary payment systems and the shares of net revenue earned by app stores from customer billings through their proprietary payment systems on mobile devices in the UK for the period 2020-2024.¹⁰⁰ As can be seen:

- (a) The Play Store's share of customer billings and net revenue decreased from [X] [30 – 40]% and [X] [30 – 40]% respectively in 2020 to [X] [20 – 30]% and [X] [20 – 30]% respectively in 2024.
- (b) By contrast, the App Store's share of customer billings and net revenue increased from [X] [60 – 70]% and [X] [60 – 70]% respectively in 2020 to [X] [70 – 80]% and [X] [70 – 80]% in 2024.
- (c) The combined share of customer billings and net revenue for other app stores remained constant within the [0 – 5]% range.

Table A.3: The proportion of customer billings by app store across mobile devices in the UK (2020-2024)

Party	Time period				
	2020	2021	2022	2023	2024
Play Store ¹⁰¹	[X] [30 – 40]%	[X] [30 – 40]%	[X] [20 – 30]%	[X] [20 – 30]%	[X] [20 – 30]%
App Store ¹⁰²	[X] [60 – 70]%	[X] [60 – 70]%	[X] [60 – 70]%	[X] [70 – 80]%	[X] [70 – 80]%
Other app stores ¹⁰³	[X] [0 – 5]%	[X] [0 – 5]%	[X] [0 – 5]%	[X] [0 – 5]%	[X] [0 – 5]%

Source: CMA analysis of data from Google, Apple, Samsung, Amazon, and Huawei.

Note: The Other app Stores row in the table is comprised of data from Samsung, Amazon, Huawei

Table A.4: The proportion of net revenue by app store across mobile devices in the UK (2020-2024)

Party	Time period
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¹⁰⁰ Analysis is based on data from market participants Google, Apple, Samsung, Amazon, and Huawei. Customer billings made through proprietary payment systems, net revenue on customer billings, submitted by Google and Apple include user spend on paid app downloads and in-app purchases, whereas we understand that figures submitted by third-party app stores (Samsung, Amazon and Huawei) reflect only in-app purchases. As a result, the figures presented may overestimate the share of the Play Store and App Store; however, any overestimation is expected to be marginal.

¹⁰¹ Google's response to section 69 notice [X].

¹⁰² Apple's response to section 69 notice [X].

¹⁰³ Samsung's response to section 69 notice [X]; Amazon's response to section 69 notice [X] and Huawei's response to section 69 notice [X].

	2020	2021	2022	2023	2024
Play Store ¹⁰⁴	[REDACTED] [30 – 40]%	[REDACTED] [30 – 40]%	[REDACTED] [30 – 40]%	[REDACTED] [20 – 30]%	[REDACTED] [20 – 30]%
App Store ¹⁰⁵	[REDACTED] [60 – 70]%	[REDACTED] [60 – 70]%	[REDACTED] [60 – 70]%	[REDACTED] [60 – 70]%	[REDACTED] [70 – 80]%
Other app stores ¹⁰⁶	[REDACTED] [0 – 10]%	[REDACTED] [0 – 10]%	[REDACTED] [0 – 10]%	[REDACTED] [0 – 10]%	[REDACTED] [0 – 10]%

Source: CMA analysis of data from Google, Apple, Samsung, Amazon, and Huawei.

Note: The Other app stores row in the table is comprised of data from Samsung, Amazon, and Huawei.

- A.79 The decline in Play Store shares has been largely driven by changes to shares for smartphones, with the Play Store’s share of customer billings and net revenue on smartphones decreasing from [REDACTED] [30 – 40]% and [REDACTED] [30 – 40]% respectively, to [REDACTED] [20 – 30]% and [REDACTED] [20 – 30]% over the five-year period.¹⁰⁷
- A.80 The increase in the App Store’s shares on mobile was also largely driven by changes to shares on smartphones, with its share of customer billings and net revenue increasing from [REDACTED] [60 – 70]% and [REDACTED] [60 – 70]% respectively, to [REDACTED] [70 – 80]% and [REDACTED] [70 – 80]% over the five-year period.
- A.81 The Play Store’s and App Store’s share of customer billings on tablets remained relatively steady over the period 2020-2024 ranging from [REDACTED] - [REDACTED] [20 – 30]% - [20 – 30]% and [REDACTED] - [REDACTED] [70 – 80]% - [70 – 80]% .
- A.82 Similarly, the Play Store’s and App Store’s share of net revenue on tablets also remained stable, ranging from [REDACTED] [20 – 30]% to [REDACTED] [20 – 30]% and [REDACTED] [70 – 80]% to [REDACTED] [70 – 80]% respectively over the five-year period.
- A.83 Table A.5 shows the annual average commission rates on mobile devices based on market participant data for Google in the UK for the period 2018-2024. As can be seen:
- (a) The Play Store’s annual average commission rate over the five-year period ranged from [REDACTED] - [REDACTED] [20 - 30]%, gradually decreasing in the period between 2018-2024.

