Coalition for
APP FAIRNESS

Observations of the Coalition for App Fairness on the CMA Interim Report on its Mobile Ecosystems Market Study

7 February 2022

I. Introduction

On 15 June 2021, the CMA launched a market study into mobile ecosystems with a view to better understanding a major component of the digital economy and gathering evidence on whether competition is working well for UK consumers and citizens.[1] On 14 December 2021, the CMA published an interim report (the "Interim Report"), finding that Apple and Google's duopoly limits competition and choice to the detriment of consumers, and setting out a range of proposed interventions to tackle the problems identified.

The Coalition for App Fairness ("**CAF**") welcomes the opportunity to submit its observations on the CMA's Interim Report. CAF is an independent nonprofit organization founded by industry-leading companies to advocate for freedom of choice and fair competition across the app ecosystem.[2] Comprising more than sixty members of all sizes, CAF's vision is to ensure a level playing field for businesses relying on platforms like the Apple App Store to reach consumers, and a consistent standard of conduct across the app ecosystem. In this context, CAF has published its ten App Store Principles, enshrining a series of rights that should be afforded to every app developer, regardless of size or the nature of their business.[3]

The CMA should be commended for undertaking a comprehensive market study of a key sector in the digital economy. The Interim Report excels in shining a light on the complex realm of mobile ecosystems, and contains a wealth of evidence on how Apple and Google's grip over mobile devices results in millions of consumers losing out in the form of, among others, higher prices for apps and devices, less choice and lower innovation. CAF and its members feel vindicated, for the Interim Report confirms the concerns they have raised over Apple and Google's unfair and anticompetitive conduct harming app developers and consumers alike.[4] A central finding of the CMA relates to how each of Apple and Google, by virtue of their control over operating systems, app stores, and browsers, acts as a **gateway** between businesses and UK consumers.[5] In turn, this gatekeeping role affords Apple and Google with power of life and

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[1] Press release, "CMA to scrutinise Apple and Google mobile ecosystems", 15 June 2021, available at https://www.gov.uk/government/news/cma-to-scrutinise-apple-and-google-mobile-ecosystems.

[2] For more information, see https://appfairness.org/.

[3] See https://appfairness.org/our-vision/.

[4] See in particular the Observations of the Coalition for App Fairness on the Statement of Scope of the CMA's Mobile Ecosystems Market Study, 23 July 2021, available at https://assets.publishing.service.gov.uk/media/617aa2bed3bf7f5603ecf12d/Coalition_for_App_Fairness.pdf.

[5] Interim Report, paragraphs 2.31-2.33.

death over app developers, which have no alternative than accept their terms, however onerous and unfair they may be.

It is high time that regulators took decisive action to harness the market power of Apple and Google to unlock competition and increase choice for consumers. In this respect, CAF cannot help but express its concern over the CMA's decision not to make a market investigation reference, which would allow it to impose appropriate remedies with a view to improving competition. Instead, the CMA intends to address the problems identified in its market study within the context of the *ex ante* pro-competitive regime for large digital firms, to be enforced by a dedicated Digital Markets Unit ("DMU"). While the DMU regime may offer the right tools to stimulate competition in mobile ecosystems, it has yet to be formally established, and there is no sign yet of relevant legislation being tabled in the Parliament. There is a real risk that, despite the CMA's pioneering work (for example, its seminal market study on online platforms and digital advertising and its ongoing study on mobile ecosystems), the UK could fall behind other jurisdictions such as the EU or Australia in terms of regulating digital platforms. In the meantime, markets do not function well, and UK consumers miss out on innovation and choice.

For these reasons, it is vital that the CMA make full use of its existing enforcement toolkit with a view to protecting competition both *between* and *within* mobile ecosystems, including proceeding with its Competition Act 1998 investigation into Apple's App Store practices.[6] The CMA should also consider making a market investigation reference if, by the time its market study draws near completion, the Government has yet to propose legislation for the *ex ante* regime; failing to do so would amount to giving Apple and Google a free pass to continue their wrongdoing.

Against this background, CAF is pleased to provide its observations on the CMA's Interim Report. **Part II** of this submission comments on the first theme of the market study, namely competition in the supply of mobile devices and operating systems. **Part III** examines the second theme, competition in the distribution of native apps, while **Part IV** addresses the fourth theme of the study, the role of Apple and Google in competition between app developers. **Part V** provides feedback on the potential interventions envisaged by the CMA in Chapter 7 of the Interim Report. Finally, **Part VI** concludes, commenting on the CMA's application of its findings to the *ex ante* pro-competitive regime.

CAF would like to make two important remarks upfront. First, while this submission essentially focuses on Apple, CAF's observations equally apply to Google, whose problematic practices increasingly resemble those of Apple. Second, as CAF largely agrees with Interim Report's analysis of the various concerns created by Apple and Google's abusive practices, the bulk of its submission will focus on the interventions suggested by the CMA to address these concerns.

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[6] Press release, "CMA investigates Apple over suspected anti-competitive behaviour", 4 March 2021, available at https://www.gov.uk/government/news/cma-investigates-apple-over-suspected-anti-competitive-behaviour.

CAF and its members remain at the disposal of the CMA should the latter wish to obtain more information.

II. Competition in the supply of mobile devices and operating systems

Chapter 3 of the Interim Report describes the state of competition in the supply of mobile devices and operating systems.

CAF agrees with the CMA's finding that Apple and Google have an effective "duopoly" (or perhaps more accurately, parallel monopolies) in the provision of mobile operating systems, to the effect they have substantial and entrenched market power over their users.[7] The Interim Report provides compelling evidence showing there is very limited competition between mobile devices using different operating systems. The market for mobile devices in the UK is to a large extent saturated and most users buy replacement devices, hence they are already within Apple's or Google's ecosystem.[8] Importantly, most users single home, and rarely switch to a mobile device with a different operating system.[9] Evidence shows there is very limited price competition between Apple and Google, with iOS devices dominating the sale of high-end models and Android devices dominating the sale of lower-priced devices.[10]

In addition, there are material barriers – both perceived and actual – that dissuade users from switching to a mobile device with a different operating system, including learning costs, difficulties transferring data and apps, and the lack of first-party apps of Apple on Android devices.[11] While to some extent these barriers apply to switching both to Android and iOS, they are particularly significant with respect to switching from iOS to Android.[12] This reflects the fact that Apple has an incentive to lock customers into its iOS ecosystem and prevent them from switching to a different device, as the CMA correctly found.[13] Indeed, as revealed in the context of its litigation with Epic Games in the US, Apple has long pursued a lock-in strategy,

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7 Interim Report, paragraphs 3.187 and 3.191 (given Apple's business model, this finding relates to its devices and operating system in combination).

