Neutral citation [2025] CAT 67

IN THE COMPETITION APPEAL TRIBUNAL

Case No: 1403/7/7/21

Salisbury Square House
8 Salisbury Square
London EC4Y 8AP

23 October 2025

Before:

BEN TIDSWELL
(Chair)
WILLIAM BISHOP
TIM FRAZER

Sitting as a Tribunal in England and Wales

BETWEEN:

DR RACHAEL KENT

Class Representative

- v -

(1) APPLE INC.
(2) APPLE DISTRIBUTION INTERNATIONAL LTD

Defendants

Heard between 13 January and 28 February 2025

JUDGMENT

APPEARANCES

Mark Hoskins KC, Tim Ward KC, Michael Armitage, Matthew Kennedy, and Antonia Fitzpatrick (instructed by Hausfeld & Co. LLP) appeared on behalf of the Class Representative.

Marie Demetriou KC, Brian Kennelly KC, Daniel Piccinin KC, Hugo Leith, and Hollie Higgins (instructed by Gibson, Dunn & Crutcher UK LLP) appeared on behalf of the Defendants.

Julian Gregory (instructed by the Competition and Markets Authority Legal Department) appeared on behalf of the Competition and Markets Authority.

Note: Excisions in this judgment (marked "[✂]") have been redacted following full consideration of confidentiality requests by the Tribunal on 13 November 2025.

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A. INTRODUCTION

(1) The claim

1. These are collective proceedings brought on behalf of approximately 36 million class members by Dr Rachael Kent (the "Class Representative") against two Apple entities (together, "Apple") which are, broadly speaking, responsible for the operation of Apple's App Store. The claim is that Apple has abused its dominant position, infringing section 18/Chapter II of the Competition Act 1998 (the "1998 Act") and Article 102 of the Treaty on the Functioning of the EU (the "TFEU") (prior to 31 December 2020) by imposing exclusionary practices on app developers in relation to two alleged markets: one of "iOS app distribution services" and one of "iOS in-app payment services", and by charging developers a headline rate of commission (the "Commission") of 30% for those services, which is said to be an excessive and unfair price.

2. The premise of the claim is that, from 1 October 2015 to 15 November 2024 (the "Claim Period"), Apple should have charged developers a non-abusive price for iOS app distribution services and iOS in-app payment services, which would have resulted in lower prices to users of Apple devices who made payments relating to apps. The average amounts which are said to be recoverable by individual users are relatively small, in the region of £27 to £75. However, the aggregate claim for damages is large, ranging from £1.184 billion to £2.237 billion (including interest claimed). That reflects the underlying philosophy of the collective proceedings regime, which allows consumers to aggregate claims which would not otherwise be economically viable, so they can be pursued, in the interests of redress and as a deterrence for anticompetitive behaviour[1]. The main issues in the proceedings (in the same order in which we will address them in this judgment) are as follows:

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[1] See Department for Business Innovation & Skills, *Private Actions in Competition Law: A consultation on options for reform – government response*, January 2013, page 6: "Breaches of competition law, such as price-fixing, often involve very large numbers of people each losing a small amount, meaning it is not cost-effective for any individual to bring a case to court. Allowing actions to be brought collectively would overcome this problem, allowing consumers and businesses to get back the money that is rightfully theirs – as well as acting as a further deterrent to anyone thinking of breaking the law."

(1) What market definition(s) should we adopt for the purpose of analysing Apple's conduct?

(2) Is Apple dominant in the market(s) we identify?

(3) Has Apple acted abusively by foreclosing competition in the defined market(s), either through exclusionary restrictions or through tying one service to another?

(4) Is Apple's pricing for its services abusive because it is excessive and unfair?

(5) Are there justifications for Apple's conduct which excuse what would otherwise be abusive conduct?

(6) If Apple has committed an abuse, what level of overcharge has that caused and how much of that overcharge has been passed on to end users (that is, class members)?

(2) The trial

3. The trial of these collective proceedings took place over 28 hearing days from 13 January to 28 February 2025. That is a little under four years after the proceedings were filed in May 2021, and less than three years after the grant of the Collective Proceedings Order in June 2022.

4. It was a significant achievement to get the case ready for trial in that timeframe, given the considerable disclosure and the extent of factual and expert evidence. The teams representing the parties are to be commended for their hard work and constructive approach in making that happen.

5. We are particularly grateful to the legal teams who presented the case during the trial, led by Mr Mark Hoskins KC for the Class Representative and Ms Marie Demetriou KC for Apple. We were greatly assisted by their clarity and focus and their impeccable adherence to the trial timetable. We also had the benefit of

written observations from the Competition and Markets Authority (the "CMA"), and oral opening and closing remarks from Mr Julian Gregory on behalf of the CMA. We found that very helpful and we are grateful for the CMA's input.

6. The parties filed written opening and closing submissions and there were also oral opening and closing submissions, which occupied some five days in total. As well as the oral evidence from the factual and expert witnesses, there were many hundreds of pages of evidence included in the trial bundle. The written economic expert evidence alone amounted to well over two thousand pages.

7. That is perhaps not surprising, given that the broad headings in [2] above disguise a wide range of issues which were contested by the parties. There was helpful agreement between the parties on many of the legal principles, but extensive disagreement about the application of those to the facts. As a consequence, we have had to cover a considerable amount of ground in this judgment. In order to produce a manageable document, we have focused on the key points and key materials wherever possible. The lack of a reference to any particular point or argument or piece of evidence does not mean that we have overlooked it. Rather, it signifies that we did not consider it of sufficient import to alter our conclusions.

8. In this next subsection we will describe the evidence we heard from witnesses of fact and expert evidence.

(a) Factual witnesses

(i) The Class Representative's factual witnesses

9. Mr Christian Bailey Owens gave oral evidence for the Class Representative on Day 4 of the trial. He founded Paddle.com Market Limited ("Paddle") in 2012. Paddle provides "merchant of record" services to developers of digital goods and services including software and online courses. Mr Owens was previously chief executive officer ("CEO") of Paddle, but in 2023, he stepped down and became executive chairman of the Paddle board until April 2024, when he

became a consultant and board observer at Paddle. Mr Owens produced one witness statement ("Owens 1"). He was a straightforward and helpful witness who was clearly very knowledgeable.

(ii) Apple's factual witnesses who gave oral evidence

10. Mr Kevan Parekh gave remote oral evidence for Apple on Days 4 and 5 of the trial. At the time of trial, he had recently been appointed as chief financial officer ("CFO") of Apple. He joined Apple in June 2013 as a senior director of products finance. He was promoted one year later to vice president of products finance, reporting directly to the CFO. A year following this, he became vice president of sales and marketing finance. In 2019, he added the responsibility of supporting Apple's retail business, and his title changed to vice president of sales, marketing, and retail finance. In October 2023, he became vice president of corporate financial planning and analysis at Apple, reporting to Apple's then-CFO, Mr Luca Maestri. In that role, he was responsible for managing Apple's financial performance reporting and leading its overall forecasting and budget control. Mr Parekh produced two witness statements ("Parekh 1" and "Parekh 2"). He was very clear and focused in his responses to questions and we found his evidence very helpful.

11. Mr Trystan Kosmynka gave oral evidence for Apple on Day 5 of the trial. He is the senior director of App Review at Apple. In 2010, he founded a start-up called TestFlight and became its chief technology officer. TestFlight was acquired by Apple in 2014, and Mr Kosmynka joined Apple as an engineering manager, a role in which he remained until 2016. In 2016, he became a director of App Review, and senior director thereafter. Mr Kosmynka produced one witness statement ("Kosmynka 1"). He was very careful and precise in his evidence, and on occasions a little evasive, but we found him to be a helpful witness.

12. Mr Philip Schiller gave oral evidence for Apple on Days 6 and 7 of the trial. He is an Apple Fellow at Apple. He joined Apple in 1987 and held various marketing roles. He then became product marketing manager there until he left in 1993. He returned to Apple in 1997 as vice president of hardware product marketing before becoming senior vice president of worldwide product

marketing a brief time later, responsible for product marketing and worldwide developer relations, as well as for the development and operations of the App Store, including App Review. He has been in his role as an Apple Fellow, in which he is responsible for the App Store and leading "Apple Events", since August 2020. He was also a member of Apple's executive team from 1997 to 2020. Mr Schiller produced one witness statement ("Schiller 1"). Mr Schiller was clearly very passionate about Apple's products and interests, but he was also fair minded, and in most cases, readily accepted propositions put to him when that was appropriate. We found him to be an impressive witness and, given his long involvement with relevant events, his evidence was very helpful.

13. Mr Craig Federighi gave oral evidence for Apple on Day 8 of the trial. He is the senior vice president of software engineering at Apple, leading the team responsible for building the operating systems that power Apple's products such as iOS and macOS. He also oversees matters concerning the security of Apple's products and services, including the overall security architecture for iOS and Mac devices. Mr Federighi began working at NeXT Computer in 1994. NeXT was acquired by Apple in 1997, at which point Mr Federighi became a director of engineering at Apple. He left Apple in 1999 and returned in 2009 as the vice president of macOS engineering. In 2012, he was promoted to senior vice president of macOS engineering at Apple, and in late 2012, to his current position. Mr Federighi produced one witness statement ("Federighi 1"). He was generally a straightforward and helpful witness, although inclined to be argumentative towards the end of his cross examination.

(iii) Apple's factual witnesses who did not give oral evidence

14. Mr Mark Rollins produced one witness statement ("Rollins 1"). Mr Rollins is a senior finance manager at Apple, having joined in 2019. His responsibilities include managing a finance team responsible for extracting, collecting, and analysing financial information relating to Apple's products and services, and responding to questions regarding that information. In Parekh 2, Mr Parekh confirmed the contents of Rollins 1.

15. Ms Jacqueline Harlow produced one witness statement ("Harlow 1"). Ms Harlow is principal counsel and senior manager on the intellectual property ("IP") transactions team at Apple, overseeing a team responsible for certain IP licensing matters. She has twice been employed by Apple, most recently since 2019, and previously from 2011 until 2015, when she served as counsel on the IP litigation team.

(b) Expert witnesses

(i) Industry expertise

16. The Class Representative: Mr David Howell gave oral evidence on Days 8 and 9 of the trial. He is the CEO of Avatron LLC. He founded a start-up called Pablo Media in 1994 and, as their principal engineer, negotiated and fulfilled software engineering contracts. When his last client was acquired by Apple in 2002, he sold his IP assets to Apple and was hired as a senior engineering manager in Apple's professional applications division. He led a team at Apple to develop applications and contributed to productivity apps. He left Apple in 2008 to launch Avatron, where he has worked as an engineer and entrepreneur developing and selling software for mobile devices and personal computers. He produced two expert reports ("Howell 1" and "Howell 2"). Mr Howell was subject to vigorous cross examination on a number of aspects of his expert opinion, but we thought he largely justified his positions and was clear about the extent of his experience and knowledge. He was a helpful witness.

17. The Class Representative: Mr Francesco Burelli gave oral evidence on Day 9 of the trial. He is a payment and digital banking specialist, and a partner at Arkwright Consulting AG. He produced two expert reports ("Burelli 1" and "Burelli 2"). Mr Burelli was clearly very knowledgeable about his subject matter but was sometimes less than clear in his answers and he was reluctant to agree some points when he obviously should have done. There were some limitations in the empirical aspects of his evidence but overall we found his evidence helpful.

(ii) Security expertise

18. The Class Representative: Dr Wenke Lee gave oral evidence on Days 9 and 10 of the trial. He is a professor in the College of Computing at Georgia Institute of Technology, having been a security researcher since 1994. He produced two expert reports ("Lee 1" and "Lee 2"). Dr Lee was a combative witness who seemed to treat cross examination as a debating exercise and was unwilling at times to accept points he obviously should have accepted. We did not find his approach helpful.

19. Apple: Professor Aviel Rubin gave oral evidence on Days 11 and 12 of the trial. He is a professor emeritus in computer science at Johns Hopkins University, having over thirty years of experience in computer science and applied cryptography. He produced two expert reports ("Rubin 1" and "Rubin 2"). Professor Rubin dealt sensibly with cross examination, but the overall tenor of his evidence was advocacy for Apple rather than giving independent expert evidence. As a result, we did not find his approach helpful.

(iii) Accounting expertise

20. The Class Representative: Mr Louis Dudney gave oral evidence on Day 12 of the trial. He is a certified public accountant, certified in financial forensics, and a partner and managing director at AlixPartners UK LLP. He produced three expert reports ("Dudney 1", "Dudney 2", and "Dudney 3"). Mr Dudney was a precise and careful witness and explained his position well. We found his evidence very helpful.

21. Apple: Dr Ronnie Barnes gave oral evidence on Day 13 of the trial. He is a chartered accountant and a vice president at Cornerstone Research, specialising in financial, accounting, and economic analysis. He produced one expert report ("Barnes 1"). Dr Barnes adopted the approach of challenging Mr Dudney's analysis, rather than conducting much of his own. He took positions which we regarded as indefensible and seemed to be acting unduly as an advocate rather than an independent expert. We did not find his approach helpful.

(iv) Competition economics

22. The Class Representative: Dr Hal Singer gave oral evidence on Days 14 (hot tub), 15, 16, 17 and 18 of the trial. He is a managing director at Econ One and a professor of antitrust economics at the University of Utah. Dr Singer produced four expert reports ("Singer 1", "Singer 2", "Singer 3", and "Singer 4"). Dr Singer was an impressive witness who had a very good grasp of the wide range of complex issues covered in his report. He was challenged extensively in cross examination and on occasions veered towards being uncooperative and acting as an advocate. Overall, however, his evidence was very helpful.

23. The Class Representative: Mr Derek Holt gave oral evidence on Days 14 (hot tub), 15, 18 and 19 of the trial. He is an economist and a managing director at AlixPartners UK LLP. Mr Holt produced four expert reports ("Holt 1", "Holt 2", "Holt 3", and "Holt 4"). Mr Holt was careful and considered in his evidence. We found his evidence helpful.

24. Apple: Professor Andrew Sweeting gave oral evidence on Days 14 (hot tub), 15, 20 and 21 of the trial. He is a professor of economics at the University of Maryland. Professor Sweeting produced two expert reports ("Sweeting 1" and "Sweeting 2"). Under cross examination, Professor Sweeting was not able to justify a number of the points in his written evidence, and we had the impression that he had not anticipated and was not prepared for the level of challenge he received. That was unfortunate, as he clearly has considerable experience and knowledge and at times provided us with valuable insight.

25. Apple: Professor Lorin Hitt gave evidence Days 14 (hot tub), 15, 21, 22 and 23 of the trial. He is a professor of operations, information and decisions at the University of Pennsylvania. Professor Hitt produced four expert reports ("Hitt 1", "Hitt 2", "Hitt 3", and "Hitt 4"). We found several aspects of Professor Hitt's evidence to be unsatisfactory. He seemed not fully to understand his duties to the Tribunal as an expert. He frequently acted as an advocate for Apple's case, ignoring inconvenient adverse evidence or points (including different positions taken by him in other litigation) and taking a selective view of certain evidence

(such as the Accent Survey; see below). He was willing to maintain arguments that were obviously incorrect. We did not find his approach helpful.

26. Finally on the subject of evidence, we should say that, despite the extensive written and oral material, there was considerable unevenness in the extent and quality of evidence placed before us. As an example, despite the case being largely about dealings between Apple and developers, direct evidence from developers was limited to one expert, Mr Howell. We have therefore had to piece together the factual position from multiple sources and, on occasion, to fill gaps as best we could with what we hope is our own common sense and judgement.

B. THE FACTS[2]

(1) Description of Apple and the App Store

27. Apple is a multinational technology company engaged in the manufacture and supply of a variety of products: devices including the iPhone, iPad, Mac and Apple Watch; and associated software which operates on those devices, including iOS, iPadOS, macOS, and watchOS. The iPhone, Apple's most famous product, was first released in the United States in 2007. The iPhone was designed to "integrate" three products: a mobile phone, an iPod, and an internet communications device capable of online functioning.

28. iOS is the operating system for the iPhone and was released on the same day as the iPhone in 2007. At the time of launch of the iPhone, it was entering a market with several well-established competitors who marketed a variety of handheld devices, including BlackBerry, Motorola, Nokia and Samsung. However, the iPhone offered a product that is generally considered to be revolutionary: it had a touchscreen interface; it provided easy access to the internet; and it supported application software, now known as apps.

[2] It will be apparent that this judgment contains extensive reference to technical and other specialised matters. We have included a glossary as an annex to the judgment to assist the reader. We will also define key terms in the course of the judgment itself.

(a) The "ecosystem"

29. In launching the iPhone in 2007, Apple created a digital "ecosystem" with the ostensible purpose of integrating its devices with its software products. In the context of this case, the "ecosystem" refers to (1) the device – the iPhone and the iPad – (2) the iOS operating system (3) the iOS apps which are installed on the device and (4) the services provided to iOS users, including the App Store which Apple launched in 2008. This "ecosystem" is frequently referred to as the "iOS ecosystem".

30. The iOS ecosystem has been called a "walled garden". For example, a US judge has described it as follows[3]:

> "…it is a closed platform whereby Apple controls and supervises access to any software which accesses the iOS devices…Apple justifies this control primarily in the name of consumer privacy, security, as well as monetization of its intellectual property."

31. From the earlier days of the iPhone, it appeared that this "walled garden" was a stated aim of Apple in the development of its iOS ecosystem. In an oft-quoted email in 2010[4], Apple's CEO, Steve Jobs, stated that the strategy of the company was to "tie all of our products together, so we further lock customers into our ecosystem", so as to "make [the] Apple ecosystem even more sticky".

(b) The App Store

32. The App Store, since its launch, is itself an app which comes pre-installed on iPhones and iPads and allows developers to offer apps to users, and users to find and download apps produced by developers. In that sense it is a "two-sided platform", connecting developers with users and providing a "matchmaking" service between the two groups.

33. In order to provide an app on the App Store, a developer must: (i) enrol in the Apple Developer Program; (ii) enter into the Developer Agreement ("DA"); and

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[3] See the US District Court for Northern California's judgment in Case 4:20-cv-05640-YGR, *Epic Games Inc v Apple Inc*.
[4] See Apple, *Email from S. Jobs to ET Group with subject title "Top 100 A"*, 24 October 2010.

(iii) enter into the Developer Program License Agreement ("DPLA"). If a developer intends only to offer free iOS apps, it must enter into Schedule 1 to the DPLA. If a developer intends to offer apps which a user pays for upon download, or apps which provide for in-app purchases, a developer must enter into Schedules 2 and 3 to the DPLA.

34. Reference was made in trial documents to an "App Store ecosystem"[5]. The App Store ecosystem appears to refer to the market or collection of markets created and facilitated by the operation of the App Store. As such, it includes all transactions made on the App Store or through apps downloaded from the App Store, even including those for the sale and purchase of physical goods and services, for which Commission is not payable. It also includes in-app advertising, for which Commission is also not payable. Apple put forward evidence at trial about the revenues associated with both transactions for physical goods and services and in-app advertising, making the point that there are alternative monetisation strategies for developers which do not involve payment of the Commission[6].

(c) History of the App Store

(i) Launch in 2008

35. When the iPhone was launched in 2007, the only apps available to users were a small number of "native" apps which had been pre-installed by Apple and which were immediately available on the home screen when the device was first used. At that time, downloads of native apps from third-party developers were prohibited and essentially impossible except through the "jailbreaking" of the

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[5] See, for example, the Apple-supported study Jonathan Borck, Juliette Caminade, Analysis Group, *The Continued Growth and Resilience of Apple's App Store Ecosystem*, May 2023.

[6] Apple referred to a press release titled *Apple's App Store ecosystem facilitated over half a trillion dollars in commerce in 2019*, 15 June 2020, which published the results of an Apple-supported study (Jonathan Borck, Juliette Caminade, Analysis Group, *How Large Is the Apple App Store Ecosystem*, 15 June 2020) showing that over half a trillion dollars in commerce was facilitated by the App Store in 2019 alone, on 85% of which Apple did not collect the Commission. In a press release in 2023 (*App Store Developers generated $1.1 trillion in total billings and sales in the App Store ecosystem in 2022*, 31 May 2023), Apple confirmed that developers generated $109 billion in in-app advertising in in 2022, and $104 billion for in-app purchases, and that developer billings and sales had been increasing by between 27 and 29% each year since 2019.

iPhone. There was no App Store, and no possibility to download native apps created by third-party developers.

36. According to Mr Schiller, this is because the initial view of Apple's executive team was that the best way to ensure the quality, security and privacy of the iPhone was to allow only native apps developed by Apple onto the device. This was based on a concern on the part of Apple executives that third-party native apps could interact harmfully with iOS. In addition, there were not sufficient time and resources available at the time of the iPhone launch to create the infrastructure to support native third-party apps safely and securely.

37. Mr Schiller's evidence was that, having allowed third-party developers to create web apps for the iPhone, Apple received feedback that developers wanted the opportunity to create native apps of their own. It was also observed that iPhone users had begun jailbreaking iPhones so that they could install third-party native apps. Apple was concerned about the prevalence of jailbreaking because of perceived risks relating to privacy and security as well as the integrity and functioning of iOS and the iPhone itself.

38. Apple responded by creating proprietary tools, called SDKs and APIs, which allowed third parties to build native iOS apps. On 17 October 2007, Apple announced that it would create an SDK to allow developers to develop third-party native apps for the iPhone. On 6 March 2008, Apple launched its first SDK for use by third-party developers to build native iOS apps. Mr Schiller in Schiller 1 lists the functionalities made available to developers through that SDK[7].

39. Mr Schiller told us that Apple launched the App Store with the aim of creating a transaction platform providing a convenient place for iOS device users to discover and obtain iOS apps and for developers to offer and market their iOS apps to users.

[7] See Schiller 1 at [60]-[63].

40. At the SDK launch event on 6 March 2008, the "core business terms" for the App Store were outlined. These are contained within three agreements: the DA, the DPLA and the App Store Review Guidelines (the "Guidelines"), all considered in more detail below.

41. The App Store was launched on 10 July 2008, just over a year following the launch of the iPhone. At the time of launch, it offered approximately 500 apps.

(ii) The introduction of iOS in-app purchases in 2009

42. When the App Store first launched in 2008, there was no possibility for iOS device users to make in-app purchases. If developers created a free app, and subsequently decided they wanted to monetise that app by selling additional content or features, they were required to create a new, paid version of the app. According to Mr Schiller, developers asked Apple to allow sales of in-app content and features. In March 2009, Apple announced a new set of APIs introducing in-app purchase functionality to the App Store. Mr Schiller refers to this functionality of "In-App Purchase" or "IAP" as a "feature of the App Store commerce system".

43. In September 2009, IAP was made available on the App Store. Originally, it was only available for apps where the user had paid to download the app. However, this was expanded within months of its introduction to allow for subsequent in-app purchases for apps which had been downloaded for free. In 2011, it was expanded to allow renewing or non-renewing subscriptions to be offered in native iOS apps.

(iii) Growth of the App Store

44. The App Store has grown since its launch to an extent that perhaps not even Apple predicted. As already noted, there were around 500 apps available at launch; in January of 2017, there were 2.2 million. As of March 2021, the App Store has 28 million registered developers. In the first half of 2020, the App Store facilitated 18.3 billion app downloads. An estimate of consumer spend in the App Store in 2020 is $72.3 billion globally, a 30.3% increase from the same period in 2019. Apple reports the App Store's performance within its "services"

category and the App Store had by 2016 grown to be the biggest product by revenue in this category.

(2) The services provided by Apple and the way it charges for those

(a) Some terminology issues

45. In advance of any detailed discussion about the way in which Apple charges for the services it provides to iOS device users and developers, we note that there were some differences in terminology used by the parties which could potentially cause confusion.

46. The first relates to Apple's payment service mechanism in the context of the two distinct markets alleged by the Class Representative. The Class Representative used the term App Store Payment System ("ASPS") to refer to payment services effected in both of her alleged markets. Apple referred to its "commerce engine" but distinguished aspects of the commerce engine dealing with payments for the purchase and download of apps on the one hand (in the context of the alleged iOS app distribution services market) and in-app purchases on the other (in the context of the alleged iOS in-app payment services market). As already noted, the term IAP was used by Apple to describe the latter aspect. We have preferred to avoid using these terms (that is, "ASPS", "commerce engine" and, to a large extent, "IAP"). We have instead referred more generally to Apple's payment systems, making it clear when we are not simply referring to payments in the context of the iOS in-app payment services market (being the vast majority of cases where payment services are relevant). We have in some instances used the term "IAP" in order to explain the witness evidence we received, in which case we are referring only to iOS in-app payment services.

47. The second difference in approach relates to the terminology for describing the contractual and technical requirements in the various documents recording the relationship between Apple and app developers. In this judgment, these will be referred to as the "iOS app distribution restrictions" and the "iOS in-app payment restrictions". The former are those which are referable to the Class

Representative's alleged iOS app distribution services market (which includes some restrictions relating to payment services for paid app downloads), and the latter are referable to the alleged iOS in-app payment services market. We will occasionally in this judgment refer to both sets of restrictions collectively as the "restrictions". We will also seek to make it clear when we are referring to payment restrictions which affect the iOS app distribution services market as well as the iOS in-app payment services market.

(b) The DA, the DPLA and the Guidelines

48. In order to access Apple's online developer portal, developers must agree to the DA, which is said to govern the foundational elements of the relationship between Apple and each developer. The DA must be entered into before any other agreement with Apple. There is no fee paid by developers at the time of its execution. There are a number of tools accessible to developers under the DA (but more are available once the DPLA is entered into).

49. Thereafter, in order to create an iOS app and to then submit it to Apple for publication on the App Store, developers must enter into the DPLA (and pay the annual Program Fee, referred to in more detail below).

50. Developers who distribute free iOS apps must execute, and are bound by, Schedule 1 of the DPLA. In order to offer paid apps or apps that provide for in-app purchases, a separate agreement must be entered into under Schedules 2 and 3 to the DPLA.

51. Developers are also required to abide by the Guidelines to have apps approved for publication on the App Store. The Guidelines set out the principles which Apple applies when approving an app or app update during the App Review process (described below).

(c) The services

(i) The provision of tools and technology

52. The phrase "tools and technology" was used during the trial as a shorthand way of referring to the SDKs, APIs and other programming tools (in all of which Apple asserted proprietary IP rights) provided by Apple to developers to assist them in the app development process.

53. The Class Representative was critical, in her Reply[8], of the vagueness of Apple's articulation of its IP rights. Apple provided a witness statement from Ms Harlow which described, at a high level, the extent of Apple's patent and copyright portfolio, which is very large, as one might expect.

54. In an annex to its written opening submissions for trial, Apple also described in greater detail the tools and technologies which Apple provides to developers, many of which are said to embody inventions or other innovations. The annex gave examples such as ARKit, which is a proprietary framework for the development of apps which use augmented reality, by overlaying digital content onto physical environments. This has been used in the development of games and also apps for interior design, architecture and 3D modelling.

55. It is clear that there are extensive tools and technology which are provided by Apple to developers and which developers make use of and value for the purpose of developing iOS apps. Encouraging developers to develop apps is of course in Apple's own commercial interests, because it enriches the offering of the App Store and thereby provides content to users who choose to purchase an iOS device.

56. There are also technologies which Apple has developed which have the purpose of enhancing the attractiveness of a device but also provide features which can be used by developers in their iOS app development. An example is the increasing sophistication of cameras in iPhones, which are attractive to iOS

[8] The Class Representative's Amended Reply at [13], [35(b)].

device users in their own right (as purchasers of devices) and which also allow more advanced features to be included in iOS apps.

(ii) iOS app distribution services

57. "iOS app distribution services" is a term used by the Class Representative to refer to the collection of services that facilitate the purchase and distribution of iOS apps to iOS device users, whether for a fee or without charge. The Class Representative defines these as: "(i) a matchmaking service whereby Apple matches iOS Device users seeking to purchase iOS Apps with iOS App developers seeking to sell iOS Apps; (ii) the distribution of iOS Apps and subsequent updates to iOS Device users; and (iii) payment, record keeping, fraud detection, and tax compliance services."

58. A core service provided as part of the iOS app distribution services is that the App Store enables iOS device users to search for, purchase and download apps created by developers. When an iOS device user employs a search term in the App Store search bar, apps with names corresponding to that search term will appear in list form, available for purchase and download. Developers can also pay Apple additional fees for advertisement of their apps in the App Store.

59. As will be seen when we get to the DPLA in more detail, developers are prohibited from distributing native iOS apps (whether free or paid for) other than through the App Store. The contractual provisions which give effect to that prohibition are at the heart of the Class Representative's case on iOS app distribution services.

60. Where an iOS app is downloaded by an iOS device user for a fee, that payment is collected by Apple as part of the process of the app download through the App Store. Apple deducts the Commission from the fee paid by the user and remits the balance to the developer.

(iii) iOS in-app payment services

61. The services which are provided for in-app purchases are quite extensive. The Class Representative defines these services as encompassing: "checkout,

collecting and managing payment information, payment processing, customer support (including refunds, cancellation, chargeback services, and disputes), subscription management, fraud prevention, tax calculations and remittance, currency conversions, record keeping, distributing funds, family sharing, authorising the unlocking of in-app content or functionality, and cross-device support."

62. Save for specified exceptions[9], Apple requires developers to use its payment system to collect in-app payments from users. Apple deducts the Commission from those payments and remits the balance to the developer. The contractual provisions which give effect to that requirement are at the heart of the Class Representative's case on iOS in-app payment services.

(d) The Program Fee, Commission and other fees charged by Apple

(i) The Program Fee

63. The annual Program Fee is intended to be the equivalent of USD $99 in any local currency and is consequently £79 in the UK. As of 2017 there were approximately 500,000 developers actively distributing iOS apps and paying this fee, suggesting global revenue of $50 million from the Program Fee alone.

(ii) The Developer Enterprise Program Fee

64. Large organisations can sign up to the Apple Developer Enterprise Program in order to create proprietary apps designed for and distributed exclusively to its employees. The enterprises in question must fulfil certain requirements. The annual fee is $299 or local currency equivalent.

(iii) Apple Search advertisements

65. Developers can advertise their iOS apps directly to iOS device users searching for apps on the App Store. The Class Representative's evidence was that Apple Search advertisements generated revenue of $500 million for Apple in 2018.

[9] These exceptions include, among other things, purchases of physical goods and services, such as ride hailing apps and food delivery services.

(iv) The Commission

66. Apple charges its Commission on purchases of paid apps and on all in-app purchases which use its payment system. Although the payment processes are different, they are both processed by Apple and in either case, when a transaction is made, the payment from the device user is remitted to Apple, which processes that payment, deducts taxes, retains the Commission, and remits the remainder to the developer.

67. The headline rate of Commission is 30% of the price paid by the iOS device user, whether the user is downloading an app or purchasing a digital product inside the app. Apple provides developers with a range of fixed price tiers that developers can choose to set the price for apps or in-app purchases. The headline Commission rate is subject to certain exceptions which are referred to in more detail below.

68. There was a difference of view between the parties as to whether Apple charges for the provision of its tools and technology through the Commission or through the Program Fee.

69. The Class Representative contended that the Program Fee is paid as consideration the tools and technology provided by Apple. In that regard, she pointed to the DPLA itself, in particular the "Purpose" section, clause 2.1(a), and clause 8:

(1) Purpose:

> "You would like to use the Apple Software (as defined below) to develop one or more Applications (as defined below) for Apple-branded products. Apple is willing to grant You a limited license to use the Apple Software and Services provided to You under this Program to develop and test Your Applications on the terms and conditions set forth in this Agreement".

(2) Clause 2.1(a):

> "Subject to the terms and conditions of this Agreement, Apple hereby grants You during the Term, a limited, non-exclusive, personal, revocable, non-sublicensable and non-transferable license to: (a) Install a reasonable number of copies of the Apple Software provided to You under the Program on Apple-

branded products owned or controlled by You, to be used internally by You or Your Authorized Developers for the sole purpose of developing or testing Covered Products designed to operate on the applicable Apple-branded products, except as otherwise expressly permitted in this Agreement".

(3) Clause 8:

"As consideration for the rights and licenses granted to You under this Agreement and Your participation in the Program, You agree to pay Apple the annual Program fee set forth on the Program website […]".

70. The Class Representative's case was therefore that the Commission is not a payment for the provision of tools and technology provided to a developer by Apple for the creation of an app. Instead, she said, it is a payment "for the marketing and delivery of iOS Apps through the App Store" only. The Class Representative pointed to clauses 1.1, 1.3 and 3.4 of Schedule 2 to the DPLA, which she said make this plain:

(1) Clause 1.1:

"You hereby appoint Apple and Apple Subsidiaries (collectively 'Apple') as: (i) Your agent for the marketing and delivery of the Licensed Applications to End-Users located in those regions listed on Exhibit A, Section 1 to this Schedule 2, subject to change; and (ii) Your commissionaire for the marketing and delivery of the Licensed Applications to End-Users located in those regions listed on Exhibit A, Section 2 to this Schedule 2, subject to change, during the Delivery Period[…]."

(2) Clause 1.3:

"The parties acknowledge and agree that their relationship under this Schedule 2 is, and shall be, that of principal and agent, or principal and commissionaire, as the case may be, as described in Exhibit A, Section 1 and Exhibit A, Section 2, respectively, and that You, as principal, are, and shall be, solely responsible for any and all claims and liabilities involving or relating to, the Licensed Applications, as provided in this Schedule 2. The parties acknowledge and agree that Your appointment of Apple as Your agent or commissionaire, as the case may be, under this Schedule 2 is non-exclusive. You hereby represent and warrant that You own or control the necessary rights in order to appoint Apple and Apple Subsidiaries as Your worldwide agent and/or commissionaire for the delivery of Your Licensed Applications, and that the fulfillment of such appointment by Apple and Apple Subsidiaries shall not violate or infringe the rights of any third party."

(3) Clause 3.4:

"Apple shall be entitled to the following commissions in consideration for its services as Your agent and/or commissionaire under this Schedule 2:

> (a) For sales of Licensed Applications to End-Users located in those countries listed in Exhibit B, Section 1 of this Schedule 2 as updated from time to time via the iTunes Connect site, Apple shall be entitled to a commission equal to thirty percent (30%) of all prices payable by each End-User. For purposes of determining the commissions to which Apple is entitled under this Section 3.4(a), the prices payable by End-Users shall be net of any and all taxes collected, as provided in Section 3.2 of this Schedule 2.
>
> (b) For sales of Licensed Applications to End-Users located in those countries listed in Exhibit B, Section 2 of this Schedule 2 as updated from time to time via the iTunes Connect site, Apple shall be entitled to a commission equal to thirty percent (30%) of all prices payable by each End-User.
>
> Except as otherwise provided in Section 3.2 of this Schedule 2, Apple shall be entitled to the commissions specified in Sections 3.4(a) and 3.4(b) hereof without reduction for any taxes or other government levies, including any and all taxes or other, similar obligations of You, Apple or any End-User relating to the delivery or use of the Licensed Applications."

71. Apple's case is that the Commission is payment for both distribution and payment services and for tools and technology provided by Apple in the context of the app development process, albeit that it is not charged in relation to (the vast majority of) apps that are both free and have no provision for in-app purchases. The Program Fee, by contrast, is simply a threshold requirement to participate in app development.

72. Mr Schiller put it as follows[10]:

> "Developers must pay an annual program fee of [£79] in order to enter into the DPLA "[a]s consideration for the rights and licenses granted to [the developer] under [the DPLA]" (cl 8, DPLA). This program fee was not intended as a revenue stream for Apple and is not consideration for the value of the tools and technology to which developers are given access on paying that fee. Rather, it was used as a simple filter by which to establish (i) the identity of developers and (ii) that those developers had a serious intent to develop quality apps for the App Store."

73. Our view is that, as a matter of contract, the Class Representative is clearly correct in her contention that the Program Fee is charged as consideration for the provision of the tools and technology. That may well not be the way in which Apple has thought about or currently thinks about the arrangements, but it is manifestly what the contractual documents provide and Mr Schiller was unable to explain how his interpretation fitted with the express terms of the DPLA.

[10] Schiller 1 at [90].

(e) Changes to Commission structure over time

74. Over time, limited exceptions have been made to the requirements to pay Apple a 30% Commission on all payments made by iOS device users to developers; and to use Apple's payment system in order to provide users with access to in-app digital content in exchange for payment. These exceptions, which have relaxed to some extent the requirement to pay Apple Commission on all app-related purchases, are set out in the Guidelines and are described in this subsection. Dr Singer estimates that Apple's effective Commission rate (taking account of all payments whether at the full 30% or at a reduced rate) averaged over the Claim Period was 25.2%.

(i) Reader Rule

75. The "Reader Rule", introduced in 2011, allows an iOS device user to purchase content or subscriptions for certain types of "Reader" apps outside the iOS app (for example, on a website), but still to access that content within the iOS app. Under the Reader Rule, Apple therefore permits Reader apps to avoid Apple's payments system and the Commission if offering content previously purchased outside the iOS app. "Reader" apps include those relating to magazines, newspapers, books, audio, music, and video (for example, Kindle, Spotify and Netflix).

76. The Reader Rule has developed since its original limited introduction in 2011 to include different categories of apps and has even, as a result of Apple's settlement with the Japan Federal Trade Commission, led to the suspension of certain of Apple's anti-steering rules (see further below).

(ii) Auto-Renewable Subscriptions

77. In 2016, Apple announced a change to its Commission rate as it relates to payments for Auto-Renewable Subscriptions ("ARS policy"). Under this policy, once a device user has accrued more than one year of paid subscription service, the Commission rate is reduced to 15% for each further renewal.

(iii) Video Partner Program

78. Also in 2016, Apple introduced the Video Partner Program ("VPP"), available for apps featured in the Apple TV app and for approved partners. In order to take advantage of a reduced 15% Commission rate, developers are required to integrate their apps with a number of Apple technologies, such as Universal Search, Siri and Airplay.

(iv) Multiplatform Services Rule

79. The Multiplatform Services Rule ("MSR"), introduced in 2018, allows iOS device users to access content, subscriptions or features purchased in an app on another platform. Unlike the Reader Rule, the MSR includes a requirement that the items purchased elsewhere are also available for in-app purchase in the iOS app.

(v) Small Business Program

80. Since January 2021, developers that earn no more than $1 million in app revenue (that is, after the deduction of the Commission on all of their apps in total in each of the previous and current calendar year), and developers new to the App Store, can qualify for the Small Business Program ("SBP") and pay a reduced Commission of 15%. In the CMA's Mobile Ecosystems Market Study Final Report (the "MEM Study"), at Appendix H, it is noted that Apple agreed to maintain the SBP in its current structure for at least the next three years pursuant to its settlement in Case 4:19-cv-03074-YGR, *Donald R Cameron et al v Apple Inc*, a class action lawsuit taken against Apple in the US (see below).

(vi) News Partner Program

81. In August 2021, Apple launched the News Partner Program ("NPP") which allows developers creating apps for subscription news publications, which also provide their content to Apple News in Apple News format, to qualify for the 15% Commission rate on certain qualifying in-app subscriptions.

(3) The DPLA provisions in detail

82. As noted above, the DPLA is the key document which regulates the distribution of iOS apps that developers have created using Apple's tools and technology. Section 1.2 of the DPLA sets out definitions, which we have summarised in the Glossary in so far as they are relevant to this judgment[11].

83. We consider the following further provisions of the DPLA to be of importance in these proceedings:

> "2.8 Use of Apple Services
>
> Apple may provide access to Apple Services that Your Covered Products or Your Corresponding Products may call through APIs in the Apple Software and/or that Apple makes available to You through other mechanisms, e.g., through the use of keys that Apple may make accessible to You under the Program. You agree to access such Apple Services only through the mechanisms provided by Apple for such access and only for use on Apple-branded products. Except as permitted in Section 2.9 (Third-Party Service Providers) or as otherwise set forth herein, You agree not to share access to mechanisms provided to You by Apple for the use of the Services with any third party. Further, You agree not to create or attempt to create a substitute or similar service through use of or access to the Apple Services.
>
> You agree to access and use such Services only as necessary for providing services and functionality for Your Covered Products or Your Corresponding Products that are eligible to use such Services and only as permitted by Apple in writing, including in the Documentation. You may not use the Apple Services in any manner that is inconsistent with the terms of this Agreement or that infringes any intellectual property rights of a third party or Apple, or that violates any applicable laws or regulations. You agree that the Apple Services contain proprietary content, information and material owned by Apple and its licensors, and protected by applicable intellectual property and other laws. You may not use such proprietary content, information or materials in any way whatsoever, except for the permitted uses of the Apple Services under this Agreement, or as otherwise agreed by Apple in writing.
>
> You understand there may be storage capacity, transmission, and/or transactional limits for the Apple Services both for You as a developer and for Your end-users. If You reach or Your end- user reaches such limits, then You or Your end-user may be unable to use the Apple Services or may be unable to access or retrieve data from such Services through Your Covered Products, Your Corresponding Products or through the applicable end-user accounts. You agree not to charge any fees to end-users solely for access to or use of the Apple Services through Your Covered Products or Your Corresponding Products, or for any content, data or information provided therein, and You agree not to sell access to the Apple Services in any way. You agree not to

[11] These extracts are taken from the editions of the DA and the DPLA "as at 8 November 2024" which were in evidence.

fraudulently create any end-user accounts or induce any end-user to violate the terms of their applicable end-user terms or service agreement with Apple or to violate any Apple usage policies for such end-user services. Except as expressly set forth herein, You agree not to interfere with an end-user's ability to access or use any such services.

Apple reserves the right to change, suspend, deprecate, deny, limit, or disable access to the Apple Services, or any part thereof, at any time without notice (including but not limited to revoking entitlements or changing any APIs in the Apple Software that enable access to the Services or not providing You with an entitlement). In no event will Apple be liable for the removal of or disabling of access to any of the foregoing. Apple may also impose limits and restrictions on the use of or access to the Apple Services, may remove the Apple Services for indefinite time periods, may revoke Your access to the Apple Services, or may cancel the Apple Services (or any part thereof) at any time without notice or liability to You and in its sole discretion.