¹⁰⁴ Google’s response to section 69 notice [REDACTED].

¹⁰⁵ Apple’s response to section 69 notice [REDACTED].

¹⁰⁶ Samsung’s response to section 69 notice [REDACTED]; Amazon’s response to section 69 notice [REDACTED] and Huawei’s response to section 69 notice [REDACTED].

¹⁰⁷ Total mobile device customer billings and net revenues were allocated across both device types (smartphones and tablets) for Samsung and Huawei due to the absence of device specific data. As a result, shares of revenue for Google and Apple on smartphones and tablets are slightly understated.

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

Table A.5: Annual average commission rates in the UK (2018-2024)¹⁰⁸

Year	Commission rates
2024	[REDACTED] [20-30]%
2023	[REDACTED] [20-30]%
2022	[REDACTED] [20-30]%
2021	[REDACTED] [20-30]%
2020	[REDACTED] [20-30]%
2019	[REDACTED] [20-30]%
2018	[REDACTED] [20-30]%

Source: CMA analysis of data from Google.

A.84 Table A.6 shows the proportion of app developers that incurred each band of average commission fee rates on their customer billings on the Play Store in the UK based on data from Google for the period 2020-2024. As can be seen:

- (a) The proportion of app developers with no customer billings remained relatively stable between the period 2020 to 2023, but declined to [REDACTED] [90 – 100]% in 2024.
- (b) The proportion of app developers that incurred an average commission rate of between 10 – 15% steadily increased from [REDACTED] [0 – 10]% to [REDACTED] [0 – 10]%.
 - (c) The proportion of app developers that incurred an average commission rate of between 15 – 20% gradually increased [REDACTED] within the [0 – 10]% range.
 - (d) On the other hand, the proportion of app developers that incurred an average commission rate of 25%+ declined from [REDACTED] [0 – 10]% to [REDACTED] [0 – 10]%.
 - (e) The proportion of app developers across the remaining commission bands remained broadly stable over the five-year period.

¹⁰⁸ Google's response to section 69 notice [REDACTED].

Table A.6: The proportion of app developers that incurred each band of average commission fee rates on their customer billings on the Play Store in the UK (2020-2024)¹⁰⁹

Year	No billings	Below 5%	5-10%	10-15%	15-20%	20-25%	25%+
2024	[X] [90 – 100]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%
2023	[X] [90 – 100]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%
2022	[X] [90 – 100]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%
2021	[X] [90 – 100]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%
2020	[X] [90 – 100]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%

Source: CMA analysis of data from Google.

Note: The data was provided in 5% bands, except for average commission rates of 25%+. The data provided reports service fees of 10%, 15%, 20%, and 25% in the 5-10%, 10-15%, 15-20%, and 20-25% ranges, respectively. That means if an app developer in aggregate paid a service fee of exactly 15%, that app developer was allocated to the 10-15% range.

A.85 Table A.7 shows the proportion of customer billings that incurred each band of average commission fee rates on the Play Store in the UK based on data from Google for the period 2020-2024. As can be seen:

- (a) The proportion of customer billings that incurred an average commission rate between 10% - 15% consistently increased year on year from [X] [0 – 10] in 2020 to [X] [10 – 20] in 2024, with the most significant increase occurring in 2022.
- (b) A similar trend is observed in the 15% - 20% average commission rate where the proportion that customer spend accounted for increased from [X] [0 – 10] to [X] [10 – 20], with the largest increase occurring in 2022.
- (c) The proportion of customer billings that incurred an average commission rate of 25%+ declined year on year from [X] [90 – 100] in 2020 to [X] [60 – 70] in 2024, with the most significant decreases occurring between 2020 and 2022. The share of consumer spend accounted for within this band remained the largest over the five-year period.

¹⁰⁹ Google's response to section 69 notice [X].

- (d) The proportion that customer spend accounted for across the remaining commission bands remained broadly stable over the five-year period, with some year-on-year fluctuation.

Table A.7: The proportion of customer billings that incurred each band of average commission fee rates on the Play Store in the UK (2020-2024)¹¹⁰

Year	Below 5%	5-10%	10-15%	15-20%	20-25%	25%+
2024	[X] [0 – 10]%	[X] [0 – 10]%	[X] [10 – 20]%	[X] [10 – 20]%	[X] [0 – 10]%	[X] [60 – 70]%
2023	[X] [0 – 10]%	[X] [0 – 10]%	[X] [10 – 20]%	[X] [10 – 20]%	[X] [0 – 10]%	[X] [60 – 70]%
2022	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [10 – 20]%	[X] [0 – 10]%	[X] [60 – 70]%
2021	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [10 – 20]%	[X] [80 – 90]%
2020	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [0 – 10]%	[X] [90 – 100]%

Source: CMA analysis of data from Google.