8 Interim Report, paragraphs 3.19-3.20.

9 Interim Report, paragraphs 3.22-3.29.

10 Interim Report, paragraphs 3.33-3.39. See also paragraph 3.85, explaining that despite the increasing price gap between iOS and Android devices, levels of user switching remain low.

11 Interim Report, paragraph 3.107-3.113 (for learning costs), 3.114-3.116 (transferring data and apps), 3.122-3.128 (availability and characteristics of first party apps). There is also literature discussing the switching costs for iOS users. See See Michael G. Jacobides, "What Drives and Defines Digital Platform Power? A framework, with an illustration of App dynamics in the Apple Ecosystem", White Paper, 19 April 2021, available at https://events.concurrences.com/IMG/pdf/jacobides_platform_dominance.pdf, pages 56-57; Lukasz Grzybowski and Ambre Nicolle, "Estimating Consumer Inertia in Repeated Choices of Smartphones", CESifo Working Paper No. 7434, (2018), available at https://ssrn.com/abstract=3338788.

12 Interim Report, paragraph 3.104.

13 Interim Report, paragraph 2.38.

with the late Steve Jobs proclaiming already in 2010 that Apple should "tie" all of its products together in order to "*further lock customers into [its] ecosystem*."[14]

Importantly, some of these switching costs are directly related to the use of Apple and Google's proprietary payment systems which apps selling "digital" goods or services are obliged to use. Indeed, Apple does not allow developers to require customers to link their account with their Apple ID, to the effect that users that purchase a subscription through IAP are not able to access their purchased content after switching to an Android device (hence they have to repurchase or resubscribe). In any event, even if users can access purchased content, they cannot manage (e.g., cancel) pre-existing subscriptions after switching to a device with a different operating system. Apple itself confirmed that "*neither subscriptions bought through Apple IAP nor Google Play can be transferred to the other company's billing management system after switching*."[15] Therefore, users have to cancel their subscriptions before switching device, yet this can prove challenging for consumers to handle, considering they may have multiple subscriptions with different billing cycles. As CAF emphasized in its submission to the Statement of Scope, Apple has long perceived the mandatory use of IAP as a way to lock customers into its ecosystem.[16] Indeed, as internal emails unearthed in the context of the *Apple eBook* litigation in the US confirm, when Apple executives became aware in 2010 of an Amazon Kindle ad on TV showing it is easy to switch from iPhone to Android, Steve Jobs suggested in response that "*[t]he first step might be to say they [Amazon] must use our payment system for everything*."[17]

III. Competition in the distribution of native apps

Chapter 4 of the Interim Report discusses competition in the distribution of native apps. The CMA is again correct to find that each of Apple and Google have substantial and entrenched market power in native app distribution, which in turn provides them with unique power over app developers and users alike.

Apple faces no competitive constraint from alternative methods of accessing apps *within* its ecosystem, for the simple reason that such methods (pre-installation, alternative app stores, sideloading) are either prohibited or not available in the first place on iOS devices.[18] As for web apps, these pale in functionality and features compared to native apps, to a large extent

[14] See e-mail sent by Steve Jobs dated 24 October (Exhibit No PX-0892 of *Epic Games, Inc. v. Apple Inc.* trial), available at https://embed.documentcloud.org/documents/21043906-2010-october-steve-jobs-tie-all-projects-together-lock-in/#document/p1.

[15] Interim Report, paragraph 3.118.

[16] See Observations of the Coalition for App Fairness on the Statement of Scope of the CMA's Mobile Ecosystems Market Study, page 4.

[17] Email exchange forming part of the public record in the *Apple eBook* litigation in the United States.

[18] As the CMA correctly observes at paragraph 4.122, while these alternatives are available on Android devices, in practice they are not widely used by users or app developers, among others because of the presence of indirect network effects and the warning of the potential security risks of sideloading.

because of the restrictions in WebKit, Apple's browser engine which all web browsers have to use on iOS devices.[19]

In addition, there is very limited competition *between* the ecosystems of Apple and Google. Contrary to what they like to claim before regulators, Apple and Google do not "compete fiercely" against each other for app developers or users. As both Apple and Google confirmed, the most important app developers have no choice but to multi-home, that is be present on both the App Store and Google Play.[20] Indeed, as mentioned already, users generally single-home (they use either Android or iOS) and rarely switch, hence each of Apple and Google controls access to a large number of unique users. In such a setting, large app developers cannot afford to lose access to one ecosystem, as this would mean forgoing access to roughly half of the available consumers. As a result, delisting from an app store in response to a small price increase or quality degradation would make no economic sense for app developers.

As for users, they exert no competitive constraint to Apple and Google either. As the App Store is only available on iOS devices and Google Play is only available on Android devices, switching app store would require switching to a mobile device with a different operating system. However, as the CMA has found, there is very limited user-driven competition between Apple and Google, not least because users tend to buy replacement devices and do not easily switch ecosystems. It is even more unlikely that users would switch to mobile device with a different operating system in response to a price increase or quality deterioration of apps. Indeed, no rational user would consider incurring the financial cost of a new device to avoid a small increase in the price of apps. It is also highly unlikely that users would take into account the cost of apps (which they cannot know in advance) when deciding to purchase a mobile device; consumers tend to focus on immediately identifiable costs rather than future costs which are hard to quantify.[21] This is in line with the findings of other competition authorities, including the French Competition Authority, which rejected the argument that there is "system" competition between Apple and Google.[22] Moreover, as the CMA observes, the lack of transparency for users not currently using an app store means users would generally not be in a position to readily identify differences in functionalities or prices between the App Store and Google Play, hence any threat of switching to a different ecosystem in response to a price increase or quality degradation is further weakened.