Apple does not guarantee the availability, accuracy, completeness, reliability, or timeliness of any data or information displayed by any Apple Services. To the extent You choose to use the Apple Services with Your Covered Products or Corresponding Products, You are responsible for Your reliance on any such data or information. You are responsible for Your use of the Apple Software and Apple Services, and if You use such Services, then it is Your responsibility to maintain appropriate alternate backup of all Your content, information and data, including but not limited to any content that You may provide to Apple for hosting as part of Your use of the Services. You understand and agree that You may not be able to access certain Apple Services upon expiration or termination of this Agreement and that Apple reserves the right to suspend access to or delete content, data or information that You or Your Covered Product or Corresponding Product have stored through Your use of such Services provided hereunder. You should review the Documentation and policy notices posted by Apple prior to using any Apple Services.

Apple Services may not be available in all languages or in all countries or regions, and Apple makes no representation that any such Services would be appropriate, accurate or available for use in any particular location or product. To the extent You choose to use the Apple Services with Your Applications, You do so at Your own initiative and are responsible for compliance with any applicable laws. Apple reserves the right to charge fees for Your use of the Apple Services. Apple will inform You of any Apple Service fees or fee changes by email and information about such fees will be posted in the Program web portal, App Store Connect, or the CloudKit console. Apple Service availability and pricing are subject to change. Further, Apple Services may not be made available for all Covered Products or Corresponding Products and may not be made available to all developers. Apple reserves the right to not provide (or to cease providing) the Apple Services to any or all developers at any time in its sole discretion.

…

3.2 Use of the Apple Software and Apple Services

As a condition to using the Apple Software and any Apple Services, You agree that:

(a) You will use the Apple Software and any services only for the purposes and in the manner expressly permitted by this Agreement and in accordance with all applicable laws and regulations;

…

(c) Your Application, Library and/or Pass will be developed in compliance with the Documentation and the Program Requirements, the current set of which is set forth in Section 3.3 below;

…

(e) You will not, through use of the Apple Software, Apple Certificates, Apple Services or otherwise, create any Covered Product, Corresponding Product, or other code or program that would: (1) disable, hack or otherwise interfere with the Security Solution, or any security, digital signing, digital rights management, verification or authentication mechanisms implemented in or by iOS, iPadOS, macOS, tvOS, visionOS, watchOS, the Apple Software, or any Services, or other Apple software or technology, or enable others to do so (except to the extent expressly permitted by Apple in writing); or (2) violate the security, integrity, or availability of any user, network, computer or communications system;

(g) Applications for iOS, iPadOS, tvOS, visionOS, and watchOS developed using the Apple Software may be distributed only if selected by Apple (in its sole discretion) for distribution via the App Store, for beta distribution through TestFlight, or through Ad Hoc distribution as contemplated in this Agreement. Applications for iOS, iPadOS, macOS, and tvOS may additionally be distributed via Custom App Distribution. […]

3.3 Program Requirements

Any Application that will be submitted to the App Store, Custom App Distribution, or TestFlight, or that will be distributed through Ad Hoc distribution, must be developed in compliance with the Documentation and this Agreement, including the Program Requirements set forth below in this Section 3.3. Corresponding Products, Libraries, and Passes are subject to the same requirements.

3.3.1 APIs, Functionality, and User Interface

A. Documented APIs

Applications may only use Documented APIs in the manner prescribed by Apple and must not use or call any private APIs. […]

B. Executable Code

Except as set forth in the next paragraph, an Application may not download or install executable code. Interpreted code may be downloaded to an Application but only so long as such code: (a) does not change the primary purpose of the Application by providing features or functionality that are inconsistent with the intended and advertised purpose of the Application as submitted to the App Store, (b) does not create a store or storefront for other code or applications, and (c) does not bypass signing, sandbox, or other security features of the OS.[…]

C. Additional Features or Functionality

Without Apple's prior written approval or as permitted under Section 3.3.9(A) (In-App Purchase API), an Application may not provide, unlock or enable additional features or functionality through distribution mechanisms other than the App Store, Custom App Distribution or TestFlight.

…

3.3.9 Transactions and Passes

A. In-App Purchase API

All use of the In-App Purchase API and related services must be in accordance with the terms of this Agreement (including the Program Requirements) and Attachment 2 (Additional Terms for Use of the In-App Purchase API).

…

7. Distribution of Applications and Libraries

Applications:

Applications developed under this Agreement for iOS, iPadOS, macOS, tvOS, visionOS, or watchOS can be distributed: (1) through the App Store, if selected by Apple, (2) through Ad Hoc distribution in accordance with Section 7.3, and (3) for beta testing through TestFlight in accordance with Section 7.4. Applications developed for iOS, iPadOS, macOS, and tvOS can additionally be distributed through Custom App Distribution, if selected by Apple. Applications for macOS can additionally be separately distributed as described in this Agreement.

…

7.2 Schedule 2 and Schedule 3 for Fee-Based Licensed Applications; Receipts

If Your Application qualifies as a Licensed Application and You intend to charge end-users a fee of any kind for Your Licensed Application or within Your Licensed Application through the use of the In-App Purchase API, You must enter into a separate agreement (Schedule 2) with Apple and/or an Apple Subsidiary before any such commercial distribution of Your Licensed Application may take place via the App Store or before any such commercial delivery of additional content, functionality or services for which You charge end-users a fee may be authorized through the use of the In-App Purchase API in Your Licensed Application. If You would like Apple to sign and distribute Your Application for a fee through Custom App Distribution, then You must enter into a separate agreement (Schedule 3) with Apple and/or an Apple Subsidiary before any such distribution may take place. To the extent that You enter (or have previously entered) into Schedule 2 or Schedule 3 with Apple and/or an Apple Subsidiary, the terms of Schedule 2 or 3 will be deemed incorporated into this Agreement by this reference. […]

…

7.6 No Other Distribution Authorized Under this Agreement

Except for the distribution of freely available Licensed Applications through the App Store or Custom App Distribution in accordance with Sections 7.1 and 7.2, the distribution of Applications for use on Registered Devices as set forth in Section 7.2 (Ad Hoc Distribution), the distribution of Applications for beta testing through TestFlight as set forth in Section 7.4, the distribution of Libraries in accordance with Section 7.5, the distribution of Passes in accordance with Attachment 5, the delivery of Safari Push Notifications on macOS, the distribution of Safari Extensions on macOS, the distribution of Applications and libraries developed for macOS, and/or as otherwise permitted herein, no other distribution of programs or applications developed using the Apple Software is authorized or permitted hereunder. In the absence of a separate agreement with Apple, You agree not to distribute Your Application for iOS, iPadOS, tvOS, visionOS, or watchOS to third parties via other distribution methods or to enable or permit others to do so. You agree to distribute Your Covered Products only in accordance with the terms of this Agreement.

…

8. Program Fees

As consideration for the rights and licenses granted to You under this Agreement and Your participation in the Program, You agree to pay Apple the annual Program fee set forth on the Program website, unless You have received a valid fee waiver from Apple. Such fee is non- refundable, and any taxes that may be levied on the Apple Software, Apple Services or Your use of the Program shall be Your responsibility. Your Program fees must be paid up and not in arrears at the time You submit (or resubmit) Applications to Apple under this Agreement, and Your continued use of the Program web portal and Services is subject to Your payment of such fees, where applicable. […]

…

11. Term and Termination

11.1 Term

The Term of this Agreement shall extend until the one (1) year anniversary of the original activation date of Your Program account. Thereafter, subject to Your payment of annual renewal fees and compliance with the terms of this Agreement, the Term will automatically renew for successive one (1) year terms, unless sooner terminated in accordance with this Agreement."

84. Turning to Schedule 2 to the DPLA, the important provisions are as follows:

"1. Appointment of Agent and Commissionaire

1.1 You hereby appoint Apple and Apple Subsidiaries (collectively 'Apple') as: (i) Your agent for the marketing and delivery of the Licensed Applications to End-Users located in those regions listed on Exhibit A, Section 1 to this Schedule 2, subject to change; and (ii) Your commissionaire for the marketing and delivery of the Licensed Applications to End-Users located in those regions listed on Exhibit A, Section 2 to this Schedule 2, subject to change, during the Delivery Period. The most current list of App Store regions among which You may select shall be set forth in the App Store Connect tool and may

be updated by Apple from time to time. You hereby acknowledge that Apple will market and make the Licensed Applications available for download by End-Users through one or more App Stores, for You and on Your behalf. For purposes of this Schedule 2, the following definitions apply:

(a) 'You' shall include App Store Connect users authorized by You to submit Licensed Applications and associated metadata on Your behalf; and

(b) 'End-User' includes individual purchasers as well as eligible users associated with their account via Family Sharing or Legacy Contacts. For institutional customers, 'End-User' shall mean the individual authorized to use the Licensed Application by the institutional purchaser, the institutional administrator responsible for management of installations on shared devices, as well as authorized institutional purchasers themselves, including educational institutions approved by Apple, which may acquire the Licensed Applications for use by their employees, agents, and affiliates.

(c) For the purposes of this Schedule 2, the term "Licensed Application" shall include any content, functionality, extensions, stickers, or services offered in the software application.

…

1.3 The parties acknowledge and agree that their relationship under this Schedule 2 is, and shall be, that of principal and agent, or principal and commissionaire, as the case may be, as described in Exhibit A, Section 1 and Exhibit A, Section 2, respectively, and that You, as principal, are, and shall be, solely responsible for any and all claims and liabilities involving or relating to, the Licensed Applications, as provided in this Schedule 2. The parties acknowledge and agree that Your appointment of Apple as Your agent or commissionaire, as the case may be, under this Schedule 2 is non-exclusive. You hereby represent and warrant that You own or control the necessary rights in order to appoint Apple and Apple Subsidiaries as Your worldwide agent and/or commissionaire for the delivery of Your Licensed Applications, and that the fulfillment of such appointment by Apple and Apple Subsidiaries shall not violate or infringe the rights of any third party.

…

3.1 You acknowledge and agree that Apple, in the course of acting as agent and/or commissionaire for You, is hosting, or pursuant to Section 1.2(b) of this Schedule 2 may enable authorized third parties to host, the Licensed Applications, and is allowing the download of those Licensed Applications by End-Users, on Your behalf. However, You are responsible for hosting and delivering content or services sold by You using the In-App Purchase API, except for content that is included within the Licensed Application itself (i.e., the In-App Purchase simply unlocks the content) or content hosted by Apple pursuant to section 3.3 of Attachment 2 to the Agreement. All of the Licensed Applications shall be marketed by Apple, on Your behalf, to End-Users at prices identified in a price tier and designated by You, in Your sole discretion, from the pricing schedule set forth in the App Store Connect tool, which may be updated from time to time by Apple. In addition, You may, at Your election via App Store Connect, instruct Apple to market the Licensed Applications at a discount of 50% of Your established price tier for authorized institutional customers. You may change the price tier for any Licensed Application at any time, at Your discretion, in accordance with the pricing schedule set forth in

the App Store Connect tool as may be updated from time to time. As Your agent and/or commissionaire, Apple shall be solely responsible for the collection of all prices payable by End-Users for Licensed Applications acquired by those End-Users under this Schedule 2.

3.2 In the event that the sale or delivery of any of the Licensed Applications to any End-User is subject to any sales, use, goods and services, value added, telecommunications or other similar tax or levy, under applicable law, responsibility for the collection and remittance of that tax for sales of the Licensed Applications to End-Users will be determined in accordance with Exhibit B to this Schedule 2 as updated from time to time via the App Store Connect site. You are solely responsible for selecting and maintaining accurate inputs for tax categorization for Your Licensed Applications via the App Store Connect site, which may be updated from time to time. Such tax categorization will be applied to the sale and delivery of Your Licensed Applications. Any adjustments that You make to the tax categorization for Your Licensed Applications will take effect for future sales of Licensed Applications after Apple has processed the adjustment within a reasonable period of time. Adjustments that You make to the tax categorization for Your Licensed Applications will not apply to any sales of Licensed Applications occurring before Apple has processed Your tax categorization adjustment. If the tax categorization of Your Licensed Applications is deemed to be inaccurate by any tax authority, You are solely responsible for the tax consequences. If Apple deems in its reasonable discretion that the tax categorization of Your Licensed Applications is inaccurate, Apple reserves the right to hold in trust amounts owed to You, until such time as You correct the tax categorization. Upon correction of the tax categorization, Apple will deduct any penalties and interest resulting from the inaccuracy, and remit to You any remaining amounts held in trust by Apple for You, without interest, in accordance with the provisions of this Schedule 2. You shall indemnify and hold Apple harmless against any and all claims by any tax authority for any underpayment or overpayment of any sales, use, goods and services, value added, telecommunications or other tax or levy, and any penalties and/or interest thereon.

…

3.4 Apple shall be entitled to the following commissions in consideration for its services as Your agent and/or commissionaire under this Schedule 2:

(a) For sales of Licensed Applications to End-Users, Apple shall be entitled to a commission equal to thirty percent (30%) of all prices payable by each End-User. Solely for auto-renewing subscription purchases made by customers who have accrued greater than one year of paid subscription service within a Subscription Group (as defined below) and notwithstanding any Retention Grace Periods or Renewal Extension Periods, Apple shall be entitled to a commission equal to fifteen percent (15%) of all prices payable by each End-User for each subsequent renewal. Retention Grace Period refers to the time period between the end of a customer's subscription (e.g., due to cancelation or non-payment) and the beginning of a new subscription within the same Subscription Group, provided that such time period is no greater than 60 days, subject to change. Renewal Extension Period refers to the time by which You extend the renewal date of the customer's subscription, without additional charges. For purposes of determining the commissions to which Apple is entitled under this Section 3.4(a), the prices payable by End-Users shall be net of any and all taxes collected, as provided in Section 3.2 of this Schedule 2.

(b) App Store Small Business Program. For Developers who have qualified and been approved by Apple for the App Store Small Business Program, Apple shall be entitled to a reduced commission of 15% of all prices payable by each End-User for sales of Licensed Applications to End-Users located in those regions listed in Exhibit B of this Schedule 2 as updated from time to time via the App Store Connect site. You may qualify for approval in the App Store Small Business Program subject to the terms of the Agreement, this Schedule 2, and the following:

You and Your Associated Developer Accounts must have earned no more than $1,000,000 in total proceeds (sales net of Apple's commission and certain taxes and adjustments) during the twelve (12) fiscal months occurring in the prior calendar year ("calendar year"), as calculated by Apple under standard business practices. […]

Once the total proceeds of You and Your Associated Developer Accounts exceeds $1,000,000 in the current calendar year, You will be charged the standard commission rate set forth in Section 3.4(a) in this Schedule 2 for the remainder of the calendar year.

[…]

If the total proceeds of You and Your Associated Developer Accounts amount to no more than $1,000,000 in a future calendar year, You may re-qualify for approval in the App Store Small Business Program in the following calendar year. […]

3.5 Upon collection of any amounts from any End-User as the price for any Licensed Application delivered to that End-User hereunder, Apple shall deduct the full amount of its commission with respect to that Licensed Application, and any taxes collected by Apple under Section 3.2 and 3.4 hereof, and shall remit to You, or issue a credit in Your favor, as the case may be, the remainder of those prices in accordance with Apple standard business practices, including the following […] You hereby acknowledge and agree that Apple shall be entitled to a commission, in accordance with this Section 3.5 on the delivery of any Licensed Application to any End-User, even if Apple is unable to collect the price for that Licensed Application from that End-User. In the event that the purchase price received by Apple from any End-User for any Licensed Application is in a currency other than the remittance currency agreed between Apple and You, the purchase price for that Licensed Application shall be converted to the remittance currency, and the amount to be remitted by Apple to You shall be determined, in accordance with an exchange rate fixed for the Delivery Period, as reflected in the App Store Connect tool as may be updated from time to time, pursuant to section 3.1 of this Schedule 2. Apple may provide a means on App Store Connect to enable You to designate a primary currency for the bank account designated by You for receiving remittances ("Designated Currency"). Apple may cause Apple's bank to convert all remittances in any remittance currency other than the Designated Currency into the Designated Currency prior to remittance to You. You agree that any resulting currency exchange differentials or fees charged by Apple's bank may be deducted from such remittances. You remain responsible for any fees (e.g., wire transfer fees) charged by Your bank or any intermediary banks between Your bank and Apple's bank.

…

3.11 Subscription services purchased within Licensed Applications must use In-App Purchase.

In addition to using the In-App Purchase API, a Licensed Application may read or play content (magazines, newspapers, books, audio, music, video) that is offered outside of the Licensed Application (such as, by way of example, through Your website) provided that You do not link to or market external offers for such content within the Licensed Application. You are responsible for authentication access to content acquired outside of the Licensed Application.

…

7.2 In the event that You no longer have the legal right to distribute the Licensed Applications, or to authorize Apple to allow access to those Licensed Applications by End-Users, in accordance with this Schedule 2, You shall promptly notify Apple and withdraw those Licensed Applications from the App Store using the tools provided on the App Store Connect site; provided, however, that such withdrawal by You under this Section 7.2 shall not relieve You of any of Your obligations to Apple under this Schedule 2, or any liability to Apple and/or any End-User with respect to those Licensed Applications."

85. Exhibits to Schedules 2 and 3 to the DPLA include relevant provisions as follows:

"EXHIBIT A

…

2. Apple as Commissionaire

You appoint Apple Distribution International Ltd., as Your commissionaire for the marketing and End-User download of the Licensed and Custom Applications by End-Users located in the following regions, as updated from time to time via the App Store Connect site. For the purposes of this Agreement, "commissionaire" means an agent who purports to act on their own behalf and concludes agreements in their own name but acts on behalf of other persons, as generally recognized in many Civil Law legal system […] United Kingdom*

…

*Custom Applications are only available in these regions.

EXHIBIT B

1. If taxes apply, Apple shall collect and remit to the competent tax authorities the taxes described in Section 3.2 of Schedule 2 for sales of the Licensed Applications to End-Users and in Section 3.2 of Schedule 3 for sales of the Custom Applications to the Custom App Distribution Customers located in the following regions, as updated from time to time via the App Store Connect site: […] United Kingdom".

(4) App Review and the Guidelines

86. Apple's App Review is a process that carries out reviews of apps, app updates, in-app digital content for purchase and in-app events submitted by developers for publication on the App Store. Apple's Guidelines set out the rules and requirements that Apple applies in deciding, at its sole discretion, whether to approve an iOS App, and each subsequent update of that iOS App, for publication on the App Store.

(a) Terms of the Guidelines

87. The Guidelines are extensive (running to 26 pages in the 2021 version) and deal with a range of subjects such as safety (for example, rules about objectionable content), performance (for example, rules about hardware compatibility), design (for example, rules about minimum functionality) and legal requirements. There is also a section on business, which sets out rules about the way developers can monetise their app on the App Store, and which is the relevant part of the Guidelines for present purposes.

88. The Guidelines have changed during the Claim Period, in part as a result of regulatory scrutiny. As a consequence, we will describe the general effect of the key provisions and give an example, rather than setting out all the variations of those provisions:

(1) Clause 3.1.1 provides that developers must use Apple's payment system for in-app purchase and that any link to external mechanisms to permit payments will cause the app to be rejected. By way of example, the 2021 Guidelines contained this paragraph:

> "3.1.1 In-App Purchase:
>
> If you want to unlock features or functionality within your app, (by way of example: subscriptions, in-game currencies, game levels, access to premium content, or unlocking a full version), you must use in-app purchase. Apps may not use their own mechanisms to unlock content or functionality, such as license keys, augmented reality markers, QR codes, etc. Apps and their metadata may not include buttons, external

links, or other calls to action that direct customers to purchasing mechanisms other than in-app purchase."

(2) Clause 3.1.3 allows for certain exceptions to the requirement to use Apple's payment systems for in-app purchases[12], but imposes (with some variations over time) restrictions on the ability of the developer to encourage or "steer" customers to use the external options. By way of example, the 2021 Guidelines contained this paragraph:

"3.1.3 Other Purchase Methods: The following apps may use purchase methods other than in-app purchase. Apps in this section cannot, either within the app or through communications sent to points of contact obtained from account registration within the app (like email or text), encourage users to use a purchasing method other than in-app purchase."

(b) Details of the App Review process

89. A lengthy description of Apple's App Review process is contained in Kosmynka 1. The following is a brief summary of the key points:

(1) The developer submits an "iOS package" through the App Store Connect portal, which contains the code for the app, as well as files reflecting what the user will see within the app and when viewing the app on the App Store.

(2) Prior to being reviewed, apps are scanned for malware using Apple's automated computer tools.

(3) The apps then go through the three primary phases of review: static computer analysis; dynamic computer analysis; and manual human review:

(i) The static computer analysis phase looks at the iOS package without executing the app, collecting information on how it will run. Mr Kosmynka described a number of tools Apple has developed in order to facilitate this process.

[12] These are the exceptions set out in section B(2)(e) above.

(ii) The dynamic computer analysis phase involves an analysis of the app while it executes. Mr Kosmynka referred to this as "analyzing the app while it is running, to identify API calls and other functionality that were not visible during a static analysis." Again, he notes that a number of Apple's proprietary automated tools are used during this process.

(iii) The manual human review phase is then conducted for every app, during which at least one specialist, again using Apple's tools, will execute and inspect the app, informed by the information gathered during the automated phases.

(4) If the app is approved for publication on the App Store following the three primary phases of App Review, Apple continues to perform forms of review after the publication of the app, in what Mr Kosmynka referred to as "Post-Approval App Review". This involves continued computer analysis, checking reviews on the App Store for problematic behaviour exhibited by the app, and re-reviewing apps in response to feedback and other reporting from users.

(5) Safety, security and privacy on iOS

90. Apple's emphasis on the superior safety, security and privacy protections provided by the iOS ecosystem is of particular relevance to Apple's justification defence to the Class Representative's case on exclusionary abuse, which is considered in section H below.

91. To put its approach to safety, security and privacy in context, Apple argued that the threats facing iOS device users fall into three interconnected categories:

(1) Threats to integrity and control over the device: these include malware, which could be contained within an app downloaded following a social engineering or "bait and switch" technique. Such a technique involves manipulation of users to grant an app permission to access either certain functionality of an iOS device (for example, the camera or microphone)

or data stored on or by the device, or to enter into a transaction. Once this permission is granted, the malicious app can spread malware or cause other harm to users' devices or their network. Apple noted that Dr Lee agreed that these "social engineering" attacks are "one of the most prevalent forms of security threat facing iOS device users today"[13]. Apple defined "bait and switch" techniques as those which involve altering the nature or functionality of an iOS app *after* it has been approved in App Review, meaning that Apple would have approved a version of it that did not indicate the presence of any malware.

(2) Threats to privacy: Apple noted that it is common ground that privacy and security issues can be interconnected[14]. Privacy threats can involve accessing location tracking data, the microphone or the camera for illegitimate purposes, or collecting usage statistics for the purposes of selling that data to advertisers without informed consent.

(3) Threats to safety: these could involve causing iOS device users mental or physical harm, for example, because of pornographic or other harmful content displayed within the app.

(a) Defence in depth

92. Apple's App Review forms one part of what Apple argued is its superior approach to the "security architecture", which was referred to as "defence in depth". As described in Federighi 1:

> "This is designed and implemented as a multi-layered security architecture in Apple's iOS Devices, to ensure that, even if one layer is temporarily circumvented, there are multiple other layers of security ready to protect against malicious threats. With respect to the threat model analysis, the multiple layers constituting Apple's defence in depth approach substantially increase the chance that an attack would be economically unviable for attackers. A layered defence in depth approach, where each layer of security is stacked on top of one another and an attack would have to defeat every layer to be successful, makes it more difficult and more expensive to successfully mount an attack and to maintain the viability of the attack."

[13] Day 9/171/18 to 9/172/2.
[14] Referring to Lee 1 at [21].

93. Mr Federighi particularises these "layers" as being: (a) hardware elements, including, for example, Face ID and Touch ID; (b) software (operating system) elements, including operating system updates; and (c) centralised app distribution combined with App Review.

(6) Description of the "comparator" platforms

94. At various points in the pleadings and at trial, the parties referred to a number of different platforms which were said to be comparable (or not comparable) to the App Store. We will deal with these arguments in detail below, but for present purposes we have set out a brief description of the larger comparator platforms that were examined.

(a) Google and other Android platforms

95. Google Android is an operating system installed on almost all mobile devices in the UK that are not iOS devices, making Android the primary alternative mobile operating system to iOS. Significantly it does allow for alternative app marketplaces, and it does not prevent users from downloading apps directly from the internet – although it does create "friction" for users who wish to do so, by requiring additional steps and pop up warnings.

(i) Device manufacturers

96. The Google Android operating system is different from iOS in a number of ways, not least because it can be used on devices manufactured by undertakings other than Google. Google licenses Android to third-party device manufacturers, including Samsung and Huawei, some of which use a customised version of Android, as is the case for Huawei. Google also sells its own mobile device, the Pixel, which uses Android. Samsung is the manufacturer of the vast majority of devices in the UK which use the Android operating system.

(ii) App marketplaces

97. The Google Play Store is "by a significant margin the largest Android app store in terms of users…the number of apps…and the number of apps downloaded."[15] Google charges a $25 one-off registration fee for developers to create a Google Play developer account. There is a 30% commission on the price paid for apps and purchases within an app, though this is not applicable to all transactions. For example, Google Play has a programme identical to Apple's ARS policy (a 15% commission rate for renewable payments for subscriptions)[16], and as of 2021, it also introduced a programme similar to the SBP. Google also offers its own payment processing service for purchases on Google Play.

98. Other app marketplaces available on Android devices include the Samsung Galaxy Store, Aptoide and Amazon AppStore.

(1) Samsung Galaxy Store: Samsung first began selling apps in the UK on its devices in 2009. Its headline commission rate is 30%, but an "alternative revenue share rate may be established upon mutual written agreement during the certification process" for an app. A large developer, Epic Games, has agreed a 12% commission rate with the Samsung Galaxy Store[17].

(2) Aptoide: Aptoide is a third-party app marketplace that charges a headline commission rate of 25% on Android apps, though it negotiates with developers to set lower rates. Aptoide now runs an app marketplace for iOS apps in the EU following regulatory intervention in that market and charges a commission rate of 20% for iOS apps.

(3) Amazon Appstore: Amazon launched an app marketplace for Android apps in 2011. It does not charge any fixed fee to developers to transact and it has a headline commission rate of 30% for transactions. For

[15] Holt 1 at [7.3.49].
[16] This appears to have been introduced by way of response to Apple's ARS policy: see The Verge, *Google matches Apple by reducing Play Store fee for Android app subscriptions*, 19 October 2017.
[17] Hitt 2, appendix 7 at [7].

movies and television transactions, it charges a 20% commission rate. It also charges a commission rate of 20% for developers with less than $1 million in revenue the previous year.

(iii) Safety, security and privacy on Android

99. Apple's case was that the Android operating system offers worse protection with regard to safety, security and privacy than the protection offered by iOS. Apple refers to a number of specific situations where protection has fallen short on Android. For example, Apple argued that banking "trojans", or banking apps that manipulate users in order to provide their bank details, have been a significant problem on Android app stores, which is not the case for the App Store.

100. There was considerable dispute between the security experts, Dr Lee and Professor Rubin, about the differences in the security of the iOS ecosystem and the Android ecosystem. Much of the evidence presented to us was anecdotal in that regard and not sufficient to allow us to form any firm view in particular about the reasons for those differences that appeared to exist. It is also apparent that the position may have changed considerably over time, with the adoption by both ecosystems of enhanced security measures.

101. However, the MEM Study, at Appendix N, concluded that the security models of Apple and Google on Android and iOS are "broadly similar". The CMA considered that both operating systems provide "defence in depth", and that they have similar features in place to provide security. The MEM Study goes into detail on the following security features of each operating system:

(1) App Review: the core distinction between Apple's App Review and Android's app review is that only apps which are downloaded through the Play Store will go through Android's app review. As such, any apps which are sideloaded or downloaded from an alternative app marketplace on Android do not necessarily go through any app review process.

(2) Digital signatures: digital code signing verifies the source of code executed on the device and data in the app. A digital signature indicates that software is authentic and has not been modified since the time of signing. All code executed on iOS requires an Apple issued digital signature. Android requires developers to sign apps with a certificate before installation on any device or any update. This is applicable to all apps, not just those sold on the Play Store.

(3) Software update delivery: the MEM Study concluded that software updates are crucial for securing mobile devices and points out that Google's ecosystem is less vertically integrated than Apple's, meaning responsibility for ensuring security is shared between Google, other device manufacturers, and network operators. It concludes that this lack of vertical integration is responsible for differences of security arising from frequency and delivery of updates on Android devices. This results in a situation, according to the MEM Study, where only 25% of Android devices use up-to-date software, as contrasted with Apple, where the majority of devices use up-to-date software.

(b) The Epic Games Store

102. Epic Games is a large private US corporation which develops and distributes video games, most notably Fortnite. The Epic Games Store is a games transaction platform available on Android, Microsoft Windows-based personal computers ("PCs") and Macs (and now on iOS in the EU). Epic charges a 12% commission on transactions to cover the cost of distribution. It also allows developers to make their own choice as to which payment processing service provider to use.

103. Epic also licenses "Unreal Engine", a software developer toolkit for gaming apps, to game developers. This offers a suite of tools to create game content on apps (similar to Apple's APIs). In return, Epic receives a 5% cut of gross revenue from a product developed using it.

(c) Steam

104. Steam is a PC gaming distribution platform launched in 2003 by the developer Valve, the company which originally developed the concept of digital, as opposed to physical, distribution for games. It is considered to be the largest of the game-specific distribution platforms. Until 2018, Steam charged a 30% commission to all developers for distribution, at which point it lowered its commission by up to 10% for the largest developers using a "sliding scale" system. Steam also charges a "Steam App Fee" of $100 for each new game submitted for distribution, though this is refunded to the developer once the game has achieved a modest revenue target. Payment processing services on Steam are provided by Valve.

(d) Other PC marketplaces: Microsoft Store and the Mac App Store

105. In 2015, Microsoft announced it would merge several of its app marketplaces which were available on different devices, including Windows Phone Store and Xbox Store, to create one Microsoft Store. Originally, Microsoft Store charged differing commissions depending on the type of app in question: for games, 30%; for everything else, 15%. In 2021, Microsoft announced it would reduce its commission for games distributed for use on personal computers to 12%. However, for games distributed for use on its game console, the Xbox, it still charges a 30% commission (see below).

106. Apple's Mac App Store launched on 6 January 2011, and Apple has charged a headline commission rate of 30% there since its launch. Many of the adjusted commission rates applicable to apps listed on the App Store apply equally to apps listed on the Mac App Store, including the VPP, the ARS policy and the NPP.

(e) Competition between the PC games marketplaces

107. As noted above, Steam has historically been considered to be by far the largest PC game distribution platform. There were 120.4 million monthly active users on Steam in 2020, which approximates to 75% of global market share.

108. However, more recently other game publishers have launched their own distribution platforms to compete with Steam. As noted, Epic Games launched the Epic Games Store in 2018, competing directly with Steam and charging a 12% commission rate. In response, Steam adjusted its commission rate to a sliding scale of commission, with levels at 20%, 25% and 30%. The lower rates are available to the larger developers.

109. Although it is still considered smaller than Steam, the Epic Games Store has seen considerable growth since its entry into the market for PC games marketplaces. For example, its monthly active users rose from 32 million in 2019 to 56 million by the end of 2020. Professor Hitt noted that, as of November 2023, the Epic Games Store is yet to turn a profit[18].

(f) Game consoles

110. The Nintendo eShop, the PlayStation Store and that part of the Microsoft Store which deals with the Xbox are marketplaces for games which are available only on the specific games consoles to which they relate. The Nintendo eShop launched in 2011 for a number of Nintendo devices (for example, the Wii), but as of 2023, apps are only available for the Nintendo Switch. Nintendo charges a 30% commission rate. The PlayStation Store launched in 2006, for the PlayStation 3 and subsequent iterations of that console. It charges a 30% commission rate on downloads and in-app purchases.

(7) Regulatory scrutiny and interventions/litigation

111. Various regulatory investigations and decisions broadly in relation to iOS app store distribution services and iOS in-app payment services were referred to during the trial, as was litigation in other jurisdictions.

[18] Hitt 2 at [75(a)].

(a) The CMA Mobile Ecosystems Market Study

(i) The findings of the MEM Study in respect of Apple and Google

112. On 10 June 2022, the CMA published the final report in its MEM Study, which contains a number of findings in relation to both Apple and Google. The Class Representative relied on the following findings:

(1) Apple and Google have substantial entrenched market power in mobile operating systems, as there is limited effective competition between the two, and rivals face significant barriers to entry and expansion.

(2) Users rarely switch between iOS and Android devices.

(3) Apple has substantial and entrenched market power in the distribution of native apps within its own ecosystems, and Apple has a monopoly over downloads of apps on iOS devices.

(4) Development and usage of web apps is substantially lower than native apps, and they are not regarded as a viable alternative by many app developers. This is reinforced by restrictions on functionality within Apple's ecosystem. For example, Apple has acknowledged that web apps cannot access all of the device features available to native apps and sometimes web apps can experience comparative latency and degradations in quality.

(5) There is limited competition between the App Store and the Google Play Store for both app developers and users, and large developers view distribution through both in parallel as essential.

(6) The App Store faces a limited competitive constraint from alternative devices such as PCs, laptops, and gaming consoles, and these devices are primarily used for different purposes and are mainly viewed by users as complements rather than substitutes for the use of native apps on mobile devices. There is limited evidence that users would switch away

from purchasing content and features in native apps to purchasing it through these alternative devices or alternative channels (for example, browsers on mobile devices).

(7) The lack of competition faced by the App Store allows Apple to charge a commission above a competitive rate.

(8) If other distribution channels were effective constraints on the App Store and the Google Play Store, the CMA would expect to see lower commission rates or increased quality.

(9) In the absence of the requirement to use IAP, developers would be able to choose other, bespoke payment solutions that better met their needs and those of their users, and there would be a greater incentive for payment service providers to innovate. Almost all developers would not use Apple's payment system if they were not required to.

(10) If the Commission were lower, the CMA would expect a material proportion of the savings to be "re-invested, passed through as a saving to consumers in the form of lower prices, or enable an expansion in the range of available apps".

(11) The App Store is "highly profitable on any reasonable measure of gross or operating margins".

(ii) Accent's Consumer survey on purchasing in the UK smartphone market

113. The CMA commissioned the "Accent Survey" for the purpose of its MEM Study and relied on it as a basis for its findings. The intent of the Accent Survey was to "develop a more in depth understanding of purchasing behaviour in the UK smartphone market, with a particular focus on switching behaviour between smartphone brands and operating systems."

(b) The European Commission's Spotify Decision in Case AT.40437 on Apple's App Store Practices

114. On 4 March 2024, the European Commission adopted the "Spotify Decision" under Article 102 TFEU fining Apple over €1.8 billion relating to a finding of abuse of dominance on the market for the provision to developers of platforms for the distribution of music software apps to iOS users. The European Commission opened its investigation upon a complaint from Spotify AB, received in March 2019. The Spotify Decision concluded that Apple's rules, as laid down in the Guidelines and in the DPLA, preventing developers from informing users about alternative subscription possibilities outside iOS apps (that is, the anti-steering provisions in the contractual arrangements with developers) constitute an infringement of Article 102 TFEU and Article 54 of the European Economic Area Agreement (the "EEA"). The Decision ordered Apple to remove the relevant rules in the Guidelines and the DPLA.

115. The Class Representative refers in particular to the European Commission's conclusions that:

(1) For the purposes of market definition, Apple's argument that the relevant market was the sale of music streaming subscriptions not only via Apple's payment systems but also through channels other than iOS apps was rejected by the European Commission, which also decided that alternative subscription mechanisms outside of the iOS app do not constrain Apple's power to behave independently.

(2) Web apps are not alternatives for providers of music streaming services, and web apps are technically inferior to native apps.

(3) Sideloading is not a viable alternative for iOS users.

(4) As a consequence of the fact that Apple and Google control access to such a large proportion of smartphone users, developers must be present in both the App Store and the Google Play Store in order to access enough customers.

(5) The distribution of apps via the App Store has some resemblance to an aftermarket.

(6) Apple is dominant in the relevant market, holds a 100% market share, prevents third parties from entering the market, and any hypothetical new entrant is subject to indirect network effects which entrench Apple's market position. Apple is facing limited countervailing buyer power.

(7) Competition on the market for smart mobile devices does not constrain Apple's ability to behave independently vis-à-vis developers of music streaming apps.

(8) The cost of the Commission is passed on to iOS device users in the form of higher prices for subscriptions.

(c) The European Commission's Decision in Case AT.40099 on Google Android

116. In the "Google Android Decision", the European Commission concluded that Google, through its Android operating system, had infringed Article 102 TFEU and Article 54 EEA in four ways, three of which were upheld by the General Court of the EU on appeal. The Class Representative identifies the following relevant points arising from the Decision:

(1) The Google Android Decision, upheld by the General Court, found that there was a distinct product market for Android app marketplaces.

(2) The Google Android Decision found that Google was dominant in the worldwide market (excluding China) for Android app marketplaces and that Apple and iOS were not in a position to exercise a sufficient competitive constraint on Google and the Android ecosystem.

(3) Google argued before the General Court that the European Commission should have taken account of its argument that, because of the

competitive constraints exerted by Apple's ecosystem, Google did not have the power to prevent effective competition from being maintained on the relevant markets linked to the Android ecosystem, and the General Court rejected that argument.

(d) The Netherlands and dating apps

117. On 25 August 2021, the Netherlands Authority for Consumers and Markets imposed an order on Apple subjecting it to periodic penalty payments for abusing its dominance in violation of the Dutch Competition Act and Article 102 TFEU, finding that Apple imposes unreasonable conditions on dating app developers. The order mandated Apple to change its conditions regarding access to the Dutch storefront of the App Store, so that dating apps in the Netherlands have the ability to offer alternative payment providers. Apple is also required by the order to allow dating app providers to steer users to payment options outside the app.

118. Since February 2022, dating app developers in the Netherlands, using Apple APIs have been able to use payment service providers other than Apple. Before they can use these alternative payment service providers, Apple reviews them according to specific criteria, and developers must provide certain disclosures to users of their apps where alternative payment service providers are offered.

(e) South Korea

119. The South Korean Telecommunications Business Act was amended on 31 August 2021, mandating that apps distributed by app marketplace operators in South Korea be allowed to offer alternative payment service providers within their apps. Apple announced in 2022 that developers there would be able to offer alternative payment service providers within their apps through use of the "StoreKit External Purchase Entitlement". Developers in South Korea who utilise the StoreKit External Purchase Entitlement are required to pay Apple a commission on transactions, which is 26% of the price paid by the user, gross of any sales tax. Apple's website refers to this 26% rate as excluding "value related to payment processing and related activities." There are specifications

in the StoreKit External Purchase Entitlement which place certain obligations on developers including for example a requirement to provide a monthly report to Apple, recording each sale of digital goods and content facilitated through the App Store. Developers will be responsible for collection and remittance of any taxes. Apple has approved four alternative payment service providers in South Korea, and any other potential payment service providers must be approved by Apple via requests from developers.

(f) The EU's Digital Markets Act

120. Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 applied from 2 May 2023 (the "DMA"), and Apple was designated as a "gatekeeper" under the DMA on 6 September 2023 (the "Designation Decision"). The Designation Decision lists certain core platform services constituting important gateways for business users to reach end users, one of which is the App Store. Within six months following a designation decision, a gatekeeper is required to comply with certain obligations under the DMA.

121. On 7 March 2024, Apple submitted its DMA compliance report to the European Commission setting out certain changes to Apple's business model, some of which relate to alternative distribution and alternative payment service provider options for the App Store. In the EU, Apple now provides authorised app marketplace developers with access to APIs and SDKs which allow for alternative app marketplaces on iOS, following Apple's "notarization" of those apps. Apple also now allows for the use of alternative payment service providers and the provisions of links within apps to permit them. A number of obligations are placed on developers when they exercise these options. In particular, developers are required to pay a Core Technology Fee ("CTF") to Apple.

122. By a Decision dated 24 June 2024[19] (the "DMA Compliance Decision"), the European Commission has opened an investigation into Apple's compliance

[19] See European Commission, *Case DMA.100206 Apple new business terms*, 24 June 2024.

with the DMA. The DMA Compliance Decision contains the following observations:

(1) Apple allows third-party app marketplaces to operate as native apps on iOS and to be downloaded from a website owned by the third-party app marketplace provider. The provision of the third-party app marketplace is subject to certain conditions.

(2) Apple enables developers to distribute third-party apps from their own developer account via their own website or a website they have responsibility for, subject to certain conditions.

(3) Apple requires iOS device users installing third-party app marketplaces from third-party app websites to go through a multi-step process.

(4) Apple allows for the possibility to use alternative payment services and technical services in support thereof within apps.

(5) In order to avail itself of alternative distribution and payment services, as well as the possibility to communicate and promote offers to iOS device users acquired via the App Store or elsewhere, business users must agree to, and not be in violation of, the latest version of Apple's DPLA, which requires enrolment in the Apple Developer Program and therein signing up to the "Alternative Terms Addendum for Apps in the EU". This provides for a new fee structure including the CTF which subjects developers of third-party app marketplaces and third-party apps to a requirement to pay €0.50 in respect of app store and app installations, subject to certain conditions as follows: for third-party app marketplaces, the obligation applies for each first annual installation of their third-party app store; for developers of third-party apps, it applies to first annual installations over a one million threshold irrespective of its distribution. The CTF does not apply to small developers, that is those who earn less than €10 million in global annual business revenue, and other specific categories of developers.

123. According to the DMA Compliance Decision, the investigation into Apple concerns Apple's original and new business terms, and in particular the CTF, and also the obligations placed on developers in relation to the provision of alternative app marketplaces.

124. We are aware that there have been further developments in relation to Apple's compliance with the DMA since the trial, but we have not had any update from the parties and we have accordingly not looked into the ongoing situation ourselves.