Note: The data was provided in 5% bands, except for average commission rates of 25%+. The data provided reports service fees of 10%, 15%, 20%, and 25% in the 5-10%, 10-15%, 15-20%, and 20-25% ranges, respectively. That means if an app developer in aggregate paid a service fee of exactly 15%, that app developer was allocated to the 10-15% range.

A.86 Table A.8 shows the total value of Play Store revenue, the net revenue generated from customer billings through Google's proprietary payment system, the revenue generated from Google's Play Store adverts, and the proportion of Play Store revenue earned by Google, split between Play service fees and adverts in the Play Store, on mobile devices in the UK based on data from Google for the period 2023-2024. As can be seen:

- (a) Revenue from Play service fees accounts for the larger proportion of the two sources across both 2023 and 2024, at [X]% and [X]% respectively.
- (b) The proportion of revenue from adverts increased between the two years from [X]% to [X]%.

¹¹⁰ Google's response to section 69 notice [X].

Table A.8: The total value of Play Store revenue earned by Google, the net revenue generated from customer billings, the revenue generated by Google’s Play Store adverts, and the proportion of Play Store revenue earned by Google in the UK, split between Play service fees and adverts in the Play Store (2023-2024) ¹¹¹

<i>Year</i>	<i>Play Store combined revenue</i>	<i>Play Store net revenue</i>	<i>Play Store adverts revenue</i>	<i>Play service fees</i>	<i>Play Store adverts</i>
2024	[REDACTED]	[REDACTED] [0 – 2] billion	[REDACTED]	[REDACTED]	[REDACTED]
2023	[REDACTED]	[REDACTED] [0 – 2] billion	[REDACTED]	[REDACTED]	[REDACTED]

Source: Data from Google.

Notes:

1. Play net revenue includes revenue generated from Play Books and Play Pass.

2. Play Store adverts revenue was calculated by the CMA using the proportion of Play Store revenue that Play Store adverts accounted for the period 2023-2024.

Usage of alternative distribution methods - sideloading

Source of data

- A.87 The data underlying this analysis comes from Google only.
- A.88 We received annual data on the total number of users¹¹² that sideloaded (i) native apps¹¹³ and (ii) app stores¹¹⁴, and the total volume of downloads¹¹⁵ by sideloading for (i) native apps¹¹⁶ and (ii) app stores on Android mobile devices.
- A.89 The data covers the period March 2023 to December 2024.
- A.90 Additionally, we present below annual data on the total number of active Android mobile devices and total number of native app downloads via the Play Store in 2024. This data provides further context from which to understand the magnitude of the sideloading data relative to the data about the Play Store.

¹¹¹ Google’s response to section 69 notice [REDACTED]. Google’s response to section 69 notice [REDACTED].

¹¹² Google noted that the user data may be subject to double counting due to limitations in data availability. Google’s response to section 69 notice [REDACTED].

¹¹³ Google noted that native apps data is based on installations that occurred while the device had an internet connection and on active GMS devices with Google Play Protect enabled. Google’s response to section 69 notice [REDACTED].

¹¹⁴ Google collected data on a sample of third-party app stores operating on Android mobile devices. [REDACTED] Google’s response to section 69 notice [REDACTED].

¹¹⁵ Google noted that the number of downloads include both first time and any subsequent downloads. Google’s response to section 69 notice [REDACTED].

¹¹⁶ Google noted that data on native apps sideloaded includes all download channels outside of the Play Store and pre-installed third-party app stores – [REDACTED]. Google’s response to section 69 notice [REDACTED].

Outputs

A.91 Table A.9 shows the total number of native apps sideloaded, the number of users that sideloaded native apps, the number of active Android mobile devices and the number of Play Store native app downloads in the UK based on data from Google for the period March 2023- December 2024. As can be seen:

- (a) In 2024, an estimated [X] [200 – 300] million native apps were sideloaded on Android mobile devices, in comparison to [X] [1,500 – 2,000] million native apps that were downloaded through the Play Store in the same year.
- (b) [X] [20 -30] million Android users sideloaded a native app on Android mobile devices in the UK in 2024 across [X] [40-50] million active devices.
- (c) The data for 2023 (March- December) mirrors a similar pattern to the results observed in 2024.

Table A.9: Total number of native apps sideloaded, total number of users that sideloaded native apps, total number of active Android mobile devices and total number of Play Store native app downloads in the UK (2023-2024)¹¹⁷

Year	Number of native apps sideloaded	Number of users that sideloaded		Number of active Android device	Millions Number of native apps downloaded via the Play Store
		(i) Native apps	(ii) App stores		
2024	[X] [200-300]	[X] [20-30]	[X] [0-1]	[X] [40-50]	[X] [1,500-2,000]
2023 (Mar-Dec)	[X] [100-200]	[X] [20-30]	[X] [0-1]	[X] [40-50]	[X] [1,600-1,700]

Source: CMA analysis of data from Google.