All in all, the CMA's analysis is in line with CAF's views. Apple and Google do not constrain each other in app distribution; instead, they are two separate monopolies existing in parallel.

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[19] Interim Report, paragraphs 4.130-4.138.

[20] Interim Report, paragraph 4.154. This was also confirmed by the European Commission in its *Google Android* decision. See Commission decision in Case AT.40099 – *Google Android*, recitals 554-555.

[21] See e.g., Nicolle, Ambre, Are Consumers Myopic? Evidence from Handset and Mobile Services Choices (November 19, 2019). Available at SSRN: https://ssrn.com/abstract=2706391.

[22] Autorité de la concurrence, Decision 21-D-07 of 17 March 2021 regarding Apple's changes to the iOS 14 OS and, specifically, the mandatory introduction of the App Tracking Transparency Framework, English translation available at https://www.autoritedelaconcurrence.fr/sites/default/files/attachments/2021-04/21d07_en.pdf, paragraphs 114-115.

IV. The role of Apple and Google in competition between app developers

Chapter 6 of the Interim Report discusses the role of Apple and Google in competition between app developers. The CMA's central concern is that Apple and Google's market power in app distribution and mobile operating systems allows them to set the rules of competition for native apps. In turn, this power enables Apple and Google to self-preference their own apps, distort competition between third parties, entrench upstream market power, and directly exploit consumers.

In the first half of the Chapter, the CMA identifies a range of practices which may be used for self-preferencing or distorting competition between third parties, confirming the concerns raised by CAF and its members. Among others, the CMA examines the following conducts:

Restricting access to device hardware and software: CAF shares the CMA's concern that by restricting third parties' access to useful hardware of software (e.g., APIs or chips such as the Near Field Communication chip or the ultra-wideband chip), Apple gives itself a clear competitive advantage over rivals.

Collection and use of commercially sensitive information: By virtue of their positions in operating systems and app distribution, Apple and Google have access to a variety of non-public commercially sensitive information of app developers. CAF members Tile and Masimo have explained how Apple has access to commercially sensitive information which it uses to develop competing products. While Apple may claim that its app development team does not have access to data collected from other lines of business, former executive Philip Shoemaker has explained how Apple executives would frequently use insights based on App Store data to inform product development.[23] In any event, Apple's Developer License Agreement disclaims any confidentiality obligations over information that Apple collects from developers, as the CMA notes.[24] Worse, the MFi Program requires licensees (which may be app developers) to disclose to Apple their product plans while waiving their IP rights.[25] These clauses are very problematic, as over the long run they reduce the incentives of app developers to innovate, since they know that if they are successful Apple will appropriate their innovation and then target them through a gamut of exclusionary practices.

App store review process: The app store review process affords app store operators with unique power over app developers wishing to reach UK consumers. While generally the review process may be useful in ensuring the quality and security of apps, the problem is that Apple has reserved to itself unfettered discretion as to how it interprets and applies its rules. Being the judge, jury, and executioner, Apple often applies its rules in an arbitrary and capricious manner, while providing cryptic feedback to developers, leaving them scratching their head as

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[23] Reed Albergotti, "How Apple uses its App Store to copy the best ideas", *The Washington Post*, 5 September 2019, available at https://www.washingtonpost.com/technology/2019/09/05/how-apple-uses-its-app-store-copy-best-ideas/.

[24] Interim Report, paragraph 6.126.

[25] Interim Report, paragraph 6.133.

to what they should do to bring their app in compliance with the rules. Examples of Apple capriciously and inconsistently applying its rules abound, and CAF has already recounted the illustrative experiences of FlickType and BlueMail in one of its papers.[26] Another example comes from Basecamp's experience with the HEY email app, where Apple came up with a distinction between "enterprise" and "consumer" apps, which at the time did not exist in its guidelines.[27] The problem of arbitrary and inconsistent application of rules is acknowledged by former Apple executives. As explained in the report of the US House:

> "Mr. Shoemaker responded that Apple "was not being honest" when it claims it treats every developer the same. Mr. Shoemaker has also written that the App Store rules were often "arbitrary" and "arguable," and that "Apple has struggled with using the App Store as a weapon against competitors.""[28]

The arbitrary application of rules without adequate explanation creates considerable uncertainty, costs, and delays for app developers. It is eventually consumers that suffer, as developers are delayed in rolling out new features that improve the quality and security of their services, or even discouraged from innovating in the first place.

In the second half of the Chapter, the CMA discusses in detail practices with broader competitive implications, including the ***obligation for app developers to use Apple and Google's proprietary in-app payment systems for in-app purchases***. After explaining Apple and Google's in-app payment rules, the CMA lays down the reasons provided by Apple and Google for mandating developers to exclusively use their own payment solutions, namely (i) making it possible to collect a commission, and providing user benefits in the form of (ii) payment security and (iii) convenience. As explained in detail in **Part V** below, none of these justifications holds sway: there are alternative viable ways for app store operators to collect a commission, while enabling developers to use their payment solution of choice. As for the alleged user benefits of using the app store's payment solution, these can also be provided by alternative payment solutions, alongside other benefits that Apple and Google's payment systems do not support.

On the other hand, the mandatory use of Apple and Google's payment solutions comes with considerable downsides, resulting to harm to competition and consumers. In this respect, the CMA analysis vindicates the concerns CAF and its members have expressed:

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[26] Coalition for App Fairness, "How Apple's App Store practices are stifling innovation", available at https://appfairness.org/wp-content/uploads/2021/05/caf-stifling-innovation.pdf.

[27] David Pierce, "A new email startup says Apple's shaking it down for a cut of its subscriptions", *Protocol*, 16 June 2020, available at https://www.protocol.com/hey-email-app-store-rejection (citing an Apple spokesperson as saying at the time that "Apple allows these kinds of client apps — where you can't sign up, only sign in — for business services but not consumer products. That's why Basecamp, which companies typically pay for, is allowed on the App Store when Hey, which users pay for, isn't.")

[28] Majority Staff Report and Recommendations, Investigation of Competition in Digital Markets, 2020, available at https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf, ("US House Antitrust Report"), page 371.