(g) US litigation

(i) Judgment of the District Court in the Northern District of California in Case 4:20-cv-05640-YGR, *Epic Games Inc v Apple Inc*

125. Judgment was delivered by the US District Court for Northern California in Case 4:20-cv-05640-YGR, *Epic Games Inc v Apple Inc* (the "US Epic proceedings") on 10 September 2021. Epic brought the claim to challenge Apple's App Store rules and Apple's decision to block Epic's apps from the App Store after Epic had allowed users of Fortnite to use alternatives to Apple's payment service. Epic alleged violations of antitrust and unfair competition laws based on Apple's operation of the App Store, arguing that Apple was an "antitrust monopolist" over both app distribution and payments processing. Apple defended the allegations on the basis of a market definition that included all digital video games and claimed that it competed heavily with Epic in that market.

126. The Court found, contrary to the arguments of both parties, and in something of a middle ground, that the relevant market was "digital mobile gaming transactions". Having defined that market, the Court examined Apple's conduct and was not able to conclude that Apple is a monopolist in that market under either federal or state antitrust laws, although it did find that Apple enjoys a market share of 55% and "extraordinarily high profit margins". The Court found no evidence of barriers to entry, conduct decreasing output, or conduct

decreasing innovation in the relevant market. On the other hand, the Court did find that Apple engaged in anticompetitive behaviour under Californian competition law on the basis of its anti-steering provisions, specifically those which prevent developers from inserting into their iOS apps directions to purchase content outside the app. The Court issued a permanent injunction preventing Apple from enforcing the anti-steering provisions, finding that those provisions could be removed without any fundamental change to the iOS ecosystem.

(ii) Judgment of the Court of Appeals for the Ninth Circuit on appeal in Case 4:20-cv-05640-YGR, *Epic Games Inc v Apple Inc*

127. Judgment was delivered by the US Court of Appeals for the Ninth Circuit on 24 April 2023 in Epic's appeal and Apple's cross-appeal against the judgment of the District Court. The Court affirmed in part and reversed in part the District Court's judgment (though the reversal concerned issues of no relevance to these proceedings). The Court of Appeals found that the District Court had erred as a matter of law in defining the relevant antitrust market but that those errors were harmless. The Court found that Epic, despite these errors, had failed to establish factually its proposed market definitions.

(iii) Settlement in Case 4:19-cv-03074-YGR, *Donald R Cameron et al v Apple Inc*, in the District Court for the Northern District of California

128. A class action complaint was filed in the US Northern District of California on behalf of developers (the "US developer Proceedings"). The class consisted of "All U.S. developers of any Apple iOS application or in-app product (including subscriptions) sold for a non-zero price via Apple's iOS App Store." The plaintiffs alleged monopoly power on the part of Apple in relation to iOS app/in-app distribution services and, alternatively, an abusive monopsony in iOS app/in-app retailing. They sought relief for harm caused by Apple's alleged violations of federal and Californian antitrust law.

129. Apple reached a settlement with the developers and in its statement supporting its motion for approval of that settlement, it laid out the "key benefits" provided under the settlement for the "developer community", which included launching a "Small Developer Assistance Fund", maintaining the SBP for at least three more years, permitting steering, and expanding price points for apps.

(h) Australian litigation

130. Epic sued Apple (and Google) in the Federal Court of Australia, and those proceedings were joined with two class actions brought by Australian consumers against the same two defendants (Cases NSD 1236 of 2020; NSD 190 of 2021; and VID 341 & 342 of 2022) (the "Australian proceedings"). Epic alleged Apple and Google engaged in anticompetitive and unconscionable conduct in breach of the Australian Competition Act. The cases concerned alleged restrictions imposed by Apple and Google in respect of services for app distribution and services for in-app payments. We are aware that judgment has been delivered in these cases in August 2025, but the parties have not sought to make any supplemental submissions relating to it and we have had no regard to it in preparing this judgment.

(i) Japan's Fair Trade Commission investigation and market study

(i) Fair Trade Commission Investigation

131. Between October 2016 and 2 September 2021, the Japanese Fair Trade Commission conducted an investigation into Apple under Japan's Antimonopoly Act. One of the concerns in the investigation related to Apple's anti-steering rules. During the investigation, Apple proposed to take measures relating to certain Reader apps, so as to allow developers to refer to alternative payment options on websites, outside the app. It was on the basis of this agreement from Apple that the investigation was closed. Apple announced on 1 September 2021 that the Guidelines would be updated so that developers of Reader apps on all storefronts can now apply for an "External Link Account Entitlement", allowing in-app links to external websites for account creation and management purposes.

(ii) Market study

132. In February 2023, the Japan Fair Trade Commission published its "Market Study Report on Mobile OS and Mobile App Distribution", in which it concluded that there is insufficient competition in the mobile operating system market and the app distribution service market. It suggested a number of measures in order to increase competition in those defined markets, with the aims of: (1) preventing self-preferencing; (2) ensuring a healthy competitive environment by (for example) promoting consumer switching and the entry of new operating systems and app marketplaces; (3) ensuring fairness in rule-making for the mobile ecosystem.

C. THE STATUS OF REGULATORY DECISIONS

133. The Class Representative relied on some of these regulatory decisions to make her case. In particular, she put forward the MEM Study and the Spotify Decision as important indications which support her position on questions such as market definition, dominance, foreclosure and excessive pricing.

134. Apple's position was that the opinions or conclusions reached by the CMA about the evidence before it are inadmissible in these proceedings. To proceed otherwise would, it said, be unfair. Apple noted that the Tribunal is (unlike many other courts) not subject to the rule in *Hollington v Hewthorn* [1943] KB 587 ("*Hollington*"), which decided that factual findings in civil cases are inadmissible in subsequent proceedings. By analogy, that would also include regulatory decisions. As recognised by the Court of Appeal in *Evans v Barclays Bank*[20], the Tribunal is a sophisticated tribunal well able to form its own view on the value, if any, of prior findings. Apple noted, however, that the MEM Study is a market study and not even an infringement decision, in the course of which Apple would have had procedural rights which it has not been able to exercise for the MEM Study. Apple cautioned us that the CMA's conclusions are not sufficiently robust for us to have confidence in them.

[20] [2024] 1 All ER (Comm) 573, [2023] EWCA Civ 876, per Green LJ at [100]-[103]. Apple noted that this decision is subject to appeal, but at least for the present it remains the law (the appeal was heard in the Supreme Court on 1 and 2 April 2025).

135. Apple also argued that the findings in the Spotify Decision are confined to anti-steering provisions. Apple said that no weight should be given to the Decision and the other findings it contains, and noted that the Decision is currently on appeal to the General Court.

136. Apple did however draw a distinction between the opinion or conclusions of the CMA, on the one hand, and the evidence before it (for example, in the form of the Accent Survey), on the other. Although it sought to restrain us from relying on the CMA's opinions, Apple said we are entitled to receive and review the evidence on which those opinions are based, deciding what weight can be put on that and what conclusions can be safely drawn from it. Both parties relied on the Accent Survey for this purpose.

137. The CMA and the European Commission are obviously highly qualified and competent administrative bodies. The MEM Study is on its face a significant piece of work, which has involved considerable care and effort from the CMA. The Spotify Decision represents the outcome of infringement proceedings by the European Commission, during which Apple had the opportunity to exercise the considerable procedural rights which arise in such investigations.

138. It would therefore be wrong, in our view, to discard the opinions or conclusions in those documents as being unreliable. While we accept Apple's point that the MEM Study is not an infringement proceeding, it is nonetheless the output of considerable effort and thought by the CMA and should be accorded a high degree of respect.

139. On the other hand, we do agree with the argument Apple made to the effect that we should in the first instance focus on the evidence before us in this case, which can be tested by cross examination. For that reason, our approach to both the MEM Study and the Spotify Decision is to use them as a reference point for consistency, or to fill gaps which there might otherwise be in the evidence before us. In each case where we have done this, we have considered the appropriate weight to be given to any opinions or conclusions, so as to ensure that there is a proper balance between fairness to Apple and the evidential value we see in the material.

140. We should add that we have not relied on the opinions or conclusions drawn by any other regulator, or those found in any judgments of courts in other jurisdictions. That is because of our low familiarity with the regulatory frameworks in which they are operating, the apparent differences between those frameworks and our competition regime, and our lack of need to supplement the evidence in this case with such material. We have however relied on the outcome of those proceedings in some instances, as evidence of what is or is not feasible in practice for certain matters.

D. MARKET DEFINITION

(1) The correct approach to market definition

141. At the start of the trial, there appeared to be a considerable difference between the approaches of the Class Representative and Apple to market definition. The CMA's written and oral observations in opening and closing arguments were also substantially directed to this question. While the differences had to some extent narrowed by the end of the trial, we will set out in some detail the competing approaches and our conclusions about the correct approach.

(a) The Class Representative's approach

142. The Class Representative identifies the following legal principles of relevance to market definition:

(1) Market definition is not an end in itself but a key step to identify competitive constraints and thereby to provide a framework for competition analysis.

(2) The relevant product market comprises all those products that customers regard as interchangeable or substitutable for the product of the undertaking involved.

(3) Only products that exert effective and immediate competitive constraints within the relevant timeframe form part of the same relevant market.

(4) The focus of the investigation is the focal product, which should be defined as narrowly as possible.

(5) Demand substitution is the most effective and immediate constraint and the main consideration when defining the product market.

(6) The process of defining a market typically begins by establishing the closest substitutes to the focal product. These substitute products are the most immediate competitive constraints on the behaviour of the undertaking supplying the product in question.

(7) In order to establish which products are "close enough" substitutes to be in the relevant market, a conceptual framework known as the hypothetical monopolist test (or "HMT") is usually employed.

(8) The HMT generally involves assessing quantitatively whether a small but significant and non-transitory increase in price (a "SSNIP") would be profitable for a hypothetical monopolist. For demand substitution, this speculative exercise considers whether, in response to a 5-10% increase in price by a hypothetical monopolist supplying the product in question, a sufficient number of consumers would switch to an alternative product so as to render that price increase unprofitable.

(9) In abuse of dominance cases, the SSNIP test needs to be applied by reference to a counterfactual competitive price as a starting point for the measurement of margins and demand elasticities.

(10) A SSNIP test analysis starting at a price already above a competitive one will tend to include products that would not have been considered substitutes at a competitive price. It will therefore include too wide a

collection of products and thereby lead to the wrong conclusion about the relevant market. This is called the "Cellophane fallacy".

(11) In the presence of multi-sided platforms, it may be appropriate to define a relevant product market for the products offered by a platform as a whole, in a way that encompasses all (or multiple) user groups, or it may be appropriate to define separate (although interrelated) relevant product markets for the products offered on each side of the platform.

(12) Digital ecosystems can, in certain circumstances, be thought of as consisting of a primary core product and several secondary digital products whose consumption is connected to the core product, for example, by technological links or interoperability. When considering digital ecosystems, it may therefore be appropriate to apply similar principles to those applied in analysing aftermarkets to define the relevant product market.

(13) Effective competition on the primary market may discipline the market power of the producer of the primary product on the aftermarket where four cumulative conditions, articulated by the Court of Justice of the EU (the "CJEU") in Case C-56/12P *EFIM v Commission* EU:C:2013:575 ("*EFIM*"), are met:

(i) customers can make an informed choice, including lifecycle-pricing, between the various manufacturers in the primary market;

(ii) customers are likely to make such an informed choice accordingly;

(iii) in case of an apparent policy of exploitation being pursued in the aftermarket, a sufficient number of customers would adapt their purchasing behaviour at the level of the primary market; and

(iv) customers' adaptation of their purchasing behaviour would take place within a reasonable time[21].

143. The Class Representative submitted that there are three markets which need to be taken into account:

(1) A devices market, in which smartphones and tablets are sold.

(2) A distribution market, which in this case is the market for the provision of distribution services for iOS apps which facilitate the purchase of those apps by iOS device users (the "iOS app distribution services market").

(3) An in-app aftermarket, which in this case is the market for services that enable in-app purchases of content and features, including subscription purchases. These can only be made once the initial app has been downloaded (the "iOS in-app payment services market").

144. The Class Representative argued that the relevant product markets are the iOS app distribution services market and the iOS in-app payment services market, which she said are separate markets.

(b) Apple's approach

145. Apple submitted that the relevant product is the facilitation of transactions for digital goods and services between developers and consumers. This product is not confined to iOS app transactions but includes all iOS and non-iOS channels by which developers and consumers can transact for digital goods and services.

146. Apple criticised the Class Representative's product markets as being both:

(1) too narrow, because they fail to account for different sources of competitive constraint; and

[21] *EFIM* at [12] and [36]-[37].

(2) too broad, because they fail to account for the differences in competitive conditions between different segments of the transactions markets (for example, games and video streaming).

147. Apple challenged the proposition that there is a separate market for in-app payments, saying this fails to reflect the reality of how the relevant product is bought and sold.

148. During much of the trial, we understood Apple's position to be a rejection of the submission by the Class Representative (and the CMA, as to which see below), that the focal product for initial consideration of the HMT should be as narrow as possible and align with the alleged abuse. However, during oral closing argument, it became apparent that Apple was not challenging that approach[22]:

> "THE CHAIR: When you say that you agree with the CMA, I think the CMA talk about a different focal product from you, though, do they not? Their choice of focal product is different, so to that extent you are not in agreement, are you?
>
> MS DEMETRIOU KC: No, so the CMA's choice of focal product is different.
>
> THE CHAIR: Yes.
>
> MS DEMETRIOU KC: It makes no difference which one you choose. So we are content to go with the CMA's choice of focal product, rather than narrowing it down into different types of app transaction, but you end up with the same result.
>
> THE CHAIR: Well, it is different even then, is it not? [...] the CMA's approach to focal product is the narrowest sensible product, which is generally the one that the abuse is alleged in relation to.
>
> MS DEMETRIOU KC: Yes, we agree with that.
>
> THE CHAIR: I thought your focal product was a broader digital platforms product.
>
> MS DEMETRIOU: No, no, you start with the narrowest one, so you are starting with transactions on iOS. That is the -- you start with the narrowest focal product.
>
> [...]

[22] Day 26/9/6 to 26/10/19.

> THE CHAIR: So you accept that you start with distribution on iOS as the focal product?
>
> MS DEMETRIOU KC: Absolutely. You start with that, so you start with the narrowest focal products. So we agree. We are ad idem with the CMA on that point.
>
> THE CHAIR: That is helpful, and ad idem then with [the Class Representative], I think, are you not? She agrees with --
>
> MS DEMETRIOU KC: We are all agreed that is where we start."

149. While Apple accepted that the HMT is the conventional thought experiment for assessment of competitive constraints, it said that a quantitative SSNIP is not possible in this case and the attempt by the Class Representative's economic expert, Dr Singer, to address the risk of Cellophane fallacy is circular and has effectively resulted in skipping the market definition stage and proceeding straight to an abuse analysis.

150. Apple submitted that, in the real world, differences in prices can be explained by product differentiation. A SSNIP test, which only assumes a small price increase, can be misleading in this regard.

151. Instead, Apple urged us to rely on other evidence to define the relevant market. Apple said we should concentrate on the evidence of competitive constraints from:

(1) competition in the devices market;

(2) the availability of alternative channels by which iOS device users and developers can transact; and

(3) alternative methods by which developers can monetise their iOS apps without paying Apple any commission.

152. In relation to item (1) above, Apple accepted that it is necessary to meet the *EFIM* conditions in order to maintain this argument and said the conditions have been met.

153. In relation to item (2) above, Apple noted the two-sided nature of the App Store and emphasises the evidence of the high concentration of iOS device users and developers who account for a very large proportion of commerce through the App Store.

154. Apple also argued that it is not possible to lump together in a single market all of the different types of apps (for example, games, video streaming, newspaper apps, etc.) when the substitution possibilities, incentives and effective commission rates vary so substantially between them.

155. Finally, Apple pointed to aspects of its own conduct as supporting the proposition that it is competitively constrained. This includes Apple's views on other transaction channels as competitors and improvements in the quality of the App Store experience over time.

156. While Apple referred to the HMT/the application of a SSNIP in various places in its closing, it is not entirely clear that it is seeking to apply the HMT as articulated by the Class Representative, and indeed the CMA (as will be seen below). It seems to us that Apple placed considerable weight on a contextual review of evidence indicating competitive constraints, as opposed to the logic of applying the HMT to a focal product. To this extent at least, there appeared to remain a difference of approach at the end of the trial.

(c) The CMA's observations

157. In its initial written submissions, the CMA set out a number of general principles which it submitted we should follow in the market definition exercise:

(1) Dominance can exist only in relation to the supply or acquisition of a particular class of goods or services. It is therefore necessary to define the relevant product or services market. Market definition is essentially

a question of determining which other products act as a material competitive constraint on the allegedly dominant firm[23].

(2) Market definition typically begins with a so-called "focal product" that is the product relevant to the case at hand[24].

(3) A commonly used test to assist with the process of market definition is the HMT. This asks whether a hypothetical monopolist would find it profitable to increase competitive prices by a small but significant non-transitory amount in the range of 5-10% (the SSNIP test) or to implement a small but significant non-transitory decrease of quality ("SSNDQ")[25]. The HMT is often a useful conceptual framework, but it is not a necessary one[26].

(4) Where prices are likely to differ substantially from their competitive levels, caution must be exercised when dealing with the evidence on switching patterns as such evidence may not be a reliable guide to what would occur in normal competitive conditions[27].

(5) The overarching test is whether there is a "sufficient degree" of interchangeability between the focal product and any other product or products[28]. In assessing interchangeability, it is necessary to consider both the demand and supply side of the market[29], having regard to the objective characteristics of the product(s), the competitive conditions and/or structure of supply and demand[30].

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[23] *Generics (UK) Ltd & ors v CMA* [2018] CAT 4 ("*Generics No. 1*") at [397], and [2021] CAT 9 at [83]; *Aberdeen Journals v Director General of Fair Trading* [2002] CAT 4 ("*Aberdeen Journals No. 1*") at [101].
[24] CMA, Guidance on *Abuse of a dominant position*, OFT402 at [4.6]; and CMA, Guidance on *Market definition*, OFT403, ("UK Market Definition Guidance") at [2.9].
[25] UK Market Definition Guidance at [2.5]-[2.13]; see also *Purple Parking Ltd v Heathrow Airport Ltd* [2011] UKCLR 492, [2011] EWHC 987 (Ch) ("*Purple Parking*") at [110].
[26] *Aberdeen Journals No. 1* at [102]; *Generics No. 1* at [401].
[27] UK Market Definition Guidance at [5.6].
[28] *Flynn Pharma Ltd and Pfizer Inc v CMA* [2018] CAT 11 ("*Phenytoin No. 1*") at [116].
[29] UK Market Definition Guidance at [3.4] and [3.13].
[30] *Aberdeen Journals No. 1* at [94].

(6) In general, evidence on substitution from a number of different real-world sources should be considered. For example, evidence as to how the undertakings in question themselves see the market is likely to be particularly significant for defining the relevant market[31], so too evidence relating to customer reactions to price changes in the past. For example, evidence that a relatively large proportion of customers had switched to a rival product in response to a relatively small price rise in the focal product would provide evidence that these two goods are close substitutes[32].

(7) There is no exhaustive or mandatory list of factors that may need to be taken into account in defining the relevant product market. Having said this, the Tribunal identified a useful set of factors in *Aberdeen Journals No. 1* at [96] and [97].

158. The CMA reminded us that it is also important not to lose sight of the Tribunal's observation in *Phenytoin No. 1* that competition analysis is always a matter of degree and in each case the degree of competitive pressure, whether from inside or outside the relevant market as defined, must be carefully assessed[33].

159. In relation to the focal product, the CMA submitted that this should typically be the product that is the subject of the allegedly abusive conduct, so that the initial market to which an HMT is applied will be the market containing the products which are the subject of the abuse allegation[34].

160. Where allegedly abusive conduct is applied to more than one product (or sets of products), it will generally be appropriate to undertake separate market definition exercises for each relevant product (or set of products)[35].

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[31] *Aberdeen Journals No. 1* at [103]-[104].
[32] UK Market Definition Guidance at [3.7], fifth bullet.
[33] *Phenytoin No. 1* at [119].
[34] See UK Market Definition Guidance at [3.2], and, European Commission, *Commission Notice on the definition of the relevant market for the purposes of [EU] competition law*, OJ [2024] C 1645 (the "EU Market Definition Notice") at [28].
[35] See UK Market Definition Guidance at footnote 11.

161. However, where allegedly abusive conduct is applied to a single product (or set of products) which is supplied to multiple customer groups that have different substitution options available to them, the existence of those different substitution options will not generally be sufficient on its own to mean that separate market definition exercises are appropriate[36].

162. The CMA noted that Apple's argument that product markets should be subdivided according to the type of digital goods or services provided is inconsistent with the propositions that:

(1) The initial focal product market should not generally be narrower than the service (or set of services) that is alleged to be subject to the abusive conduct.

(2) The fact that the relevant services are supplied to multiple customer groups that have different substitution options available to them will not generally be sufficient on its own to mean that separate market definition exercises are appropriate.

163. In relation to the use of a SSNIP for the HMT, the CMA noted Apple's argument about circularity but said that there is a difference between an assumption of a monopoly price (leading to the conclusion that competitive prices are well below actual prices) and the use of evidence in the round, including comparator evidence, to indicate a difference between actual and competitive prices.

164. The CMA also observed that the greater the extent to which the prices of a de facto monopolist of a focal product are above the level of reasonable comparator products, the less likely it is that the difference is attributable to product differentiation (as opposed to market power).

[36] See UK Market Definition Guidance at [3.9] and EU Market Definition Notice at [89].

(d) Our conclusions on the approach to market definition

165. By the end of the trial, it seemed to be common ground that the correct starting point for the market definition exercise is to identify a focal product that corresponds with the product which is the subject of the abuse allegation. That ought to be the narrowest focal product which needs testing. The exercise will, from that point, identify whether there should in fact be a broader set of products adopted as the focal product and therefore a broader market than that which contains the original focal product to be defined.

166. In this case, that means the focal products to be considered are the services provided in relation to iOS app distribution, and the services provided in relation to iOS in-app payments.

167. Beyond that point, there does seem to be a difference between the approach contended for by Apple and the approach suggested by the Class Representative and the CMA. That difference concerns the application of the HMT to determine substitutable products for the focal product. Apple appears to argue in its written closing submissions that, because of the difficulty in carrying out an HMT reliably, we should rely instead on evidence of competitive constraints even though they are not themselves evidence of substitutability[37]:

> "[25] The questions of market definition and dominance depend on an assessment of the strength of the competitive constraints to which Apple is subject. The guiding thought experiment for the assessment of competitive constraints is an HMT. It is rarely possible to apply an HMT in quantitative terms, however, particularly when one party argues that the prevailing price is not competitive. Attempts to do so in those circumstances will effectively skip the market definition stage of the case and proceed straight to the analysis of abuse or even overcharge. The European Commission's notice on market definition says that in potential Cellophane fallacy cases, it 'may rely on other evidence to define the relevant market'."

168. However, in her oral closing submissions, Ms Demetriou KC seemed to retreat somewhat from this position, suggesting that the exercise of considering the constraints was essentially an exercise of conducting a SSNIP test[38]:

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[37] Apple's written closing submissions at [25].
[38] Day 26/8/10 to 26/8/25.

> "MS DEMETRIOU KC: So we say that the Tribunal should start with the focal product, as the CMA says, then look at the possible constraints, which we have identified. So the constraints are, number 1, from the devices market; number 2, other transaction platforms; and number 3 different monetisation possibilities. Then what the Tribunal needs to do is to conduct a thought experiment which is essentially a SSNIP. So without assuming anything about what the competitive price is, the Tribunal needs to ask itself, 'Would Apple be able to sustain a SSNIP above the competitive price or would the constraints that Apple has identified operate so as to prevent it from doing so?'. Bear in mind, when doing this, it is for [the Class Representative] to satisfy you that the constraints that Apple has identified would not prevent Apple from doing so."

169. It is therefore unclear to what extent Apple is arguing for a departure from the conventional approach to the HMT. To the extent it is so arguing, we think that such an approach risks bringing an element of confusion into the exercise. Indeed, we did not find Apple's approach to the issue easy to follow, which rather demonstrates the problem. It also increases the risk that we could proceed by reference to price levels which might themselves be the result of market power (that is, the Cellophane fallacy).

170. We would prefer to maintain the discipline of carrying out the HMT, at least to the extent it can sensibly be conducted given the available data, by considering evidence which goes to substitutability of the focal products. We will however stand back and consider the other evidence in relation to potential constraints when we come to consider Apple's market power in the markets(s) we define. That will operate both as a sense check on the conclusions on market definition reached through the usual approach of the HMT and as important evidence in relation to our consideration of dominance.

171. In reaching this conclusion, we accept and adopt the general principles put forward by the CMA.

172. In that context, we confirm our approach will be as follows:

(1) Our overall objective in relation to market definition is to determine which other products act as a material constraint on Apple in relation to each of the identified focal products.

(2) That involves testing whether there is sufficient interchangeability (or substitution) between the respective focal products and any other products.

(3) The HMT is the conventional tool to carry out that exercise and we will apply it in the first instance.

(4) While it is common ground that it is not possible to carry out a full quantitative analysis for the purposes of the HMT, that is not a bar to the usefulness of the test in defining the relevant product markets to a sufficient degree of accuracy.

(5) We apply the HMT by reference to all of the evidence before us, including the SSNIP carried out by Dr Singer (which is the only such test carried out by the parties) and other evidence about substitution in the real world, both on the supply side and the demand side.

(6) That exercise involves consideration of the constraints that Apple identifies from competition in the devices markets, alternative channels by which iOS device users and developers can transact, and alternative methods by which developers can monetise their iOS apps without paying Apple any Commission.

(7) However, those matters will only be significant in relation to the HMT if they suggest a degree of interchangeability between products which demonstrates some suitable form of substitutability. That is not to say they are otherwise irrelevant. They are part of the wider assessment we need to undertake, in particular in relation to a sense check of our conclusions from the HMT, which we will consider mainly in section E on dominance below.

(8) We also agree with the CMA's point that the fact that the relevant services are supplied to multiple customer groups that have different substitution options available to them will not generally be sufficient on its own to mean that separate market definition exercises are appropriate.

(9) We are aware that the App Store is a two-sided platform for the distribution of iOS apps and it is important to consider the interaction between the two sides as well. As it happens, we think this feature is of relatively limited importance in the market definition exercise.

173. Assuming for present purposes that there is a separate market for sales of devices[39], it will be necessary to consider the inter-relationship between the devices market (the primary market) and any secondary, or "aftermarkets", we may define. That seems unlikely to be a question of substitutability (given there is a separate devices market). Apple seemed to suggest that there might be a single systems market encompassing device sales and iOS app distribution, so we will consider that issue separately and will apply the *EFIM* conditions to determine that question.

174. Otherwise, we think the assessment of competitive constraints that do not amount to substitution options is best done when we consider the question of dominance. At that stage, all relevant competitive constraints which act on the relevant markets can be considered.

(2) The focal products

175. As noted above, it appears to be common ground that the correct starting point for our market definition exercise is consideration of the focal products of:

(1) the services provided in relation to the distribution of iOS apps; and

(2) the services provided in relation to iOS in-app payments.

(a) The services provided in relation to the distribution of iOS apps

176. We summarise the distribution services provided by Apple to developers and users in relation to iOS app distribution as follows:

[39] We understood this to be accepted by Apple and therefore common ground. Ms Demetriou KC confirmed on Day 26/33/4 that Apple was not arguing that devices were in the same market as the iOS app distribution services.

(1) App Review: Apple reviews all apps and associated app features and updates before they are permitted to be published on the App Store. The review is conducted by reference to the Guidelines. There is both an automated and a human element to App Review.

(2) Promotion: there is a search function on the App Store. Developers are also able to market their apps to iOS users through the App Store Search function, which advertises iOS apps directly to users who are searching for particular apps. Apple charges an additional fee to developers for advertising placement.

(3) Facilitation: Users are able to download iOS apps which developers have published on the App Store. There is no fee to the user for this service, unless the developer charges the user for the iOS app download, in which case the developer-determined price is paid by the user to Apple, and the Commission is retained by Apple. Apple provides a service by which it facilitates any purchase transaction which takes place on the initial download of the iOS app. It charges the Commission as part of that service unless the transaction is not subject to the Commission.

(4) User reviews: The App Store allows users to submit reviews of iOS apps and these reviews are published on the App Store and are available to other users who are considering downloading an app.

(5) Family Controls: the App Store allows users to download the same app on multiple devices (including sharing among family members) and to obtain updates for their iOS apps. It also allows parents to set parental controls.

(6) Maintenance and updates of iOS apps: For developers, the App Store allows them to maintain and update their iOS apps which are published on the App Store. These updates are made available to users either automatically or on request, according to users' settings.

177. These services are provided in an aftermarket[40] to users who have already purchased an iOS device.

178. It was common ground that the App Store is a two-sided platform in relation to distribution services for iOS apps. There has been a great deal written about multi-sided platforms in competition cases. In this case, it appears to be a feature of limited relevance to market definition, beyond the recognition that there are two separate activities being undertaken (by users seeking to obtain iOS apps and by developers seeking to distribute iOS apps) and the network effects which obviously arise between those two groups of platform users.

(b) The services provided in relation to iOS in-app payments

179. It is important at this stage to distinguish between payments made in the course of an initial app purchase, where the user pays to download the app, and payments made subsequent to download, for transactions conducted within the app. In the former case of initial purchases, the download and the payment transaction are processed through what Mr Schiller[41] describes as a "commerce engine", which is a collective term for all the software and programs that enable transactions (including free downloads) to be processed. Initiation of the transaction takes place within the App Store[42].

180. The latter case of payments made subsequent to downloads are those referred to as "in-app purchases". These are processed through a specific system within Apple's commerce engine, referred to as IAP. Mr Schiller described the central features of IAP as follows:

(1) IAP is the App Store's secure and centralised system that facilitates simultaneous transactions in which digital goods are delivered, payment is transferred, sales are recorded, and the Commission is collected in

[40] This observation is agnostic as to which market definition (the Class Representative's or Apple's) is correct as it is common ground that iOS app distribution services exist in an aftermarket to the devices market.
[41] Schiller 1 at [132].
[42] See letter from Gibson Dunn & Crutcher UK LLP dated 7 September 2024.

respect to iOS apps in which the developer has chosen to monetize through in-app purchases[43].

(2) It enables the safe and frictionless delivery of digital goods from a developer to an end user, allows consumers to view their purchase history and to restore purchases, provides family account sharing and global parental controls, enables customer support for in-app transactions issues, and increases transaction security through fraud protection measures[44].

(3) IAP was developed in response to input from developers and only exists within the App Store[45]. It was developed from functionality used to collect Commission on initial purchases and made available upon the introduction of in-app purchase functionality in 2009.

(4) A developer can use a development tool called StoreKit to implement IAP functionality within their apps. Apple has developed StoreKit and associated APIs to allow developers to access the payment services within IAP[46].

181. There is therefore a clear technical distinction between the two types of payment (initial purchases and in-app purchases). There is also a temporal distinction between them, in two separate senses:

(1) Initial purchases were provided for from the inception of the App Store in 2008, whereas the in-app payments functionality (including IAP) only became available from 2009.

(2) In-app transactions take place after any download of the app and generally (although not always) after any initial purchases have been processed.

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[43] Schiller 1 at [133].
[44] Schiller 1 at [134].
[45] Schiller 1 at [135].
[46] Schiller 1 at [137]-[139].

182. Two important issues were raised by the parties in relation to the question of whether we should view initial purchases and in-app payments as being in the same market, or in different markets:

(1) The ability of developers to choose to pursue different monetisation models.

(2) Whether there is any difference in the market structure for initial purchase and in-app payments.

183. On the first point, Apple's argument was that developers make a holistic decision about how they monetise their iOS apps, including through initial purchase revenue and in-app payment revenue. As a consequence, there is a single market for services provided for initial purchases and in-app payments, rather than separate markets. Further, the two types of transactions complement each other, as developers can alter the mix of revenue source over time.

184. The Class Representative responded to this argument by noting that Apple defines the monetisation models for developers by reference to a distinction between app distribution and subsequent in-app purchase and subscriptions.

185. On the second point, the Class Representative argued that the market in which initial purchases are made is a two-sided market, whereas the market in which in-app purchases are made is one sided. That is because an in-app transaction takes place directly between the developer and the iOS device user, without the App Store playing any role. The Class Representative pointed to Apple's own requirements[47] that developers should be responsible for hosting and delivering content sold by developers by way of in-app purchase and also an explanation given by Apple's solicitors in this litigation which confirms the distinction[48].

186. Apple responded by arguing that the App Store services cover both initial purchase and in-app purchases made possible by that download. Users can obtain information about in-app purchases before initial purchase and can also

[47] Schedule 2 to the DPLA, clause 3.1.
[48] Letter from Gibson Dunn & Crutcher UK LLP dated 7 September 2024.

make in-app purchases at the time of initial download if the developer permits that. Apple also provided services to users making in-app purchases.

187. We will need to consider these arguments in the context of the market definition exercise below.

(3) The hypothetical monopolist test

(a) What is the correct approach to the HMT?

188. Having identified the focal products, our task is to determine whether a hypothetical monopolist could profitably impose a SSNIP across the relevant markets in relation to those products. If they could not do so in relation to either or both markets, then that would be evidence of substitution options available to developers, which in turn would suggest that the market definition ought to be wider than the relevant focal product market(s).

189. In this case there are a number of features that make that exercise less straightforward:

(1) If the relevant markets are defined as contended for by the Class Representative, then Apple is as a matter of fact a monopolist in those markets – a real monopolist, not a hypothetical one.

(2) In those circumstances, it is quite possible that there are no economic substitutes for the focal products.

(3) If Apple might be a monopolist, then there is a significant risk of the Cellophane fallacy arising, so that the current level of Commission may not be the competitive price for the purposes of applying the SSNIP test.

(4) The economic experts all agree that the lack of data about pricing changes and developer demand means that it is not possible to implement a full quantitative SSNIP analysis.

(5) Dr Singer has conducted a limited form of quantitative SSNIP analysis, but (as noted above) Apple criticises this for assuming that Apple is a monopolist.

190. We have already recorded and rejected Apple's suggestion (to the extent it was maintained) that we should concentrate on evidence of constraints rather than applying a formal HMT approach. We prefer to proceed as suggested by the CMA, which encouraged us to consider all the evidence available to us about the competitive level of prices in order to assess whether a hypothetical monopolist could profitably implement an SSNIP.

191. That means that we will consider the following evidence and then use it to apply a SSNIP test as a thought experiment:

(1) The evidence before us on comparator pricing, including evidence from other parts of the trial.

(2) The quantitative analysis carried out by Dr Singer.

192. Given that the exercise is not a purely quantitative one, and the likelihood that we will need to deal with the Cellophane fallacy by making some assessment of the competitive level of commission, we will also at that stage stand back and consider the question of substitutability more broadly, by reference to all the evidence before us, including Apple's points about substitutable products and channels.

(b) Dr Singer's SSNIP analysis

193. Dr Singer's SSNIP analysis worked as follows:

(1) The price which is the subject of the SSNIP is the Commission levied on developers; Apple does not charge users for downloading paid-for apps, developers do.

(2) He assumed that the current level of Commission may already be supra-competitive (because Apple is a monopolist in the focal product market for iOS app distribution services). To avoid the Cellophane fallacy, it was therefore necessary to identify a counterfactual price that would have prevailed under competitive conditions.

(3) Dr Singer chose two commission rates, both of which come from analysis he has performed to estimate what the counterfactual commission might be in a more competitive market.

(4) The first counterfactual commission rate came from Dr Singer's benchmarking analysis, which he performed for the purpose of analysing the allegations of exclusionary conduct. This involved identifying benchmarks which might give an indication of what Apple's Commission would have been if it had been exposed to competitive forces in iOS app distribution services. The benchmarks chosen were those of the Microsoft Store and the Epic Games Store, which currently charge a 12% commission rate.

(5) The second counterfactual commission rate came from a model which Dr Singer uses to evaluate market shares in the event Apple was exposed to competitive forces in iOS app distribution services. This model (the Rochet-Tirole Model) is based on a framework for analysing two-sided markets developed by the economists Jean-Charles Rochet and Jean Tirole. Dr Singer's version of the model indicated a 15.1% commission in a competitive market.

(6) Having identified counterfactual commission rates of 12% and 15.1%, Dr Singer applied a 5% SSNIP, which results in 12.6% or 15.9% commission rates.

(7) He then drew the conclusion that Apple has in fact raised the Commission far above those levels, given it is currently charging a weighted average Commission of 26.8% for paid downloads of apps and 25.2% for in-app payments. In doing so, he assumed that Apple would

not be charging Commission at its current levels if it was not profitable to do so.

(8) Dr Singer therefore concluded that a hypothetical monopolist could profitably impose a SSNIP on the competitive level of Commission in the iOS app distribution market, suggesting that there were no economic substitutes for the focal product of iOS app distribution services.

194. Apple challenged this approach in a number of ways:

(1) It said that the analysis is conceptually flawed, because it is circular in concluding Apple is dominant and engaged in supra-competitive pricing and then using that same analysis to determine that a SSNIP would be profitable.

(2) It noted that price dispersion may occur in differentiated product markets which means that is it not conclusive that a firm charges a price that is 5% higher than a chosen benchmark.

(3) It challenged the selection of the Microsoft Store and the Epic Games Store as suitable benchmarks.

(4) It advanced a number of detailed criticisms of the adaptation by Dr Singer of the Rochet-Tirole model.

(i) Circularity

195. Apple sought to illustrate the circularity point by putting to Dr Singer that his reasoning would lead to the conclusion that Steam, a games platform with some 50% of the market, would be a monopolist if it was able to price at (say) 20% while the comparators suggested a competitive price of 15%. Apple suggested that such an outcome would be absurd, given that Steam faces obvious competition to its platform.

196. Dr Singer's response was that the HMT would, in that situation, suggest that Steam did have pricing power in the market, suggesting dominance[49]:

> "Now this HMT is implying that Steam may be a market unto itself. All the HMT can tell us is pricing power, that is all they can tell us, is: could a hypothetical monopolist who just controlled Steam's assets exercise pricing power? The HMT might tell us that: yes, if all you controlled were Steam's assets, you could exercise pricing power. If Steam is charging a premium over the competitive rate, then they likely are exercising pricing power."

(ii) Price dispersion

197. Mr Piccinin KC, for Apple, then put the point about price dispersion to Dr Singer[50]:

> "MR PICCININ KC: The thing is, Dr Singer, it is actually the most common thing in the world in differentiated product markets to have price dispersion that is significantly more than 5-10%, is it not?
>
> DR SINGER: In markets, you could have -- if you have differentiated markets you could have price variations, but it is commonly used in -- as direct evidence. If someone commands a pricing premium and it cannot be explained by other quality differences, as you are suggesting, then that can be accepted as evidence of market power.
>
> MR PICCININ KC: There is more than a 10% price difference between the cheapest sports shoe and the most expensive sports shoe that you might use, yes?
>
> DR SINGER: Right, and so there is more than a 10% difference in what an iPhone costs and what a Samsung phone costs, and from that you could claim that Apple has some pricing power in the device market.
>
> MR PICCININ KC: If you follow your logic, you would end up saying it was its own market, which is absurd.
>
> DR SINGER: It is not absurd. All the HMT can tell us is that if a hypothetical monopolist that controlled just those facilities could exercise power. I think you have to use some context and some other parts of your brain to get to the final solution. Oftentimes you have to look at how the indirect evidence stacks up against the direct evidence. Here it is very easy. There is no tension at all. They point in the same place."

(iii) Comparator benchmarks

198. Apple mounted a wide-ranging attack on Dr Singer's choice of benchmarks of the Microsoft Store and the Epic Games Store. That included a challenge to the

[49] Day 17/124/9 to 17/124/17.
[50] Day 17/124/18 to 17/125/19.

choice of those platforms, and not others, as benchmarks, and about the comparability of the Microsoft Store and the Epic Games Store to the App Store.

199. In relation to alternative comparators, Apple submitted that Dr Singer (and, in relation to the excessive and unfair pricing allegations, Mr Holt) ignored suitable comparators which charge the same rates as Apple (while providing more limited services than Apple) and cherry picked other market participants which are not properly comparable. These arguments about comparators are deployed in various places in these proceedings, reflecting the potential importance of comparators in different parts of the case.

200. For present purposes, the comparators which Apple relied on are:

(1) The Google Play Store, which charges 30% commission.

(2) Other Android app transaction platforms, which also charge 30% commission.

(3) Roblox, an online game platform, which takes as much as 70% of the revenue from the sale of third-party in-game content creators.

(4) Steam, which charged 30% commission for a number of years and now (Apple argued) charges an effective commission rate which is more or less the same as Apple's effective Commission.

201. In relation to the comparators used by Dr Singer, Apple said that:

(1) The Epic Games Store is a highly inapt comparator because it is a commercial failure operating at minute scale, which has been pursued for wider reasons, including to market Epic's own games and to put pressure on Apple in the litigation between them. Apple also said the Epic Games Store is of poor quality and has a bad reputation, requiring account to be taken in the differences in quality between the Epic Games Store and the App Store, which Dr Singer has not done.

(2) The Microsoft Store is an inappropriate benchmark because its offering is of poor quality (which has not been adjusted for by Dr Singer) and it has a tiny market share.

202. The Class Representative responded to these points by submitting that:

(1) Google and the other Android stores are inappropriate competitive benchmarks for the reasons given by the CMA in its MEM Study.

(2) The position in relation to Steam's effective commission rate is unclear, but it is clear that it charges its largest developers a 20% commission rate.

(3) The Epic Games Store and the Microsoft Store are both distribution platforms that compete on price. The fact that the Epic Games Store may be lossmaking does not mean it should be ignored as a relevant benchmark.

(iv) Dr Singer's adjusted Rochet-Tirole model

203. In relation to Dr Singer's two-sided platform model, Apple made a number of detailed criticisms, the main ones of which were as follows:

(1) The profit function and equations in the model governing pricing decisions follow the usual approach of a two-sided model in assuming that total number of transactions in the market is equal to the proportion of end-users who want to transact on the App Store multiplied by the proportion of developers who want to do so. However, Dr Singer has used only a linear (that is, one sided) assumption for user demand in implementing the model, which is internally contradictory.