Note:

1. The numbers for active Android mobile devices are computed by taking the midpoint of each year shown, which is the midpoint of 31 February 2023 – 31 December 2023 for the year 2023 (aligning with Google's sideloading data which begins in March 2023), and 31 December 2023 – 31 December 2024 for the year 2024.

2. Data on the number of sideloaded native apps includes sideloaded app stores. App stores make up less than [X] [0 – 5] million sideloads in each period.

¹¹⁷ Google's response to section 69 notice [X].

Usage of alternative distribution methods – web apps (including PWAs)

Source of data

- A.92 The data underlying this analysis comes from market participants Google, Samsung and Mozilla.
- A.93 We received data from those market participants on the number of users of PWAs that were installed on mobile devices and the number of installations of PWAs to mobile devices.
- A.94 The data covered the period 2022 – 2025 – with some differences between market participants.¹¹⁸ The data also varied by other factors, such as frequency and methodology. As such, there are limitations in directly comparing the data from each of the market participants.
- A.95 We provide further detail about the nature of each market participant's data below:
- (a) Google
 - (i) Data was sourced from its Chrome Browser for Android only.
 - (ii) **Number of users who used PWAs installed on their device via Chrome:** The estimated number of UK Chrome users on Android mobile devices that used PWAs installed on their device over the first 28 days of each month.¹¹⁹
 - (iii) **Number of installations of PWAs via Chrome each month:** The estimated number of installations of PWA via Chrome for each month.
 - (b) Samsung
 - (i) Data was sourced from a sample of users.¹²⁰

¹¹⁸ Google provided monthly data for period October 2023 – December 2024. Samsung provided annual data for years 2023-2024. Mozilla provided annual data for years 2022-2024.

¹¹⁹ The data only captures users running a version of Chrome released in November 2020 or later, which represents approximately 98% of Chrome users in the UK. Google's response to section 69 notice [38].

¹²⁰ Data provided by Samsung is an extrapolated estimate based on a sample of 10% of users that opted-in to provide this information, with figures multiplied by 10 to estimate figures for the entire population of those users. Samsung note that actual figures may be different. Samsung's response to section 69 notice [38].

- (ii) **Installation of Web Apps:** the number of events and users for installing web apps through Samsung internet browser.
 - (iii) **Use of Web App:** the number of events and users of running a web app through Samsung internet browser.
- (c) Mozilla
 - (i) Data was sourced from its FireFox browser for Android only.
 - (ii) **Yearly Installation of PWAs:** Number of user requests to install a PWA on a mobile device.
 - (iii) **Active PWA users:** Mozilla only measures a daily snapshot of PWA users, as such a yearly averaged daily amount is estimated in volume.¹²¹

A.96 Additionally, we draw on annual data from Google on the number of active Android mobile devices to enable comparison with the web apps data described above.¹²²

Outputs

- A.97 Table A.10 shows data from Google on the number of users that used PWAs and the number of PWA installations via the Chrome browser in the UK for the period October 2023 to December 2024. As can be seen:
- (a) The number of users on a monthly basis remained relatively consistent, albeit showing some marginal increases over the nearly two-year period, ranging from approximately [X] [3 – 4] million to [X] [4 – 5] million.
 - (b) The number of PWA installations showed more substantial growth, rising from approximately [X] [0 – 1] million per month to [X] [1 – 2] million, with the total number of installations in 2024 reaching [X] [10 – 11] million.

¹²¹ Mozilla captures ‘PWA users’ on a daily snapshot basis. To aggregate this to a yearly format Mozilla first calculates the percentage of users who use PWAs daily, by comparing DAU of PWAs against Firefox users generally. They do this for all days in the relevant years, before applying this percentage to the total Firefox users on a yearly basis. Further, to measure ‘users’, and PWA ‘users’ Mozilla tracks clients. This may lead to inconsistencies in counting, if a user for example reinstalls or requests data deletion on Firefox. This same distinction applies to PWA users. As Mozilla does not have access to information on the deletion of PWAs, they use MAUs of PWAs as a proxy for active PWA users. Mozilla’s response to section 69 notice [X].

¹²² This data was described in the Mobile operating shares of supply section above.

Table A.10: Monthly number of users that used PWAs and the number of PWAs installations via Chrome browser on Android mobile devices in the UK (Oct 2023 – Dec 2024)¹²³

Period	Millions	
	Number of users who used PWAs	Number of PWA installations
December 2024	[X] [4-5]	[X] [1-2]
November 2024	[X] [4-5]	[X] [1-2]
October 2024	[X] [4-5]	[X] [1-2]
September 2024	[X] [4-5]	[X] [0-1]
August 2024	[X] [4-5]	[X] [0-1]
July 2024	[X] [4-5]	[X] [0-1]
June 2024	[X] [4-5]	[X] [0-1]
May 2024	[X] [4-5]	[X] [0-1]
April 2024	[X] [4-5]	[X] [0-1]
March 2024	[X] [4-5]	[X] [0-1]
February 2024	[X] [4-5]	[X] [0-1]
January 2024	[X] [3-4]	[X] [0-1]
December 2023	[X] [3-4]	[X] [0-1]
November 2023	[X] [3-4]	[X] [0-1]
October 2023	[X] [3-4]	[X] [0-1]