- **Inability to choose payment processor**: App developers selling "digital" goods or services are prohibited from choosing an alternative service provider to process payments. Instead, they have to rely on the "one-size-fits-all" payment solution offered by the app store operator, which is not tailored to their business needs and suffers from considerable limitations compared to bespoke payment solutions. It is eventually users that miss out, as app developers are prevented from offering flexible payment options and features valued by users (e.g., carrier billing, subscriptions with different billing cycles, targeted discounts, ability to pay in instalments). As the CMA correctly observes, if app developers were able to choose their payment solution, payment service providers would have a strong incentive to innovate in payment solutions specifically designed for in-app payments.[29]

- **Disintermediation**: By mandating the exclusive use of their own payment solution, Apple and Google interpose themselves between the app developer and its user base and confiscate the customer relationship, by becoming the direct seller. The app developer is disintermediated from its users and cannot provide customer support on crucial billing issues such as refunds and cancellation requests. Moreover, Apple's IAP prevents developers from receiving valuable data, which they could use to improve their services and protect their users (e.g., from fraud).

- **Raising rivals' costs**: App developers using the app store's payment solution have to incur a supra-competitive 30% commission on the sales of "digital" goods or services, which Apple or Google's own apps do not incur. This commission eats into the margins of app developers, and raises the costs for rival apps, thus distorting downstream competition. In the long term this can have significant effects on consumer welfare, either because downstream markets are foreclosed or because developers have a reduced incentive to invest in their apps.

- **Raising switching costs**: As explained above, the mandatory use of the app store's payment solution increases switching costs, making it harder for users to switch to a mobile device with a different operating system, and in particular accessing or managing their subscriptions after switching.

- **Anti-steering rules**: Apple and Google's anti-steering rules limit the ability of consumers to make informed choices between different channels, missing out on cheaper out-of-app alternatives. At the same time, such rules solidify the market power of Apple and Google's app stores as channels for content discovery.

V. Potential interventions

In Chapter 7 of its Interim Report, the CMA identifies a range of potential interventions to address its competition concerns, with a view to driving greater competition and choice both *within* and *between* mobile ecosystems to the benefit of consumers. Specifically, the CMA proposes both interventions to address the sources of Apple and Google's market power, as well as interventions to address harms to competition and consumers that may result from such

[29] Interim Report, paragraph 6.194.

market power. In this context, the CMA has invited stakeholders' views on the potential benefits and costs of its proposed interventions.

CAF strongly supports the CMA's proposals, as they have the potential to unlock competition and choice in a key sector of the digital economy which has long been under the grip of two companies, to the detriment of consumers and developers. Unsurprisingly, Apple and Google prophesize that any intervention threatening their market power will have devastating consequences for device security, user privacy, and consumer trust. On closer inspection, however, these self-serving arguments collapse. Contrary to what Apple and Google suggest, it is perfectly feasible to drive greater competition and choice in mobile ecosystems while at the same time protecting privacy and security and fostering consumer trust.

Against this background, CAF now provides specific comments on interventions proposed in relation to each "remedy area" (each such area corresponding to one of the four themes of the market study), with the exception of remedy area 3 (competition in the supply of mobile browsers and browser engines).

Remedy area 1: interventions relating to competition in the supply of mobile devices and operating systems

Under remedy area 1, the CMA proposes a range of interventions to inject competition *between* mobile ecosystems, in particular by facilitating switching between different operating systems and increasing the threat posed by potential rivals.[30] The CMA envisages a number of remedies to reduce barriers to switching, namely (i) measures enabling users to manage their subscriptions more easily with app developers across multiple devices and recover access to paid-for apps and in-app content after switching; (ii) measures enabling iOS users to migrate their apps and data to Android devices; and (iii) measures addressing the lack of interoperability of Apple's first-party products and services.[31]

CAF supports these remedies, as they have the potential to lower the material (actual and perceived) costs that dissuade users from switching to a different mobile operating system. However, CAF is skeptical as to whether such remedies would suffice to unlock competition between the mobile ecosystems of Apple and Google. Indeed, even if switching costs were reduced, it is unlikely that Apple and Google would start competing intensely against each other. As the CMA found, users generally buy replacement devices, do not multi-home, and tend to be very loyal, i.e. they rarely switch to a different operating system. As a result, each of Apple and Google will continue to have substantial and entrenched market power in the supply of mobile operating systems and native app distribution. Therefore, while measures lowering switching costs are definitely desirable, they should not come at the expense of interventions aimed at improving competition *within* each mobile ecosystem.

[30] Interim Report, paragraphs 7.31-7.47.

[31] Interim Report, paragraphs 7.34.

Now, there is nothing precluding the CMA from simultaneously pursuing both types of measures, and certain interventions may at the same time increase competition both within and between mobile ecosystems. Specifically, measures allowing greater choice of third-party payment providers can address concerns relating to harm to competition and consumers as a result of Apple and Google's market power in native app distribution (as discussed under remedy area 4 below), while at the same time facilitating users in transferring and managing subscriptions across devices, hence lowering switching costs and increasing competition between mobile ecosystems.

Remedy area 2: interventions relating to competition in the distribution of native apps

Under remedy area 2, the CMA is exploring interventions aimed at promoting alternative app distribution methods with a view to increasing competition in the distribution of native apps. Specifically, the CMA is considering requiring Apple to (1) allow alternative app stores on iOS devices (currently prohibited); (2) allow sideloading of native apps on iOS (also prohibited); and (3) support web apps on iOS. As for Google, the CMA is considering (1) breaking the link between Google Play and various payments made under Google's agreements; (2) removing restrictions on accessing third-party app stores through Google Play; and (3) making sideloading easier on Android devices.

As analyzed in Chapter 4 of the Interim Report, each of Apple and Google enjoy substantial and entrenched market power in native app distribution in their respective ecosystems. In turn, this affords them with unique power over app developers, which have no alternative than to accept their terms (however unfair they may be) – including an obligation to use the app store's payment solution and pay a supra-competitive 30% commission on digital sales.

Therefore, **measures aimed at loosening the grip of Apple and Google over app distribution and promoting alternative distribution channels** (which are currently prohibited or very limited) **can deliver significant benefits for both developers and users**. Greater competition in app distribution would translate to increased choice for consumers (as they could discover apps through alternative channels) and lower prices (as each app store operator would be compelled to lower its fees to remain competitive).