(2) In calibrating the model, Dr Singer has assumed that Apple's decision not to charge users for transacting on the App Store is profit maximising, but has departed from that in the counterfactual analysis, which assumes that some external constraint drives the decision not to charge users.

204. These points had not been raised with Dr Singer during the expert process. Indeed, they appeared to have been identified as issues by Mr Piccinin KC when preparing his cross examination of Dr Singer. As a consequence, Dr Singer was in some difficulty when the issues were put to him in the witness box for the first time.

205. We allowed Dr Singer to consult with his team overnight, on these points only, in order to give him an opportunity to deal with them properly. After doing so, he maintained in relation to both points that there was no inconsistency of approach, but rather the necessary modification of the model to meet the circumstances at hand. He was challenged on these answers by Mr Piccinin KC.

(c) Other evidence relevant to the HMT

206. This subsection covers three areas:

(1) Apple's suggestion that there is a systems market encompassing device sales and iOS app distribution, rather than a primary market for the former and a secondary market for the latter.

(2) Apple's arguments about the substitution options which arise as a consequence of the alternative channels open to developers to distribute and monetise their apps.

(3) Evidence about the structure of the market, the history of the market, and Apple's profitability, which might help us assess the substitution options open to market participants.

(i) Is there a systems market?

207. In its written closing submissions, Apple said[51]:

> "In opening submissions, Dr Kent's counsel referred to the four conditions articulated by the General Court in [*EFIM*]. If these conditions are satisfied, they indicate that competition on a primary market precludes an undertaking from having dominance on a secondary market. Whilst the facts of this case do

[51] Apple's written closing submissions at [44].

> not lend themselves to a simple primary market/aftermarket analysis, each of the *EFIM* conditions is satisfied. That demonstrates that competition for the supply of mobile devices sufficiently constrains Apple as to preclude dominance (regardless of how one defines the market in which the App Store operates)."

208. This reflects the approach taken in *EFIM*, where it seemed to be accepted that there were primary and secondary markets (for printer ink) but the question of dominance would not arise if the primary market constrains competition in the secondary market. This is a point which could be considered as part of the market definition exercise or as part of the assessment of dominance.

209. We do not think it particularly matters in which part of the analysis it is dealt with, but we will deal with it in this market definition section as it raises the broad question as to whether we should be looking at a wider market than just the markets for the focal products.

210. However it is dealt with, it is common ground, we understand, that the four conditions identified in *EFIM* arise. In relation to those four conditions, Apple submitted:

(1) Customers can make an informed choice: customers know when they purchase a mobile device that a material part of what they are purchasing is the ability to run native apps on that device. The App Store is transparent and repeat customers will have direct experience of pricing.

(2) Customers are likely to make such an informed choice: high spending customers are likely to look ahead to app prices when purchasing a device. Dr Singer accepted this[52]. The Accent Survey commissioned by the CMA for its MEM Study supported that proposition.

(3) Customers would adapt their purchasing behaviour at the level of the primary market: the Accent Survey also supported the proposition that customers were able and likely to act to switch operating systems.

[52] Day 16/90/5 to 16/90/13.

(4) Customers' adaptation of their purchasing behaviour would take place within a reasonable time: the regularity with which customers changed devices suggested this would be so.

211. Much of this argument was advanced through the expert evidence of Professor Hitt. He was cross examined extensively on it. The Class Representative criticised Professor Hitt in her written closing submissions for extracting conclusions from the Accent Survey which were diametrically opposed to the CMA's own conclusions drawn from the same material.

212. The Class Representative also noted that Professor Hitt had failed to record that difference in interpretation in his evidence and had not sought, as he should have done, to highlight and seek to explain the differences between his conclusions and the CMA's findings in the MEM Study.

213. According to the Class Representative, properly analysed, the Accent Survey showed that app prices were not significant factors in consumer decision-making, that customers cared more about present costs (the device) than future costs, that switching rates were low, and that there was limited effective competition between Android and iOS (as the CMA concluded). The Class Representative also advanced evidence to suggest that Apple was aware of the benefits of "locking in customers" to the iOS ecosystem.

214. We should note that, as the arguments on this issue developed, they became more focused on the small group of iOS device users who spend the great majority of money on iOS app and in-app purchases (the "high value users"). Their importance of course arises from their ability to place pressure on Apple if there was a credible threat they might switch from iOS to Android devices. None of the Accent Survey material dealt with consumers at a sufficient level of granularity to be able to distinguish the preferences of the high value users from those of other users.

(ii) Constraints from devices, alternative channels and alternative monetisation options

215. In addition to the points made above about the satisfaction of the *EFIM* conditions, Apple also argued that the existence of competition in the devices market acted as a constraint on Apple's behaviour in the iOS app distribution market. We did not understand this (beyond consideration of the systems market point) to be an argument about substitutability options for the focal product of iOS app distribution services, but rather a more general point that, even if there was not a systems market that met the *EFIM* test, Apple's market power in iOS app distribution was constrained by competition for devices.

216. This is an issue which we have decided is best dealt with in section E on our assessment of dominance, and we will return to it there.

217. Apple also argued that the existence of alternative distribution channels was relevant to the question of market definition. This was put in two ways:

(1) The suggestion that developers would move sufficient commerce to alternative transaction channels so as to make a SSNIP unprofitable. Once again, the issue of concentration, this time on the developer side, was raised by Apple. It was noted that a very high concentration of commerce in a small number of large developers made substitution a real possibility.

(2) Different genres of app have different substitution possibilities and this suggests that a genre-based market definition approach should be followed for market definition purposes. For example, the ability to sell subscriptions for video streaming, music streaming and newspapers outside the App Store by virtue of the Reader Rule demonstrated the need for separate market analyses for these genres.

218. The Class Representative's response to these arguments was that:

(1) The alternative channels do not amount to viable substitution options. If developers want to distribute iOS apps to iOS device users then they cannot do that through any alternative channel and can only do so through the App Store. The examples (Netflix and Fortnite) given by Professor Hitt to support the theory that developers might switch did not provide evidence of switching.

(2) Apple's genre argument confuses the app as a product with the distribution service as a product. The distribution service is the same for all apps distributed through the App Store, so no question of substitution can arise. To the extent there are limited options to avoid payment of Commission, the suggestion that they offer substitution options or even constraints is undermined by the restrictions on steering customers to use them.

(4) Our market definition analysis in relation to iOS app distribution services

219. We have already decided to apply the HMT in this case as our primary tool for market definition purposes. Our overall objective is to ascertain whether there are substitutable products outside the focal product market for iOS app distribution services, which would suggest that the relevant market is broader than the focal product alone.

220. This would ideally be done by testing demand side reaction to a SSNIP. Dr Singer has attempted a quantitative SSNIP analysis. As a consequence of his recognition of the possibility that the Commission is above competitive levels (the Cellophane fallacy), he has attempted to do that using two proposed comparator platforms and the output of his adjusted the Rochet-Tirole model.

221. We agree with Dr Singer that there is a material risk that the Cellophane fallacy will apply to Apple's Commission, so that its market power means that current Commission levels cannot safely be taken to represent competitive prices. If the relevant markets are indeed those which contain only the focal product, then Apple will be a monopolist. While supra-competitive pricing should not be assumed, it is at the very least a realistic possibility in a monopoly market.

222. In those circumstances, it is necessary to seek to identify what a competitive price would be in order to carry out a notional SSNIP test.

(a) Circularity

223. We agree with Apple that this exercise can lend itself to a circularity problem, so that an assumption of market power leads to a conclusion about the level of competitive price that in turn confirms the market power. In other words, an assumption that the competitive level of Commission is below that charged by Apple immediately opens up the potential for the SSNIP test to identify a gap between current and competitive prices which exceeds 5%, thereby confirming the relevant market to be that of the focal product.

224. However, that risk only applies where the assessed competitive level of Commission is based on an assumption of monopoly or dominance. In this case, we now have considerable evidence about prices charged by various platforms by way of commission, including evidence tendered in respect of the exclusionary abuse and excessive and unfair pricing allegations, as well as the Class Representative's quantum claims. We were invited by the CMA to consider this evidence in the round as part of our assessment of whether Apple's Commission is set significantly above the competitive level.

225. We agree with that approach, albeit with a note of caution. That exercise seems to risk a different sort of circularity, which is to use conclusions from examinations of alleged abuses of dominance to determine whether there is dominance in the first place. That is a common but nonetheless uncomfortable aspect of excessive and unfair pricing cases in particular.

226. As will become apparent later in this judgment, we have examined a significant amount of evidence in relation to the abuse allegations, although we have not in that exercise reached any conclusion about the competitive price for the products in question. We have reached conclusions about the competitive level of Commission for the purposes of assessing quantum, although that exercise has not been conducted on a "balance of probabilities" basis, but rather on a

"broad axe" basis, and it is not appropriate to bring our conclusions from that exercise into this analysis.

227. We are therefore cautious at this stage about seeking to identify the competitive level of commission with any precision. That seems to us to be a difficult and unnecessary task for present purposes. The question for the Tribunal, at this stage of the analysis, is whether the difference between the current Commission and the likely level of a competitive commission is sufficiently great that it shows a lack of substitution options for the focal product of iOS distribution services, taking into account Apple's points about price dispersion and comparator appropriateness.

228. In our judgement, there is such a difference that we can be confident represents more than just price dispersion and which comfortably exceeds the 5% indicated by the SSNIP test.

229. We reach that conclusion primarily by reference to the comparators of the Epic Games Store and the Microsoft Store, as well as Steam's headline rate for its highest value developers.

(b) Comparator benchmarks

230. We find the comparison with the PC games market to be a useful one. The distribution service being provided is similar to that provided by the App Store, albeit in relation to non-iOS apps. At one stage, Steam was the only significant distributor in the market. Epic then entered the market with an aggressive pricing position. Steam altered its pricing, as did a smaller competitor, the Microsoft Store. This seems to us to be a useful indicator of what the introduction of rivalry into a largely uncontested market might achieve.

231. Apple suggests that Epic's pricing is affected by commercial considerations outside of the normal course of competition. However, it seems to us obvious that the pricing of both the Epic and Microsoft Games platforms is a reflection of rivalry between them, Steam and other platforms. That rivalry has meant that

Steam has reduced its headline commission rates for its largest developers from 30% (in conditions in which there was no effective rivalry) to 20%.

232. Apple's specific points about Epic do not in our view undermine this conclusion. It may well be that Epic's competitive strategy is affected by its financial success (or lack of it) or by other commercial factors. That would not be an unusual feature for participants in many competitive markets. It does not mean that the pricing outcomes from the rivalry are not competitive ones. On the contrary, it seems to us that differences between supplier strategies is part of the very essence of competition.

233. While we do not have evidence before us that would allow us to determine the extent of competition in the PC games distribution market, there is a clear indication of competitive forces at work. That is sufficient for us to reach the conclusion that the outcome of the rivalry is at least indicative of a competitive price for services which are very similar to iOS app distribution services. We are therefore satisfied that the Epic Games Store and the Microsoft Store are useful comparators, as a matter of principle.

234. Apple also challenges the utility of the Epic Games Store and the Microsoft Store on the basis of differences in quality and consequent product differentiation. We accept that there may well be a degree of product differentiation. That might well lead to a degree of price dispersion for the services in question.

(c) Price dispersion

235. In the context of a SSNIP analysis, the question then becomes whether the extent of price differentiation might account for the difference between Apple's Commission in the App Store (30%) and the commission rates for the Epic Games Store and the Microsoft Store (12%), such that we could not conclude that there is a greater than 5% to 10% difference between the competitive price and Apple's Commission. Such an outcome seems inherently implausible, given the significant difference between the commission rates (18 percentage points) and the relatively small increment in the rates that the SNNIP test assumes.

236. For example:

(1) If the competitive level was 12% (the rate charged by Epic and Microsoft) then a 5% SSNIP would assume an increase in price to 12.6% and a 10% SSNIP would assume a price increase to 13.2%.

(2) If the competitive level was 15.1% (the outcome of Dr Singer's adjusted Rochet-Tirole model) then a 5% SSNIP would assume an increase in price to 15.85% and a 10% SSNIP would assume a price increase to 16.6%.

(3) If the competitive level was 20% (the Steam rate for its largest developers) then a 5% SSNIP would assume an increase in price to 21% and a 10% SSNIP would assume a price increase to 22%.

237. We think it is highly unlikely that price dispersion arising from product differentiation could account for even the 8 percentage point difference between the Steam rate adjusted for a 10% SSNIP and the App Store Commission, let alone the greater difference for the other platforms bearing in mind that the "product" is in fact the service of app distribution. In the absence of evidence to that effect, it is difficult to see why such a service would be significantly differentiated between the App Store and the Steam platform.

238. As a consequence, we consider the Epic Games Store and the Microsoft Store to be useful comparators for the competitive price in iOS distribution services, albeit with some adjustment for quality differences.

239. We also consider the 20% rate charged by Steam to its largest developers to be a relevant comparator. Steam is an established platform which previously held a near monopoly position in PC games distribution. According to evidence put forward by Apple at trial, it has a good reputation as a quality platform[53].

[53] Expert Report of Dr Lesley Chiou, filed in Case C21-0563-JCC in the United States District Court for the Western District of Washington at Seattle, *Wolfire Games LLC et al v Valve Corporation* (the "Chiou Report") at [217] onwards.

(d) "Counting the zeros"

240. There was a considerable debate between the parties at trial about Steam's commission rates. This arose not only in the context of Steam as a useful comparator, but also to illustrate an uncertainty about the basis of comparison of the App Store Commission with other platforms' published commission rates.

241. Apple relied on expert evidence from US proceedings between Steam's parent, Valve, and a class of developers[54]. This indicated that Steam's effective commission rate is affected by the inclusion or exclusion of "Steam Keys", which are digital codes which Valve offers to developers, for free, to allow them to offer promotions to reviewers, influencers or other users. The logic advanced by Valve's expert was that Steam Keys lowered the effective rate of Valve's commission, because developers paid less (being able to distribute games without paying commission for them), while Valve continued to provide the same service and bear the same distribution costs.

242. Accordingly, argued Apple, it was necessary to take the Steam Keys into account when calculating Steam's effective commission rate, for comparability purposes. This calculation was labelled by Dr Singer as "counting the zeros"[55].

243. Apple also argued that, on the same logic, it was necessary to take into account the revenue which developers earned from transactions for iOS apps that occurred outside the App Store. These fell into two categories:

(1) The revenues that developers earned from the ability to collect payment on other platforms, under for example the MSR.

(2) The revenues that developers were able to earn from other monetisation routes, such as from in-app advertising.

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[54] The Chiou Report at [192] onwards.
[55] It requires the transactions for which there is no commission (the "zeros") to be included in the effective commission calculation.

244. Apple sought to bolster this argument with an analysis of the statutory accounts[56] of a large game developer and distributor, Roblox Corporation. By a process of deduction from the figures in Roblox's accounts relating to distribution of its games through the App Store and the Google Play Store on the one hand and other distribution channels on the other, Apple sought to demonstrate that the effective commission paid by Roblox was c. 17.6%, not the 30% headline rate which the App Store and Google Play Store charged.

245. While we acknowledge the ingenuity of this argument, we are not persuaded that it is necessary to embark on the exercise of counting the zeros in these proceedings.

246. First, the evidence relating to the Steam Keys was entirely indirect, comprising expert evidence in other proceedings in another jurisdiction introduced through cross examination of Dr Singer, largely without notice. There was no real way for us to test the conclusions which were being put forward in the Valve proceedings, given that the experts advancing those conclusions were not present for cross examination in these proceedings. We are reluctant to place significant weight on that evidence.

247. We can see that the Steam Keys might amount to a form of rebate to developers which should logically be accounted for in calculating Valve's effective commission rate, and it appeared that Dr Singer also agreed with this as a matter of principle. However, the precise effect that had on Steam's effective commission rate remains unclear. Even Valve's expert in the US proceedings was unable to provide a single, reliable calculation of the effect of the Steam Keys, as it depended on a number of factual assumptions which were not obvious.

248. Our preference is therefore to rely on Steam's headline rates, rather than its effective rate of commission. In this context, the 20% headline rate which is offered to Steam's largest developers seems to us to be the most reliable rate to use for the purposes of a comparator. To the extent that there is a lower effective

[56] See its 2023 10K filing with the US Securities and Exchange Commission.

rate for this group of developers, that would of course be more consistent with the lower commission rates charged by Epic and Microsoft and also with the output of Dr Singer's adjusted Rochet-Tirole model.

249. Second, to the extent that Apple relied on the logic apparent from the Valve proceedings, (as opposed to any particular fact relating to the Steam Keys), we do not accept that to be the correct way to analyse Apple's effective Commission rate. There is a distinction between a rebate offered to developers (for Steam Keys, for example) and the opportunity developers have to obtain revenue from other sources. The fact that Apple has relaxed some of its contractual restrictions to allow developers to seek other revenue opportunities does not alter that distinction. They are monetisation opportunities that render the Commission irrelevant. They are not rebates against the Commission and should not be treated as such.

250. It cannot be right that we should take into account those other ways in which some developers can monetise apps when assessing the competitiveness of the Commission charged for distribution through the App Store. We are interested in the price which Apple charges for iOS app distribution services, not the overall economic outcome for particular developers.

251. We therefore reject Apple's contention that we need to take into account those other revenue sources when assessing its effective Commission rate.

(e) Apple's suggested comparators

252. We also place no reliance on Google or the Android app stores as comparators. We consider that they may not be reliable benchmarks for a competitive market and therefore should be excluded from our analysis.

253. It is obviously inappropriate to use as a comparator a price which may not have been set in conditions of normal competition. That would undermine the whole point of the exercise, which is to get an indication of what the competitive price might be in circumstances where the market price may be affected by market power.

254. Our conclusions on this are based on the findings of the CMA in its MEM Study. The MEM Study considered the distribution of native apps in both the Apple and Google ecosystems[57]. The CMA concluded that[58]:

> "Apple and Google each have substantial and entrenched market power in the distribution of native apps within their ecosystems. The App Store has a monopoly over downloads on iOS devices and the Play Store accounts for over 90% of native app downloads across Android, HMS, and Fire OS devices."

255. As noted above in section C, while the MEM Study is not binding on us, it is a document to which we are entitled to have reference. In weighing the evidential value of the document, we take note of the detailed work the CMA has done. We do not rely on its conclusions to establish that Google has entrenched market power, much less that it has abused any such market power. We do rely on it for a credible indication that Google has significant market power, which is sufficient for us to reach the conclusion that it is an unsafe comparator to use for present purposes.

256. We do not consider Roblox to be a reliable benchmark, as it is not an app distribution platform and we have no direct evidence about how it sets its prices and the products to which they apply. Much of the argument put forward by Apple about Roblox was advanced in cross examination by reference to its statutory accounts. Apple's submissions relied on a number of assumptions which were not supported by evidence[59].

(f) Dr Singer's adjusted Rochet-Tirole model

257. Dr Singer's model was subject to a number of criticisms by Apple, many of which were quite technical in nature. There seemed to be some proper basis for those criticisms, at least in so far as they were not capable of being fully resolved by Dr Singer.

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[57] Which, in the case of Google, includes the Google Play Store as well as alternative Android app distribution platforms operated by device manufacturers such as Samsung and Huawei.
[58] MEM Study, section 4, "Key Findings".
[59] See for example Apple's written closing submissions at appendix 4, [522]-[523].

258. To take one example, the assumption of a zero charge to iOS device users was an input into an algebraic calculation relating to profit maximisation, the purpose of which was to assess responsiveness of profit maximising pricing decisions to rival entry. However, Dr Singer was unable to explain to us what the quantitative effect of his assumption would be. That may be in part because of the way the issue was raised, but it nonetheless left us in doubt about the reliability of the output of the model.

259. More generally, the need for inputs which were based on assumptions (such as the likelihood and extent of rival entry) significantly undermines the model as an evidential basis for a reasonably precise counterfactual price.

260. We therefore regard the output of the adapted Rochet-Tirole model as an illustration of a possible outcome, rather than being reliable evidence. In doing so, we note that the outcome from the model is consistent with the other evidence we have before us and that Dr Singer's modelling work was the only attempt at a quantitative analysis available to us.

(g) Our conclusions on the SSNIP test

261. We summarise our conclusions thus far as follows:

(1) A rate of 30% in a similar market (distribution services for PC games) was materially reduced below that level by all main market participants following market entry and enhanced competition. By analogy, we would expect a reduction of the Commission if there was more competition for the focal products. This tends to confirm the risk of the Cellophane fallacy applying.

(2) The Epic Games Store and the Microsoft Store are in our view suitable comparators, bearing in mind the need to recognise product differentiation and price dispersion.

(3) Steam's commission rate for its largest developers also seems a suitable comparator, providing something of higher end reference point for the competitive commission level in the PC games distribution market.

(4) Dr Singer's adjusted Rochet-Tirole model is at least consistent with that assessment.

(5) The likely level of competitive commission is in the region of 12% to 20%, based on the benchmark comparators. Even taking into account a considerable measure of price dispersion, there is good evidence that the current Commission is materially in excess of the competitive commission level plus a 5% to 10% increment for the SSNIP test.

(6) Further corroboration comes from the evidence of Mr Dudney in relation to Limb 1 of the excessive and unfair pricing allegations. That evidence, which we accept later in this judgment, demonstrates a considerably greater operating margin and return on capital employed than would ordinarily be the case in competitive markets, indicating that the Commission is set materially above competitive levels.

262. In our judgement, it is more probable than not that Apple's Commission is set at a level significantly above the likely competitive level, indicating that there are not substitution options available for the focal product which would justify a wider product market. In other words, it is apparent that the SSNIP analysis demonstrates that Apple has raised its prices by a significant and non-transitory amount above the competitive price on what must be assumed to be a profitable basis. The high level of profitability which Mr Dudney illustrates with his analysis serves to confirm that view.

(h) There is no systems market

263. There is clearly no substitution option provided by the choice of device and it is acknowledged by Apple that the devices market is a separate market in its own right.

264. If, however, there were a systems market (by reason of the satisfaction of the *EFIM* conditions) then that would suggest that looking at the secondary market (iOS app distribution services) in isolation would be an error.

265. In our view, there is not a systems market which we need to consider. Contrary to Apple's arguments and the evidence of Professor Hitt, the *EFIM* conditions are not met.

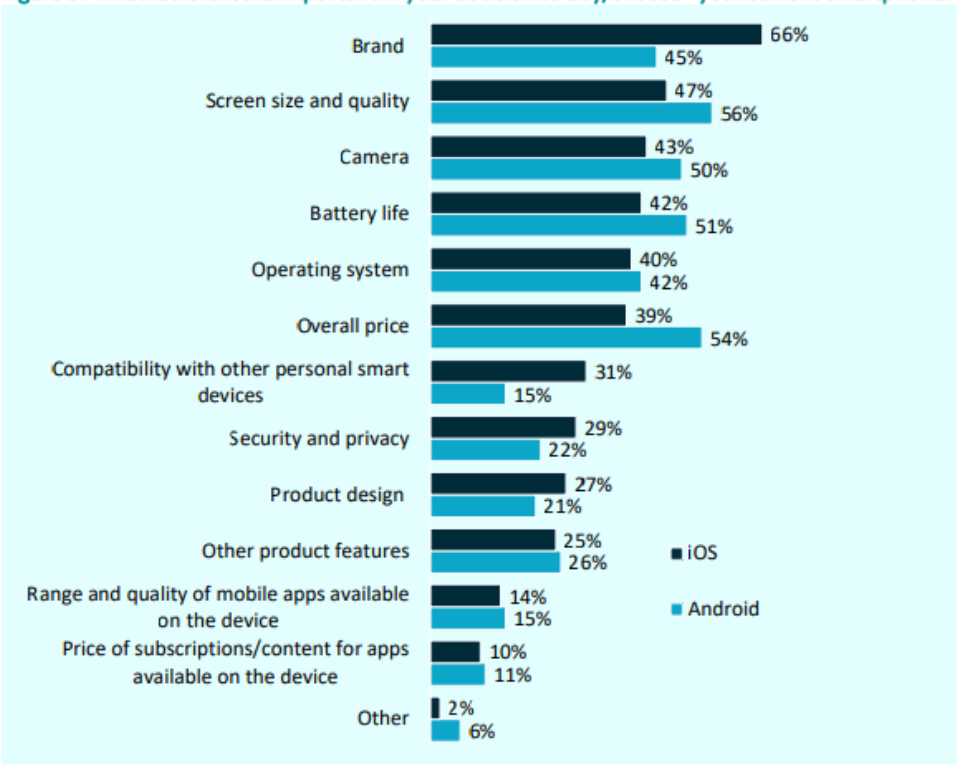
266. This is most obviously the case in relation to the first and second conditions, which concern the ability of customers to make an informed choice and the likelihood that they would do so.

267. The first condition is whether customers can make an informed choice. The second is whether customers are likely to make such a choice. Professor Hitt's position was that: "…many iOS consumers are likely to consider the price of digital content when making their purchase decisions in the implied primary market, i.e., they are not myopic as Dr. Singer claims."[60]

268. Professor Hitt relied on the Accent Survey for that proposition[61]. However, the Accent Survey found that only 10% of iOS device users considered the price of apps to be an important factor in device purchasing decisions:

[60] Hitt 3 at [94].
[61] See for example Hitt 3 at [167].

Figure 5: What factors were important in your decision to buy/choose* your current smartphone?



Base: iOS 1299, Android 945, *If gifted

269. The CMA's view[62] in the MEM Study was precisely the opposite of Professor Hitt's:

> "Apps, the prices of apps and the range of apps appear to have limited importance to users in their choice of device given the multiple dimensions (eg camera type, battery life) considered by users when purchasing a device and the complexity of the costs they have to take into account (eg immediate cost for the phone versus deferred costs for apps, in-app purchases and subscriptions). This is supported by the literature on consumer myopia (ie consumers care more about present costs over future costs), evidence from our consumer survey and the surveys we have received."

270. The European Commission also reached a view in its Spotify Decision[63] that was directly contrary to Professor Hitt's views on customer awareness of app prices:

> "In summary, consumers cannot make an informed choice about the life-cycle costs of their smart mobile devices, at the time of purchase. Prices at the app distribution level are not sufficiently transparent to allow them to make accurate calculations when purchasing smart mobile devices. iOS users typically do not compare app prices and subscription prices when purchasing their smart mobile devices and they are unlikely to make an informed decision

[62] MEM Study at [4.166].
[63] Spotify Decision at Recital (465).

> when purchasing their devices, taking life- cycle costs, and in particular the conditions for in-app music streaming subscriptions into account."

271. When pushed on this point, Professor Hitt suggested that the high value users might be more inclined to take app prices into account, given the size of the expenditure on apps relative to the price of the device. However, he did not refer to any evidence to support this proposition.

272. Professor Hitt was criticised by the Class Representative for failing to address these contrary conclusions in his report, while adopting the underlying survey material used by the CMA and reaching a different conclusion from the CMA about the significance of that material. We think that criticism is well founded. It seemed to us that Professor Hitt ought to have addressed the contrary views expressed by both regulators as part of his evidence. That would be consistent with his duty to the Tribunal to provide objective, unbiased opinions on matters within his expertise, and the expectation that he would not assume the role of an advocate.

273. Had he done so, Professor Hitt would have been entitled to disagree with the conclusions given by the CMA and the European Commission, providing his reasons for so doing. As noted above in section C, we do not treat the MEM Study or the Spotify Decision as determinative of the issues before us.

274. However, the real determinative factor in our assessment of this point is that Professor Hitt's analysis is at odds with the material he seeks to rely on. The Accent Survey does not support his contentions about customer awareness of app pricing and the likelihood of customers acting on that information. Figure 5 of the Accent Survey shows the opposite. That is also the conclusion the Accent Survey itself draws[64] and the conclusions the CMA drew from the same material.

275. We therefore reject Professor Hitt's contentions and find that the evidence before us shows that customers are not well informed about app prices and are

[64] See the "Key Findings" section in the executive summary.

generally unlikely to make decisions about device purchasing based on a knowledge of those prices.

276. As for the high value users, we have no evidence that they would view these points differently. We understood Professor Hitt to argue that they would take a different view based on the size of their expenditure on apps compared with the price of devices. However, that does not mean that the second condition, likelihood of switching, would be met. It seems plausible that this category of user might have a number of good reasons not to take the price of apps into account when choosing devices, not least because switching would have wider consequences for their investment in games. However, we reach no concluded view on this point, given the absence of evidence before us in relation to this specific group.

277. Those conclusions make it unnecessary to go on to consider the satisfaction of conditions three and four (essentially, switching taking place within a reasonable time). We will however deal in detail with switching in section E on dominance. Our conclusions on that subject mean that the third and fourth *EFIM* conditions would not be satisfied in this case either.

278. In conclusion on this point, we have decided, on the evidence before us, that the *EFIM* conditions are not satisfied and as a consequence it is not appropriate to view the primary (devices) and secondary (iOS app distribution services) markets as a systems market for the purposes of market definition (or indeed for assessing the extent of dominance of Apple in any defined secondary market).

(i) Devices, alternative channels and alternative monetisation options are not substitution options

279. As noted above, we do not understand Apple to be advancing an argument, beyond the systems market point discussed above, to the effect that devices offer a product substitution opportunity for consumers. That seems a realistic approach. The focal product we are concerned with is iOS app distribution services. It is not possible to obtain iOS apps on devices other than those sold

by Apple. Switching devices to an Android operating system cannot therefore amount to a substitution option.

280. We now turn to the argument advanced by Apple that developers have alternative channels to deliver iOS apps to iOS device users which amount to substitution options.

281. As a preliminary point, any argument that alternative channels which deliver non-iOS apps to users are substitution options is manifestly incorrect. We are concerned with distribution services for iOS apps. The fact that a user of an iOS device might have other means (a PC or an Android device) to download a non-iOS app with similar characteristics to an iOS app does not create an interchangeable product. Further, many iOS device users will not have such means available to them, at least in the short term.

282. The heart of this case concerns the captive market of iOS device users who can only download iOS apps onto their iOS devices through the App Store. We regard Apple's suggestion that non-iOS apps are some form of substitutable product for iOS apps in those circumstances as missing the fundamental point about the allegations made against it.

283. However, Apple also advanced arguments about alternative channels by which developers could interact with iOS device users in relation to iOS apps, and we now turn to that question.

284. Professor Hitt accepted that the existence of the same content on multiple channels does not by itself mean that those channels are substitutes, let alone close substitutes[65]. Instead, he said, the ability of different app transaction platforms to constrain each other is an empirical question that should be evaluated on a case-by-case basis. Professor Hitt gave two examples of what he said were empirical evidence of substitution arising from the ability of developers to distribute iOS apps through channels other than the App Store:

[65] Hitt/Singer joint expert statement at [15].

(1) Fortnite, a game developed by Epic, was removed by Apple from the App Store when Epic sought to allow users to bypass Apple's payment systems and to purchase in-app content directly from Epic. As a consequence, some [✂] of iOS consumer spend was diverted to other platforms.

(2) Netflix decided in 2018 not to allow new customers to pay subscriptions through Apple's payment systems. Professor Hitt's analysis showed that, despite stopping new customers paying through the App Store, Netflix maintained its trajectory of new iOS downloads. This was said to demonstrate the ability of certain developers with sufficient scale and capabilities to offer consumers certain transactions through alternative channels.

285. We do not view the Fortnite example as evidence of substitution. There was no choice available to Epic or to players of Fortnite as a result of any increase in price (or decrease in quality) by Apple. Fortnite had been removed from the App Store and was not available to players through that channel. Users were unable to access an iOS version of the game on any other platform. The data about the reduction in iOS consumer spend and the diversion of that to other platforms is not empirical evidence which tells us whether there is a sufficiently close interchangeability provided by non-iOS apps on those other platforms.

286. The Netflix example is in fact an illustration of the Reader Rule, one of the exceptions which Apple has created for subscriptions which may be paid for by users in channels outside Apple's payment systems. It might therefore be said that any substitution was for in-app payment services rather than for iOS app distribution.

287. In any event, we do not consider the Netflix example to be evidence of substitution, either from the perspective of the iOS device user or the developer. As far as the iOS device user is concerned, there is no increase in the choice of distribution or payment channels as a result of price or quality changes. iOS device users were simply unable to purchase Netflix subscriptions through Apple's payment systems.

288. As far as the developer (Netflix) is concerned, there was disagreement between Professor Hitt and Dr Singer about the correct presentation of the data relating to the trend line for Netflix downloads, with Dr Singer casting some doubt on whether the position was as clear as Professor Hitt suggested.

289. However, it is not necessary to resolve that issue for present purposes. Professor Hitt's empirical work may well show that Netflix was able to maintain significant download revenue despite preventing users from making iOS in-app payments through Apple's payment systems. However, his assertion that this demonstrates that a SSNIP would be unprofitable for Apple is entirely lacking in empirical evidence. It is also inconsistent with Apple's primary position that a SSNIP cannot be usefully performed in this case.

290. Apple invited us in its written closing submissions to infer that the concentration of high value developers would mean that a small number of them could move large volumes of commerce to alternative transaction channels, thereby making a SSNIP unprofitable, which suggests that those channels were sufficiently interchangeable substitutes. That seems at odds with the concession made by Professor Hitt that the mere existence of multiple channels does not make them substitutes.

291. Our assessment is that only those developers who are able to avail themselves of one of the exceptions to Apple's usual restrictions relating to payment (the Reader Rule, the MSR and so on) can use alternative channels for iOS in-app payments (but not for distribution of iOS apps). That is only a part of the developer population (generally, just those who are selling on a subscription basis or some games developers). It does not in our view amount to an option for substitution for iOS app distribution or in-app payment services.

292. Further, as we will explore in more detail in section E on dominance and the constraints arising from alternative channels, even those developers who can avail themselves of those options may find them difficult to pursue in practice.

293. As a consequence, we do not consider the alternative channels put forward by Apple to amount to realistic substitutes.

294. Finally on this point of alternative distribution channels, it follows from the above that we reject Apple's argument that the different distribution strategies available to developers of different genres of app suggest a series of distribution markets defined by those genres. This is for the following reasons:

(1) The Class Representative asserted that Apple's argument conflated the distinction between the genre of the app and the distribution service being provided in the App Store. It was not clear to us that Apple was in fact conflating the two, but we agree with the Class Representative that every app in the App Store is subject to the same mechanism for distribution, regardless of genre. The distribution service is therefore the same across all genres.

(2) It is correct that some developers of particular app genres have different options for monetisation. For example, some developers of subscription-based apps such as news or music apps are able to take advantage of the Reader Rule so that they can use different channels to take subscription payments.

(3) However, we agree with the observation made by the CMA that multiple customer groups with different substitution options will not generally be sufficient to mean that a separate market definition exercise is appropriate. We have also concluded that the alternative channels available to some developers are not in fact realistic substitution options.

(4) In this case, given the ubiquity of the distribution services, we consider that a single market for iOS app distribution services is the most appropriate market definition.

295. Apple's arguments about the other means by which developers can obtain revenue from their apps (most obviously through in-app advertising) are also flawed, as far as they suggest those other revenue streams are substitution options. We accept Mr Howell's evidence[66] that in-app advertising is not a

[66] Day 9/48/7 to 9/49/23.

realistic option for many developers, because of the intrusive nature of the advertising. Apple's own evidence[67] was that developers operate different business models, some of which depended on obtaining payment from app users. In any event, none of those other monetisation options amounts to a product substitute for iOS app distribution services, which is the focal product we are concerned with.

296. We will return to these points in section E on dominance, as they were all advanced by Apple as constraints on market power which are relevant to that question.

(j) Other evidence about the market supports an iOS app distribution services market definition

297. Standing back and considering the other factors which Apple in particular advances, we see no reason to depart from the view that the current level of Commission is materially above the competitive market level and that there are no obvious substitution options for the focal product of iOS app distribution services, leading to the conclusion that the relevant market is the market for iOS app distribution services.

298. Apple has advanced no credible economic substitute for iOS app distribution services or, as discussed below, iOS in-app payment services. It is in our view clear that other transaction channels and other monetisation options for developers are not economic substitutes. There are no other apparent substitutes for the focal products.

299. It is not at all surprising that the HMT, even in a non-quantitative form, leads to the conclusion that there is a market for iOS app distribution services. The contractual arrangements between Apple and developers have the effect of requiring all iOS app distribution to take place through the App Store and removing the prospect of any alternative route by which the consumer base of iOS device users who wish to access iOS apps might be reached by developers.

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[67] Schiller 1 at [142], [168] and [171].

Apple's challenge to an iOS distribution services market is essentially a challenge to the concept that the contractual and technological compartmentalisation of some 36 million consumers so that they can only be accessed through the App Store does not amount to a separate market.

300. Finally, we have revisited this section of the judgment in the light of the conclusions we have reached on the alleged exclusionary abuse (at section F) and the alleged excessive and unfair pricing abuse (at section G). There is nothing apparent from that review which causes us to reconsider any of the conclusions we have reached on this market definition exercise. In other words, we consider that the evidence before us is generally consistent with the conclusions we have reached on market definition for iOS app distribution services.

(5) Our market definition analysis in relation to iOS in-app payment services

301. The key question for determination in relation to this issue is whether there is a distinct market for iOS in-app payment services (as the Class Representative contends) or whether there is no basis to distinguish between the distribution services relating to paid iOS apps and the services which facilitate iOS in-app purchases (as Apple contends).

302. We make the following findings in relation to the iOS in-app payment focal product:

(1) iOS in-app transactions take place between a developer and iOS device user. While Apple provides services to users through the processes by which it manages in-app purchases, in-app payments are not part of the matchmaking service that the App Store provides for initial search, app selection or download (free or paid). The in-app payment transactions do not take place via the App Store.

(2) Apple requires developers to treat in-app purchases as a technically separate process and it has different processes itself for managing the payment services involved. The technical process to distribute paid apps

was put in place before the process to allow for in-app payments. While we accept Apple's argument that this should not be determinative, it is in our view an influential point suggesting a separate market.

(3) As well as the technical distinction in the way that the two types of payment are made, there is generally a temporal distinction, with in-app payments taking place once the app has been purchased and distributed to the user. While we accept Apple's argument that an in-app purchase might sometimes take place at the same time as the app distribution process, it must logically be the case that the app has to be downloaded before the parties, who are thereby connected, agree on the in-app payment transaction. As Mr Schiller put it in [222] of Schiller 1 (emphasis added):

> "My understanding is that Stripe, PayPal, Paddle and other such services do not provide a platform for distributing apps and unlimited free app updates to consumers around the world. **Payment processors handle the payment flow between two parties that have already connected and agreed on a transaction.** Unlike Apple's App Store, Stripe, PayPal, Paddle and other such services are not bringing in customers for their users. Payment processing is a simple standardized service that represents an overhead cost for commercial parties rather than a business opportunity. By contrast, Apple's commission rate is referrable to a broader range of services."

(4) This distinction is further reflected in Apple's descriptions of the ways in which developers can monetise their iOS apps. Mr Schiller's descriptions of the "freemium" and "paid" models in Schiller 1 were as follows:

> "176. Under the freemium model, developers' apps are free to download, but users can make in- app purchases for additional content.
>
> …
>
> 179. Under the paid model (also called the "download and install" model), developers charge a price for the users to download the app."

(5) According to Mr Howell's evidence, there is a range of payment service providers who could supply iOS in-app payment services[68]. This is a

[68] See Howell 1 at [147]-[149].

different group of entities from those which Mr Howell identifies as potential suppliers of iOS app distribution services.

(6) There are examples of legislative and regulatory interventions in the EU, the Netherlands and South Korea where iOS in-app payment services are treated as a distinct product from iOS app distribution services, with a requirement that they be allowed to be provided separately.

(7) Professor Hitt's contention that the two products – iOS app distribution services and iOS in-app payment services – are effectively an integrated offering, regardless of any technical, temporal or supply side differences seems to us to be entirely unrealistic when faced with the points made above.

(8) So also does Apple's argument that the two services take place within a single two-sided market. In our view, it is obvious that iOS in-app payments take place in a one-sided market which involves a direct transaction between the iOS device user and the developer, albeit one that is executed by Apple. That is the way that Apple has set up the respective processes and the attempts to suggest otherwise were in our view entirely unconvincing.

(9) The position is not changed by the fact that the App Store plays some role in relation to the promotion of iOS in-app payments and the facilitation of some services relating to those payments. Those aspects are incidental to the core transaction in question, which is the payment service for the in-app purchase. That is in essence a transaction between the developer and the iOS device user. The incidental role that the App Store plays in that transaction does not alter that reality.

303. Apple's attempt to argue that there is a systems market for iOS app distribution and iOS in-app payments (rather than a separate aftermarket for the latter) was unconvincing. It relied on the premise that developers would consider both the commission rate for iOS app distribution and the rate for iOS in-app payment when considering their options in a competitive market. That does not satisfy

the requirements of *EFIM* (and indeed there was no serious suggestion by Apple that it did).

304. We have already dealt with Apple's arguments about alternative distribution or payment channels being substitutes and have concluded that they are not.

305. Apple also advanced an argument that alternative monetisation channels are available to developers as a means of avoiding the Commission. In places[69] in its argument, Apple seemed to suggest that these alternative channels were substitutes for iOS in-app payment services. That is plainly wrong, as they are a way of avoiding the Commission by not charging in-app payments. To the extent Apple puts them forward as a constraint, the evidence of Mr Howell, referred to already in relation to iOS app distribution services, noted that not all developers would wish or be able to monetise their apps through in-app advertising.

306. As Dr Singer put it, if in-app advertising was an option for developers generally, then it is difficult to see why any would choose to pay Apple's 30% Commission when the developers could monetise through advertising without paying Apple anything.

307. As a consequence, we consider it clear that there is a distinct market for iOS in-app payment services and a clear factual basis to distinguish between the distribution services relating to paid apps and the services which facilitate iOS in-app purchases. We therefore find that there is a separate, one sided, aftermarket for iOS in-app payment services.