Source: CMA analysis of data from Google

- A.98 The majority of PWA installations via the Chrome browser in 2024 occurred on smartphones. Of the total number of PWA installations, [X] [10 – 11] million occurred on smartphones compared to [X] [0 – 1] million on tablets.
- A.99 There were also a considerably larger number of users who used PWAs installed on their home screen on smartphones via the Chrome browser in 2024. On average, [X] [4 – 5] million users used PWAs on smartphones compared to [X] [0 – 1] million on tablets each month.
- A.100 Table A.11 shows data from Samsung on the number of users that used web apps, and the number of PWA installations in the UK for the period April 2023 to December 2024. As can be seen:
- (a) There was very little change between 2023 and 2024 on the number of users that used PWAs – ranging from approximately [X] [1 – 2] million to [X] [1 – 2] million.
 - (b) However, the number of PWA installations fell substantially from approximately [X] [50,000 – 100,000] to [X] [0 – 50,000].

¹²³ Google's response to section 69 notice [X].

Table A.11: Annual number of users that used web apps and the number of PWAs installations via Samsung Internet browser on Android mobile devices in the UK (2023 – 2024)¹²⁴

Period	Number of users who used web apps	Number of PWA installations
2024	[§] [1-2] million	[§] [0-50,000] [§] [50,000- 100,000]
2023	[§] [1-2] million	

Source: CMA analysis of data from Samsung

Note: Data provided by Samsung is an extrapolated estimate based on a sample of 10% of users that opted-in to provide this information, with figures multiplied by 10 to estimate figures for the entire population of those users. Samsung note that actual figures may be different.

A.101 Table A.12 shows data from Mozilla on the number of users that used PWAs, and the number of PWA installations in the UK for the period 2022-2024. As can be seen:

- The number of users that used web apps decreased from [§] [25,000 – 50,000] to [§] [0 – 25,000] between the period 2022-2024, representing a slight decline in the proportion of users who used web apps.
- Similarly, the number of PWA installations also declined in that period from [§] [150,000 – 200,000] to [§] [150,000 – 200,000].

Table A.12: Annual number of active Firefox users that used PWAs and the number of PWAs installations via Firefox browser on Android mobile devices in the UK (2022 – 2024)¹²⁵

Period	Number of users who used PWAs	Thousands Number of PWA installations
2024	[§] [0-25]	[§] [150-200]
2023	[§] [0-25]	[§] [150-200]
2022	[§] [25-50]	[§] [150-200]

Source: CMA analysis of data from Mozilla.

¹²⁴ Samsung's response to section 69 notice [§].

¹²⁵ Mozilla's response to section 69 notice [§].

Mobile browsers and browser engines outcomes

A.102 In this section we present an analysis of:

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

Mobile browser shares of supply on all mobile devices

Source of data

A.103 The data underlying this analysis comes from Statcounter.

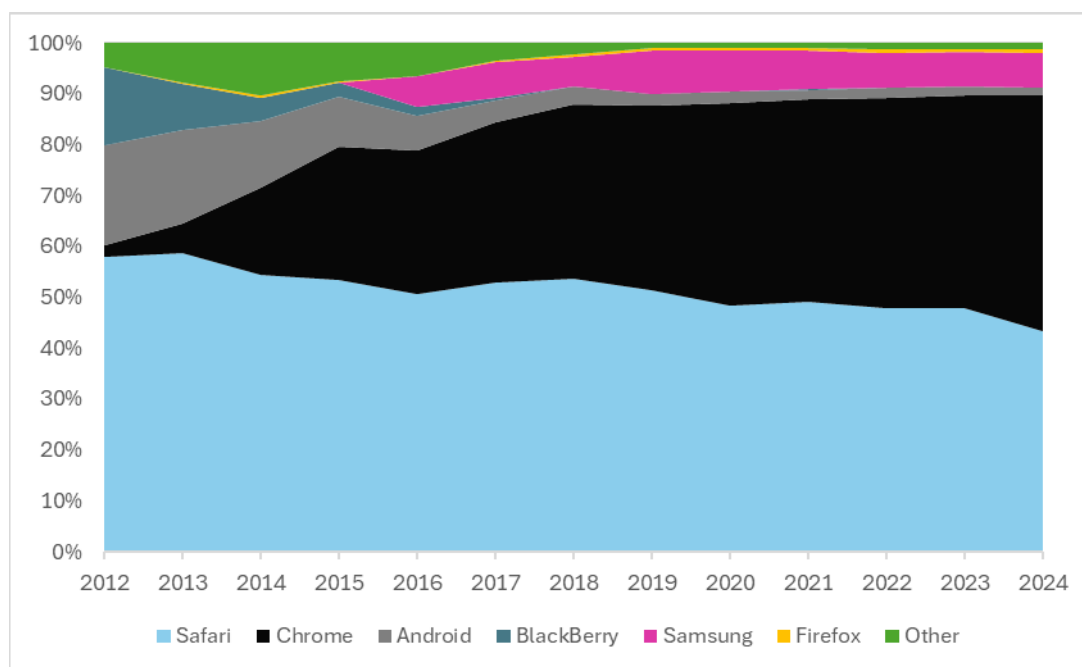
A.104 We examine publicly available aggregate level data from Statcounter on browser usage from 2012 to 2024 (inclusive) across mobile devices (comprising smartphones and tablets) including both Apple's and Google's Mobile Ecosystems in the UK.¹²⁶