The CMA is correct to observe that some of these measures may still not suffice to unlock competition in app distribution by reason of characteristics inherent in the market, and particularly the existence of strong indirect network effects and the "chicken and egg" problem they pose for alternative app stores.[32] However, indirect network effects pose less of a problem for niche app stores (such as app stores specialized in e.g., games) and in principle no problem for sideloading. In any event, any potential difficulties faced by alternative app stores do not militate against adopting measures to increase competition in app distribution. At most, they call for the simultaneous adoption of targeted measures to manage the effects of Apple and Google's market power, such as those examined under remedy area 4.

Apple has fiercely opposed regulatory attempts to open up iOS to alternative distribution channels (such as third-party app stores or sideloading), claiming that any such measure "*would*

[32] Interim Report, paragraph 7.55.

cripple the privacy and security protections that have made iPhone so secure, and expose users to serious security risks,"[33] and describing sideloading as "*a cybercriminal's best friend*."[34]

Yet, **as CAF has already explained in one of its papers, Apple's security claims are largely overblown and do not hold sway**.[35] The proposition that device security can *only* be ensured if the Apple App Store is the exclusive distribution channel is simply not tenable. For one, most security features (such as sandboxing, which restricts apps from accessing content on other apps or the system) do not depend on the method of app distribution, as they are built in the hardware or the operating system. Apple argues that such features are nevertheless inadequate, in that they do not protect against social engineering attacks such as phising; these may only be addressed through a system of human review, so the argument goes.[36] But Apple is careful to not mention that such review can happen regardless of the precise method of app distribution, as explained below.

Consider the case of direct downloads from the web, which are currently permitted on Mac computers. In this case, Apple protects security through a process of prior scanning of the software for malware and **notarization**, and then providing users with the ability to make an informed choice on whether they wish to download the software (users may also download software that has not been notarized, but the process comes with considerable friction). It is not clear why a similar process of notarization could not be deployed to "certify" software which would be then made available for download on iOS devices – either directly through the web or through an alternative app store.

In an attempt to differentiate Mac computers from iPhones in the context of the Epic Games litigation in the US, Apple's Craig Federighi testified that "*today we have a level of malware on the Mac that we don't find acceptable, and it is much worse than iOS*."[37] Unsurprisingly, Judge Gonzalez Rogers of the US District Court for the Northern District of California discounted Mr. Federighi's views, noting that his opinions "*appear to have emerged for the*

[33] Building a Trusted Ecosystem for Millions of Apps – a threat analysis of sideloading, Apple, October 2021, available at https://www.apple.com/privacy/docs/Building_a_Trusted_Ecosystem_for_Millions_of_Apps_A_Threat_Analysis_of_Sideloading.pdf.

[34] https://9to5mac.com/2021/11/03/craig-federighi-keynote-side-loading-speech/.

[35] https://appfairness.org/wp-content/uploads/2021/12/iOS_Users_and_Third_Party_App-Stores.pdf.

[36] In a recent letter to US lawmakers advocating against the adoption of the American Innovation and Online Choice Act and the Open App Markets Act, Apple claims that the alleged increased security risk of sideloading "is not primarily because consumers will knowingly choose to accept the risk and download questionable apps; it is because, without a centralized vetting mechanism like the App Store, many consumers will be deceived into installing unwanted malicious software on their devices." See https://9to5mac.com/wp-content/uploads/sites/6/2022/01/Apple-letter-full.pdf.

[37] Nick Statt, "Apple's Craig Federighi throws Mac security under the bus", *Protocol*, available at https://www.protocol.com/apple-epic-trial/apples-craig-federighi-admits-macos-malware-level-is-not-acceptable.

first time at trial which suggests he is stretching the truth for the sake of the argument."[38] Apple has also argued that iPhones typically contain more sensitive personal information compared to Mac computers (e.g., photos and messages) but this is simply wrong, since a user's Mac has access to iPhone information through iCloud syncing. Therefore, if Mr. Federighi's words were to be taken at face value, Apple would have to concede it exposes iPhone users to unacceptable security risks.

In any event, and to return to Apple's argument about the alleged necessity of human review, there is nothing precluding Apple from adding an element of human review to the notarization process, if it is indeed necessary to ensure security. Once more the findings of Judge Gonzalez Rogers are illuminating in this respect:

> "Apple initially considered using app signing for security while allowing developers to distribute freely on iOS. As one document explains, '[app] [s]igning does not imply a specific distribution method, and it's left as a policy decision as to whether signed applications are posted to the online store, or we allow developers to distribute on their own.'"[39]

The Judge further noted that "*[a]s Mr. Federighi confirmed at trial, once an app has been reviewed, Apple can send it back to the developer to be distributed directly or in another store*."[40]

To put it in a nutshell, Apple's security claims are overblown. **It is perfectly feasible to open up iOS to alternative distribution channels while protecting security.** Among others, Apple could deploy a notarization system similar to that used on Mac for certifying software – with an added element of human review, to the extent necessary. Certified software would then be available for download either directly on the web or through an alternative app store.

In the second place, Apple has argued that interventions could lead to developers **freeriding** on its investments into its mobile ecosystem,[41] but this is hardly credible. **Developers do not freeride on Apple; they bring massive value to iOS**,[42] which Apple captures through the sale of very expensive devices, as the CMA correctly observes.[43] Apple itself submitted to the CMA that "*the importance of a thriving app ecosystem for the success of a device can hardly be overstated*,"[44] thus contradicting any claim that app developers are free riders. And it should

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38 *Epic Games, Inc. v. Apple Inc.*, 4:20-cv-05640-YGR, Rule 52 Order after trial on the merits, (N.D. Cal. 2021), page 113.

39 Id., page 112.

40 Id., page 113.

41 Interim Report, paragraph 7.59.

42 See also Coalition for App Fairness, "How Apple's App Store practices are stifling innovation", available at https://appfairness.org/wp-content/uploads/2021/05/caf-stifling-innovation.pdf.