(6) Our conclusions on market definition

308. We have concluded that, for the purposes of our assessment for the Class Representative's allegations of abuse of dominance, the relevant markets for consideration are:

[69] See Apple's written closing submissions at [68] and [95], for example.

(1) An iOS app distribution services market. This is a two-sided market, undertaking matchmaking services between iOS app developers and iOS device users. It is an aftermarket to the separate market for the sale and purchase of devices. We do not consider there to be a systems market comprising device sale and purchase and iOS app distribution in this case.

(2) An iOS in-app payment services market. This is a single sided market in which iOS device users transact directly with developers to purchase in-app content and other features. It is an aftermarket to iOS app distribution services. We do not consider there to be a systems market for iOS app distribution and iOS in-app payment services in this case.

E. DOMINANCE

(1) The arguments of the parties

309. According to the Class Representative, once we have accepted her proposed market definitions (which we have, as recorded above), the issue of dominance is very simply resolved:

(1) Apple has and has always had a 100% market share in the relevant markets.

(2) By its own terms and conditions, Apple has created barriers to entry which exclude all competition in those markets.

(3) Neither developers nor iOS device users have any market power that acts as a restraint on Apple's dominance, as they are obliged to use the App Store for iOS app distribution and Apple's payment systems for iOS in-app payment services if they want to reach iOS users (in the case of developers) or access iOS apps (in the case of users).

(4) Apple's pricing through the App Store Commission demonstrates the use of market power.

(5) The margin for the App Store increased between 2016 and 2018, while the margin for iPhone sales declined in the same period. The latter is indicative of a competitive market, while the former is not.

310. Apple advanced a wide range of arguments to the effect that it was not dominant in the relevant markets:

(1) External constraints, being competition in the devices market, other channels by which developers can distribute apps and other monetisation options for developers, all of which act to discipline Apple for anti-competitive conduct.

(2) The market power that the small group of developers who account for a very large proportion of the App Store revenue can exert (the "high value developers").

(3) The market power that high value users (who account for a very large proportion of the App Store revenue) can exert.

(4) The fall in the effective rate of the Commission over time.

(5) The increase (rather than restriction) of output and the continual innovation to improve the quality and security of the App Store.

(6) The evidence of Apple's view of the competitive constraints it faces.

(2) Other evidence about the market

311. Apple invited us to draw conclusions about the way in which it set the Commission in 2008 which, it said, were relevant to the question of market power. Apple said that the App Store was created in 2008, and the Commission set at 30%, in order to help Apple compete on the devices market.

312. Apple said that it set its headline Commission at a far lower rate than anything else on the market in 2008. Mr Schiller's evidence was that this was a deliberate decision, adopted after analysis of other manufacturers and carriers at the time.

313. Apple submitted that it followed that the Commission was a competitive price and could not be said to be a price operating without competitive constraints.

314. The Class Representative disputed the reliance on third-party rates as a material factor in setting the Commission in 2008. Indeed, Dr Singer argued that Apple was in a monopoly position even in 2008.

315. Apple also argued that the weighted average Commission rate paid by developers had fallen over time. This meant that the value to developers had only increased over time and that the Commission must remain a competitive price to this day.

316. The Class Representative responded by noting that the headline rate of Commission has stayed at 30% since it was first set in 2008. That is the rate to which the vast majority (in number) of paid downloads and in-app purchases are subject.

317. Both parties put forward evidence about Apple's motivations. The Class Representative highlighted materials which (she said) showed Apple's awareness of this growing market power. For example:

(1) In a 24 October 2010 email, the then CEO, Steve Jobs, in relation to an upcoming discussion of Apple's 2011 strategy, stated that it was to "tie all of our products together, so we further lock customers into our ecosystem", and to "tie all of our products together" and "make Apple ecosystem even more sticky".

(2) In a 15 February 2013 email to the then CEO, Mr Tim Cook and Mr Schiller, Mr Eddy Cue stated: "Getting customers using our stores (iTunes, App and iBookstore) is one of the best things we can do to get people hooked to the ecosystem. The more people use our stores the more likely they are to buy additional Apple products and upgrade to the latest versions. Who's going to buy a Samsung phone if they have apps, movies, etc already purchased? They now need to spend hundreds more to get to where they are today."

318. Apple on the other hand put forward documents which it said showed consideration of competitor offerings (including alternative distribution channels) and Apple's competitive position in that regard. For example:

(1) Mr Schiller[70] referred to a 2008 internal Apple presentation[71] which noted that: "[d]evelopers believe Apple could vault into a leadership position".

(2) When the iPhone OS4 operating system was launched in 2010, gaming devices such as the Sony DSP and the Nintendo DS were described as "the competition".

(3) Other platforms like the Windows Store and the Google Play Store were assessed in internal presentations by reference to their "threat level".

319. Apple also submitted that the continued innovation it engaged in, and the fact that output in the App Store (measured by the number of downloads and also in-app payments) had risen materially over time, were consistent with it being subject to competitive constraints.

320. The Class Representative responded by noting that it is in Apple's own financial interests to increase use of the App Store even without facing any competition (both because it makes iOS devices more attractive and because Apple earns Commission on paid transactions), and there might have been even greater innovation in a competitive market. It is also not a case where there are limited resources which might lead a dominant player to restrict output.

(3) Our analysis of dominance

321. It might be thought that the question of dominance was cut and dried given the 100% market share which Apple holds in the relevant markets and the absolute barriers to entry which Apple has created through the restrictions it has imposed. The consequence of that position is that there is a large consumer group of iOS

[70] Schiller 1 at [240].
[71] See "Summary", *In-App Commerce*, 10 December 2008.

device users who can only be accessed by developers of iOS apps through the complete control that Apple exerts on iOS distribution and iOS in-app payment services.

322. However, we are conscious that we are dealing with a relatively complex set of markets which are inter-related and also include two-sided characteristics. Apple has argued that the Class Representative's approach to market definition is artificial and does not reflect the reality of the competitive constraints it faces. While we do not accept that argument, the assessment of dominance is an opportunity to test the integrity of our market definition conclusions, by considering the constraints which Apple actually faces.

323. We have however already excluded Apple's suggested approach of considering the relevant markets as part of a systems market, as Apple has not met the conditions for that approach which are set out in *EFIM*. The essential question is therefore whether the opportunity (or threat) of switching is sufficiently real that Apple is unable to exert the power to behave to an appreciable extent independently of its competitors, its customers and, ultimately, of consumers[72].

324. As we have already noted, the Accent Survey provided insight into user decisions in relation to device purchases. That included the question of informed choice about app commissions (already dealt with above), the inclination to switch devices, the factors which went into such a decision and the level of switching which actually takes place.

325. Professor Hitt relied on the Accent Survey and other survey material[73] for a number of propositions:

(1) Consumers can and do switch between iOS and non-iOS devices.

(2) There is limited incremental cost associated with such switching.

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[72] Case 85/76 *Hoffmann-La Roche v Commission* ECLI:EU:C:1979:36 ("*Hoffmann-La Roche*") at [38].
[73] Professor Hitt also relied on market research conducted by Kantar for Apple. This did not differ materially from the Accent Survey, in that it showed high brand loyalty among iPhone users and high retention rates. See, for example, Apple Market Research and Analysis, *Kantar ComTech Great Britain CQ1'21*.

(3) The actual levels of switching vary between 5% and 17%.

326. However, as stated in section D, the conclusions which Professor Hitt drew from the Accent Survey were at odds with the survey itself, as well as the interpretation of the survey by the CMA:

(1) The Accent Survey found that only 5% of Android phone users switched from iOS, while 8% switched to iOS from Android[74].

(2) The CMA, in reliance on the Accent Survey, found that low switching rates were linked to perceived material barriers to switching, which were higher among iOS users than Android users[75].

(3) The CMA concluded that these low switching rates demonstrated limited effective competition between iOS and Android[76].

327. Contrary to Professor Hitt's conclusions, the Accent Survey suggested that switching rates were in fact low (at least as far as switching from iOS to Android was concerned). Taken with the conclusions we have already reached about the relative unimportance of commission rates in switching decisions, these low rates of switching, and the apparent reasons for those low rates, suggest that competition between devices leading to user switching is very unlikely to be a material constraint on Apple's ability to set its Commission at whatever level it wishes.

328. Faced with this difficulty, Apple's position was that the answer would be different for high value users or high value developers, as they would be considerably more price sensitive and more important to retain as far as Apple was concerned.

[74] Accent Survey, executive summary, "Key Findings".
[75] MEM Study at [3.121].
[76] MEM Study at [3.123].

(a) The high value users

329. Professor Hitt conducted analysis[77] of the share of App Store Commission associated with the top users in 2022. This showed that the top [✂] of users accounted for more than [✂] of Commission revenue, while the top [✂] accounted for over [✂].

330. Professor Hitt also identified those users who spent more than £1,000 in the App Store in 2022, which comprised only [✂] of users but accounted for [✂] of Commission revenue. He noted that the current retail price of an iPhone in the UK is between £799 and £1,099[78].

331. Based on this analysis, Professor Hitt concluded[79]:

> "If prices on the U.K. Storefront increased, I would expect these high-spending consumers to substitute away from the App Store because such a price increase would have a large impact on their total expenditure. While this is a small proportion of the overall user base, if these users substitute their spending — even partially — away from the App Store, Apple will lose a substantial share of App Store revenue and associated margins from the U.K. Storefront. Furthermore, given their high expenditure, these users are particularly likely to account for prices on the U.K. Storefront when choosing their next device, and if quality-adjusted prices on the U.K. Storefront go up, they would be incentivized to switch to Android devices."

332. This view was however entirely unsupported by any survey evidence or even any internal Apple analysis available to us. Professor Hitt acknowledged this in cross examination[80]:

> "MR HOSKINS KC: Again, there is no evidence that Apple has carried out such an analysis or taken such considerations into account, is there?
>
> PROFESSOR HITT: I do not recall anything, I do not recall having seen anything where they have directly done this analysis, but I do think it is an important way to think about why, you know, working to try to generate consumer value is important here, and they are constrained by the ability to generate consumer value, because it only takes a few people to move, especially those that care a lot about this stuff, in order for it to have a significant effect."

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[77] See Hitt 3 at [174] and exhibit 3.
[78] See Hitt 3 at [168(b)].
[79] Ibid.
[80] Day 22/51/7 to 22/51/18.

333. There is therefore no evidence before us that high value users would take a different view from other users (as set out in the Accent Survey), apart from Professor Hitt's speculation on the point. It is also difficult to understand why Apple would not have produced some survey or other analysis on this point if it thought it was so important.

334. We also have before us evidence of a number of practical disincentives for users to switch from iOS to Android devices. In the hot tub[81], Dr Singer described five "stickiness" factors:

(1) The expense of the iPhone.

(2) The time value of learning a new operating system.

(3) Apps that cannot be transferred to a new device and are therefore "lost".

(4) Coordination, for example when a user switches to another operating system, they also need the rest of their family to switch.

(5) Peripherals, that is, Apple has created peripherals such as the Apple Watch which only work/work better with the Apple ecosystem.

335. Professor Hitt has addressed the first of these (the price of the device) in his argument. However, it seemed to us that the remainder were likely to apply to a high value user at least as much, if not more than, the ordinary user and thereby create a material disincentive to switching.

336. Dr Singer was challenged on his evidence on "stickiness", by reference to some data from the Accent Survey which showed high degrees of satisfaction among those who had actually switched operating systems. However, we think this does not address the real issue, which is the perception of users of the consequences of switching, which is what is likely to deter switching. This was

[81] Day 14/76/5 to 14/77/15.

the view taken by the CMA in the MEM Study in relation to learning new operating systems and the transfer of data[82].

337. In those circumstances, we have no reason to think that the high value users impose any greater constraint on Apple's setting of the Commission than any other users.

(b) The high value developers

338. Professor Hitt conducted a similar analysis in relation to developer concentration, which showed that the top [✂] developers alone accounted for over [✂] of App Store Commission revenue in 2022, and the top [✂] of developers accounted for [✂].

339. This was the basis for an argument that developers can and do offer the same app on multiple platforms and that developers can also monetise their apps through means other than distribution through the App Store, in particular through in-app advertising. Professor Hitt also argued that the ability of users to use multiple devices to access the same app allows developers to encourage switching to distribution channels outside the App Store.

340. We have already dealt with the examples of Fortnite and Netflix as part of our assessment of substitution options in the context of market definition. We will now consider the question of whether those examples, and other arguments about developer options for distribution and monetisation, are constraints on Apple's market power.

341. It is of course correct that users are able to access, on an iPhone, certain content or features of apps published outside the App Store. For example, the Reader Rule allows users of media apps to access content or subscriptions previously purchased on other platforms or the developer's web site, even if that content is not available for purchase within the iOS app. Similarly, the MSR allows users of multi-platform games to access content, subscriptions, or features they

[82] MEM Study at [3.96] and [3.102].

have acquired in the app on other platforms or the developer's web site, including consumable items, provided those items are also available as in-app purchases within the iOS app. Mr Howell addressed these provisions in Howell 1, from the perspective of developers[83]. His view was that two factors significantly limited the impact of these exceptions:

(1) There is a limitation in section 3.1.1 of the Guidelines which prevents developers from informing iOS device users about cheaper payment channels (the anti-steering provision), which means that only the largest developers have sufficient brand recognition to benefit from alternative distribution channels.

(2) Under the MSR, developers are required to provide for in-app purchases within the iOS app, which means that in practice it will be more convenient for device users simply to transact through the iOS app, rather than an alternative channel.

342. Mr Howell was criticised for not producing empirical evidence to support these points and Professor Hitt was reluctant to accept them, but in our assessment Mr Howell's observations made good sense and we accept his evidence on these points.

343. We also note the findings of the European Commission in the Spotify Decision, where it said[84]:

> "While the [European] Commission acknowledges that there are other channels through which third-party music streaming service providers can and do acquire customers for their paid subscriptions, these channels, and in particular the possibility to subscribe directly through the website of the music streaming service provider, do not meaningfully constrain Apple when setting the terms for app distribution for music streaming apps where it enjoys a monopoly position."

344. The European Commission went on to explain its reasoning for this conclusion[85], which was that:

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[83] Howell 1 at [136].
[84] Spotify Decision at Recital (507).
[85] Spotify Decision at Recitals (508)-(511).

(1) Despite the possibility of alternative channels, developers were forced to distribute through the App Store in order to have access to iOS device users.

(2) The App Store remains the only place where an iOS app can be distributed (as opposed to alternative channels for subscription payments), so developers are forced to accept Apple's terms and conditions and to be subject to "quasi-regulatory powers" for determining access conditions which could change at any time.

(3) Even large developers like Spotify have been unable to influence the terms Apple sets for access to the App Store. Despite the ability to disable payments through Apple's payment systems, even large developers have no meaningful negotiation power in relation to app distribution.

(4) The anti-steering rules reduce the benefit of subscription mechanisms outside the app.

345. It seems clear that there are large developers with the scale and capability to offer payment and content for iOS apps through channels other than the App Store, in reliance on the exceptions to exclusive distribution and/or payment services, such as the Reader Rule and the MSR. The relevant question is whether this is sufficient to operate as a constraint on Apple's ability to act independently of its competitors, customers and consumers.

346. Apple asserts this is the case, but it has not produced any evidence which establishes that the opportunities open to some developers has had any effect on Apple's ability to exercise its market power. Against that, we have the evidence of Mr Howell to the effect that exceptions such as the Reader Rule and the MSR have limited effect. We also note that the European Commission, having considered the matter in some considerable detail, came to a conclusion that was contrary to Apple's position.

347. By contrast with the position taken by Steam, which adjusted its commission levels down the most for its largest developers when faced with a competitive threat, Apple has not made any adjustments to seek to preserve its high value developers. It said, in answer to that point, that it has been concerned to price fairly for all developers. That is a laudable intent, but somewhat beside the point. If Apple really thought it faced the loss of its high value developers, it would surely have taken steps to protect that commerce. It has not.

348. Apple has effectively created a captive group of iOS device users and controls access to those users through contractual restrictions on developers (regardless of whether alternative payment channels are available, all developers must transact with Apple to allow users to access their apps), with the consequence that it has a monopoly position protected by very high barriers to entry.

349. In those circumstances, Apple would need to present very cogent and detailed evidence to establish that alternative distribution and payment channels operated as a meaningful constraint so that Apple should not be considered to be dominant. It has not done so and the evidence we do have before us tends to point the other way. We are not therefore persuaded that high value developers are able to exert sufficient pressure to constrain Apple from acting independently in setting the level of Commission.

(c) Alternative monetisation models

350. We have already accepted Mr Howell's evidence to the effect that in-app advertising is not a commercially attractive option for many developers. We do accept Apple's point that there is a very significant amount of value derived by developers from in-app advertising. However, the fact that some developers could profitably avail themselves of this commercial option does not mean that it operates as a constraint on Apple's market power.

351. No evidence (other than the magnitude of developer revenue from in-app advertising) was presented by Apple to support its position on this point. We are not persuaded that there is any material constraint imposed on Apple by developers' alternative monetisation options.

352. Indeed, it is notable that there is very little documentary evidence showing concern by Apple about any market power which iOS device users or developers might be able to exercise. While the absence of such evidence does not prove the case against Apple, we would find it difficult to accept that Apple had any real concerns about such constraints in the almost total absence of such material.

(d) Other evidence about the markets

353. It is not clear to us why Apple thinks that the setting of the Commission in 2008 has any material consequence for a market definition analysis which has as its starting reference point October 2015. The argument appears to be that the 30% Commission was set by reference to other market participants at the time and must therefore be seen as the consequence of a competitive dynamic with other, non-iOS platforms. Mr Schiller said this was the case and there was some limited documentary evidence to corroborate that.

354. However, even if that was the case in 2008, things have moved on since. Apple has built an impressively large user base, which is effectively locked into the App Store as the only source of iOS app distribution. It has also required that user base, and the developers who sell in-app content, to use Apple's payment systems for in-app purchases in most circumstances. The market has changed fundamentally since 2008 – not least because of the remarkable innovation Apple has brought to smartphone use.

355. It follows that it is not useful (or indeed possible on the evidence before us) to consider whether Apple was dominant in 2008 or only became so at a later date. It is also an unhelpful distraction to try and assess when Apple might have become dominant, if it was not so in 2008. Our task is to assess the position in and after 2015, on the basis of the evidence we have before us.

356. More interesting, to our thinking, is evidence that Apple was aware of its growing captive market of iOS device users and its growing market power over those users and the developers who wished to distribute iOS apps or sell iOS in-app content. That is of course not surprising, as Apple has been extremely successful and it would be natural to recognise that internally.

357. In fact, there is a real paucity of documents which show Apple's internal thinking on its market position in relation to iOS app distribution and iOS in-app payments.

358. We do not think that the documents relied on by either party are particularly compelling. Apple was clearly aware of its growing market power. It was also conscious of the activities of other platforms that distributed apps and would, at least in a general sense, be concerned to ensure that it was not seen as unattractive to device users by comparison with those other platforms.

359. That is not the same as demonstrating a degree of concern which might restrict Apple's freedom to set the terms and conditions for iOS app distribution and iOS in-app payments. As far as we can see, there is no evidence that Apple has felt under pressure in that regard, at least from 2015 onwards. On the contrary, the evidence from Apple was that the changes to its pricing structure were a commercial response, not one based on competitive pressures[86].

360. Nor do we view Apple's arguments about innovation and output as having any material bearing on the issue of dominance. It is clearly in Apple's financial interests to maximise the output of the App Store.

361. Much of the innovation undertaken by Apple appears to relate to devices as much as the App Store, although we accept that certain features of devices are valuable to developers, as they enhance the in-app experience. However, we do not think the fact of continued innovation, whether in the devices or the App Store itself, can be taken as evidence of competitive constraints, given the various incentives Apple has to undertake that innovation in any event.

362. Finally, we note that in section G we deal with the issue of whether Apple's Commission is excessive. We find that it is, based on analysis carried out by the Class Representative's expert, Mr Dudney. That work discloses very high operating margins and returns on investment. That excessive pricing, which has

[86] Schiller 1 at [202(a)], [205] and [206(c)]; see also the cross examination of Mr Schiller on Day 6/39/22 to 6/41/13.

been maintained over an extended period of time, is consistent with a finding that Apple is dominant in the markets in which it charges that Commission.

(e) Conclusion on dominance

363. The monopoly position of Apple in iOS app distribution services and iOS in-app payment services, buttressed by the contractual restrictions which create very high barriers to entry, is a strong indication of dominance.

364. We have however been concerned to consider any constraints which might be relevant, given in particular Apple's concern about the narrowness of the market definitions we have found.

365. We have not found any of Apple's arguments about those constraints to be sufficiently convincing to cause us any concern about finding that Apple is dominant in the markets for iOS app distribution services and iOS in-app payment services. It seems to us that Apple, whether deliberately or not, has created markets in which it has near absolute market power. It has made some adjustments to its pricing arrangements, but for avowedly commercial reasons, rather than reacting to any market competition. It has experienced disputes with large developers but has not adjusted its terms and conditions in any material respect as a result.

366. We are therefore comfortable with our conclusion that Apple is dominant in the iOS app distribution services market and the iOS in-app payment services market.

F. EXCLUSIONARY ABUSE

(1) Introduction

367. The Class Representative has pleaded two forms of exclusionary abuse:

(1) Exclusive dealing, by which the Class Representative alleges that Apple has foreclosed competition in the iOS app distribution services and iOS

in-app payment services markets by requiring that iOS apps can only be distributed through the App Store and that iOS in-app purchases must use Apple's payment systems.

(2) Tying, by which the Class Representative alleges that Apple has unlawfully tied IAP, being that aspect of Apple's payment systems that deals exclusively with iOS in-app payments (the tied product) to the App Store (the tying product).

368. In its Amended Defence[87], Apple contested the exclusive dealing allegations by, among other things, asserting that the potential competition which the Class Representative alleges would exist, but for the restriction, would breach Apple's IP rights, and that it would not be anti-competitive for Apple (even if dominant) to impose limits on the use of its IP.

369. Apple did not replicate this plea in the part of its Amended Defence dealing with the tying allegation. However, on Day 3 of the trial, Apple applied to amend its Amended Defence to include a corresponding pleading in relation to the tying allegation. We allowed that application by order made on Day 7 of the trial, over the Class Representative's opposition.

370. These pleaded points reflect a line of cases which begin with Cases C-241/91P and C-242/91 P *RTE v Commission* ECLI:EU:C:1995:98, [1995] 4 CMLR 718 ("*Magill*"), followed by Case C-7/94 *Oscar Bronner GmbH & Co. KG v Mediaprint etc.* ECLI:EU:C:1998:569, [1999] 4 CMLR 112 ("*Bronner*") and Case C-418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG* ECLI:EU:C:2004:257 ("*IMS*"). It is convenient to deal with the application of these authorities, including some later cases about essential facilities and some recent decisions concerning digital markets, before we consider the two pleaded exclusionary abuses.

[87] At [101(d)] of Apple's Amended Defence (and the same paragraph in its Re-Amended Defence).

(2) Application of the *Magill* line of authorities

371. Before examining the relevant authorities, we will set out in more detail the contentions of the parties on this point.

(a) Apple's arguments

372. The foundation of Apple's *Magill* argument is that the relationship between Apple and developers is one in which Apple grants the developers a limited licence to use Apple's IP. This is necessary because the developer needs access, for example, to Apple's tools and technology in order to create an app which will function on iOS devices.

373. That position applies regardless of whether a developer is distributing the app through the App Store (which is currently the only option) or through some other platform (which is a potential outcome of the Class Representative's case). It also applies to any developer who wishes to create a marketplace app with the same functionality as the App Store – in other words, anyone who wants to launch a competing app store for iOS apps.

374. Apple argued that it has chosen to limit the licence granted to developers so as to reserve to itself iOS app distribution and iOS in-app payment services. Accordingly, the licence excludes any right to use Apple's IP to:

(1) allow iOS app distribution other than through the App Store;

(2) create and publish any alternative marketplace app for iOS apps; and

(3) create an iOS app which allows in-app payment other than through Apple's payment systems.

375. Apple submitted that competition law only requires the compulsory licensing of IP rights in exceptional circumstances. This recognises the underlying policy objectives of the protection of freedom of contract and property ownership and

the encouragement of investment in innovation, all of which would be compromised by compulsory licensing.

376. Accordingly, *Magill* sets out a set of conditions which reflect the exceptional circumstances in which a dominant undertaking is under an obligation to license. The Class Representative has not sought to advance a case which meets those exceptional circumstances[88] and her allegations must therefore fail.

(b) The Class Representative's arguments

377. The Class Representative argued that the *Magill* line of cases only applies to situations where the dominant undertaking refuses to give a competitor access to infrastructure which it has developed for the needs of its own business, to the exclusion of other conduct. By contrast, where the dominant undertaking gives access to its infrastructure, but makes that access or related services or products subject to unfair conditions, the *Magill* line of cases does not apply.

378. This case, the Class Representative submitted, is the latter situation, because Apple has given access to its tools and technology, the App Store and associated systems to developers but has then sought to impose restrictions on the use of that infrastructure. These are not terms which concern a refusal to allow developers access but are instead terms which impose conditions and additional obligations on developers in relation to access which has already been granted. The entire business model of Apple is indeed based on encouraging developers to use its IP in order to make iOS apps available on iOS devices. This makes the iOS devices more attractive to users. It is the very opposite of a model based on the construction of infrastructure intended exclusively for the use of the dominant undertaking.

379. The Class Representative also argued that the fact that, were an abuse to be found, the dominant undertaking might have to give access to its services

[88] Following our grant of permission to Apple to amend its Amended Defence to include the *Magill* pleading for the tying case, the Class Representative considered applying to amend to plead the existence of exceptional circumstances. In light of our indication that this would almost inevitably lead to an adjournment, she decided not to pursue that course.

subject to different conditions does not of itself mean the *Magill* criteria are applicable. There is no automatic link between the criteria for legal classification of the abuse and the corrective measures enabling it to be remedied. In this case, the abuses are extrinsic to, or independent from, any refusal to allow access. Instead, they concern unfair contractual restrictions.

(c) The Magill line of authorities – Magill, Bronner and IMS

380. *Magill* is a familiar case to competition law practitioners. However, it is necessary briefly to state the facts in order to deal fully with the parties' arguments in this case. Magill TV Guide Ltd was a publisher of television guides. It wished to publish a weekly guide to forthcoming television listings for all channels, which was not at that time a product available on the market. It was prevented from doing so by several television channels, who produced and published their own separate listings, and made those available to publishers on the condition that the listings were only published a day or two in advance.

381. The European Commission adopted an infringement decision on the basis that the television channels were abusing a dominant position by refusing to grant licences to Magill for the publication of their respective weekly listings. On appeal to the CJEU, one issue was whether the exercise of a right which was properly classified as copyright meant that no such abuse of a dominant position could exist. In other words, whether copyright established an absolute right to refuse to license, which could not be reviewed under Article 102[89].

382. In a short section of the judgment the Court held that the exercise of an exclusive right could, in exceptional circumstances, involve abusive conduct:

> "[54] The appellants' refusal to provide basic information by relying on national copyright provisions thus prevented the appearance of a new product, a comprehensive weekly guide to television programmes, which the appellants did not offer and for which there was a potential consumer demand. Such refusal constitutes an abuse under heading (b) of the second paragraph of Article [102 TFEU]."

[89] In the case of *Magill*, Article 86 of the Treaty establishing the European Economic Community, a predecessor of Article 102 TFEU.

383. *Magill* was followed by *Bronner*, which involved a small newspaper publisher seeking to access the newspaper delivery network which a much larger newspaper publisher had established, on the basis that the larger publisher was abusing a dominant position by refusing to allow that access. On a reference to the CJEU, the Court answered the national court's question by reference to *Magill*, in a passage which essentially codified the exceptional circumstances in which Article 102 TFEU can be engaged in relation to the compulsory licensing of IP rights:

> "[40] In *Magill*, the Court found such exceptional circumstances in the fact that the refusal in question concerned a product (information on the weekly schedules of certain television channels) the supply of which was indispensable for carrying on the business in question (the publishing of a general television guide), in that, without that information, the person wishing to produce such a guide would find it impossible to publish it and offer it for sale (paragraph 53), the fact that such refusal prevented the appearance of a new product for which there was a potential consumer demand (paragraph 54), the fact that it was not justified by objective considerations (paragraph 55), and that it was likely to exclude all competition in the secondary market of television guides (paragraph 56).
>
> [4l] Therefore, even if that case-law on the exercise of an intellectual property right were applicable to the exercise of any property right whatever, it would still be necessary, for the *Magill* judgment to be effectively relied upon in order to plead the existence of an abuse within the meaning of Article [102 TFEU] in a situation such as that which forms the subject-matter of the first question, not only that the refusal of the service comprised in home delivery be likely to eliminate all competition in the daily newspaper market on the part of the person requesting the service and that such refusal be incapable of being objectively justified, but also that the service in itself be indispensable to carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for that home-delivery scheme."

384. In *IMS*, the dispute concerned a structure for the accumulation of data, called a "brick structure", which had been used by IMS Health to create a database which was protected by national copyright law. A company called NDC Health, which had been set up by former IMS Health employees, sought to use the brick structure in its own business. IMS Health applied to injunct NDC Health from doing so. The national court dealing with the injunction application made a reference to the CJEU.

385. The Court applied *Magill* in finding that "the exclusive right of reproduction forms part of the owner's rights, so that refusal to grant a licence, even if it is the act of an undertaking holding a dominant position, cannot in itself constitute

abuse of a dominant position", but also that "[n]evertheless, as is clear from that case law, exercise of an exclusive right by the owner may, in exceptional circumstances, involve abusive conduct."

386. The Court endorsed the exceptional circumstances limitation set out in *Magill* and summarised in *Bronner*, as set out above. It then went on to consider the application of the exceptionality of the circumstances in that case.

387. It should be noted that, as is apparent from an earlier European Commission decision in relation to an application by NDC Health for interim measures, IMS Health permitted aspects of the brick structure data to be used by other firms for the purposes of other related markets[90].

(d) Slovak Telecom and Baltic Rail

388. Case 165/19 P *Slovak Telecom a.s.* v *European Commission* ECLI:EU:C:2021:239 ("*Slovak Telecom*") concerned an appeal from a European Commission decision in which the Commission found that Slovak Telecom had abused its dominant position in relation to the local loop, by setting unfair access terms and prices to undertakings seeking to compete in the provision of broadband services. One of Slovak Telecom's arguments was that the European Commission (and the General Court on initial appeal) had failed to take into account the question of exceptional circumstances, as required by *Bronner,* before determining whether there was an abuse.

389. The CJEU held that the European Commission and the General Court were correct in not applying the test of exceptional circumstances. That was because Slovak Telecom was already providing access to the relevant infrastructure, as it was obliged to do under certain regulatory requirements. The CJEU drew a distinction between cases where the infrastructure owner developed and retained the infrastructure for the needs of its own business, and cases where the owner gives access to the infrastructure but only on unfair terms:

[90] The European Commission's Decision in COMP D3/38.044 on interim measures in NDC Health/IMA Health of 3 July 2001.

"[46] In that regard, as the Advocate General also noted, in essence, in Points 68, 73 and 74 of his Opinion, a finding that a dominant undertaking abused its position due to a refusal to conclude a contract with a competitor has the consequence of forcing that undertaking to conclude a contract with that competitor. Such an obligation is especially detrimental to the freedom of contract and the right to property of the dominant undertaking, since an undertaking, even if dominant, remains, in principle, free to refuse to conclude contracts and to use the infrastructure it has developed for its own needs (see, by analogy, [Case 238/37 *Volvo AB v Erik Veng (UK) Ltd* EU:C:1988:477, [1989] 4 CMLR 122 at [8]].

[47] Furthermore, while, in the short term, an undertaking being held liable for having abused its dominant position due to a refusal to conclude a contract with a competitor has the consequence of encouraging competition, by contrast, in the long term, it is generally favourable to the development of competition and in the interest of consumers to allow a company to reserve for its own use the facilities that it has developed for the needs of its business. If access to a production, purchasing or distribution facility were allowed too easily, there would be no incentive for competitors to develop competing facilities. In addition, a dominant undertaking would be less inclined to invest in efficient facilities if it could be bound, at the mere request of its competitors, to share with them the benefits deriving from its own investments.

[48] Consequently, where a dominant undertaking refuses to give access to an infrastructure that it has developed for the needs of its own business, the decision to oblige that undertaking to grant that access cannot be justified, at a competition policy level, unless the dominant undertaking has a genuinely tight grip on the market concerned.

[49] The application, to a particular case, of the conditions laid down by the Court of Justice in the judgment in *Bronner*, set out in [44] of the present judgment, and in particular the condition relating to the indispensability of the access to the dominant undertaking's infrastructure, allows the competent authority or national court to determine whether that undertaking has a genuinely tight grip on the market by virtue of that infrastructure. Thus, that undertaking may be forced to give a competitor access to an infrastructure that it has developed for the needs of its own business only where such access is indispensable to the business of such a competitor, namely where there is no actual or potential substitute for that infrastructure.

[50] By contrast, where a dominant undertaking gives access to its infrastructure but makes that access, provision of services or sale of products subject to unfair conditions, the conditions laid down by the Court of Justice in [41] of the judgment in *Bronner* do not apply. It is true that where access to such an infrastructure — or service or input — is indispensable in order to allow competitors of the dominant undertaking to operate profitably in a downstream market, this increases the likelihood that unfair practices on that market will have at least potentially anti-competitive effects and will constitute abuse within the meaning of Article 102 TFEU (see, to that effect, [Case C-280/08 P *Deutsche Telekom AG v European Commission* EU:C:2010:603, [2010] 5 CMLR 27 ("*Deutsche Telekom*") at [234], and Case C-52/09 *Konkurrensverket v TeliaSonera Sverige* ECLI:EU:C:2011:83 ("*TeliaSonera*") at [70] and [71]). Nevertheless, as regards practices other than a refusal of access, the absence of such an indispensability is not in itself decisive for the purposes of the examination of potentially abusive practices on the part of a

dominant undertaking (see, to that effect, the judgment in *TeliaSonera* [at [72]]).

[51] While such practices can constitute a form of abuse where they are able to give rise to at least potentially anti-competitive effects, or exclusionary effects, on the markets concerned, they cannot be equated to a simple refusal to allow a competitor access to the infrastructure, since the competent competition authority or national court will not have to force the dominant undertaking to give access to its infrastructure, as that access has already been granted. The measures that would be taken in such a context will thus be less detrimental to the freedom of contract of the dominant undertaking and to its right to property than forcing it to give access to its infrastructure where it has reserved that infrastructure for the needs of its own business."

390. A similar question arose in Case C-42/21 *Lietuvos geležinkeliai v European Commission* ECLI:EU:C:2023:12 ("*Baltic Rail*"). The European Commission adopted an infringement decision against a state-owned railway infrastructure manager and rail operator in Lithuania, which had removed a section of track to prevent a competitor entering the market. The CJEU held that the European Commission (and the General Court) were correct in not applying *Bronner* when determining whether there was an abuse of a dominant position. This was for three reasons:

(1) Destruction of infrastructure gave rise to different considerations from those considered in *Bronner*[91].

(2) The track belonged to the state, rather than the operator, so *Bronner* was not applicable in any event[92].

(3) The existence of a regulatory obligation to provide access to the track meant that refusal of access was not in fact possible. That meant it was solely the scope of the obligation to give access, and not the access itself, that was in dispute[93].

[91] *Baltic Rail* at [81]-[84].
[92] *Baltic Rail* at [86]-[87].
[93] *Baltic Rail* at [88]-[91].

(e) Digital platform cases – Google Shopping and Android Auto

391. The factual background to Case C-48/22 *Google LLC and Alphabet Inc. v European Commission* ECLI:EU:C:2024:726 ("*Google Shopping*") is somewhat complex, but it is important for present purposes to note that the algorithms underlying Google's internet search engine were found to have preferred the position of Google's own comparison shopping service at the expense of competing shopping services, by promoting its own shopping service results higher up the list of general search results and also by the placement of those results in dedicated boxes at the top of the search results page.

392. The relevant part of the argument arose from Google's complaint that the General Court (and the European Commission) had failed to apply the test in *Bronner* and accordingly to inquire into whether there were exceptional circumstances which would justify the imposition of an obligation to provide competitors with the same access to its infrastructure as Google's own shopping service.

393. The CJEU dealt with that argument as follows:

> "[110] As recalled in paragraph 90 of the present judgment, it is apparent from the case-law arising from the judgment of [*Bronner*], that the imposition of the conditions referred to in paragraph 41 of that judgment was justified by the particular circumstances of the case which gave rise to that judgment, which consisted in a refusal by a dominant undertaking to give a competitor access to an infrastructure that it had developed for the purposes of its own business, to the exclusion of any other conduct.
>
> [111] By contrast, where a dominant undertaking gives access to its infrastructure but makes that access, provision of services or sale of products subject to unfair conditions, the conditions laid down by the Court of Justice in paragraph 41 of [*Bronner*], do not apply. It is true that where access to such an infrastructure – or service or input – is indispensable in order to allow competitors of the dominant undertaking to operate profitably in a downstream market, this increases the likelihood that unfair practices on that market will have at least potentially anticompetitive effects and will constitute abuse within the meaning of Article 102 TFEU. However, as regards practices other than a refusal of access, the absence of such an indispensability is not in itself decisive for the purposes of examining potentially abusive conduct on the part of a dominant undertaking [*Deutsche Telekom* at [50] and *Slovak Telekom v Commission* at [50]] and the case-law cited).
>
> [112] While such practices can constitute a form of abuse where they are able to give rise to at least potentially anticompetitive effects, or exclusionary effects, on the markets concerned, they cannot be equated to a simple refusal

> to allow a competitor access to the infrastructure, since the competent competition authority or national court will not have to force the dominant undertaking to give access to its infrastructure, as that access has already been granted. The measures that would be taken in such a context will thus be less detrimental to the freedom of contract of the dominant undertaking and to its right to property than forcing it to give access to its infrastructure where it has reserved that infrastructure for the needs of its own business [*Deutsche Telekom* at [51], and *Slovak Telekom* at [51]].
>
> 113 Since, as has been stated in paragraphs 105 to 107 of the present judgment, Google gives competing comparison shopping services access to its general search service and to the general results pages, but makes that access subject to discriminatory conditions, the conditions established in paragraph 41 of [*Bronner*], do not apply to the conduct at issue."

394. Part of Google's argument concerned the potential distinction between the general search results (which appeared in a list further down the page) and the dedicated boxes, which appeared above most, or all of the general search results. Google argued that the General Court had failed to consider the implications of requiring Google to give competitors access to the boxes (which Google had reserved to itself), as opposed to access to the general search results (to which everyone had access).

395. The CJEU held that the General Court had made no such distinction[94] and that, in any event, the boxes could not be considered an infrastructure that was separate from the general search terms[95]. The CJEU referred to the factual description in the Opinion of Advocate General Kokott[96], who dealt with the issue like this:

> "[115] Even though they are prominently presented on Google's general results pages, those boxes do not constitute a separate infrastructure in the sense of a results page which is entirely independent from a technical point of view, but (unlike Google's earlier independent Froogle product search service) were, according to the now no longer contested findings of the Commission and the General Court, specifically integrated by Google into its general search engine and the latter's functionality in order to enable it to take advantage of the network effects generated there on the market for specialised product search services. The special algorithms the use of which enabled only results from Google's comparison shopping service to be displayed were thus activated by users' search requests on its general search engine. Consequently, the concomitant discrimination against competing comparison shopping services has to do with the way in which Google's general results pages are accessed,

[94] *Google Shopping* at [99].
[95] *Google Shopping* at [105] and the Opinion of Advocate General Kokott in *Google Shopping* ECLI:EU:C:2024:14 at [114] and [115].
[96] The Opinion of Advocate General Kokott in *Google Shopping* ECLI:EU:C:2024:14.

> but is not about access to an allegedly separate infrastructure in the form of the Shopping Units boxes. As stated in point 90 above, the parties intervening in support of the Commission argued credibly, in particular at the hearing, that they had never demanded access to those boxes, but had, on the contrary, called for them to be done away with."

396. The CJEU confirmed this view in [105] of its judgment:

> "[105] In the third place, it is not possible to uphold the appellants' argument that boxes constitute a separate facility from Google's general results pages, with the result that the General Court should have considered that the issue in the present case was whether it was justified to require Google to give competing comparison shopping services access to that facility. As the Advocate General observed, in essence, in points 114 and 115 of her Opinion, even if they are highlighted on Google's general results page, boxes do not constitute an infrastructure that is separate from that page in the sense of an independent results page."

397. The last case we need to consider in this section is Case C-233/23 *Alphabet Inc & ors v Autorità Garante della Concorrenza e del Mercato* ECLI:EU:C:2025:110 ("*Android Auto*"). The CJEU decision in this case was handed down during the course of closing arguments and we are grateful to both parties for their efforts to address us on it at short notice.

398. The case concerned a preliminary ruling relating to an infringement decision of the Italian Competition authority (the "AGCM"), concerning Google's refusal to allow a third-party app developer, Enel, to access the digital operating system which Google had developed for cars. Enel developed the app to allow users to search for electric vehicle charging stations. The app was a competitor to Google's own Google Maps service, which performed a similar function.

399. The referring court's question was essentially whether, having regard to the specific characteristics of the functioning of digital markets, the AGCM should have approached the case as one requiring the *Magill*/*Bronner* exceptional circumstances before finding an abusive refusal to supply. The CJEU answered that question in the negative. After rehearsing the background to those cases and the policy considerations underlying them, the CJEU said:

> "[43] Therefore, it is, in particular, the need for undertakings in a dominant position to continue to have an incentive to invest in developing high-quality products or services, in the interest of consumers, which, as the Advocate General stated, in essence, in point 30 of her Opinion, justifies applying the conditions referred to in paragraph 39 of the present judgment where an

undertaking in a dominant position has developed infrastructure for the needs of its own business and owns that infrastructure.