Outputs

A.105 Figure A.16 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.

¹²⁶ 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.

Figure A.16: UK mobile browser shares of supply on smartphones and tablets – 2012 to 2024



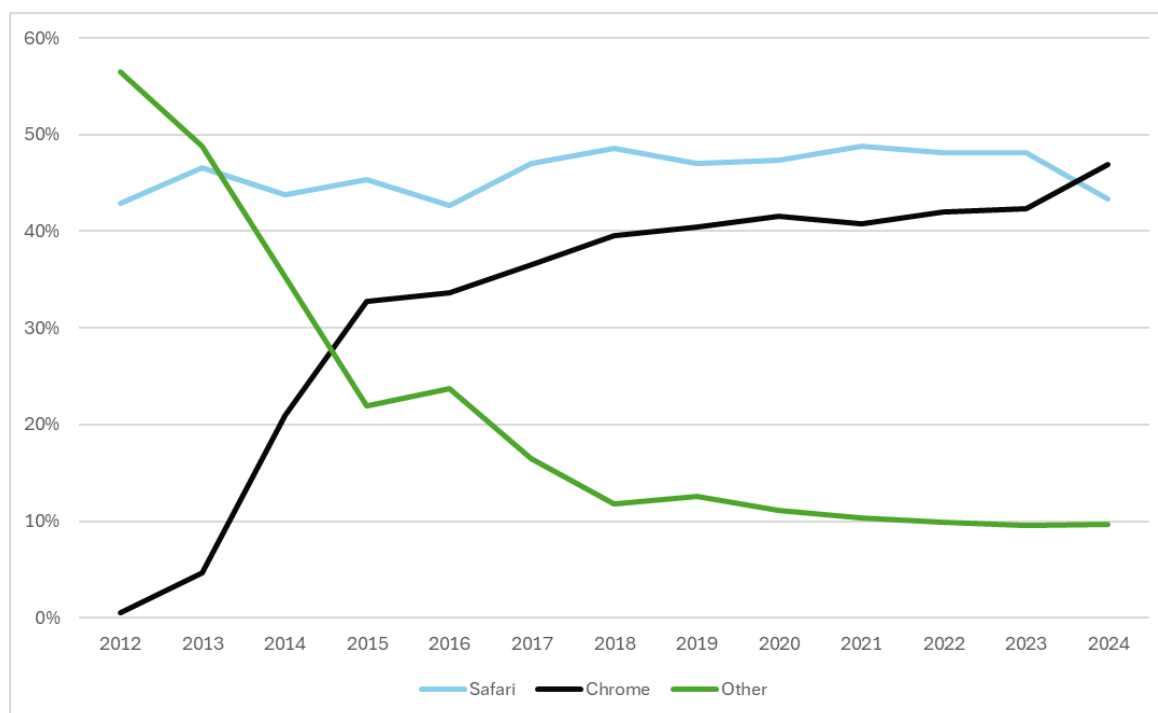
Source: Statcounter, [Mobile & Tablet Browser Market Share United Kingdom](#).

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.106 Figure A.16 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.107 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 mobile and tablets.¹²⁷
- A.108 There are differences in mobile browser share of supply trends between smartphones and tablets. Figure A.17 shows mobile browser shares of supply on smartphones, while figure A.18 shows mobile browser shares of supply on tablets.

¹²⁷ ['Mobile Operating System Market Share United Kingdom | Statcounter Global Stats'](#) & ['Tablet Operating System Market Share United Kingdom | Statcounter Global Stats'](#), accessed 30 June 2025.