43 Interim Report, paragraph 7.60.

44 Interim Report, paragraph 4.175.

not be forgotten that Apple has more than one way of extracting value from third-party apps, including (a) an annual $99 fee charged to app developers (resulting in $ 2.67 billion in revenue according to US House estimates)[45]; and (b) search ads which developers buy on the App Store to increase discoverability (Apple's ad business was expected to bring as much as $3 billion in revenue for fiscal 2021).[46]

In addition, there is no indication that opening up iOS to alternative distribution channels would reduce Apple's **incentives** to invest in the iOS ecosystem – indeed, it is likely Apple would have even stronger incentives to invest and innovate if it were exposed to greater competition, which is not the case today. Relatedly, Judge Gonzalez Rogers observed that the problem of unclear guidelines and inconsistent app store review

> "stems from the sheer number of apps submitted with only 500 human reviewers. Apple has been slow either to adopt automated tools that could improve speed and accuracy or to hire more reviewers. […] Apple's slow innovation stems in part from its low investment in the App Store."[47]

Rather than reducing Apple's incentives, unlocking competition in app distribution would put pressure on Apple to invest more on the App Store, among others to improve its app store review process.

Remedy area 4: interventions relating to the role of Apple and Google in competition between app developers

Under remedy area 4, the CMA is exploring interventions relating to the role of Apple and Google in competition between app developers, including (i) remedies to address their ability to harm competition through the operation of the app store; (ii) remedies to address concerns with in-app payment systems; and (iii) separation remedies.

Interventions to address ability to harm competition through the operation of the app store

First, the CMA is considering a range of interventions to address the ways in which Apple and Google are able to distort competition, and the related harms that arise. The CMA is thus considering measures to ensure that Apple and Google: (i) do not unreasonably restrict third-party access to hardware and software (e.g., APIs); (ii) do not provide their own apps with a competitive advantage through pre-installation and default settings; (iii) implement a fair and transparent review process; (iv) provide more transparency about their algorithms; (v) do not unreasonable share information from one part of their business to their app development

[45] US House Antitrust Report, page 345.

[46] Eric J. Savitz, "Apple's Advertising Business Is Bigger Than You Think. It Could Get Bigger Still.", *Barron's*, 3 August 2021, available at https://www.barrons.com/articles/apples-advertising-business-is-bigger-than-you-think-it-could-get-bigger-still-51628004419.

[47] *Epic Games, Inc. v. Apple Inc.*, Rule 52 Order after trial on the merits, supra note 38, page 102.

business; (vi) treat consistently their own apps and third-party apps for privacy purposes; and (vii) do not unreasonably restrict cloud-based streaming apps.

CAF agrees with the CMA that collectively, these interventions would reduce the ability of Apple and Google to engage in self-preferencing in their dual roles as both app developer and app store owner, resulting in consumer benefits and more intense competition.[48] These remedies would address many of the concerns raised by CAF members competing with Apple and Google, including concerns over Apple reserving to itself access to critical hardware or software functionality,[49] and Apple requiring app developers to waive their IP rights.[50]

Meanwhile, it is absolutely crucial for all app developers – whether they compete with the app store owner or not – that the app store review process be conducted in a **fair, transparent, and non-discriminatory** manner. The app store review process provides Apple and Google with unique control over app developers, and is a prime example of a digital platform acting as a "**private regulator**" for hundreds of thousands of businesses. Yet the erratic review process deployed by Apple creates a hostile business environment for developers, delaying them in rolling out new and improved features for their users. Worse, the app review process can be used as a tool for retaliation as Apple can block for frivolous reasons the apps of developers that have expressed their discontent with Apple. CAF thus strongly supports measures to inject fairness and transparency in existing app store review processes, which should apply more broadly to any type of (human) review that may be introduced in the future by Apple and Google (e.g., to protect device security). In this context, there is a compelling case for separating the app store review team from others lines of business, as explained further below.

Interventions to address concerns with in-app payment systems

Next, the CMA is proposing remedies to address concerns relating to Apple and Google's in-app payment systems. As explained earlier in the Interim Report – and in CAF's papers[51] – the mandatory use of Apple and Google's payment solutions results in considerable consumer harm, among others by disintermediating app developers from their own customers, causing frictions in billing issues (e.g., refunds, cancellation requests) and raising switching costs for users. The mandatory use of the app store's payment solution (and the payment of a related 30% commission) also raises the costs of rival app developers, hence distorting competition between Apple and Google's own apps and rival apps.

In response, the CMA considers, in the first place, interventions to allow **greater choice** of in-app payment options, whereby app developers would no longer be required to exclusively use Apple and Google's payment systems, and would have a direct selling relationship with the user. CAF strongly supports such interventions, for they would bring considerable benefits to

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[48] Interim Report, paragraph 7.95.

[49] Interim Report, paragraphs 6.38-6.41.

[50] Interim Report, paragraphs 6.132-6.133.

[51] Coalition for App Fairness, "Apple's In-App Purchase ("IAP") as a disintermediation tool", available at https://appfairness.org/wp-content/uploads/2021/05/CAF-IAP-as-DisintermediationTool.pdf.

app developers and consumers and unlock innovation in the provision of payment services. Rather than being limited to the app store's "one-size-fits-all" solution, app developers would be able to procure bespoke payment solutions from specialized vendors, tailored to their needs, providing their customers with increased flexibility and choice (e.g., adding the option of carrier billing or paying in installments, offering additional subscription models not currently supported by the app stores' payment solutions, etc.). Developers would regain control over the customer relationship, and would be able to provide customer support on crucial billing issues (e.g., refunds or cancellation requests). In addition, by having access to transaction data, developers would be able to improve the quality of their services and protect their users from bad actors (e.g., by running fraud checks).

Even so, the two app store operators have vehemently opposed any remedy that would increase choice of in-app payment options. Apple in particular has claimed that the mandatory use of IAP is necessary to ensure (i) payment security; (ii) a smooth payment experience; and (iii) that Apple can collect its 30% commission.[52] However, neither of these claims holds water.

Payment security: There is no indication that specialized third party providers such as PayPal or Stripe – which have to comply with strict security standards such as PCI DSS – cannot provide the same security protections as Apple. In fact, Apple allows apps selling "physical" goods or services such as Lyft or Airbnb to use the payment solution of their choice, which indicates that its security concerns over apps selling "digital" goods are pretextual.