[44] By contrast, as the Advocate General observed in point 35 of her Opinion, where a dominant undertaking has developed infrastructure not solely for the needs of its own business but with a view to enabling third-party undertakings to use that infrastructure, the condition laid down by the Court of Justice in of [*Bronner* at [41]], relating to whether that infrastructure is indispensable for carrying on the business of the entity applying for access, in that there is no actual or potential substitute for that infrastructure, does not apply.

[45] In such a situation, neither the preservation of the freedom of contract and the right to property of the undertaking in a dominant position nor the need for that undertaking to continue to have an incentive to invest in developing high-quality products or services justify limiting a refusal to provide access to the infrastructure in question to a third-party undertaking being classified as abusive, as provided for in Article 102 TFEU, to cases in which that refusal makes it impossible for that third-party undertaking to carry on its business, by developing a viable offer on a neighbouring market.

[46] It is sufficient to state, in that regard, that, where the cost of developing such infrastructure has been assumed by the undertaking in a dominant position not solely for the needs of its own business but with a view to that infrastructure being able to be used by third-party undertakings, the fact of requiring the undertaking in a dominant position to provide access to that infrastructure to a third-party undertaking does not fundamentally alter the economic model which applied to the development of that infrastructure.

[47] It follows that, in order to establish whether the conditions laid down by the Court in [*Bronner* at [41]], apply to a case concerning a refusal of access to infrastructure, it is necessary to establish whether that infrastructure (i) was developed by the undertaking in a dominant position solely for the needs of its own business and (ii) is owned by that undertaking in a dominant position or whether, on the contrary, that infrastructure was developed in order to enable third-party undertakings to use it, which is evidenced by the fact that that undertaking in a dominant position has already granted such access to such third-party undertakings.

[48] In the present case, it is apparent from the order for reference that Google granted access to Android Auto to third-party undertakings, and that Google made that digital platform compatible for categories of apps, and for specific apps which those third-party undertakings had developed. A digital platform intended to enable the use, on the motor vehicle infotainment system, of apps developed in particular by third parties and downloaded on users' mobile devices cannot be regarded as having been created solely for the needs of that undertaking in a dominant position.

[49] Accordingly, subject to verification by the referring court, it appears that Android Auto was not developed by Google solely for the needs of its own business, since access to that digital platform is open to third-party undertakings, such that the condition laid down by the Court in [*Bronner* at [41]], relating to the indispensability to the business of the entity applying for access, is not applicable for the purpose of examining whether the refusal, by an undertaking which has developed a digital platform, to allow access to that platform by a third-party undertaking which has developed an app, by ensuring

> that platform is interoperable with that app, constitutes an abuse of a dominant position within the meaning of Article 102 TFEU.
>
> [50] It follows that that refusal is capable of constituting an abuse of a dominant position even though that digital platform is not indispensable for the commercial operation of the app concerned on a downstream market, in the sense that there is no actual or potential substitute for its use by means of that platform."

400. As a final point in relation to the case law, we note that *Slovak Telecom*, *Baltic Rail*, *Google Shopping* and *Android Auto* all post-date the UK's departure from the EU. That is not significant for our analysis of the law, as we do not consider them to have materially altered the law (at least as far as the points we are considering are concerned). Our understanding of them is that, for present purposes, they explain the way in which the *Magill* line of cases fits in with the broader canvas of established EU law in relation to abuse of dominance. They also provide useful examples of how certain factual circumstances might be resolved in that framework. If, however, we are wrong about that, then we would have adopted the reasoning in the passages set out from those cases in the earlier parts of this judgment.

(f) The terms of Apple's licence limitations

401. Before analysing the parties' arguments, we should remind ourselves of the main licence limitations which Apple imposes on developers and by which it said it has reserved exclusive use of its IP and infrastructure to itself. Apple summarised these in its written closing submissions[97], as follows:

> "Clause 3.2(g): '(g) Applications for iOS, iPadOS, tvOS, visionOS, and watchOS developed using the Apple Software may be distributed only if selected by Apple (in its sole discretion) for distribution via the App Store, for beta distribution through TestFlight, or through Ad Hoc distribution as contemplated in this Agreement. Applications for iOS, iPadOS, macOS, and tvOS may additionally be distributed via Custom App Distribution […]'.
>
> Clause 3.3.1(B): (developers may not use interpreted code to create a store or storefront for other code of iOS Apps); clause 7 (iOS Apps may only be distributed through the App Store or Apple's other limited routes).
>
> Clause 3.3.1(C): 'Without Apple's prior written approval or as permitted under Section 3.3.9(A) (In- App Purchase API), an Application may not provide,

[97] Apple's written closing submissions at [104].

unlock or enable additional features or functionality through distribution mechanisms other than the App Store, Custom App Distribution or TestFlight'.

Clause 3.2(c): which provides that any iOS App must comply with the 'Program Requirements' set out in Section 3.3, and which include at clause 3.3.1(A) the requirement that any In-App Purchases are made using Apple's In-App Purchase API.

Clause 7.6: (developers may not distribute, or enable others to distribute, programs or applications developed using the 'Apple Software' otherwise than through the permitted methods).

Developers also must abide by Apple's Guidelines (see clause 3.3 and clause 6.3 of Schedule 1 of the DPLA). Guideline 3.2.2(i) states that it is 'unacceptable' for an iOS App to create 'an interface for displaying third-party apps, extensions, or plug-ins similar to the App Store or as a general-interest collection'."

(g) Our analysis of the Magill issue

402. Apple's argument is really quite a simple one: for good policy reasons relating to the protection of property rights (and particularly IP rights) and to encourage innovation, the law requires exceptional circumstances to exist before Chapter II/Article 102 can be applied to impose an obligation to provide a licence. Apple's tools and technology, as provided to developers and as underpin the App Store, are provided only under a licence with limited scope, and Apple has thereby reserved the activities of iOS app distribution and in-app payment services to itself.

403. In this regard, Apple said that is in exactly the same position as the television channels in *Magill*, who had reserved the weekly listing activity to themselves, despite licensing daily listings, and the same position as IMS Health in *IMS*, who reserved the use of the brick structure for their own sales of data and studies to laboratories, despite making the data available to certain market commentators.

404. It is therefore necessary, Apple said, to establish the existence of the exceptional circumstances in the *Magill* line of cases before Apple could be forced to change the scope of the licences.

405. Apple said that the cases relied on by the Class Representative address different situations. *Slovak Telecom, Google Shopping* and *Android Auto* all concern

situations where the infrastructure had been opened up without any reservation on the scope of the access or licence, which is not the case here. *Baltic Rail* has its own peculiar facts but, to the extent it deals with the question of reservation of activities, it falls into the same category as the cases just mentioned.

406. To read those cases differently would, in Apple's submission, amount to saying that *Magill* and *IMS* were wrongly decided or had been significantly curtailed. Apple noted that all four cases relied on by the Class Representative post-date the UK's exit from the EU, so are not binding on the Tribunal.

407. We think the cases demonstrate a balancing exercise between two sets of objectives which are both, potentially, pro-competitive. One objective is to support property rights (and especially IP rights) and to encourage innovation; see *Android Auto* at [43]. The other is to ensure consumer interests are protected by prohibiting anticompetitive behaviours that threaten well-functioning markets (we will use the shorthand of "fair competition" to refer to this policy consideration). The cases cited above demonstrate the potential for those objectives to conflict and provide some examples of the resolution of that conflict by the CJEU.

408. The clearest cases are where the property right (and particularly an IP right) has been reserved for the owner. In those circumstances, a court or an administrative body should only intervene where the property owner has a "genuinely tight grip" on the market (as the CJEU put it in *Slovak Telecom* at [48] and [49]). The exceptional circumstances test devised in *Magill* and endorsed in *Bronner* and *IMS* is the means by which the "genuinely tight grip" is tested.

409. There are also cases where the protection of the property right (even if it is an IP right) is overridden by the requirement for fair competition, without the need to show a "genuine tight grip" or to fall within the exceptional circumstances test. That appears to be the case where the alleged abuse is not considered to be a justifiable attempt to exploit the property right and provide a return for investment and innovation but is instead collateral to the reservation of the property right. The clearest example of this is *Slovak Telecom*, where the regulatory requirement to make the local loop available to broadband

competitors made it plain that the restrictions on the scope of licensing were not about protection of the property interest, but instead about distorting fair competition.

410. *Google Shopping* and *Android Auto* are other examples of situations where the property right does not justify the protection that *Magill*, *Bronner* and *IMS* make clear is available to dominant property owners. In both cases that outcome appears to be because of one or both of the following:

(1) The property right has not been sufficiently reserved to the owner in a way that justifies the protection.

(2) The restrictive provisions are limitations on and exceptions to a licence rather than the exclusive reservation of a property right.

411. Apple suggested in its written closing submissions that these are two sides of the same coin. We agree that may often be the case. Permitting third parties to access the infrastructure means that the conditions attached to access are more likely to be seen as incidental to (or even independent of) the property right. So, in *Google Shopping*, the fact of universal access to the general search activity meant that Google was not able to justify conditions on how that access was delivered, in particular by arguing that the boxes were reserved.

412. The relevant distinction therefore seems to be whether the alleged abuse (here, the licence restrictions in the DPLA) are properly to be seen as: (a) a means by which Apple protects and reserves exclusively for itself the exploitation of its IP rights or infrastructure; or (b) a means by which Apple is using its licensing arrangements to impose terms which are incidental to the exclusive reservation of a property right.

413. This is not necessarily an exercise of clearly and easily identifying a bright line between those two possibilities. It is essentially an assessment of the particular facts of a case and a judgement as to which of (a) or (b) above is the correct

view to take. Ms Demetriou KC acknowledged this in the following helpful exchange in Apple's oral closing submissions[98]:

> "THE CHAIR: If … somebody imposes an exclusive distribution arrangement on somebody that they grant a licence to -- so they have licensed the product, they have agreed that they are going to let them make the product and they have agreed they are going to let them sell it but they are imposing a condition as to how they can sell it -- so you say that is different from imposing a price condition?
>
> MS DEMETRIOU KC: I think it may -- that may come down to the facts, so is it a limitation on the scope of the licence or is it a condition that is then being imposed once -- and there may be some facts that are more difficult -- it may be more difficult to ascertain which side of the line you are. But we are very firmly in the scope of the licence camp.
>
> THE CHAIR: Well, I think that is -- I mean, the answer to that question I think is probably the answer to this point because it seems to me that that is exactly the sort of -- that is the grey area we are driving at. Well, you say it is not grey, but this is all about whether Apple can say to -- whether Apple says to developers, 'Here is the code and the software and so on and we license you to go away and make this thing', and whether they are then entitled to attach a condition to that about what they do to sell it.
>
> MS DEMETRIOU KC: Yes, and that sounds very much like what a contracts relationship -- a relationship with a contract manufacturer. We do very much say that it is open to an IP owner to say that, 'Right, you have a licence to manufacture the product but we are now going to decide how it is distributed. We are going to sell it. You are not selling it'."

414. We therefore start with the facts and in particular the separate activities which are under consideration:

(1) Apple licenses developers to use Apple's tools and technology to develop iOS apps. Any developer who signs up to the DPLA and pays the Program Fee is entitled to the benefit of this licence. This licence is the source of the contractual restrictions relating to distribution and payment.

(2) Apple also permits (and encourages) developers to publish iOS apps on the App Store, so long as they comply with its Guidelines relating to functionality, quality and integrity. It is an important part of Apple's

[98] Day 26/133/14 to 26/134/20.

commercial strategy: (a) to encourage developers to make attractive iOS apps; and (b) to distribute those through the App Store only.

(3) There is no doubt material investment by Apple in the functioning of the App Store. We know very little about the extent to which this investment is protected by IP rights; the annex to Apple's written opening submissions, which described the proprietary technology and guidance made available to developers by Apple says nothing about the IP underpinning the App Store itself. Nor does Harlow 1, which sets out at a high level Apple's proprietary developer technologies and underlying IP rights.

(4) Apple provides payment arrangements for all relevant iOS app purchases and in-app purchases. The tools and technology include APIs which allow the app to interact with Apple's payment systems for in-app purchases[99]. However, a developer who wished to use a different payment provider for in-app purchases (if permitted) would not have to use those payment-related APIs. They could instead use an API provided by an alternative payment service provider, which facilitated interaction between the iOS app and the alternative provider's system[100].

415. The alleged abuse comprises Apple's use of the restrictions in the DPLA (supplied in relation to the provision of the tools and technology for the purposes of iOS app development) to remove any possibility of competition in the related (but functionally distinct) markets for iOS app distribution and in-app payment services.

416. Apple is dominant in those markets. As such it is subject to the special responsibility not to harm competition that is imposed on dominant firms. There are consumer interests involved – the essential argument in these collective proceedings is whether consumers are harmed by the level of Commission which Apple is able to charge in circumstances of effective monopoly.

[99] See the summary in Howell 1 at [123]-[124].
[100] As contemplated in Howell 1 at [145].

417. The cases cited above tell us that the freedom of a dominant undertaking to reserve infrastructure exclusively to itself will not apply where the infrastructure was not developed solely for the needs of its own business.

418. Apple has strong commercial incentives to encourage developers to use Apple's licensed tools and technology to create attractive iOS apps and to have those distributed to iOS device users[101]. That is why many developers receive a licence to use the tools and technology without paying Apple anything beyond the Program Fee. Far from reserving the tools and technology to itself, Apple makes them available to any developer who signs the DPLA and pays the Program Fee. The restrictions in the licence seem primarily to concern the further activities of distribution and payment, not the actual availability of the tools and technology for the development of iOS apps.

419. In this light, it is convenient to look first at the activity of iOS in-app payment services and the restrictions relating to those. Apple does seek to reserve this activity to itself through the scope of the licence. The payment APIs which Apple provides as part of the tools and technology are intended to facilitate in-app payment services provided by Apple, using Apple's payment systems. Beyond that, however, the tools and technology do not provide the basis for a developer to access payment services from other in-app payment service providers. There is no API in the tools and technology which Apple provides which facilitates the interaction between developers and third-party payment service providers for iOS in-app transactions. That is the obvious consequence of the contractual restrictions which lock developers into Apple's payment systems for iOS in-app payments[102].

420. We have already found that iOS in-app payment services are a distinct product from iOS app distribution services. Apple seeks to reserve the activity of providing the iOS in-app payment service to itself, but that is not the same as reserving any IP or infrastructure for its own purposes. On the contrary, a

[101] See for example Mr Schiller's evidence at Day 7/40/3 to 7/41/9.
[102] We are considering here only digital app transactions. Transactions for physical goods and services are governed by different rules in the Guidelines, which permit payment mechanisms other than Apple's payment systems. However, there is no suggestion that Apple provides APIs for those payments carried out outside of Apple's payment systems.

developer who uses a third party for iOS in-app payment services will have no need to use either Apple's IP (the APIs in the tools and technology) or Apple's infrastructure (Apple's payment systems).

421. The true position is that Apple is using the restrictions in the licence to prevent developers from using a third party's payment infrastructure. The evidence before us was that Apple intended to insert itself into every paid, digital app-related transaction, to ensure it could easily collect its Commission whenever a user paid a developer for, or in relation to, an iOS app. As Mr Schiller put it in his witness statement[103]:

> "In this way, IAP is critical to ensuring Apple realizes a return on its significant investments in its proprietary technology and the tools and services it provides app developers to enable them to create and make available apps on the App Store. Moreover, developers are contractually required to make payments to Apple for services Apple provides to developers on these sales. If developers earning revenue from in-app purchases by users were able to circumvent IAP by offering an external payment mechanism, Apple would have no ability to collect the commissions contractually payable to them on those sales which are payment for the services Apple provides to developers. The developer, meanwhile, could continue to enjoy the benefit of Apple's tools, software, and proprietary technology, and Apple's ongoing services to market and distribute the developer's apps via the App Store, all for free. For those reasons, IAP is fundamental to the effective operation of the App Store."

422. The iOS in-app payment restrictions have nothing to do with reserving Apple's property rights to itself. They instead prevent any effective competition in relation to iOS in-app payment services.

423. To test that, one can consider whether, in the event we found a tying abuse (which is one alleged abuse against which the *Magill* line of cases is deployed by Apple), we should consider the tying of a separate service by way of a restriction in the licence relating to other, distinct activities as justifying the curtailment of fair competition. The answer to that seems to us to be obvious – it should not.

424. There is in our judgement no iOS in-app payment infrastructure which Apple could seek to reserve to itself by prohibiting the use of third-party payment

[103] Schiller 1 at [157].

services providers. Nor is the alternative provision of iOS in-app payment services in itself an exploitation of Apple's IP, either in the tools and technology or more broadly. Instead, the iOS in-app payment restrictions impose contractual conditions to prevent developers accessing the innovation and IP of third parties, so as to prevent competition in the iOS in-app payment services market.

425. We therefore conclude that there is no requirement to establish exceptional circumstances, as defined in *Magill* and *Bronner*, before deciding to apply Chapter II/Article 102 to the iOS in-app payment restrictions.

426. The position in relation to iOS app distribution services and the restrictions on alternative distribution (whether through other platforms or through the publication of a marketplace app on the App Store) is perhaps more nuanced. There is more obviously a link between the iOS app distribution restrictions and the potential for reservation of property rights by Apple. This arises in two ways:

(1) The tools and technology used by developers to create iOS apps are part of the product which is sold through the matchmaking service on the App Store and, unlike the iOS in-app payment services, are necessary for distribution purposes (otherwise the iOS app would not work on the device).

(2) The App Store itself is infrastructure which represents property of Apple, presumably contains aspects of IP (although the nature and extent of that is not identified by Apple) and also represents investment and innovation.

427. Apple argued that, by analogy with *Magill* and *IMS*, <u>any</u> reservation of the infrastructure by way of the limitation of the scope of the licence is sufficient to require the application of the *Magill/Bronner* exceptional circumstances before an infringement can be found. As noted above, in both *Magill* and *IMS* the alleged infringer had made their copyrighted material available in certain circumstances, but not for those activities which they wished to reserve to

themselves. Apple said we are effectively bound by those cases to reach the same conclusion here.

428. In developing this argument in oral closing submissions, Ms Demetriou KC submitted that the situation was analogous to a licence issued by an IP owner that permitted another party to manufacture a product but reserved the sales activity to itself. We do not consider that to be the correct analogy, for reasons we explain below.

429. In this case we have:

(1) the tools and technology, to which the DPLA licence relates; and

(2) the infrastructure of the App Store platform and any supporting IP.

430. We think it is important to keep in mind the difference between these two aspects, for the purposes of considering whether Apple has indeed reserved any infrastructure or IP exclusively to itself.

431. In relation to the tools and technology, Apple licenses these to any developer who signs the DPLA and pays the Program Fee. Thousands of developers take advantage of this, and the vast majority of them pay nothing to Apple beyond the Program Fee. It is not immediately easy to see how there can sensibly be said to be any exclusive reservation of the tools and technology in those circumstances.

432. There is of course, as noted above, a restriction on the channel by which the developer can distribute the app, which contains the benefit of the tools and technology. That is not however in our view a measure which protects the property of Apple for its own exploitation. We think Apple confuses in this regard the reservation of property (the IP rights in the tools and technology) and the reservation of an ancillary activity (distribution services). Preventing the emergence of a competing sales channel is not necessarily the same thing as reserving property for exclusive use.

433. Apple's answer to this is that the facts in *Magill* and *IMS* are essentially the same pattern, in that the property owner was entitled in each case to reserve certain channels to itself. We think they are different fact patterns. In each of *Magill* and *IMS*, the thing which was being reserved was information subject to copyright. The exclusive use of this copyrighted property in specified channels[104] was the very thing that had been reserved. The property owner enjoyed the sole and exclusive enjoyment of that copyrighted property in those channels by way of limiting the scope of use by others.

434. Here, instead, the contractual restriction bites on an iOS app which represents aspects of the developer's IP, together with aspects of Apple's IP. Apple wants the developer to develop the iOS app. Apple also wants the iOS app to be distributed to as many of its iOS device users as possible. Any[105] iOS app, created with the benefit of the tools and technology, can be distributed through the App Store, without restriction, to <u>any</u> iOS device user.

435. Apple is not therefore seeking to reserve to itself any particular group of users to whom the iOS app might be distributed. Indeed, Apple is not purporting itself to publish these iOS apps at all[106]. It is seeking to control the means by which the developer can charge those users for certain functionality. That is not reserving the use of the property (the tools and the technology) exclusively to itself.

436. It may be that there is a similarity of outcome between *Magill* and *IMS* on the one hand and this case on the other, in securing the exclusivity of an aspect of economic return by way of imposing a limitation of use. That however is not sufficient. There must be a proper reservation of an exclusive use of property, as there was in *Magill* and *IMS*. We cannot see how that can apply where the tools and technology can be used to build an app which can be supplied to any

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[104] We do not use channels in any technical sense. We simply mean the means by which the property owner in each case reserved use of the property to itself. In *Magill* this was the weekly format of the television listings and in *IMS* it was the sale of the brick structure into the target market of healthcare providers.

[105] Save for an alternative iOS app marketplace app, which we consider separately below.

[106] Apple does develop its own iOS apps but we are of course concerned here only with iOS apps developed by other developers.

iOS device user. In our judgement, there is no exclusive reservation of use at all. Instead, there is a contractual condition which prevents competition taking place in the usual way.

437. In conclusion on this point, Apple has not in reality reserved the tools and technology to itself in a way that would justify the protection from Chapter II/ Article 102 that the *Magill* line of cases permits. The restrictions are not about allowing Apple to exclusively use some aspect of its IP, as in *Magill* and *IMS*. Apple allows any qualifying developer to access the tools and technology and to make the resulting product available to any iOS device user. What Apple has actually done is to impose conditions on developers which allow Apple to avoid rivalry and to ensure Apple's strict control over the collection of the Commission.

438. That is not something which engages the policy consideration of allowing Apple exclusively to exploit aspects of its own property, as set out in [47] of *Slovak Telecom*. Applying the Chapter II prohibition will not, in our view, create a disincentive for Apple to innovate. Apple is incentivised to innovate by its desire to create user demand through the quality and extent of iOS apps offered in the App Store. It has every incentive to make tools and technology available to developers to encourage them to create those iOS apps.

439. Nor should it be considered detrimental to Apple's rights of property ownership and freedom of contract, given the extensive access it has already given by way of licensing the tools and technology. As the CJEU noted in *Google Shopping* at [112], once access has been granted, the impact on rights is quite different from forcing access in the first place.

440. It seems to us, therefore, that our application of the principles emerging from case law to the facts before us is entirely consistent with the policy objectives which underpin those cases.

441. We now turn to the further question of whether the App Store itself amounts to infrastructure which has been reserved by Apple to itself. There has been no attempt by Apple to identify the nature or extent of any IP inherent in the App

Store (as opposed to the tools and technology provided under the DPLA). Indeed, Apple's pleaded case appears to depend on the IP licensed under the DPLA, which does not refer expressly to the IP involved in the creation or operation of the App Store in its own right. It is therefore not clear to us exactly what Apple could be reserving to itself.

442. In any event, we think it is not possible to argue that Apple has reserved the App Store to itself. It has allowed thousands of developers to distribute apps through the platform; that is the very purpose of it. It is true that Apple seeks to prevent developers from distributing apps which can be used as alternative iOS app marketplaces on the App Store. However, that seems to us to amount to the same argument that failed before the CJEU in *Google Shopping* and would have failed in *Android Auto*:

(1) As was the case in *Google Shopping* in relation to search boxes and general search results, no sensible distinction can be drawn between distribution on the App Store of (a) normal apps and (b) marketplace apps which users use to acquire other apps.

(2) Consistent with *Android Auto*, a digital platform (the App Store) which is intended for widespread third party (developer) use cannot be regarded as having been created solely for Apple's needs. It may be the case (as Apple submitted) that Google did not attempt to argue in *Android Auto* that it was reserving the activity of interoperability of the system with electric car charging apps[107]. It seems to us that such an argument would have been unlikely to succeed if it had been advanced, given the approach taken by the CJEU in both that case and *Google Shopping*.

443. In our judgement, there is no separate facility or infrastructure for marketplace apps – they are distributed in exactly the same way as any other app. There is therefore no aspect of the App Store infrastructure which can reasonably be said

[107] This is recorded in the Opinion of Advocate General Medina in *Android Auto* ECLI:EU:C:2024:694 at [44].

to have been reserved by Apple for its exclusive use. A marketplace app is just another type of app. Apple has essentially created an open platform, and so its attempts to limit competition for the services it provides on that platform are not a reservation of rights to protect Apple's own IP or infrastructure, but instead are an independent restriction of competition.

444. Overall, we conclude that Apple should not be entitled to enjoy the protections against scrutiny from Chapter II/Article 102 that the *Magill* line of cases contemplates for either the iOS in-app payment restrictions or the iOS app distribution restrictions. *Magill* and *IMS* in particular concern a different set of circumstances in which the property subject to copyright was itself the subject of an exclusive reservation, which is not the position in these proceedings. Once again, we do not therefore accept Apple's arguments that *Magill* and *IMS* effectively bind us to the outcome they seek. We therefore move on to consider the substantive arguments about the exclusionary abuses. We will start by examining the alleged exclusive dealing abuse and will then consider the alleged tying abuse separately.

(3) Exclusive dealing abuse

445. The Class Representative alleges that Apple has foreclosed competition in the iOS app distribution services and iOS in-app payment services markets by requiring that iOS apps can only be distributed through the App Store and that iOS in-app purchases must use Apple's payment system.

446. The parties largely agree on the legal framework for this part of the case. We will set out the key principles and deal with any areas of disagreement.

(a) Legal framework for exclusive dealing

447. It is, as we understand it, agreed that:

(1) A dominant undertaking has a special responsibility not to allow its conduct to impair genuine, undistorted competition on a market. Conduct which might otherwise be lawful may, when implemented by

an undertaking in a dominant position, thereby become abusive (unless it is either objectively justified and proportionate to that justification, or counterbalanced or even outweighed by advantages in terms of efficiency that also benefits consumers)[108].

(2) The concept of abuse covers not only practices likely to cause direct harm to consumers but also those which cause them harm indirectly by undermining an effective structure of competition[109].

(3) Relevant considerations include: (i) the structure of the market; (ii) the extent of the dominant position; (iii) the nature of the conduct; (iv) evidence as to the dominant undertaking's intent; (v) the extent of the likely impact on the market, assessed at the time of the conduct; and (vi) the evidence as to any actual effects which eventuated[110] (we will refer to these below as the "*Royal Mail* relevant factors").

(4) Abuse of a dominant position may be established where the conduct complained of was based on the use of means other than those which come within the scope of "normal" competition, i.e. competition on the merits. Competition on the merits means competition on price, quality, choice or innovation[111].

448. There are therefore two key questions to answer:

(1) Is the practice capable of having an impact on the market structure in that it is capable of making it more difficult for competitors to enter the market in question?

(2) Does the practice rely on the use of means other than those which come within the scope of competition on the merits?

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[108] See Case C-377/20 *Servizio Elettrico Nazionale SpA & ors v Autorità Garante della Concorrenza e del Mercato & ors* ECLI:EU:C:2022:379 ("*Servizio Elettrico*") at [74] and [103].
[109] See *Servizio Elettrico* at [44] and *Streemap.Eu Ltd v Google Inc. & ors* [2016] 2 WLUK 347, [2016] EWHC 253 (Ch) at [64].
[110] See *Royal Mail v Ofcom* [2021] Bus LR 1045, [2021] EWCA Civ 669 at [19]-[20] ("*Royal Mail*").
[111] *Royal Mail* at [18]; *Servizio Elettrico* at [77].

449. There is a further point of contention, which is the need for, and shape of, any counterfactual analysis. The Class Representative said that no counterfactual analysis is necessary as:

(1) The relevant inquiry is one into the structure of the market, not the impact on prices.

(2) There is no legal requirement to rely on a counterfactual in order to establish the existence of an abuse – see *National Grid plc v Gas and Electricity Markets Authority* [2010] UKCLR 386 ("*National Grid*") at [54] and [57], per Richards LJ:

> "[54] I would reject Mr Turner's overarching submission as to the need for any finding of abuse to be based on a benchmark. It is true that benchmarks of a kind have been applied in certain pricing contexts, such as in drawing a dividing line between competitive low pricing and abusive predatory pricing, and that according to para 21 of its guidance document the Commission's own approach to assessing anti- competitive foreclosure is usually to make a comparison with an appropriate counterfactual. There is, however, no rule requiring the use of a benchmark in every case, let alone a benchmark that will tell one precisely where the line between lawful and unlawful conduct is to be drawn. The question whether an abuse exists is highly fact-sensitive and dependent upon an evaluation of a wide range of factors, in the light of the general principles expressed in *Hoffmann-La Roche* and other cases. It does not have the precision that Mr Turner claims for it[112].
>
> …
>
> [56] It follows that in my view there was no requirement for the Tribunal in the present case to apply a benchmark of the kind for which Mr Turner contended.
>
> [57] The use of counterfactuals as a tool of appraisal is plainly permissible and of potential value. What is appropriate by way of counterfactual, however, is a matter of judgment for the decision-maker. There is no rule of law that the counterfactual has to take a particular form. The [European] Commission's guidance document refers to a range from "the simple absence of the conduct in question" to "another realistic alternative scenario, having regard to established business practices". It does not say that the alternative scenario must be based on alternative arrangements that the parties to the contracts in issue would or might realistically have made instead, and there is no principle requiring the adoption of such a restrictive approach. The purpose of the counterfactual is simply to cast light on the effect of the conduct in issue. It is for the decision-maker to determine whether a counterfactual is sufficiently realistic to be useful, and to decide how much weight to place on it. This is an area of appreciation, not of legal rules."

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[112] There is then a discussion about an extract from Bellamy & Child, *European Community Law of Competition*, 6th ed., and another case, and we pick up the point two paragraphs later.

450. Apple submitted that the passage in *National Grid* is not about counterfactual reasoning at all, which was not an issue in that particular case. It said that it would generally be unusual and undesirable to proceed without a counterfactual in assessing an alleged infringement and it is essential to do so in this case. That is because only then will it be possible to identify whether there really is harm to consumers.

451. Further, Apple relied on Case C-680/20 *Unilever Italia Mkt. Operations Srl v Autorità Garante della Concorrenza e del Mercato* ECLI:EU:C:2023:33 ("*Unilever Italia*") as a caution about an assessment of conduct which is capable of producing anti-competitive effects without actually considering those effects in detail. In *Unilever Italia*[113] the CJEU said that the competition authority must "demonstrate the abusive nature of conduct in the light of all the relevant factual circumstances surrounding the conduct in question" and "that demonstration must, in principle, be based on tangible evidence which establishes, beyond mere hypothesis, that the practice in question is actually capable of producing such effects, since the existence of doubt in that regard must benefit the undertaking which engages in such a practice".

452. We will deal with these arguments in more detail in our analysis subsection.

(b) The arguments of the parties about exclusive dealing

453. The Class Representative submitted that, if the Tribunal adopts the market definitions proposed by her (which we have), then Apple's abusive foreclosure is clear cut:

(1) The restrictions in relation to iOS app distribution services and iOS in-app payments services have precluded, or at the very least are capable of precluding, any entry into those markets by competitors. This is said to essentially be common ground by way of the agreed propositions between Professor Sweeting and Dr Singer in their joint expert statement. Professor Sweeting also accepted in cross examination that

[113] *Unilever Italia* at [40] and [42].

excluding competitors from offering alternative payment systems would affect the structure of competition in the iOS in-app payment services market[114].

(2) In relation to iOS app distribution services, Professor Sweeting has conceded that entry by competitors would be one reasonably plausible state of the world in the counterfactual[115]. This scenario would likely include at least some of the larger platforms like Google, Amazon and Microsoft.

(3) In relation to iOS in-app payment services, Professor Sweeting acknowledged that many third-party payment service providers that currently offer payment services in an online context might want to offer payment processing both in the context of iOS app distribution services and iOS in-app payment services[116]. This was supported by evidence about developer demand from Mr Howell and Mr Owens and evidence about likely market entry by payment service providers from Mr Burelli.

(4) Apple is a monopolist in both markets, so has a particularly strong dominant position.

(5) Apple's practices have eliminated all competition since 2008 (for iOS app distribution services) and 2009 (for iOS in-app payment services).

(6) In relation to competition on the merits, Apple has not competed on price, quality, choice or innovation, but instead has excluded competition by means of standard terms and conditions, which is not competition on the merits.

(7) The claim by Apple that it competes in the devices market by differentiating itself in relation to matters like safety, security and privacy is misconceived, as the competition in those circumstances takes

[114] Day 19/185/12 to 19/186/5.
[115] Sweeting 1 at [309]-[310].
[116] Sweeting 1 at [277].

place on a different market (the devices market, not the iOS app distribution services or iOS in-app payment services markets) and cannot amount to relevant competition on the merits.

454. Apple advanced two main arguments. First, it argued that the restrictions are the means by which Apple differentiates itself for competitive purposes in relation to devices and the App Store and therefore competes on the merits. Apple said, firstly, that:

(1) It competes at an ecosystem level. Security, safety, privacy and quality (about which Apple advanced extensive evidence) are all parameters of competition (quality or choice) which are relevant to competition on the merits.

(2) Contrary to the Class Representative's case, Apple's case is not limited to the devices market. It seeks to differentiate the App Store as well. The App Store is an aftermarket to the devices market and it would in any event be artificial to disregard the full picture.

455. Second, Apple argued that counterfactual analysis is necessary and if done properly would show that there would be no appreciable increase in competition to the benefit of consumers in the absence of the restrictions. This is for a variety of reasons:

(1) A proper counterfactual would have to assume that the restrictions were removed only at the beginning of the Claim Period, and not earlier[117]. It would be wrong to make any assumption about the competitive position (for example, whether Apple was dominant) before then, as that has not been pleaded, there is no adequate evidence before the Tribunal about that, and what is available from 2008/9 suggests the contrary. As a consequence, any competitive effect might occur only some time into the Claim Period.

[117] This is effectively arguing for the delayed counterfactual option put forward by the Class representative as an alternative to her primary case that the Commission would always have been set at a competitive level.

(2) The benchmarks used by Dr Singer to model market shares in a counterfactual world are flawed. If the correct benchmarks were used, then the counterfactual Commission would be much higher than Dr Singer assesses[118] and the benefits to developers and users greatly reduced or eliminated.

(3) On a similar theme, Apple would continue to charge for its tools and technology in the counterfactual and, as a consequence, developers would end up having to pay both the fees for iOS app distribution services and iOS in-app payment services and the fees for the tools and technology, which would mean that overall costs would be as much, or even higher, for developers in the counterfactual.

(4) Developers would be reluctant to use an alternative payment service provider because of security concerns and as a result there would not be sufficient demand to justify market entry into iOS in-app payment services.

(5) Apple would be likely to enjoy at least the market share Google currently has (around 90%) even in a counterfactual without the iOS app distribution restrictions, which suggests that there is little effect on competition or market structure as a consequence of those restrictions. The attempt by Dr Singer to model a competitive market which showed greater levels of market entry was flawed.

(c) Our analysis of the exclusive dealing arguments

456. As a starting point, we do think that a counterfactual analysis is likely to be helpful in most cases and we do not read Richards LJ's observations in *National Grid* as suggesting otherwise. Our understanding of the passages quoted above is that it is for the administrative authority or the court (as the case may be) to exercise judgement in choosing what counterfactual (if any) should be used. We

[118] We have dealt with this issue in some detail already in section D, which is the part of the case in respect of which Dr Singer carried out this analysis.

can contemplate situations where the effect of the alleged abusive conduct is so obvious that no counterfactual is necessary. In most cases, however, we agree with Apple that a counterfactual in some form is likely to be a useful means, as Richards LJ put it, "to cast light on the effect of the conduct in issue".

457. We do not, however, accept Apple's submissions that *National Grid* was confined to a particular type of benchmarking specific to its facts. The observations of Richards LJ are plainly meant to apply to counterfactual appraisals generally.

458. In this case, the purpose of the counterfactual is to test what effect the removal of the restrictions is likely to have on the structure of competition in the respective iOS app distribution services and iOS in-app payment services markets. It is not to determine whether developers would pay higher prices or might otherwise be little or no better off financially (or indeed worse off). That is not the Class Representative's case and not one which she needs to maintain to establish an abuse[119].

459. Instead, we are interested in whether there might be more rivalry in a market in which the restrictions were removed. Unless that greater competition was of no appreciable significance, such a finding would indicate that the restrictions had an adverse effect on the structure of the market. That would be sufficient to engage the special responsibility of Apple, as a dominant undertaking, not to engage in such conduct, making the conduct abusive.

460. In other words, the correct counterfactual approach is to test whether there would be appreciably more competition in the event the restrictions were not present. That requires consideration of whether there might be market entrants in either or both markets and whether that entry would be at a material level. If the answers to those questions are yes, then we can conclude that the restrictions are preventing a more competitive market.

[119] The potential impact on price of the removal of the restrictions in the context of assessment of quantum of any loss is an entirely separate point.

461. Exactly what the market outcomes would be in that case, in terms of net benefits for developers or consumers, is not something we need to concern ourselves with at this stage. It is a fundamental premise of competition law that a more competitive market is presumed to bring benefits to consumers.

462. In our judgement, Apple's approach unduly complicates the counterfactual, by seeking to require a detailed examination of hypothetical events which are by their nature uncertain and unpredictable, while not directly addressing the complaint made against it.

463. We also consider Apple's arguments about the "delayed counterfactual" (explained in more detail in section I(2)(c)) to be misconceived. As noted above, the purpose of the counterfactual is to test whether there would be appreciably more competition in the event the restrictions had never been present. The inquiry is into the capacity of the behaviour to cause harm to the structure of the market. It unnecessarily complicates that analysis, and adds no value, to bring into that consideration questions of the timing of the removal of the restrictions.

464. Of course, there is a separate counterfactual exercise to be carried out in relation to the assessment of quantum, which we will turn to later in section I in this judgment and in which the question of the relevance of the timing of the removal of relevant restrictions also needs to be considered. However, for the purposes of determining whether there has been an abuse, it is not an issue which we need to consider.

(i) <u>The likelihood of market entry in the iOS app distribution services market</u>

465. We start this subsection with a consideration of the *Royal Mail* relevant factors [120]:

(1) The structure of the market: the market for iOS app distribution services has a single provider, providing a matchmaking service to large numbers

[120] For the most part, these conclusions repeat our factual findings in section D on market definition and further detail of our findings can be found there.

of developers and users. There is no source of rivalry in the market, as a consequence of Apple's restrictions on distribution imposed through its standard terms and conditions.

(2) The extent of the dominant position: Apple holds a monopoly position and is able to act without any significant constraint.

(3) The nature of the conduct: the conduct involves a contractual means to exclude any possibility of direct competition. Apple has shown itself willing to discipline developers who seek to circumvent the restrictions. For example, when Epic announced it would "no longer adhere to Apple's payment processing restrictions" by giving iOS device users the option to choose to use Epic's payments system for payments in relation to its market leading game, Fortnite, Apple terminated Epic as an Apple developer[121].

(4) Evidence as to the dominant undertaking's intent: there is no question that Apple intended to create exclusivity in the iOS app distribution services market. That was in part because of the strategy to market the Apple ecosystem as a secure environment, and partly also because it was a convenient way to collect the Commission[122]. The evidence from 2008 and 2009 suggests that Apple did not expect the App Store to be as successful as it was. Once that became apparent, there was a recognition that, at some stage, Apple might be forced to reduce its Commission. However, that did not happen, save for the relatively limited circumstances of the programmes identified in section B(2)(e) above.

(5) The extent of the likely impact on the market, assessed at the time of the conduct: this in our view is the most significant of these factors. The impact on the market has been to remove all competition whatsoever for iOS app distribution services.

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[121] *Termination Notice from Apple to Epic Games, Inc. of the DPLA and the DA between Apple and Epic Games, Inc.*, 28 August 2020.
[122] Schiller 1 at [123].

(6) The evidence as to any actual effects which eventuated: self-evidently, as a result of Apple's monopoly position, there has been no competition in the iOS app distribution services market. All competitors have been excluded from the market since 2008. That has meant that Apple has been more or less unconstrained in its price setting, as well as in relation to other parameters of competition.

466. It is readily apparent from this short summary of the facts (most of which flow from the market definition exercise at section D above) that Apple's conduct is capable of having an impact on the market structure. Apple is not just making it more difficult for competitors to enter the iOS app distribution services market. It is eliminating any possibility of competition by contractually preventing developers from seeking iOS app distribution services from third parties.

467. The counterfactual analysis confirms the Class Representative's case that this exclusion is an abuse. Professor Sweeting accepted that there would be market entry by large players:

> "[309] …In my view, one reasonably plausible state of the world is one in which a small number (potentially two or three) of larger alternative iOS app transaction platforms exist in addition to the App Store, along with a fringe of much smaller alternative iOS app transaction platforms…
>
> [310] It is likely that at least some of the operators of these larger platforms would be existing technology firms, such as Google, Amazon, Microsoft, Facebook, and Sony, or digital game developers, such as Tencent, Electronic Arts, and Epic. This is likely since many of these firms already operate app transaction platforms or large storefronts that offer their own games. In addition, these firms are all well-known brands and could attract at least some developers and consumers to their app transaction platforms compared to new startup transaction platforms. It is possible that some of these firms would create app transaction platforms that offer multiple types of apps (e.g., iOS apps and Android apps)."

468. Professor Sweeting also accepted that Apple's market share might reduce to 90%[123]. Apple's written closing submissions referred to a market share of "at least 90%", apparently accepting that this was a realistic counterfactual outcome[124]. Professor Sweeting and Apple's position on this was largely based on reference to Google as a comparator. For reasons we will explore shortly, we

[123] Sweeting 1 at [353].
[124] Apple's written closing submissions at [214].

do not think Google is a reliable comparator for present purposes. Professor Sweeting accepted that, if Google was not a reliable comparator, other comparators (and particularly Steam) suggested that Apple's market share might fall as low as 50%[125].