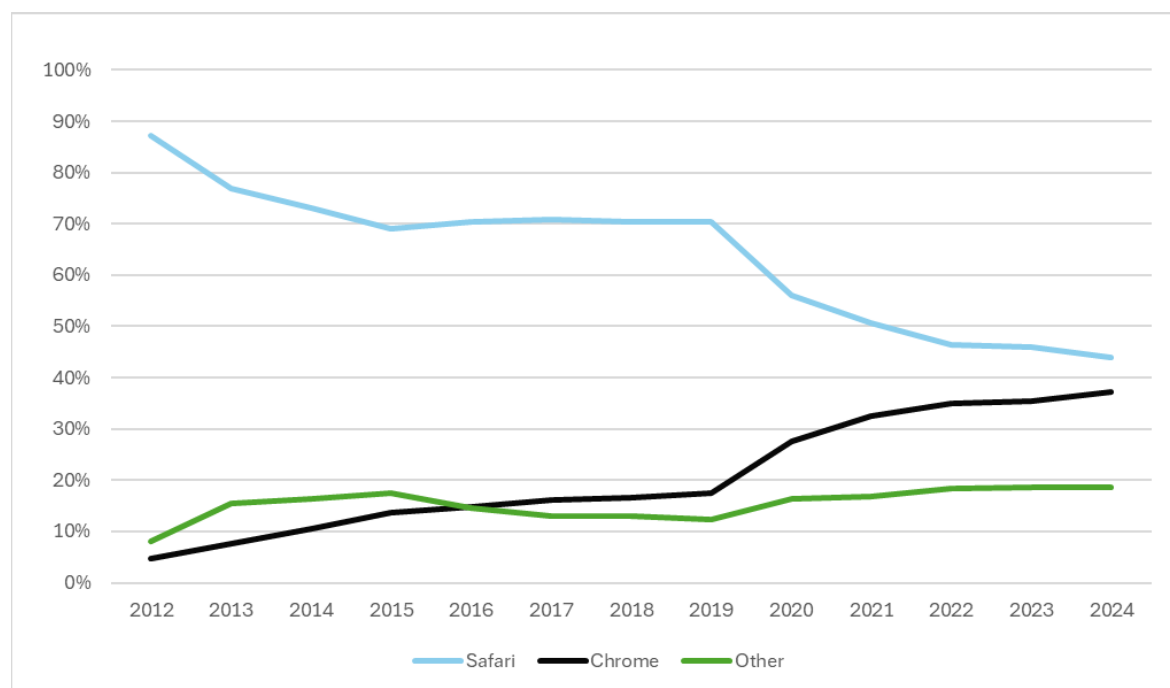
Figure A.17: UK mobile browser shares of supply on smartphones only – 2012 to 2024



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.

Figure A.18: 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 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.109 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%. Safari's share of supply on smartphones was relatively stable between 2019 and 2024 and remained with 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.
- A.110 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.¹²⁸

¹²⁸ ['Tablet Vendor Market Share United Kingdom'](#), accessed 19 June 2025.

Mobile browser and browser engine shares of supply on Google's Mobile Ecosystem

Sources of data

- A.111 The data underlying this analysis comes from Cloudflare Radar, and App Annie.
- A.112 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.¹²⁹ It provides shares of supply data for browsers by UK web traffic for Google's Mobile Ecosystem from October 2022 to March 2025.
- A.113 We also consider App Annie data which provides data on time spent on different browser apps on Google's Mobile Ecosystem from January 2018 to March 2025 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.114 Table A.13 shows mobile browser shares of supply by web traffic on Google's Mobile Ecosystem in March 2025, according to Cloudflare Radar.¹³⁰

Table A.13: UK browser and browser engine share of supply on Google's Mobile Ecosystem in March 2025

<i>Browser</i>	<i>Browser engine</i>	<i>Share</i>
Chrome	Blink	79%
Samsung	Blink	16%
Firefox	Gecko	1%
DuckDuckGo	Blink*	1%
Brave	Blink	1%
Edge	Blink	1%
Smaller browsers	Unknown	1%

Source: [Cloudflare Radar](#), see [Market Share by Country and OS](#).

Notes: (i) smaller browsers include Opera, Aloha, Oculus, Ecosia, and UC; and (ii) shares of supply may not sum to 100% due to rounding.