Smooth payment experience: Apple claims that IAP's centralised nature enables users to have a frictionless, one-click payment experience across apps. Again, thousands of apps use their own payment solution, yet this has not in any way discouraged users from using their mobile devices for purchases. After all, providers such as PayPal allow users to make one-click purchases across apps.[53] In any event, even assuming that users value certain IAP features, this provides no justification for mandating the *exclusive* use of IAP. Consumers could be simply offered the **choice** between use of the app store's payment solution and an alternative payment system chosen by the app developer, as the CMA observes.[54]

Commission collection: Apple claims that the mandatory use of IAP is necessary for it to monitor transactions and collect a commission on sales of digital content. Absent the exclusive use of IAP, Apple would have no way to calculate and collect its commission, so the argument goes. Yet this is wrong; there are viable alternative methods for Apple and Google to collect a commission, for example through the use of reporting requirements and audit rights, or through an API that would notify the app store operator each time a payment is made (much like Apple currently uses APIs to inform developers each time a payment is made through IAP).

Recent changes in response to regulatory developments suffice to **debunk once and for all Apple's argument on the necessity of IAP for collecting a commission**. In response to recent Korean legislation barring large app store operators from mandating the exclusive use of their

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[52] Interim Report, paragraphs 6.165 and following.

[53] https://www.paypal.com/aw/webapps/mpp/one-touch-checkout/faq.

[54] Interim Report, paragraph 7.100.

payment systems, Google has allowed apps in Korea to use the payment solution of their choice, while still charging a commission.[55] Google is currently relying on a system of reporting, but it plans on launching APIs within 2022.[56] Following an initial period of non-compliance during which it claimed there was no need to change its policies,[57] Apple has recently announced it will also allow alternative in-app payment solutions in Korea.[58] Meanwhile, following an order from the Dutch ACM finding that Apple has abused its dominant position in the distribution of dating apps on iOS devices,[59] Apple has announced it will allow developers of dating apps in the Netherlands to use third party payment processors for accepting user payments or directing users to an external website for completing the purchase, although it has yet to comply with the order and has been fined as a result.[60] Yet, Apple still intends to collect a commission.

In conclusion, there are no objective reasons justifying the exclusive use of an app store's payment solution. CAF would nevertheless emphasize that this does not mean Apple and Google should be at liberty to charge a **supra-competitive** 30% commission on app developers. The 30% commission does not reflect the value of the app store; rather, it only reflects the substantial and entrenched market power of each of Apple and Google in app distribution. As noted by Judge Gonzalez Rogers, Apple set its commission at 30% almost by accident, without regard to operational costs, benefits for users or developers.[61] The 30% commission **bears no relationship** to Apple's App Store **costs**,[62] or the **value** delivered to

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55 See https://developers-kr.googleblog.com/2021/11/enabling-alternative-billing-in-korea-en.html.

56 See https://support.google.com/googleplay/android-developer/answer/11222040.

57 Joyce Lee, "S.Korea lawmaker says Apple, Google not doing enough to comply with app store law", *Reuters*, 16 November 2021, available at https://www.reuters.com/technology/skorea-lawmaker-says-apple-google-not-doing-enough-comply-with-app-store-law-2021-11-16/.

58 Apple submits plans to allow alternative payment systems in S.Korea – regulator, *Reuters*, 11 January 2022, https://www.reuters.com/business/apple-plans-allow-alternative-payment-systems-skorea-regulator-2022-01-11.

59 See Authority for Consumers and Markets, "ACM obliges Apple to adjust unreasonable conditions for its App Store", 24 December 2021, available at https://www.acm.nl/en/publications/acm-obliges-apple-adjust-unreasonable-conditions-its-app-store.

60 Emma Roth, "Apple will let dating apps offer third-party payment options in the Netherlands", *The Verge*, 15 January 2022, available at https://www.theverge.com/2022/1/15/22885065/apple-netherlands-dating-apps-third-party-payment-options. On Apple's non-compliance, see the press release of the ACM, "Apple fails to satisfy requirements set by ACM", 24 January 2022, available at https://www.acm.nl/en/publications/apple-fails-satisfy-requirements-set-acm. In February 2022 Apple provided additional details on its measures to comply with the ACM order. See https://developer.apple.com/support/storekit-external-entitlement/. These measures still do not seem to satisfy the requirements set by the ACM.

61 *Epic Games, Inc. v. Apple Inc.*, Rule 52 Order after trial on the merits, supra note 38, page 144.

62 Id., page 35.

developers;[63] it was a historic gamble that simply allowed Apple to reap supra-competitive margins.[64]

In addition, Apple and Google have structured their commission in an unfair and discriminatory manner, in that only a handful of apps (those selling "digital" goods or services) are called to pay the bill, when all apps are equally distributed in each app store. This structure is unfair, as Apple and Google have in effect arbitrarily selected a category of apps to subsidize everyone else – a point conceded by Apple CEO Tim Cook in his testimony in the *Epic Games* litigation in the US.[65]

For these reasons, it is crucial that the CMA adopt targeted measures to unlock competition in the distribution of apps in Apple and Google's mobile ecosystems, such as the remedies envisaged under remedy area 2. Competition is likely to exert pressure on Apple and Google to lower their fees in order to remain competitive and prevent developers from switching to alternatives. In addition, the CMA could explore measures to address the imbalance of bargaining power between app store operators and app developers, without having to take a position on the precise level of the commission. For instance, app store operators could be subject to mandatory final offer arbitration (similar to the one proposed in Australia as part of the news media bargaining code), which would determine the level of a "fair" app store commission.

In the second place, the CMA is exploring interventions allowing **greater promotion of off-app payment options**, for instance by removing or loosening Apple and Google's anti-steering rules preventing developers from referring users to (possibly cheaper) out-of-app purchasing options.[66] CAF strongly supports such interventions, as they would help users make an informed choice on their purchases. As noted by the CMA, the anti-steering rules solidify the

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[63] Id., page 98: "Last, Apple argues that the 30% rate is commensurate with the value developers get from the App Store. This claim is unjustified. One, as noted in the prior section, developers could decide to stay on the App Store to benefit from the services that Apple provides. Absent competition, however, it is impossible to say that Apple's 30% commission reflects the fair market value of its services. Indeed, at least a few developers testified that they considered Apple's rate to be too high for the services provided. Two, Apple has provided no evidence that the rate it charges bears any quantifiable relation to the services provided. To the contrary, Apple started with a proposition, that proposition revealed itself to be incredibly profitable and there appears to be no market forces to test the proposition or motivate a change." See also page 114, dismissing Apple's argument that the 30% commission is based on its intellectual property: "…the record is devoid of evidence that Apple set its 30% commission rate as a calculation related to the value of its intellectual property rights."