469. It seems to us that, given Apple's acknowledgement of those counterfactual circumstances, it is abundantly clear that the restrictions are capable of impacting the iOS app distribution services market. A reduction from 100% to 90% in Apple's market share is in our view clearly appreciable. The mere fact that there could (and according to Professor Sweeting, plausibly would) be competitive entry is itself material in the context of Apple's existing monopoly position. It may indeed be the case that Apple's counterfactual market share would be considerably lower than 90%, but that is not something which the Class Representative needs to prove in order to establish an abuse. In our judgement, a counterfactual market entrant which has 10% of the market is quite sufficient to make the foreclosure argument good.

470. Apple advanced a wide range of arguments which, broadly, are to the effect that there would not be appreciable market entry into the iOS app distribution services market if the restrictions on distribution were removed. These arguments can be summarised as follows:

(1) Apple would be entitled to continue to charge developers a fee for tools and technology. If this fee, together with any fees for distribution and payment services, was, say, in the region of the current effective Commission then it would be uneconomic for developers to pay this fee and any third-party iOS app distribution services and iOS in-app payment services fee.

(2) Apple would be able to charge additional fees for the provision of its App Review, which appears to be a fundamental part of the Class Representative's proposed counterfactual. It would also be able to

[125] See Sweeting 1 at [346]-[353] and Day 20/19/20 to 20/20/24.

charge a higher commission for distribution services, given its premium brand and service.

(3) The benchmarks which Dr Singer has used for his market definition analysis are flawed for this reason and also ignore the most likely examples of where the market would end up if the restrictions were removed.

(4) In particular, the example of Google (which is discarded by Dr Singer's analysis) suggests that Apple would retain a very substantial market share (in excess of 90%) even without the restrictions. Examples such as Google and various other platforms also show that 30% is likely to be a competitive commission, and therefore the one that Apple would charge in the counterfactual.

471. It is not necessary for the assessment of the foreclosure abuse to identify with any more accuracy the extent of market share that Apple would lose without the restrictions. The important conclusion which can be drawn from the evidence of Dr Singer and Professor Sweeting is that Apple would lose somewhere between 10% and 50% market share. In our judgement, even the lower end of that range is sufficient to establish an effect on the structure of the market. A 10% loss of market share is appreciable.

472. We also think that Apple substantially exaggerated the factors which might deter market entry or might otherwise suggest that there has been no real foreclosure.

473. First, (and we have considered this in detail in section I(5)(a) of this judgment), we doubt that Apple would continue to charge a substantial fee for its tools and technology. One of the reasons for this is that we accept Mr Schiller's evidence that, in considering the Commission structure in 2008: "[a] flat fee was particularly unattractive to Apple because Apple has not historically been in the business of selling access to or licences for its technology and services."[126]

[126] Schiller 1 at [198].

474. In any event, we are concerned with the prices which are charged for the distribution service, not charges which are incurred for other licences or services. If Apple is able to find a way to charge for tools and technology which is compliant with competition law, it seems reasonable to assume that it will not be able to give itself an advantage in the iOS app distribution services market by reason of that charge[127].

475. Apple suggested in one of its examples that it might charge 10% for the tools and technology and 15% for iOS app distribution services. One problem with this example is that we do not know what the competitive price for iOS app distribution services is (because Apple has a monopoly) and we do not know what value Apple can fairly extract for licensing its tools and technology. In any event, were Apple (we assume still as a dominant undertaking, at around a 90% market share) to charge different amounts to developers depending on whether the developer distributed through the App Store or another platform, that seems to us to be capable of being abusive under Chapter II.

476. Put another way, we do not accept a counterfactual where the likelihood of abusive conduct is so pervasive. It is difficult to see how Apple could legitimately achieve an outcome of self-advantage without infringing competition law in other ways. It was accepted by all parties that a counterfactual cannot include anticompetitive behaviour[128].

477. Accordingly, any fee that Apple charges for tools and technology ought essentially to be neutral in the foreclosure analysis. It is a fee which Apple is entitled to charge in a different market. We are concerned with the Commission charged for iOS app distribution services. Whatever the competitive level is for that Commission (absent any distortion arising from the tools and technology fee, now assumed to be entirely separate), it will be set in conditions of rivalry and therefore can be assumed to be set at a competitive level.

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[127] We are aware that there are questions raised about the way in which Apple has complied with the European Commission's requirements under the DMA, including its approach to charging for its tools and technologies. As these discussions are ongoing, concern regulated access requirements, parallel to competition law enforcement, and post-date most of the Claim Period, we have not considered them as part of our consideration of this counterfactual issue.

[128] See *Dune Group Ltd v Visa and Mastercard* [2023] 4 CMLR 15, [2022] EWCA Civ 1278 ("*Dune*").

478. Apple complained that this type of analysis is circular, because it assumes that all perceived barriers to competition must be removed, before assessing whether there would be more competition without the restrictions. This misses the point altogether. Apple is currently a monopolist, having protected that status by applying the restrictions. If the market structure without the restrictions is appreciably different (and in our view, at the very least 10% of the market being subject to competition is appreciably different from a monopoly) then the test for foreclosure is met.

479. For similar reasons, we do not consider Apple's arguments about the additional level of Commission it might be able to charge in the counterfactual, compared with rivals, to be material. It may be the case that there is some justifiable price difference given the quality and extent of the services offered. We do not understand Apple, or its expert Professor Sweeting, to suggest that this would lead to Apple remaining for all intents and purposes a monopolist. If that is their position, then we consider it to be inconsistent with Professor Sweeting's own evidence and entirely unrealistic.

480. Turning to Dr Singer's benchmarks, we have already discussed the Rochet-Tirole model in some detail in section D on market definition above. Our conclusion was that the model is an illustration of a possible outcome, rather than being reliable evidence. We do not rely on that model in this section of the judgment, other than as an indication that competitive entry is likely to lead to reduced market share and lower prices for an incumbent monopolist, which we think is uncontroversial as a general proposition.

481. Given Professor Sweeting's acceptance of likely entry and an appreciably reduced market share for Apple in the iOS app distribution services market, we do not consider it necessary to inquire further in this section of the judgment as to the precise level of market share or price competition which Apple might face.

482. Nor is it necessary to conduct the sort of detailed exercise which Apple invited us to embark on in relation to other benchmarks, and in particular Google. We have already explained that we do not view Google as a reliable comparator for

any counterfactual purposes, given concerns expressed about whether the market in which it operates is competitive. The MEM Study clearly states the CMA's view that Google has substantial and entrenched market power in native app distribution[129]. The European Commission has reached a similar view[130].

483. That does not mean we accept that Google is acting in an anticompetitive way. We are in no position to determine that question. We are simply unable to accept that it is a reliable comparator because of the concerns raised by these reports.

484. Apple sought to conduct an elaborate exercise, through cross examination of Dr Singer in particular, to establish that the features which made Google dominant and potentially acting abusively would not be abuses if carried out by Apple as a dominant firm in the counterfactual. For example, Apple asked Dr Singer to confirm that pre-installation was a likely reason for Google's dominance and that Apple could preinstall the App Store (and not other app marketplaces) in the counterfactual without acting abusively[131].

485. We did not find that approach to be informative. Beyond the reports and decisions from the CMA and the European Commission, we have very little evidential material upon which we could decide how and why Google might be acting anti-competitively and how Apple might compare in a counterfactual. The cross examination of Dr Singer was largely an exercise of inviting him to speculate. He did the best he could, but unsurprisingly many of his responses gave rise to more uncertainty than certainty[132]. To the extent that Apple relied on Google to show that Apple might plausibly retain a very large market share in the counterfactual, we see no need to decide that question. Apple conceded that it would cease to be a monopolist in the counterfactual and in our view that concession, together with the apparent consensus that it might lose at least in the region of 10% of market share, answers the foreclosure question.

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[129] See the MEM Study at [4.207] and following.
[130] See the Google Android Decision at Recital (590).
[131] This is because Apple is the device manufacturer, whereas Google licences other manufacturers to make Android devices.
[132] See Day 16/208/5 to 16/212/11.

486. That same reasoning applies to Apple's arguments about the counterfactual price which it might charge, by reference to various other app distributors who charge 30%. It is not necessary, for all the reasons given, to embark on an exercise of determining a counterfactual commission level in this section of the judgment.

(ii) The likelihood of market entry in the iOS in-app payment services market

487. Our analysis of the *Royal Mail* relevant factors for the iOS in-app payment services market is very similar to that for the distribution market:

(1) The structure of the market: The iOS in-app payment services market is characterised by a single provider, providing a broad set of payment-related services to large numbers of developers and users. There is no source of rivalry in the market, as a consequence of Apple's restrictions on the use of alternative payment service providers imposed through its standard terms and conditions.

(2) The extent of the dominant position: Apple holds a monopoly position and is able to act without any significant constraint.

(3) The nature of the conduct: the conduct involves contractual means to exclude any possibility of direct competition. Apple has shown itself willing to discipline developers who seek to circumvent the restrictions.

(4) Evidence as to the dominant undertaking's intent: there is no question that Apple intended to create exclusivity in iOS in-app payment services. It was expressly stated as a means to ensure that Apple could collect the Commission with administrative ease.

(5) The extent of the likely impact on the market, assessed at the time of the conduct: this is again, in our view, the most significant of these factors. The impact on the market has been to remove all competition whatsoever for the provision of payment services for in-app purchases.

(6) The evidence as to any actual effects which eventuated: self-evidently, as a result of Apple's monopoly position, there has been no competition in the iOS in-app payment services market. All competitors have been excluded from that market since 2009. That has meant that Apple has been more or less unconstrained in its price setting for the service, as well as in relation to other parameters of competition.

488. There was a dispute between the parties about the extent of competitive entry in the counterfactual world. The Class Representative relied on the evidence of Mr Owens[133], Mr Howell[134] and Mr Burelli[135], all of which (she said) indicated an interest from developers in using a competing service and an interest from payment service providers in entering the market. The Class Representative also relied on the following statement from Sweeting 1:

> "[277] In my view, Apple would have a clear incentive to ensure that third-party payment processors meet minimum security requirements (as it does in the Netherlands) in order to maintain security and prevent fraud on the iOS ecosystem. However, whether Apple is allowed to impose such requirements or not in the counterfactual, I expect that many third-party payment processors that currently provide payment processing for purchases on websites, for physical good purchases in iOS apps, and for other locations online, would also want to offer payment processing for iOS apps and in-app purchases."

489. Apple's challenge to the Class Representative's counterfactual outcome was largely a commercial one:

(1) The correct counterfactual involves removing the restrictions for the UK storefront of the App Store only.

(2) The level of likely competitive iOS in-app payment services fees would not justify alternative payment services providers and/or developers developing products and tailor made versions of their apps for the UK market.

[133] Owens 1 at [17].
[134] See the re-examination of Mr Howell at Day 9/51/1 to 9/51/9.
[135] See the cross examination of Mr Burelli at Day 9/107/8 to 9/107/22 and 9/111/22 to 9/112/18.

(3) That outcome was consistent with the experience of the removal of iOS in-app payment restrictions in South Korea and the EU.

490. Apple relied on the evidence of Mr Owens, who responded to a question from the Tribunal about an earlier passage of cross examination, as follows[136]:

> "THE CHAIR: I have got one question, Mr Owens. Could we have a look at page 103 of the transcript? You will see you have just been previously asked a question about opportunities in the EU and South Korea and you say, I think one of, you say: '(A) One, the substantial barriers that are put in place on Paddle and developers' ability to use it commercially.' Is the two reasons you were giving for not taking advantage of those opportunities. Can you just explain what you mean by, 'the substantial barriers that are put in place commercially'?
>
> MR OWENS: I think the -- I think they are numerous but I think the primary one is the amount of additional kind of work that these developers have to go through in order to release a separate build of their application that is tailored for a specific market, so that they can distribute that version of their application in that market, including something like Paddle's SDK within it. Whereas, they would have to build a separate version of their application to distribute in other markets as well.
>
> THE CHAIR: I thought that was the second point you were making you say: 'And two, from a development standpoint ...' Is that the same thing or are you saying something different?
>
> MR OWENS: I guess primarily the same thing.
>
> THE CHAIR: So when you said just before that you say: 'Paddle and developers' ability to use it commercially', I wondered if you were suggesting something else?
>
> MR OWENS: I do not recall the specific kind of financial restrictions or otherwise on developers in South Korea. I remember there being some. There is certainly a pretty substantial cost involved with them building separate versions of their application, as well as the work required. I do not remember the specific kind of terms of South Korea. Given the nature that we do not have very many customers in South Korea, we ruled that out relatively quickly sort of approaching it as a market."

491. We do not consider this evidence to be determinative of the question of market entry:

[136] Day 4/131/3 to 4/132/21.

(1) Mr Owens had already told us (when he was asked in cross examination about South Korea) that the position in the UK would have to be considered on its own merits[137]:

> "MR KENNELLY KC: Would that be the situation here in the UK if the UK was the only place where it could be done?
>
> MR OWENS: I do not know. We would take each market case by case and evaluate each one. It was certainly the case in South Korea. I do not know why we did not launch in kind of Europe. That was not my decision anymore, I think by the time that decision came to be a decision."

(2) Paddle (the company Mr Owens worked for) only had limited customer coverage in South Korea[138]:

> "MR KENNELLY KC: So why did you not launch in South Korea?
>
> MR OWENS: We presently have one customer who transacts in a meaningful way in South Korea as a market to end consumers. A lot of South Korean commerce for a lot of these apps tends to be from South Korean developers, and we do not have a substantial presence amongst South Korean developers today."

(3) We have before us very little information about the regulatory initiative in South Korea by which Apple has been forced to remove the iOS in-app payment restrictions and allow developers to use third-party payment service providers.

(4) We have before us a limited amount of information about the initiative taken by the European Commission to force Apple to open up both the iOS app distribution and payment services markets. We are also aware that there are questions about the extent of Apple's compliance with the European Commission's requirements. We therefore regard the example of the DMA initiatives as an unsafe reference point for any question of what might happen in the payment services counterfactual.

492. Our preferred view of the counterfactual is that there would be an appreciable degree of interest in market entry, as Professor Sweeting acknowledged, consistent with the evidence of Mr Howell and Mr Burelli. It may well be the

[137] Day 4/108/11 to 4/108/18.
[138] Day 4/108/22 to 4/109/3.

case that various commercial factors would limit the extent of actual entry, but in our judgement, this is likely to be appreciable in any reasonable counterfactual. There is a wide range of potential payment service providers who could provide the substantive iOS in-app payment services offered by Apple at present and who we believe would have both the financial wherewithal to make the necessary investment and an interest in doing so. For example, Mr Holt identified a number of payment service providers which offer services similar to those offered by Apple's payment systems. These include Stripe, Square, Braintree, Adyen and Paddle. He compares the services offered by eight payment service providers which currently operate in the UK and considers that Paddle's service in particular "encompasses substantially all services needed" to replace Apple's payment systems[139].

493. We consider that this prospect of market entry is sufficient to demonstrate that the iOS in-app payment restrictions do have the capability of affecting the structure of competition in the market for iOS in-app payment services and therefore are restrictions which are capable of having exclusionary effects.

(iii) Competition on the merits

494. In our view, Apple's argument that it is engaging in competition on the merits is unsustainable as a matter of principle.

495. Apple seeks to rely on the competition which takes place in the devices market, between manufacturers of devices seeking to differentiate themselves to purchasers of those devices. The argument is that improvements in quality, innovation and choice which are apparent in iOS apps distributed through the App Store, and also from the overall ecosystem of which the App Store is part, attract users to buy Apple devices.

496. That may or may not be the case as a matter of fact, but as a matter of principle we agree with the Class Representative that Apple cannot rely on competition in a different market (the devices market) to excuse exclusionary conduct in the

[139] Holt 3 at [383].

separate iOS app distribution services or iOS in-app payment services markets. To do so would provide a licence for anti-competitive behaviours in aftermarkets simply by reference to competition in the primary market.

497. There are many examples of where that has not been permitted, for obvious reasons. Competition law is concerned with functioning markets for the benefit of consumers. A class of consumer that is essentially captive in an aftermarket is clearly disadvantaged by abusive behaviour in that market, however beneficial it might be to consumers participating in the primary market. It is worth pointing out that these groups of consumers do not entirely overlap. Consumers in the devices market may or may not purchase iOS apps or make iOS in-app purchases.

498. It is of course open to Apple to assert (as it indeed does) that its otherwise abusive behaviour is objectively justified, provided it can satisfy the test for that. In our view, that is the proper place for arguments about benefits from related markets, and we address them at section H below.

499. Furthermore, and perhaps of equal importance, the abusive conduct in issue here is the exclusion of all competition from the iOS app distribution services and iOS in-app payment services markets. We find it difficult to see how such extreme exclusionary conduct can sensibly be justified as competition on the merits. That is in itself the answer to any argument from Apple that there is competition on the merits in the iOS app distribution services market as a consequence of quality, innovation or choice offered by the App Store. Apple is not competing on the merits – it is not competing at all, by virtue of the total exclusion of competition it has achieved through its contractual restrictions.

500. Apple advanced a great deal of factual and expert evidence aimed at justifying its argument of competition on the merits. For the reasons given above, we consider that to be misplaced.

(d) Our conclusion on exclusive dealing

501. In our judgement, Apple has infringed Chapter II/Article 102 through foreclosing competition in the iOS app distribution services and iOS in-app payment services markets by the means of the iOS app distribution restrictions and the iOS in-app payment restrictions, including by requiring that iOS apps can only be distributed through the App Store and that iOS app purchases and iOS in-app purchases must use Apple's payment systems.

(4) Tying abuse

(a) The legal framework for tying

502. The legal framework for consideration of this alleged abuse was common ground. Tying will constitute an abuse where four conditions are all satisfied:

(1) The tying and the tied products are separate products.

(2) The undertaking is dominant in the market for the tying product.

(3) The dominant undertaking does not give customers a choice to obtain the tying product without the tied product.

(4) The tying forecloses competition.

503. In relation to the third condition (coercion), both parties referred to Case T-201/04 *Microsoft v Commission* ECLI:EU:T:2007:289 ("*Microsoft*"). In that case, the European Commission had found a tying infringement by reason of Microsoft's licensing system, which required computer manufacturers to provide onward licences of the Windows operating system with Windows Media Player pre-installed. The European Commission argued that, in effect, Microsoft did not license Windows without Windows Media Player installed.

504. Microsoft responded by arguing the fact that it integrated Windows Media Player with Windows did not entail any coercion or supplementary obligation.

It argued that customers paid nothing extra for the additional functionality, were not obliged to use it, and could install a competing media player.

505. The Court of First Instance disagreed. It found that, under Microsoft's licensing system, it was not possible to obtain a licence of the Windows operating system without Windows Media Player and that the coercion thus applied to equipment manufacturers was not just contractual in nature, but also technical. In effect, it was common ground that it was not technically possible to uninstall Windows Media Player[140].

506. In relation to Microsoft's argument that consumers were not forced to use Windows Media Player, the Court of First Instance said:

> "[970] Nor, in the second place, is it relevant for the purposes of the examination of the present condition that, as Microsoft claims, consumers are not obliged to use the Windows Media Player which they find pre-installed on their client PC and that they can install and use other undertakings' media players on their PCs. Again, neither Article [102(d) TFEU] nor the case-law on bundling requires that consumers must be forced to use the tied product or prevented from using the same product supplied by a competitor of the dominant undertaking in order for the condition that the conclusion of contracts is made subject to acceptance of supplementary obligations to be capable of being regarded as satisfied. For example, as the Commission correctly observes at recital 832 to the contested decision, in *Hilti*[141] users were not forced to use the *Hilti* branded nails which they obtained with the *Hilti* branded nail gun."

(b) The arguments of the parties about tying

507. The Class Representative submitted that conditions (1) and (2) are satisfied if we find there is a separate market for iOS in-app payment services. She also said that condition (4) follows from that conclusion (as we have indeed found).

508. In relation to condition (3), coercion, the Class Representative said that Apple does not give customers the choice to obtain the tying product, being the App Store, without also receiving the tied product, being Apple's payment service, which, through the iOS in-app payment restrictions, Apple requires to be used for all in-app purchases. As was the case in *Microsoft*, it is not contractually

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[140] See *Microsoft* at [960]-[963].
[141] Case T-30/89 *Hilti AG v European Commission* ECLI:EU:T:1992:70 in the Court of First Instance; Case C-53/92 ECLI:EU:C:1994:77 in the CJEU ("*Hilti*").

possible to buy the tying product alone and all developers, whether they intend to provide iOS device users with the opportunity to make iOS in-app purchases or not, are contractually bound into that position.

509. Further, the Class Representative said it is not relevant that developers are not required to provide iOS device users with the opportunity to make in-app purchases (thereby using Apple's payment service in the secondary market for iOS in-app payment services). A requirement that a customer must not buy the tied product from another firm is a tie, regardless of whether the customer actually purchases the tied product. The Class Representative noted that Dr Singer and Professor Sweeting expressly agreed this in their joint expert statement[142].

510. In relation to conditions (2) and (4), Apple repeated its arguments about dominance and foreclosure which are already dealt with above.

511. In relation to condition (1), Apple argued that market definition does not dispose of the question of separate demand, which Apple said must be examined separately. Apple's argument is essentially that there would not be separate demand from developers if they were forced to pay for Apple's tools and technology and iOS app distribution services separately from the costs of third-party payment service providers. Apple also put this another way, saying that the correct counterfactual for assessing separate demand cannot ignore the ability of Apple to require payment for its tools and technology.

512. In relation to condition (3), Apple submitted that the iOS in-app payment services offered by Apple are a service not a product. Developers do not therefore need to take the service, or indeed even to incorporate the relevant API into their app. They can and do monetise their apps in other ways (for example, through in-app advertising) and developers can therefore access a version of the tying product (the App Store) which does not contain the tied product.

[142] Singer/Sweeting joint expert statement at [56].

(c) Our analysis of the tying arguments

513. We have already reached the conclusion that Apple is dominant in the tying market (the iOS app distribution services market (condition (2)) and that there is a separate market for iOS in-app payment services. We have also reached the conclusion that the iOS in-app payment restrictions led to substantial foreclosure in the market, so that it must follow that there has been substantial foreclosure as a consequence of the tying (condition (4)).

514. In relation to condition (1), it is not clear to us how Apple's argument about separate demand can exist independently of our finding of a separate market for iOS in-app payment services.

515. In some aspects, Apple's argument seems more focused on the extent of the demand, rather than the distinct nature of it. That is not in our view the correct way to approach condition (1), which is concerned with the identification of independent demand to demonstrate distinctness of two products, rather than the intensity of that demand. See *Microsoft* at [917].

516. In any event, the arguments that Apple put forward only arise because of the lack of transparency in Apple's charging arrangements. If one separates the distinct services, the question becomes whether there is a service (iOS in-app payment services) for which there is likely to be demand in a reasonably competitive market. The way in which Apple chooses to charge for its tools and technology is not relevant to that question.

517. We therefore conclude that the tying and tied products are distinct products for which there is separate demand and that, accordingly, condition (1) is met.

518. In our judgement, Apple's argument on condition (3) is also misconceived. The fact that developers can avail themselves of other ways to monetise apps does not in our view alter the position that developers are, by contract, not able to obtain the tying product (the App Store) without simultaneously acquiring the tied product (payment services in the context of the iOS in-app payment services market). It does not matter that developers are not forced to use the tied product

or whether they are prevented from using the same product supplied by competitors; see *Microsoft* at [970]. As it happens, developers are prevented from using any such product supplied by a third party, which only serves to confirm the tie.

519. That was the view of Dr Singer and Professor Sweeting in [56] of their joint expert statement: "[a] requirement that a customer must not buy the tied product from other firms is a tie, regardless of whether the customer actually purchases the tied product form (sic) the tying firm", to which Professor Sweeting answered: "[a]gree. This is known as a negative tie." Professor Sweeting was quite right to acknowledge this.

520. Apple's attempt to suggest that a "negative tie" is an economic concept which is not relevant to competition law seems to us to be incorrect. To the extent that it means preventing a customer from using an alternative, so as to force the customer to use the tied product, it describes very well a form of tying recognised by the law.

521. We also agree with Dr Singer's view that the tie acts as a form of penalty, putting a developer who chooses not to use it in a disadvantaged position. While it is true that a large number of developers do use in-app advertising in order to monetise their apps, we accept Mr Howell's evidence[143] that it is not a suitable option for many types of iOS apps and is therefore an inferior option for many developers.

522. For all these reasons, we reject Apple's argument that condition (3) is not satisfied. In our judgement, Apple does not give developers a choice to obtain the tying product (the App Store) without the tied product (payment services in the context of the iOS in-app payment services market).

[143] See Howell 1 at [86].

(d) Our conclusion on tying

523. In our judgement, Apple has infringed Chapter II/Article 102 by tying its payment services (in the context of the iOS in-app payment services market), to the App Store, in circumstances where: there is separate demand for those products; Apple is dominant in the iOS app distribution services market; developers are required to purchase the tied product (in-app payment services) with the tying product (the App Store); and there is substantial market foreclosure as a consequence.

G. EXCESSIVE AND UNFAIR PRICING

(1) The legal framework

524. The universal starting point for analysis of this alleged abuse is the CJEU's decision in Case 27/76 *United Brands Company & or v European Commission* ECLI:EU:C:1978:22 ("*United Brands*"). That established, in [248] to [253], the basic approach for determining whether or not there has been an unfair pricing abuse:

> "[248] The imposition by an undertaking in a dominant position directly or indirectly of unfair purchase or selling prices is an abuse to which exception can be taken under Article 86 of the Treaty [Article 102 TFEU].
>
> [249] It is advisable therefore to ascertain whether the dominant undertaking has made use of the opportunities arising out of its dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition.
>
> [250] In this case charging a price which is excessive because it has no reasonable relation to the economic value of the product supplied would be such an abuse.
>
> [251] This excess could, inter alia, be determined objectively if it were possible for it to be calculated by making a comparison between the selling price of the product in question and its cost of production, which would disclose the amount of the profit margin; however the Commission has not done this since it has not analysed UBC's costs structure.
>
> [252] The questions therefore to be determined are whether the difference between the costs actually incurred and the price actually charged is excessive, and, if the answer to this question is in the affirmative, whether a price has been imposed which is either unfair in itself or when compared to competing products.

> [253] Other ways may be devised – and economic theorists have not failed to think up several – of selecting the rules for determining whether the price of a product is unfair."

525. The judgment in *United Brands* left open a number of questions. The Court of Appeal's decision in *CMA v Flynn Pharma Ltd* [2020] 4 All ER 934, [2020] EWCA Civ 339 ("*Phenytoin CA*") has provided welcome clarification. That was an appeal from a decision of the Tribunal, which set aside a CMA infringement decision in relation to pricing of a pharmaceutical product. The appeal concerned the test in *United Brands* and in particular the different ways in which unfairness might be established. In a passage analysing the six paragraphs from *United Brands* set out above, Green LJ said as follows:

> "[60] The Court starts (paragraph [248]) by setting out the basic test which of course derives from Article 102, which is fairness.
>
> [61] Then (in paragraphs [249] and [250]) the Court describes two central economic features of an abuse of unfairness. These are (i) that the undertaking has reaped 'trading benefits' which could not have been obtained in 'normal and sufficiently competitive' conditions; and (ii) that a selling price that is 'excessive' in that it bears no reasonable relation to the 'economic value' of the product or service in question is an example of an abuse. These paragraphs are connected: charging a price with no reasonable nexus to its economic value and which is therefore excessive (paragraph [250]) is 'such an abuse' i.e. it is an example of the abuse described in paragraph [249] of a trading benefit reaped in conditions that are divorced from that realisable in conditions of normal, workable, competition. I address more fully the concept of 'economic value' in relation to the CMA's fourth Ground of Appeal (see paragraphs [153] – [173] below).
>
> [62] In paragraphs [251] and [252] the Court moves to consider how in evidential and methodological terms such an abuse can be 'determined objectively'. It gives an example of one way (but only one way - cf 'inter alia' in paragraph [251]) to determine whether a price was unfair, namely the Cost-Plus method. The first stage or limb entails comparing the price charged with the costs of production (paragraph [251]), to see whether it is excessive, and the second stage or limb involves determining whether, if it is excessive, it is also unfair 'in itself' or by reference to 'competing products'. It is these two alternative tests of unfairness which are at the heart of this first Ground of Appeal.
>
> [63] Paragraph [253] is also important because it acknowledges that there are other economic ways of devising rules for determining whether a price is unfair. In other words the tests or methods referred to by the Court are not intended by the Court to lay down the only ways in which an unfair price might be determined. As such this militates strongly against any suggestion that the test in paragraphs [251] and [252] is to be construed as if it set down a fixed and definitive methodology.
>
> [64] Commentators point out that these paragraphs contain significant ambiguities. They do so to emphasise that they need to be read contextually

> and not over-rigidly. These ambiguities matter only if one reads the guidance in *United Brands* in a dispositive, literal and rigid manner. As the Court of Appeal observed in *Attheraces Limited v BHB* [2007] EWCA Civ 38[144] at paragraph [115] '…it would be wrong to read this passage too literally'. The Court of Appeal observed that the judgment had to be 'read and applied with care'. I agree. I give three examples of ambiguities referred to in literature.
>
> [65] First, there is no definition or explanation of terms such as 'reasonableness' or 'economic value'. There is however no indication that the Court intended these to be precise terms of legal or economic art.
>
> [66] Second, the Court in paragraph [250] equates (without more) a price that is 'excessive' with one that is abusive (cf 'would be such an abuse') but then (inconsistently) in paragraph [252] says that if a price is 'excessive' that is not the end of the analysis since it must in addition be decided whether the price is fair by reference to the 'in itself' or 'competing products' tests.
>
> [67] Third, in relation to the use of a benchmark to determine whether the dominant undertaking has made use of the opportunities arising out of its dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition, the Court (paragraph [249]) says only that this is 'advisable', i.e. not required."

526. Green LJ then reviewed a number of unfair pricing authorities (some of which we will need to return to) before summarising the overall position as follows:

> "[97] I would draw the following general conclusions from the case law about the test to be applied:
>
> (i) The basic test for abuse, which is set out in the Chapter II prohibition and in Article 102, is whether the price is 'unfair'. In broad terms a price will be unfair when the dominant undertaking has reaped trading benefits which it could not have obtained in conditions of 'normal and sufficiently effective competition', i.e. 'workable' competition.
>
> (ii) A price which is 'excessive' because it bears no 'reasonable' relation to the economic value of the good or service is an example of such an unfair price.
>
> (iii) There is no single method or 'way' in which abuse might be established and competition authorities have a margin of manoeuvre or appreciation in deciding which methodology to use and which evidence to rely upon.
>
> (iv) Depending upon the facts and circumstances of the case a competition authority might therefore use one or more of the alternative economic tests which are available. There is however no rule of law requiring competition authorities to use more than one test or method in all cases.
>
> (v) If a Cost-Plus test is applied the competition authority may compare the cost of production with the selling price in order to disclose the profit margin. Then the authority should determine whether the margin is 'excessive'. This can be done by comparing the price charged against a benchmark higher than

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144 *Attheraces Limited (ATR) v British Horseracing Board (BHB)* [2007] 2 WLUK 52, [2007] EWCA Civ 38 ("*ATR*").

> cost such as a reasonable rate of return on sales (ROS) or to some other appropriate benchmark such as return on capital employed (ROCE). When that is performed, and if the price exceeds the selected benchmark, the authority should then compare the price charged against any other factors which might otherwise serve to justify the price charged as fair and not abusive.
>
> (vi) In analysing whether the end price is unfair a competition authority may look at a range of relevant factors including, but not limited to, evidence and data relating to the defendant undertaking itself and/or evidence of comparables drawn from competing products and/or any other relevant comparable, or all of these. There is no fixed list of categories of evidence relevant to unfairness.
>
> (vii) If a competition authority chooses one method (e.g. Cost-Plus) and one body of evidence and the defendant undertaking does not adduce other methods or evidence, the competition authority may proceed to a conclusion upon the basis of that method and evidence alone.
>
> (viii) If an undertaking relies, in its defence, upon other methods or types of evidence to that relied upon by the competition authority then the authority must fairly evaluate it."

527. The extent to which that guidance has been considered and developed further has also been considered in some detail in *Le Patourel v BT Group PLC* [2024] CAT 76 ("*Le Patourel*"), where the Tribunal reviewed the decisions of the Tribunal in *Hg Capital LLP v CMA* [2023] CAT 52 ("*Liothyronine*") and *Allergan plc v CMA* [2023] CAT 56 ("*Hydrocortisone*") (the latter in some detail), from [72] onwards.

528. These authorities confirm the appropriateness of the conventional approach of a two-limb analysis, in which Limb 1 involves an assessment of whether the price in question is excessive[145], and Limb 2 involves an assessment of whether the price is unfair. They also make it clear that there is considerable flexibility in how the overall assessment is conducted and that the court or regulator assessing the price needs to think carefully about the appropriate way to answer the overall question of whether the price is unfair.

529. Limb 2 itself has two possible routes, being (1) unfairness in itself and (2) unfair by way of comparison with other prices which disclose what prices might be in

[145] The test for excessiveness has been described in a number of ways, but we adopt the formulation in *Le Patourel* in [54] and [55], which is whether there has been a significant and persistent excess of price over cost.

conditions of workable competition. These are alternative routes, not cumulative requirements[146].

530. As to unfairness in itself, [97(vi)] of *Phenytoin CA* confirms that there is no fixed list of categories of relevant evidence. It is, however, obvious that observations about the competitive conditions in the market will be relevant. See for example *Albion Water Limited v Water Services Regulation Authority & or* [2008] CAT 31 ("*Albion Water II*") at [213] and [266].

531. It is also the case that the outcome of the Limb 1 exercise (the degree of excessiveness) can be a relevant factor in the determination of Limb 2, although not determinative of it. In *Le Patourel*, the Tribunal dealt with this as follows:

> "[56] It also appears to us to be implicit in [*Phenytoin CA* at [97(vi)]] that if and when Limb 2 is reached, the Court should balance all the factors involved which go one way or the other, giving them such weight as it considers appropriate, so as then to conclude whether the price was itself unfair. Of course, the very size of the excess can be a factor pointing strongly towards unfairness. On the other hand, it would, in our view, be wrong to approach the Limb 2 exercise as if there were a presumption of unfairness established already by the mere fact that the price was excessive under Limb 1, subject only to any justification which the defendant can establish. We do not see the decision in *United Brands* as directing such an approach, nor do we see why it is necessary. Nor do we see the reference by Green LJ in *Phenytoin* [*CA*] at paragraph 97 (v) to 'other factors which might otherwise serve to justify the price charged as fair' (quoted at paragraph 49 above) to mean that there was some presumption of unfairness. All it meant was evidence or arguments pointing towards fairness rather than unfairness. Indeed that is demonstrated by paragraph 97 (vi)."

532. As to unfairness by way of comparison, prices charged in relevant comparator markets may be capable of acting as proxy evidence of economic value[147]. Comparators can come from a different market – what matters is whether they are probative. They should therefore be selected in accordance with objective, appropriate and verifiable criteria and comparison should be made on a consistent basis[148].

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[146] See *Le Patourel* at [94].
[147] See *Phenytoin CA* at [155] and [172], *Le Patourel* at [92].
[148] *Le Patourel* at [92].

533. This means that care needs to be taken in relation to comparators which might themselves be affected by the exercise of market power and therefore do not represent prices set in conditions of workable competition. The point of the exercise of seeking a proxy is to determine what consumers might pay in an effectively competitive market[149]. Comparator prices which are distorted by the exercise of market power will not be reliable[150].

534. It is not necessary to reach a conclusion under Limb 1 or Limb 2 as to the price that would be charged in conditions of workable competition. The Class Representative did not seek to establish such a price for that purpose and Apple positively encouraged us not to take that step[151].

535. Perhaps as a consequence of the guidance set out above, there is a great deal of agreement between the parties in this case about the applicable legal principles. However, there are differences between them about several aspects of the relevant test, which require some further explanation of the legal framework. These differences largely (but not exclusively) concern the concept of economic value, as referred to in [97(ii)] of *Phenytoin CA*. In summary, Apple argued that:

(1) There is very considerable economic value made available by Apple to developers in the form of what Apple describes as intangible products.

(2) These intangible products include: the tools and technology which Apple licences to developers; the innovations in hardware and software on iOS devices which developers can access to make their iOS apps more functional, innovative and attractive to users; and the value which developers derive by having access through the App Store to a large pool of users who want to use iOS apps.

(3) As a consequence, developers are able to make very significant returns, through purchases and subscriptions on the App Store and also through

[149] *Phenytoin CA* at [155].
[150] *Le Patourel* at [93].
[151] See Apple's oral closing submissions at Day 27/78/17 to 27/79/7. As noted immediately after that passage, the position may be different if and when one comes to consider quantum.

other monetisation strategies, such as in-app purchasing and in-app advertising.

(4) It is wrong to approach the assessment of the price of a product which has such intangible qualities by reference only to the costs of production, just as it would be wrong to assess the value of a work of art or piece or music solely by reference to its costs of production.

(5) As a result, the Limb 1 assessment proposed by the Class Representative is artificial and meaningless. This is apparent from the exercise itself carried out by Mr Dudney, which simply discloses a high margin that is commonly the case for digital products, especially where intangible products are unaccounted for.

(6) Instead, any assessment of the fairness of the price under Limb 2 has to take account of the value to developers of the intangible products, which are very significant, and which the Class Representative has failed to do. The intangible products have very considerable "demand side" value (i.e. value to developers arising from their ability to monetise apps) and any assessment of the relationship between price and economic value must properly take that into account.

536. It will be necessary to develop these arguments further below but, in the meantime, they are the backdrop against which we consider the law relating to economic value, as it appears in the excessive and unfair pricing assessment.

537. Returning to *Phenytoin CA*, the question of economic value was discussed in Green LJ's judgment at [155]-[155] and [171]-[172]:

> "[154] The concept of economic value is not defined. In broad terms the economic value of a good or service is what a consumer is willing to pay for it. But this cannot serve as an adequate definition in an abuse case since otherwise true value would be defined as anything that an exploitative and abusive dominant undertaking could get away with. It would equate proper value with an unfair price. This is a well-known conundrum in international competition law. The same point was made by the Court of Appeal in *Attheraces* (ibid) at paragraph [205]. The issue was first identified in US antitrust and arose from criticisms of the judgment of the Supreme Court in *US. v Du Pont* 351 US 377 (1956) when it attracted the soubriquet 'the

cellophane fallacy'. To overcome this in *United Brands* in paragraph [250] the Court held that there must be a 'reasonable' relationship between price and economic value.

[155] The simple fact that a consumer will or must pay the price that a dominant undertaking demands is not therefore an indication it reflects a reasonable relationship with economic value. But a proxy might be what consumers are prepared to pay for the good or service in an effectively competitive market, hence the relationship between the two descriptions of abuse in paragraphs [249] and [250] and the fact that the economic value description is said to be an example of the broader description of an abuse in paragraph [249].

…

[171] First, the Tribunal observed that this was clearly a legal test. The categorisation of this as a 'legal' concept seemingly led the Tribunal to treat economic value as a discrete component of the test in law to be applied. It is 'legal' in the strictly limited sense that it has been ascribed a meaning in a court judgment but, at base, it is an economic concept which describes what it is that users and customers value and will reasonably pay for and it arose in the *United Brands* judgment as an economic description of the abuse of unfair pricing: see the analysis at paragraph [61] above.

[172] Second, the Tribunal did not agree with the submissions of all parties that economic value was simply a matter to be taken into account as part of other components of the test. The Tribunal held that it was not part of the 'in itself' test but was part of 'a more general assessment' (Judgment paragraphs [427] and [443(6)]). I agree with the parties on this. It is evident from the judgment in *United Brands* that the reference to 'economic value' is as part of the overall descriptor of the abuse; it is not the test. The test should therefore, when properly applied, be capable of evaluating economic value. So, for instance, as the CMA argues, when evaluating patient benefit it would be possible to measure its economic value in the Plus element of Cost-Plus, or even in the fairness element. Equally, if there is evidence of the prices being charged in relevant, comparator, markets which were effectively competitive then those prices could be capable of acting as proxy evidence of the economic value of patient benefit. In so far as an issue of fact arises which can be categorised as an aspect of 'economic value' it needs to be measured and it can be evaluated in various parts of that test. If it is properly factored into 'Plus' or 'fairness' or into some other part of the test, or is reflected in other evidence which can stand as a proxy for economic value, then there is no incremental obligation to take it into account again, as a discrete advantage or justification for a high price. In paragraph [421] the Tribunal states that the analysis of economic value conducted at other stages of the test are 'broadly similar' but that there is a 'different perspective'. With respect I do not follow this. The analysis of the Tribunal, for instance as articulated in paragraph [443(6)] of the Judgment (set out at paragraph [40] above), suggests that it is a requirement discrete from other components of the test to be applied only after all those components have been worked through. But if this were so it would (wrongly) risk compelling a competition authority to double count economic value. In short, economic value needs to be factored in and fairly evaluated, somewhere, but it is properly a matter which falls to the judgment of the competition authority as to where in the analysis this occurs."

538. It is therefore necessary to evaluate economic value and that can be done in a number of ways. It could be done as part of the Limb 1 analysis, but in this case Mr Holt has chosen to undertake that evaluation in his analysis of Limb 2. That is consistent with the approach taken by the Tribunal in *Le Patourel*[152] and we agree that it is the most suitable approach in this case. It was not challenged by Apple.

539. As noted above, Apple did however contest the adequacy of Mr Holt's consideration of economic value and relied on two cases in particular to support its argument. The first is the Court of Appeal's decision in *ATR*. The second case is Case C-177/16 *Autortiesību un komunicēšanās konsultāciju aģentūra/Latvijas Autoru apvienība v Konkurences padome* ECLI:EU:C:2017:689 ("*Latvian Copyright*").

540. In relation to *ATR*, Apple relied heavily on the Court of Appeal's judgment, which was delivered by Mummery LJ.

541. In this case, the unfair pricing allegations concerned pre-race data which the defendant (BHB) sold to the claimant (ATR). ATR then resold that data to third parties associated with bookmaking and broadcasting, from which activity ATR earned considerable revenues.