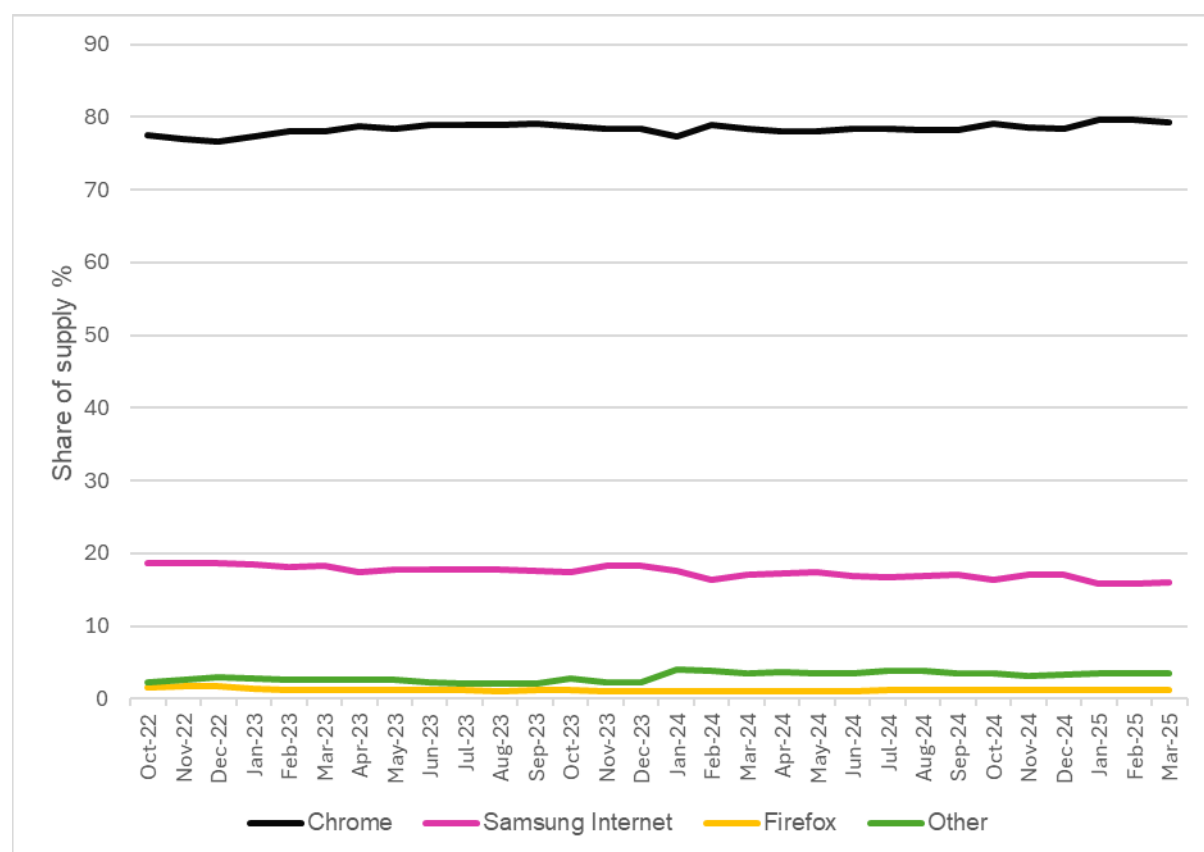
*DuckDuckGo's browser engine (OS's WebView) is counted as Blink on Android.

¹²⁹ 'Browser Market Share Report for 2025 Q1', accessed 1 May 2025.

¹³⁰ Figures include tablets, but there might be a slight underreporting of Android users if devices use desktop user agents.

- A.115 Table A.13 shows that Chrome was the leading mobile browser on Google's Mobile Ecosystem in March 2025 with a share of supply of 79%.
- A.116 Samsung Internet was the second largest mobile browser on Google's Mobile Ecosystem with a share of supply of 16%.
- A.117 Smaller browsers accounted for no more than 1% of the market share on Google's Mobile Ecosystem when considering each individually.
- A.118 Google's Blink browser engine was the leading browser engine on Google's Mobile Ecosystem with mobile browsers running on Blink accounting for at least 98% of the share of supply in terms of web traffic on Google's Mobile Ecosystem in March 2025. Mozilla's Gecko had a share of supply of just over 1%.
- A.119 Figure A.19 shows that mobile browser shares of supply on Google's Mobile Ecosystem have been stable from October 2022 and March 2025.

Figure A.19: UK browser shares of supply (mobile) on Google's Mobile Ecosystem from October 2022 to March 2025 using Cloudflare Radar data on web traffic



Source: [Cloudflare Radar](#)

- A.120 Cloudflare Radar also provides data including in-app browsing on Google's Mobile Ecosystem. Based on this data, in March 2025, Chrome had the largest share of supply with 70%. Samsung Internet had the second largest share of supply with 14%. Facebook and Instagram (both developed by Meta) had the next largest shares of supply, with a combined share of 11%. In-app browsing on Meta's apps uses a bundled browser engine (a fork of Chromium developed by Meta), therefore including in-app browsing means that Meta's browser engine has a share of supply of 11%, whilst Blink's share of supply is reduced to 87%.¹³¹
- A.121 App Annie data shows that Chrome also had the largest share of supply in terms of usage minutes between January 2018 and March 2025, with its share of supply persistently being between [70-80]% [REDACTED] and [70-80]% [REDACTED]. Samsung was the second largest browser on Google's Mobile Ecosystem in terms of usage minutes, with a share of supply persistently between [10-20]% [REDACTED] and [10-20]% [REDACTED].¹³²

¹³¹ Blink has 87% (consisting of Chrome, Samsung, and several smaller Blink-based browsers), Meta's browser engine has 11%, Mozilla's Gecko has 1%, and the remaining share (<1%) is made up of browsers or apps for which the browser engine is unknown; '[Browser Market Share Report for 2025 Q1](#)', accessed 1 May 2025.

¹³² CMA analysis of [REDACTED] response to section 69 notice [REDACTED].