[64] Ibid. See also page 92.

[65] Adi Robertson, Tim Cook faces harsh questions about the App Store from judge in Fortnite trial, *The Verge*, 21 May 2021, available at https://www.theverge.com/2021/5/21/22448023/epic-apple-fortnite-antitrust-lawsuit-judge-tim-cook-app-store-questions (when Judge Gonzalez Rogers noted that "the gaming industry seems to be generating a disproportionate amount of money relative to the IP that you are giving them and everybody else. In a sense, it's almost as if they're subsidizing everybody else", Tim Cook replied that "[t]he bulk of the apps on the App Store are free, so you're right that there is some sort of subsidy there").

[66] Interim Report, paragraph 7.102.

position of app stores as a way for users to discover and pay for content, hence removing such rules would help reduce such market power to the benefit of both consumers and developers.[67] Such a remedy would have similar benefits as the first intervention envisaged by the CMA, in that developers would have a direct selling relationship with consumers, albeit such benefits could be reduced by the frictions caused by users needing to make payments outside of the app. For these reasons, CAF is of the view that app developers should be given the option to choose to either use a third-party payment solution inside their app or refer users to out-of-app purchasing options (e.g., by including web links inside the app).

In the third place, the CMA is considering measures to restrict the potential for **self-preferencing** of Apple and Google's own apps vis-à-vis rival apps.[68] As noted above, the obligation to use IAP and pay a related 30% commission has considerable distortive effects on competition. Apps competing with those of Apple and Google in selling digital content are essentially obliged to hand over a third of their turnover to their biggest rivals all while being disintermediated from their user base and denied access to data necessary to improve their business. The exclusionary impact is often compounded by additional self-preferencing practices of app store operators, such as pre-installation of their own apps and discriminatory application of their developer guidelines. CAF strongly supports measures to restore a level-playing field between independent developers competing with Apple and Google's own apps. Developers of rival apps should be able to offer their own payment solution inside the app without incurring a discriminatory 30% commission. Alternatively, rival apps should be allowed to disable the app store's payment system, and communicate with their users about out-of-app purchasing options – for instance by including links inside the app directing users to an external website.

Separation remedies

Finally, the CMA is considering separation remedies to address the conflicts of interests of Apple and Google in the operation of their app stores, and in particular their leveraging of market power into app development.[69] The CMA considers various types of separation, including data separation, operational separation, and structural separation.

CAF agrees that some form of separation remedies would be desirable, as they would remove or limit the ability and incentive of Apple and Google to unfairly favour their own apps. As a minimum, **data separation** is necessary to prevent app store operators from using non-public data of app developers to then compete with them – Masimo's and Tile's experiences with Apple are illustrative in this regard. Besides distorting competition, such conduct depresses the incentives of app developers to innovate (especially when combined with clauses disclaiming any confidentiality obligations).

[67] Interim Report, paragraph 7.102.

[68] Interim Report, paragraph 7.104.

[69] Interim Report, paragraph 7.107 and following.

CAF recognizes that data separation remedies may pose considerable monitoring difficulties in practice, and there is a risk that any "ethical walls" will become porous. For this reason, CAF is in favour of a form of **operational / functional separation** between Apple and Google's app development business and the rest of their activities. The CMA could draw inspiration from separation interventions implemented in the telecommunications sector,[70] as well as in other network industries (e.g., energy, postal services), to precisely address risks of discriminatory behaviours that may be pursued by vertically integrated dominant operators.

At the same time, there is a particularly compelling case for separating the **app store review process**, which Apple has often used to retaliate against developers that publicly voice their opposition to its monopolistic conduct, or to simply disrupt the business of its rivals and provide its own apps with an unfair advantage. The app store review process affords Apple and Google with unique power over app developers – and can be used as a weapon to retaliate or even deprive developers from the benefit of new regulations, by for instance finding frivolous reasons to block new app updates of developers wishing to make use of new rules. The app store review process should be conducted in a fair, transparent, and non-discriminatory manner, and separation measures would help ensure Apple and Google's own apps are treated on an "arm's length" basis and the app store review process is not influenced by the app store's management.

VI. Conclusions – the *ex ante* pro-competition regime

CAF would like to congratulate the CMA once more for its excellent work in analyzing the complex world of mobile ecosystems. As the CMA notes, the findings of its market study will be a useful input into the DMU's work as part of the upcoming *ex ante* pro-competition regime. The Interim Report provides compelling evidence that both Apple and Google should be designated as holding Strategic Market Status with respect to (i) mobile operating systems (and mobile devices in the case of Apple); (ii) native app distribution; and (iii) browsers and browser engines: each of Apple and Google have substantial and entrenched market power in the above digital activities, which affords them with a strategic position in a key sector of the digital economy. Apple and Google would thus fall within the scope of the *ex ante* regime, to the effect they would be subject to codes of conduct and pro-competitive interventions.

CAF generally agrees that the *ex ante* regime could be effective in addressing the CMA's competition concerns and implementing the interventions identified in the Interim Report. However, CAF cannot stress enough the need for timely and effective action to harness the market power of Apple and Google, to the benefit of UK consumers. As the Government has yet to propose the relevant legislation for the *ex ante* regime, CAF urges the CMA to make full use of its existing enforcement toolkit in the meantime, and consider making a market investigation reference if, by the time its market study is concluded, no legislation has been tabled in Parliament. Any delay to act is to the detriment of UK consumers.

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[70] See "BEREC Guidance on functional separation - Annex I Functional separation in practice: EU experiences", BoR (10) 44 Rev1b, February 2011. For instance, in 2005 Ofcom required BT to establish a separate operating division, Openreach, that would supply key access products to all communications providers, including BT's own retail businesses.