542. In the trial of the matter in the High Court, the judge had applied a Cost Plus approach to determine whether the price for the data was unfair. The Court of Appeal held that this was an error, as it did not take account of the value of the data to ATR when considering the economic value of the data[153].

543. At [186] and following, the Court began its discussion of economic value:

> "[186] Mr Roth's second main criticism of the judgment on excessive pricing was that the judge's conclusion equating economic value with cost + did not involve any separate analysis of economic value. The judge gave no meaning to economic value other than the competitive price defined in terms of the

[152] *Le Patourel* at [53]: "Nonetheless, we consider that it is, from an analytical point of view, 'cleaner' and more efficient if the question of economic value can be considered as part of the Limb 2 unfairness exercise which, on any view, is clearly less 'mechanical' than the Limb 1 exercise, and where a multiplicity of different factors can be taken into account."
[153] *ATR* at [218].

supply side. Economic value looks to the demand side rather than the supply side. It means the value to the customer, not the cost to the seller.

[187] The *United Brands* decision focused on the price charged in relation to 'the economic value of the product supplied. Although a comparison between price and cost of production may be a step in the analysis of economic value, it was only a first step. Costs of production were relevant, but they were not, as shown by cases such as *Scandlines* [[2006] 4 CMLR 23], conclusive on the question of excessive pricing and the existence of an abuse.

[188] Two cumulative questions had been equated by the judge with the first question, which is the difference between the selling price and the cost of production. The judge failed to consider the second question, which is whether the price is either unfair in itself or when compared to competing products.

[189] Mr Roth emphasised that the economic value of a product was a different concept from its cost, as it reflects its revenue-earning potential to the person who acquires it. This was evidenced, for example, by the willingness of ATR to pay £307m under the MRA [media rights agreement] for the media rights to film and broadcast races for 10 years on the 49 old ATR courses and to pay £1.586m for the media rights for 1 year (11 June 2004 to May 2005) on the 18 New ATR Courses. As in the case of the sale of media rights for facilities and access to film and broadcast sporting events for high sums, the sums paid by ATR for the media rights to the races were not related to the cost to the supplier of making the media rights available: they represented in commercial terms the economic value of the product in question to ATR, as the acquirer of a revenue-earning asset or opportunity for itself and on a re-sale to such end users of the service as the betting offices. The benefit of the revenue-earning potential for ATR and for the overseas bookmakers, who subscribe to SIS FACTS and ATRi which include the pre-race data, is what gives the pre-race data its economic value. When considering excessive and unfair pricing the judge failed to have regard to this aspect of the economic value of the pre-race data."

544. Ms Demetriou KC relied on this to establish that a Cost Plus approach was insufficient to measure demand side value.

545. Ms Demetriou KC also pointed us to the Court's conclusions on excessive pricing, beginning at [203]:

> "[203] In our judgment, although the judge reached the right conclusions on important issues raised by the claim for abuse of dominant position, he erred in holding that the charges proposed by BHB were excessive and unfair. We are in broad agreement with Mr Roth's submissions criticising the judge's approach to the issue of excessive and unfair pricing of the pre-race data.
>
> [204] The judge correctly stated the law as laid down in *United Brands* (cited above) that a fair price is one which represents or reflects the economic value of the product supplied. A price which significantly exceeds that will be prima facie excessive and unfair. But the formulation begs a fundamental question: what constitutes economic value?
>
> [205] On the one hand, the economic value of a product in market terms is what it will fetch. This cannot, however, be what Article [102 TFEU] and section 18

[of the 1998 Act] envisage, because the premise is that the seller has a dominant position enabling it to distort the market in which it operates.

[206] On the other hand, it does not follow that whatever price a seller in a dominant position exacts or seeks to exact is an abuse of his dominant position.

[207] How is the critical judgment of the economic value of the pre-race data to be made? That has to be determined before deciding whether BHB is seeking to charge ATR a price which abuses its dominant position by trying to obtain substantially more than the economic value of the pre-race data. There is nothing in the Article or its jurisprudence to suggest that the index of abuse is the extent of departure from a cost + criterion. It seems to us that, in general, cost + has two other roles: one is as a baseline, below which no price can ordinarily be regarded as abusive: the other is as a default calculation, where market abuse makes the existing price untenable.

[208] ATR argued that, if the indicator of abuse is a presumptive competitive price, cost + is what a competitive price should be. This seems to us to be at best a rule of thumb. Competition may drive price below cost for a time or in a part of the market. Where profit is obtainable, the margin of profit will be as great as the market will yield, reflecting such factors as elasticity of demand. Thus, even a hypothetically competitive market may yield a rate of profit above, as well as below, the reasonable margin represented by cost +. Those and related issues were usefully discussed by Laddie J in *BHB Enterprises Ltd v. Victor Chandler (International) Limited* [[2005] EWHC 1074] (cited above). It seems to us that the most that a successful challenge under Article [102 TFEU] can achieve in a case like this is a re-negotiation, not a cost + limit on prices, for whatever else Article [102 TFEU] does it does not create a European system for determining prices.

[209] Mr Hollander submitted that, unless the court starts from the ratio of cost to price, it is 'tearing up European competition law.' If by this he meant that, in the absence of a price which represents more than a reasonable return on production costs, there can be no case of excessive (or discriminatory) pricing, we would agree. But, to the extent that he sought to make charging above cost + the principal criterion of abuse of a dominant position, we do not agree. Exceeding cost + is a necessary, but in no way a sufficient, test of abuse of a dominant position. None of the authorities cited by Mr Hollander suggests otherwise. What gives more pause for thought is his illustrative question: can a monopoly electricity supplier legitimately charge a hugely inflated price, albeit one which the purchaser can pay, simply because the purchaser's enterprise will have to close down if its supply is cut off?

[210] BHB has two principal answers to the accusation of excessive pricing. The first is that, if the price is one which the market will reasonably bear by definition, it is not excessive. The second is that its own role and status are such that its returns are not and should not be treated as simple profit because they are ploughed back into the very product for which ATR are paying.

[211] We are not prepared to accept the first answer, even with the adverb 'reasonably.' The qualification would be sufficient to answer Mr Hollander's hypothetical example about charging a ransom price for electricity, but we would also think that the case he postulates is one where the abuse consists of overtly arbitrary pricing. His argument then is that this is another such case. It is perfectly possible to envisage a differential price structure for a monopoly product which places some purchasers at such a disadvantage in relation to

others that their ability to compete is compromised, even though, since they are able to pay and survive, it can be said that the market will reasonably bear the price. This is one of the points at which excessive pricing and discriminatory pricing, which we deal with later, overlap. But there is no finding here that ATR's ability to compete will be significantly compromised.

[212] Mr Roth's central contention is that there is no reason why the economic value of the product should not be its value to the purchaser rather than cost +, as held by the judge. He instanced the high franchise fees paid by broadcasters for what is no more than permission to operate their equipment from cricket grounds and football stadiums – in other words a simple licence to enter the property and view a sporting spectacle. If it were, as arguably it should be, for the purchaser to show that he cannot make a reasonable return because of the price exacted by the seller, failure would mean that the product was of economic value to the purchaser at the material price, and ATR would fail.

[213] As already noted, the Commission's decision in *Scandlines* supports the view that the exercise under Article [102 TFEU], while it starts from a comparison of the cost of production with the price charged, is not determined by the comparison. This in itself is sufficient to exclude a cost + test as definitive of abuse. Mr Roth accepts that there is no single methodology or litmus test of abuse: the court has a choice of methods, but not an unlimited one. His contention is that the judge has gone outside the admissible limits of method in coming to his conclusion. Mr Hollander, also contending that the choice of methodology is for the court, defends both the choice made by the judge and the way he has implemented it.

[214] As the expert witnesses in the present case agreed, economic theory recognises the relevance of externalities to price. The judge rejected BHB's argument that the benefit of the system to overseas bookmakers was a relevant externality. But it was incontestable that the overseas bookmakers were paying ATR, in a competitive market, amounts which afforded it a handsome profit which it wanted, so far as possible, to keep. The facts found by the judge do not suggest that anybody is going to go out of business as a result of the alleged abuse of dominant position. Despite its elaborate legal and economic arguments and the high levels of moral indignation, the case is about who is going to get their hands on ATR's revenues from overseas bookmakers. There is no need to classify the benefit derived by the bookmakers from the deployment of part of BHB's products as a 'positive externality' in order to recognise that it has a bearing on whether their pricing is excessive.

[215] This said, we accept that there is moral force in ATR's position. ATR adds value (in the form of pictures of the races) to the pre-race data and has the task of collecting overseas bookmakers' payments. It is taking all the risks and, as the judge found, will have to absorb most or all of the costs, while BHB seeks to take half of what they make. This may be thought to be unfair, but it cannot alone make it an abuse of BHB's dominant position. As Jacobs A-G said in *Bronner* (cited above), the principal object of Article [102 TFEU] is the protection of consumers, in this case the punters, not of business competitors. In our judgment, this is correct, even if it is the competitors and not the consumers who are alleging abuse of dominant position. We need to look beyond ATR's immediate interests to the market served by ATR. There is little, if any, evidence that competition in the market is being distorted by the demands made by BHB upon ATR.

> [216] Mr Hollander's response to a hypothetical case put by the court – a monopoly wholesale supplier of a delicacy to a supermarket who charges to the supermarket his cost plus a moderate margin but finds that the supermarket is marking up his product by 500% - was that the supplier would be abusing his dominant position if he raised his price to more than he could get in a competitive market, if there was one, however much the supermarket was charging the public for it. Mr Roth's answer was that the supermarket had established the economic value of the product and there was nothing to stop the producer securing as much as he was able to. This seems to us more consonant with Article [102 TFEU] and its jurisprudence. The consumer might well need protection, albeit from the supermarket rather than from the producer; but if neither solution is going to provide it, the central purpose of Article [102 TFEU] would not be accomplished and the courts would not be justified in intervening. The control on the monopoly producer would be the wholesale price: if he raised the price too high he would lose his business.
>
> [217] We appreciate that this theoretical answer leaves the realistic possibility of a monopoly supplier not quite killing the goose that lays the golden eggs, but coming close to throttling her. We do not exclude the possibility that this could be held to be abusive, not least because of its potential impact on the consumer. But Article [102 TFEU], as we said earlier, is not a general provision for the regulation of prices. It seeks to prevent the abuse of dominant market positions with the object of protecting and promoting competition. The evidence and findings here do not show ATR's competitiveness to have been, or to be at risk of being, materially compromised by the terms of the arrangements with or specified by BHB.
>
> [218] For all the above reasons we conclude that, in holding that the economic value of the pre-race data was the cost of compilation plus a reasonable return, the judge took too narrow a view of economic value in Article [102 TFEU]. In particular he was wrong to reject BHB's contention on the relevance of the value of the pre-race data to ATR in determining the economic value of the pre-race data and whether the charges specified by BHB were excessive and unfair."

546. We have set this whole passage out, despite its length, because of the importance which Apple appears to attach to it. As we understand it, Apple seeks to derive the following propositions from the passages quoted[154]:

(1) In order to determine whether a price is unfair, it is necessary to take account of demand side value.

(2) Similarly, comparator prices that are charged by dominant undertakings should not be excluded just because of that fact.

[154] See Apple's oral closing submissions at Day 27/60/3 to 27/83/1.

(3) The seller of a service is entitled to extract to the full extent possible a price that reflects the demand side value, regardless of the costs of production.

(4) While it might not be necessary to show distortion in downstream markets, that would be an indication of unfairness.

(5) The burden is on the Class Representative to prove her case, including by reference to evidence which takes account of the demand side value. It is not sufficient to ignore it and treat it as a matter for Apple to disprove.

547. The Class Representative's position on *ATR* is that it is confined to its narrow facts, where the trial judge had limited his analysis to a calculation of cost plus a reasonable rate of return.

548. In our view, the observations set out in the extracts quoted from *ATR* do little more than confirm that a Cost Plus analysis may not be suitable as the mechanism to assess the economic value of a product or service where there is material demand side value. The discussion which takes place between [210] and [217] makes it clear that some further form of exercise to ensure a proper assessment of economic value is necessary in such circumstances. It does not however seek to explain how that should be done.

549. This is understandable, given the way the matter had been dealt with in the court below. The Court of Appeal was not faced with arguments about the adequacy of alternative ways in which demand side value, as a component of economic value, should be assessed. It was simply faced with a situation where the trial judge had relied on one means of assessment – Cost Plus – which was manifestly inadequate to capture the economic value which arose from demand side factors.

550. To the extent that the observations in these quoted passages go beyond that, we read them as simply making the point that a seller is entitled to price in a way that reflects demand side value. Those observations tell us nothing about how

one might go about assessing that demand side value by means other than Cost Plus, as the Court of Appeal was not confronted with that question.

551. We will return to Apple's arguments in relation to workable competition and comparators later in this judgment, where we will consider them on their own merits.

552. The second case relied on by Apple is *Latvian Copyright*. This was a reference to the CJEU arising from an infringement finding by the Latvian Competition Council, which had fined a copyright collecting society for imposing unfair royalty rates for the use of musical works. Using a certain methodology, the Competition Council had compared royalty rates under licences in neighbouring Member States with the rates charged in Latvia and had concluded that the Latvian rates were two to three times higher and were therefore unfair. The Competition Council did not conduct any assessment of the cost of the service provided (that is, the licensing of the musical works) relative to the price.

553. The relevant question before the CJEU was the appropriateness of the comparison between rates in other Member States and the Latvian rates. Apple said that it was inherent in that comparison that the collecting societies in the neighbouring states were dominant in the same way as the Latvian collecting society was, which is apparent from, for example, paragraph [38] of the judgment:

> "[38] Thus, according to the case-law of the Court, a method based on a comparison of prices applied in the Member State concerned with those applied in other Member States must be considered valid. It is apparent from that case-law that, when an undertaking holding a dominant position imposes scales of fees for its services which are appreciably higher than those charged in other Member States, and where a comparison of the fee levels has been made on a consistent basis, that difference must be regarded as indicative of an abuse of a dominant position (judgments of 13 July 1989, *Tournier*, 395/87, EU:C:1989:319,[155] paragraph 38, and of 13 July 1989, *Lucazeau and Others*, 110/88, 241/88 and 242/88, EU:C:1989:326, paragraph 25)."

[155] Case 395/87 *Ministère public v Jean-Louis Tournier* ECLI:EU:C:1989:319 ("*Tournier*").

554. Ms Demetriou KC submitted, in her oral closing submissions[156], that this illustrated several important points (which overlapped to some extent with the points advanced in relation to *ATR*):

(1) It was not always the case that comparators with market power should be excluded.

(2) The Class Representative was wrongly placing too much emphasis on the concept of "workable competition", as *Latvian Copyright* showed an assessment being made in an environment where there was no competition (that is, among monopolists).

(3) The fact that no Limb 1 exercise was carried out supports Apple's position that a Cost Plus Limb 1 analysis is of no real value in determining the fairness of a price in a case involving significant intangible property.

555. We think this places more weight on *Latvian Copyright* than it should bear. The exercise carried out by the Latvian Competition Council identified a material difference between the Latvian collecting society rates and the rates of other entities performing the same service in neighbouring states. Whether or not those other collecting societies were monopolies (which was probably the case, although we can see nothing in the judgment which confirms that expressly), the simple point is that the Latvian rates were demonstrably higher than the chosen comparators (assuming the methodology was appropriate). The Competition Council could therefore use that difference as a basis for a finding of unfairness. It was unnecessary to consider whether the other collecting societies were themselves operating in conditions other than workable competition.

556. There was nothing novel in that approach. In *Tournier*, the CJEU approved a similar method of comparison for assessment of the rates of a French collecting society. It was apparent that in that case the comparators (collecting societies in

[156] Day 27/83/9 to 27/87/22.

other Member States) were monopoly operators, but that was beside the point. There was no attempt to identify whether the comparators' prices were set in conditions of workable competition, because there was no need. The issue was whether, measured consistently, there was an appreciable difference between the rates in France and the rates elsewhere. Once established, that was sufficient to establish unfairness unless the collecting society was able to provide a reason for the difference.

557. Further, whether or not a Cost Plus analysis is or is not artificial is a matter of fact for determination in each case. As indicated by Green LJ in *Phenytoin CA*, in cases involving intangible property, it is recognised that such an analysis might be artificial (at [78]). This is a point which can be traced back at least to the Opinion of Advocate General Jacobs in *Tournier*[157]. What is clear, in each of *Tournier* and *Latvian Copyright*, is that the nature of the intangible assets in question in those cases – the economic value of music – led to the discarding of any Cost Plus exercise, and the adoption of a comparator approach.

558. In *Phenytoin CA*, Green LJ noted[158] that it was appropriate to apply a degree of caution to the analysis in *Latvian Copyright*, at least as far as the issues in *Phenytoin* were concerned. We take a similar view in relation to its application to this case. It tells us little, if anything, about the use of comparators with market power in these proceedings. Nor do we consider it to be authority for the proposition that it is not necessary to assess unfairness by reference to conditions of workable competition. In our view, that exercise is an important and useful way of testing for unfairness, as clearly indicated in [97(i)] of *Phenytoin CA*.

559. It is common ground that the burden of proof is on the Class Representative to prove that the Commission is excessive and unfair. As is apparent from the passages from *Phenytoin CA*[159] above, where an alleged infringer seeks to rely on factors to justify an apparently excessive price, the evidential burden shifts to them. As will be clear from the rest of this section, we have not approached

[157] The Opinion of Advocate General Jacobs in *Tournier* ECLI:EU:C:1989:215 at [53].
[158] *Phenytoin CA* at [78].
[159] *Phenytoin CA* at [73].

the evidence in relation to excessiveness and unfairness in this way. We have instead preferred to assess all of the evidence before us, giving weight to it in accordance with our views on its significance and reliability.

560. In conclusion on the law, the following propositions seem to us to be important guides to our approach to this case:

(1) We are seeking to assess the relationship between the level of the Commission and the economic value provided to developers, and whether, in particular, Apple has obtained trading benefits which are divorced from those realisable in conditions of normal and sufficiently effective, or workable, competition. Where we use the shorthand "workable competition" in this judgment, we are referring to that concept.

(2) There is no prescribed method for making the assessment of the relationship between price and economic value, although a conventional approach is to undertake a two-limb assessment, in which Limb 1 looks at the excessiveness of the price and Limb 2 considers the question of unfairness.

(3) The purpose of the Limb 1 assessment is to test whether there has been a significant and persistently excessive price.

(4) It is conventional to use a Cost Plus analysis in Limb 1, provided that it is a suitable methodology. It may not be suitable where the nature of the intangible assets means it is not feasible to identify the costs of production in a meaningful way. Whether or not Cost Plus is a suitable method is a matter to be determined in each case.

(5) If a Cost Plus analysis is used, it is necessary to consider other evidence that might indicate the economic value of the service. That includes an assessment of the extent to which purchasers value the product because of the value it delivers to them (the demand side value).

(6) We do not consider there to be any necessary tension between the concepts of demand side economic value and workable competition, as Apple suggests. Demand side economic value represents the price which a willing buyer will pay for the service in conditions of workable competition. In order to identify that price, it is necessary to assess the degree of competition to be able confidently to establish the buyer's genuine valuation of the service (and therefore to avoid the trap of the "willingness-to-pay fallacy").

(7) The assessment of demand side value can be done at any stage but is probably most conveniently done in Limb 2. It is not a separate test in its own right (even where there are significant intangible assets) but part of the overall assessment of economic value to which the price is to be compared.

(8) Limb 2 has two recognised sub-limbs – whether the price is unfair in itself or whether it is unfair by reference to comparators.

(9) Evidence of whether it is unfair in itself might include the degree and persistence of the excessiveness of the pricing and other indications of whether the price is a competitive one (despite the dominance of the seller) (*Albion Water II*).

(10) For the second sub-limb, evidence of comparators is helpful, because they demonstrate what a willing buyer might be willing to pay in conditions of workable competition.

(11) In order to be useful, those comparators need to be selected in accordance with objective, appropriate and verifiable criteria and comparison should be made on a consistent basis.

(12) While the choice of comparators is a nuanced one of judgement, it is necessary to be very cautious in treating the pricing of a dominant undertaking as a useful benchmark because the price will not have been

set in conditions of workable competition. The circumstances in which the pricing of a monopolist can be used as a comparator are very limited.

(13) It is not necessary, through either the Limb 1 or the Limb 2 analysis, to determine what a competitive price would have been as a matter of fact. That counterfactual may be necessary in any quantum calculation but is not necessary to establish unfairness.

(14) The assessment of economic value (including demand side value) is a matter of judgement, informed by all the relevant evidence, and not a science.

(2) Application of Limb 1

561. Mr Dudney set out to calculate three profitability ratios for the App Store:

(1) Return on revenue ("ROR"), which is the operating profit of the App Store expressed as a percentage of its revenue.

(2) Return on assets ("ROA"), which is the operating profit of the App Store expressed as a percentage of the assets on the Apple balance sheet which he attributed to the App Store.

(3) Return on capital employed ("ROCE"), which is the operating profit of the App Store expressed as a percentage of capital employed by the App Store. As indicated by *Phenytoin CA*, one accepted measure of profitability for the purpose of assessing excessiveness is to compare the ROCE with the weighted average cost of capital ("WACC") for the company.

562. All of these metrics required a calculation of the operating profit of the App Store. That was a contentious exercise, as Apple does not prepare financial or management accounts which set out the profit and loss of the App Store as a standalone item. It was therefore necessary for Mr Dudney to seek to identify

revenues and costs which could be attributed to the App Store and to allocate those to a profit and loss account for the App Store.

(a) Allocation of revenues and costs to the App Store

563. Apple's starting position in relation to the Limb 1 analysis was that no meaningful exercise can be carried out because Apple does not treat the App Store as an accounting unit in which all revenues and costs attributable to the App Store are identified. In fact, the relevant experts for both parties[160] were agreed that it is possible to measure the revenues for the App Store and the direct costs of operating the App Store.

564. The difficulty arises in relation to the treatment of indirect costs, or the attribution of Apple's enterprise-wide operating expenses ("OPEX"), to the App Store. Apple said it only produces a "fully burdened" profit and loss ("P&L") account at the enterprise level, which means that OPEX is not allocated in Apple's financial reporting system to any product, service or activity but is instead only included in its profit and loss statement for the entire company[161]. Mr Parekh explained to us that maintaining a single P&L at the company level allowed Apple's executive team to manage the business and make investment decisions based on what is best for Apple as a whole[162].

565. Mr Parekh noted that Apple is able to track revenue for specific products and services, and to allocate certain direct costs to specific products and services, but that it cannot allocate all indirect costs or produce fully burdened P&L statements for specific products or services "in any meaningfully accurate way".

566. Mr Parekh offered the example of iCloud to explain the rationale underlying Apple's approach to its P&L:

> "For example, the cost of buying storage to deliver iCloud is a direct cost that can be allocated to iCloud as it is a cost that only relates to that service and so can easily be identified and allocated. However, in contrast, the cost incurred by engineering teams working on certain features or software, for example, is

[160] Dudney/Barnes joint expert statement at [6].
[161] Parekh 1 at [12].
[162] Parekh 1 at [13].

> an indirect cost that cannot be easily allocated because these features or technologies may be leveraged across multiple products and services at various periods of time and to different degrees. Accordingly, it is difficult to determine how these costs should be allocated and the engineers do not record nor try and allocate the time they spend on specific products or services. As such, any attempt to allocate these types of costs would involve imprecise and subjective judgments."

567. Mr Rollins, in Rollins 1, noted that Apple's revenues are recognised in a manner directly attributable to specific products and services (for example, the App Store), but that this is not true for expenses. Mr Rollins used the example of the way in which Apple records its expenses in a particular "division" and "cost centre" which are labelled by reference to an Apple entity, and not to any particular product or service. He said that "in the normal course of business", Apple does not attempt to allocate all costs between individual products or services, or to generate fully burdened P&Ls at that level. He said that doing so would be contrary to the rationale of organising the entire company under one P&L.

568. Moreover, Mr Rollins said that Apple does not maintain a complete list of costs or categories of costs said to be attributable to each individual product or service such as the App Store. He stated that to do so would involve a manual, time-intensive and iterative process, involving asking all potentially relevant cost centre controllers to determine whether their cost centres record any costs which could be attributable to the App Store.

569. Mr Dudney dealt with this issue as follows:

(1) He identified that the App Store was part of Apple's "services" unit, for which revenue, cost of goods sold ("COGS") and other cost of goods sold ("OCOGS") were available[163].

(2) In relation to OPEX, Mr Dudney was able to identify OPEX figures for the services unit from internal Apple documents known as "Line of Business Reports" ("LOBRs"). These figures were an allocation of

[163] This involved various assumptions, but the overall exercise was not challenged by Apple.

Apple's overall OPEX to the services unit, using the proportion of services unit revenue as a share of Apple's overall revenue.

(3) Mr Dudney then assumed that the App Store's OPEX arose in materially the same proportion to App Store revenue as the services OPEX did to the services revenue.

(4) Mr Dudney carried out an alternative allocation based on the App Store's shares of Apple's overall headcount. This produced a lower cost allocation (suggesting higher profitability) and was treated by Mr Dudney as a cross check, rather than his preferred allocation method.

(5) Having allocated to the App Store a proportion of Apple's overall OPEX, Mr Dudney used that figure to calculate the operating profit of the App Store.

(6) Mr Dudney identified that Apple's payment systems were not a functional unit for Apple. As a result, he was unable to carry out any assessment of the profitability of Apple's payment systems under Limb 1.

570. Mr Dudney justified the allocation of costs according to share of revenue as his preferred methodology by reference to an assumed relationship between investment (in the sense of expenditure) and the benefit arising from that (in terms of the revenue that the investment generates)[164]. Mr Dudney maintained that this was a common managerial accounting practice and pointed to evidence that Apple itself employed the methodology for certain internal purposes[165].

571. Apple advanced no positive case on this aspect. Instead, it challenged Mr Dudney's approach, describing the allocation exercise as "meaningless". Dr Barnes[166] put it like this[167]:

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[164] See for example his evidence at Day 12/119/2 to 12/119/25.
[165] For example, Parekh 1 at [18] refers to allocation of OPEX by share of revenue and share of direct costs as the general method used when preparing trend analyses.
[166] Dr Barnes provided only one report (Barnes 1) in response to Dudney 1.
[167] Barnes 1 at [53].

> "In fact, as I now explain, the integrated nature of the Apple 'ecosystem' and the resultant way in which its accounting records are constructed means that any attempt to do so inevitably involves an arbitrary allocation of significant amounts of indirect costs. An immediate consequence of such an exercise is that the results are meaningless and uninformative for the purpose of determining the existence and/or magnitude of the allegedly 'excessive and/or unfair' Commission charged by Apple".

572. This was said to be because it was not possible to identify cost causation or "drivers" for App Store revenues, given that a great deal of the costs (for example, research and development costs incurred over multiple years) are relevant to both device sales and App Store revenue.

573. In Parekh 1, Mr Parekh stated that Apple did conduct financial analysis at the product/service level on an ad hoc basis, one example of which was analysis to evaluate trends for various Apple products and services[168]. As the purpose of these trend analyses is to allow comparisons, it was not necessary for there to be precision in the underlying cost allocation.

574. Apple also challenged the reliance by Mr Dudney on the LOBRs. Dr Barnes maintained that data from Apple's financial system had been compiled in the LOBRs for the purposes of litigation, thereby suggesting that they were not produced in the ordinary course of business. He also declined to accept that the estimates given in the documents were meaningful. Under cross examination, Mr Parekh confirmed that the LOBRs were prepared in the ordinary course of business, but in re-examination added that they were produced to support legal requests from the legal team and the "donations team" for various analyses and that the LOBRs were based on a "simple revenue based mix allocation" and are not reviewed by senior management.

575. The Class Representative pointed to a number of internal documents in which Apple itself appeared to be allocating OPEX to the App Store, in order effectively to create a P&L account for the App Store. It is not necessary to deal with all of these documents in detail and we will focus on two of them which we think illustrate the points in issue well. The first is a slide pack entitled "Products & Services Profitability Based on Aug '19 LRF", which was sent to

[168] Parekh 1 at [15].

Apple's CEO and CFO (Mr Parekh's predecessor) on 1 October 2019, following a meeting on 25 September 2019. This document contained a number of items of interest, including:

(1) A page entitled "FY20 Products & Services Summary" showed the revenue, gross margin, OPEX and operating margin for a number of Apple operating units including the iPhone and the App Store.

(2) A page entitled "Profitability Summary – Aug'19 LRF" showed in graphic form operating margin trends for products and services, identifying the App Store separately among the services.

(3) A page entitled "FY'20 OPEX Product Allocation", which showed, in graphic form, the allocation of OPEX to product lines.

576. The method of allocation of OPEX in these slides was described as "Method 2 for Allocation OPEX". Mr Parekh confirmed that this was a reference to OPEX being allocated in proportion to the relevant products' and services' shares of Apple's direct costs. For the five years for which this exercise was available from Apple's internal documents, the resulting OPEX allocation was very similar to that carried out by Mr Dudney on a revenue allocation basis.

577. Mr Parekh was asked about this document during his cross examination by Mr Armitage. Mr Parekh made the following points[169]:

(1) He attended the meeting on 25 September 2019, which was the usual quarterly meeting to discuss long range forecasts for financial performance. The slides had been prepared for that meeting but he thought had probably only been circulated afterwards.

(2) The slides were an ad hoc analysis, rather than the long range forecast itself.

[169] See the cross examination of Mr Parekh at Day 5/163/14 to 5/177/22 (private).

(3) The allocations of revenues and costs in the slides were made by way of a manual exercise, as the accounting system used by Apple did not present information in this way. A degree of judgement would have been exercised by the team that managed the relevant costs in order to identify the best way to allocate those costs.

(4) Mathematically, the allocation exercise carried out accounted for the full allocation of Apple's OPEX to its products and services.

(5) The purpose of the meeting was to understand changes in Apple's operating margin and the drivers for that. The allocation exercise was necessary in order to establish a baseline for comparability purposes. Although the numbers in the baseline were absolute figures, the exercise was really about trends.

(6) The CEO and CFO were very sophisticated users of financial information and would have understood that there were limitations in the representations of the operating margins based on the methodologies used.

578. The second example document is a slide pack dated 16 January 2024, entitled "Price Committee StoreKit External Purchase Link Entitlement (US)" (the "16 January 2024 Price Committee document"). This document was prepared in connection with an injunction made against Apple in the US *Epic* proceedings, relating to Apple's ability to restrict developers from steering customers to alternative payment mechanisms. The significance of the document is that pages 10 and 11 appeared to show a P&L account for the App Store, based on two alternative methodologies:

(1) Allocation by reference to App Store billings and Apple revenue. This, somewhat unusually, used App Store billings instead of App Store revenue. In other words, it included the amounts which Apple collected on behalf of developers, instead of showing Apple's retained revenue after payment of amounts due to developers.

(2) Allocation of research and development capital expenditure, made by way of estimates and judgement of senior executives as to the appropriate level of costs to allocate to the App Store.

579. Mr Parekh was asked[170] about these methodologies, and in particular whether they demonstrated that a meaningful allocation to create an App Store P&L account could be (and indeed had been) carried out. He disagreed:

> "MR ARMITAGE: The fact that this exercise has been done, method 2 as you and Mr Roman described it, it is just incompatible with what you say about it not being possible to do this sort of exercise in any meaningful way, is it not?
>
> MR PAREKH: I do not agree with that. It is again, we try to do things -- it would take a lot of resources to try to be as precise as possible and again there, there is still going to be subjectivity to it. As we talked about a lot of our engineering expenses are shared and they benefit across products and services. If we design a camera, that camera can enhance the capability of our phone, it can also help people take better selfies and drive filter apps for the App Store, you know, how do you allocate those expenses? Same way for displays, so you can give lots of examples of that, that is why it is a very difficult exercise and we do not attempt to put lots of resources on going to a fine grain because it constantly changes, so I think we found it much more useful to use simplifying methods to get at directional numbers depending on the progress of the analysis. And typically we look at this for trends and maybe sometimes pricing decisions, but you know that is the challenge with the allocation methodologies.
>
> MR ARMITAGE: I accept that it may have some difficulties. I accept that it may call for the exercise of judgement but it is a meaningful method for allocating operating expenses to the App Store, is it not?
>
> MR PAREKH: Again, dependent on how you define meaningful and for what purpose. Which is also why we do not financially report. We went through the 10-K yesterday and we do not break out those operating expenses by products and services because we would not be able to do that accurately for financial reporting."

580. In the MEM Study, the CMA was faced with a similar exercise, and similar arguments from Apple in relation to the assessment of the App Store's profitability. The CMA dealt with this argument in Appendix C of the MEM Study, at paragraphs [28] to [30]:

> "[28] Apple told us that the profitability of the App Store cannot meaningfully be assessed on a stand-alone basis. It told us that:

[170] Day 5/159/20 to 5/161/6 (private).

> • the presence of substantial common costs means that it is not possible to allocate costs in a reliable and economically meaningful manner to a particular product or service within a given ecosystem;
>
> • improving the quality for one product or service increases the demand for other products or services within the same ecosystem; and • Apple does not operate on the basis of analysing the profitability of separate business units and does not attempt to allocate costs across business units to maintain separate P&Ls.
>
> [29] We agree that the presence of common costs complicates the assessment and allocation methods can be arbitrary. However, this does not necessarily undermine the conclusions we can draw from the results, especially if they are found to be insensitive to the allocation method.
>
> [30] Additionally, whilst we agree that interdependencies exist in Apple's integrated model, they also exist across ecosystems (and supply chains) which are not vertically integrated. It is normal for businesses and investors to assess the profitability of firms which operate in different markets."

(b) The creation of an App Store balance sheet

581. The calculation of the ROA and the ROCE require reference to a balance sheet for the App Store – in the former case to identify the relevant asset base for the comparison with revenue, and in the latter case to identify the assets and liabilities of the App Store for the same purpose. There is no such balance sheet in existence for the App Store, so Mr Dudney embarked on an exercise to create one.

582. Mr Dudney carried out this task by reviewing the assets and liabilities in Apple's statutory accounts, excluding those line items which he considered to be irrelevant and then conducting an allocation exercise for the remainder. This allocation was in part based on share of revenue (as with the OPEX), but in some cases (cash, cash equivalents and accounts payable) by reference to specific features of the App Store's operations.

583. Dr Barnes advanced the following main criticisms of Mr Dudney's approach:

(1) As with the OPEX allocation exercise, the allocations are in many cases arbitrary, given there is likely to be no linear relationship between some assets (for example, plant, property and equipment) and revenues.

(2) Mr Dudney's approach to $132.134 billion of marketable securities on the Apple balance sheet is particularly problematic, as none of it is allocated to the App Store.

584. Mr Dudney's response to these points was:

(1) Plant, property and equipment all represent an outflow of cash to purchase those assets, which is then capitalised on the balance sheet in support of revenue generation. As with the allocation of OPEX, it is a common accounting practice.

(2) While he recognised that the marketable securities might represent capital available for use in the Apple business (and therefore the App Store's financing), he had not seen evidence to this effect and instead understood Apple to hold the large securities balance for tax efficiency reasons (in particular through avoiding tax charges by repatriating foreign earnings).

(c) Mr Dudney's conclusions in relation to ROR/ROA/ROCE

585. Mr Dudney presented detailed calculations of the ROR, ROA and ROCE profitability ratios. He presented his calculations in the table form and summarised the ratios as follows[171]:

> "(a) ROR, being the operating profit expressed as a percentage of revenue. Stated differently, ROR indicates the percentage of revenues that are retained as operating profit. A ROR of 100%, for example, would indicate a business operating with such efficiency that all revenues are retained as profits and zero costs have been incurred;
>
> (b) ROA, being the operating profit per the P&L expressed as a percentage of the App Store's assets on its balance sheet. ROA measures a company's profits against the assets it requires to operate and therefore measures its efficiency at leveraging those assets to generate a profit; and
>
> (c) ROCE, being the operating profit expressed as a percentage of capital employed. This ratio makes reference to both the operating profit per the P&L and line items from the balance sheet. Similar to ROA, ROCE measures the

[171] Dudney 1 at [5.2.8]; table 27.

efficiency with which a company generates profit from the capital it has employed in the business."

Table 27: The App Store's Profitability

	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	Range FY20-23
ROR	74%	75%	75%	75%	[✂]	[✂]	[✂]	[✂]	70-80%
ROA	120%	112%	109%	105%	[✂]	[✂]	[✂]	[✂]	95-115%
ROCE	398%	386%	371%	351%	[✂]	[✂]	[✂]	[✂]	325-450%

Source: **Appendix 4**, Tab 'App Store Profitability'

(d) The parties' arguments about the Limb 1 exercise

586. The Class Representative submitted that:

(1) The allocation of costs and balance sheet items by reference to revenue share is a conventional management accounting approach, and one which Apple itself adopts.

(2) Mr Dudney's approach is a conservative one, with a greater allocation of OPEX than Apple's internal documents show. Mr Dudney has not adjusted his allocation for material amounts of research and development costs which are unlikely to have a link to the App Store and he has not adjusted the revenue line to strip out any alleged unfair pricing component, both of which favour Apple's position.

(3) The amount of OPEX allocated to the App store by Mr Dudney is small by reference to the App Store's revenues, which make it unlikely that reasonable changes to the allocation of costs would materially affect his estimates of operating profit.

(4) Apple's internal documents established that it was possible to make meaningful allocations of OPEX. This had been done for presentations to the company's most senior executives and in the context of litigation, where it could be expected to be done on a credible basis. These documents not only established that the exercise could be done meaningfully but also corroborated Mr Dudney's estimates.

(5) Apple did not put forward a positive case on any aspect of that allocation, let alone one which would lead to materially different results.

(6) There is no substance in Apple's point that the App Store's high gross margins distorted Mr Dudney's analysis, because that merely reflects the reality of the business model for the App Store and supports the conclusion that there are substantial figures for ROR, ROA and ROCE.

587. Apple's argument was essentially that the integrated nature of the Apple products and services makes it impossible, in the absence of financial records to that effect, to make an allocation that accurately reflects the relationship between costs and revenues. This point was put in a variety of ways:

(1) The lack of accurate financial reporting information means that any allocation will be arbitrary and therefore not meaningful.

(2) The integration of Apple products and services means that profitability can only sensibly be measured at the enterprise level of the company.

(3) The size of Apple's overall OPEX (which is several times the revenue of the App Store) means that different approaches to allocation could lead to very different outcomes.

(4) Similarly, changes in unrelated parts of Apple's business could have significant impact on the App Store's profitability.

(5) As the App Store is a high gross margin business, the allocation of Apple's OPEX by revenue "bakes in" a fixed level of profitability, which tells us nothing about the fairness of the split between Apple and those developers who pay Commission to Apple.

(6) Mr Dudney's analysis ignores the substantial intangible assets Apple has and so will never be a reliable guide to the return on investment which takes those intangible assets into account. Those intangible assets explain the high gross margin of the App Store, which in turn explains

why any revenue-based allocation of OPEX to the App Store will be meaningless.

588. In relation to the treatment of intangible assets, the argument advanced by Dr Barnes (for the purposes of challenging the Limb 1 analysis) was that a ROCE calculation, as a metric for accounting profitability, was only suitable to demonstrate economic profitability if the correct asset valuation was used. In this case, according to his argument, the correct asset valuation was not used as intangible assets had not properly been taken into account.

589. Dr Barnes gave as an example of the problem Apple's market capitalisation of $2.663 trillion compared with its balance sheet book valuation of $62.146 billion. Dr Barnes asserted that an adjustment needed to be made to the book value to reflect the "modern equivalent value", which was essentially replacement cost.

590. Apple said that the allocation by revenue makes the Limb 1 approach arbitrary and of no value, beyond indicating that there is a significant difference between the ROCE and the WACC, even at levels of commission as low as 10%.

591. Apple makes a number of further criticisms of Mr Dudney's approach and the Class Representative's reliance on Apple's internal documents:

(1) The LOBRs were produced for a specific purpose, which was not in the ordinary course of business and they are not reliable for the purpose of the Limb 1 analysis.

(2) The other internal documents were "broad brush" exercises involving subjective judgements which do not provide a definitive single view of the profitability of the App Store.

(3) The 16 January 2024 Price Committee document produced a different (substantially lower) operating profit margin from that calculated by Mr Dudney, illustrating the scope for variance depending on assumptions applied.

(4) Mr Dudney has ignored the impact of free apps distributed through the App Store, which are not taken into account in the profitability calculations based on revenue allocation. That illustrates an arbitrariness in the outcome driven by a third party's (the developer's) decision.

(e) Our conclusions on Limb 1

592. While we accept Mr Parekh's evidence about the business reason for not allocating OPEX in financial reporting for products and services below the entire company level, we do not accept Apple's arguments that such an allocation cannot be done meaningfully for any purpose. It is clear that a meaningful allocation can be made for some purposes, as Mr Parekh rightly accepted.

593. The question therefore becomes whether the allocation performed by Mr Dudney is meaningful for the purposes of the excessive pricing analysis. In other words, is it likely to be sufficiently accurate to identify whether there has been a significant and persistent excess of price over cost during the relevant period?

594. We should note that there is a potential further purpose to the assessment of the App Store profitability, which is whether and to what extent we should take any significant and persistent difference into account in our Limb 2 analysis. Our impression was that, by the time of its closing arguments, the weight of Apple's submissions were directed to this question rather than the anterior Limb 1 question.

595. As Apple's written closing submissions put it at [422]:

> "The important point, however, is that this is not a case in which the degree or persistence of 'excess profits' established at the Limb 1 stage, even if calculated meaningfully, can shed any light on the fairness of Apple's pricing."

596. We will deal with that argument (the implications of any significant and persistent difference between price and cost for the fairness question under Limb 2) in the next subsection of this judgment, which deals with the Limb 2

analysis. For the meantime, the findings that follow are directed to the Limb 1 analysis.

597. We agree with Mr Dudney that investments in Apple's chosen business model can be assumed to be intended to improve operating results. In other words, decisions to invest are made on an assumption that they will enhance revenue and profits. It is therefore reliable and fair to allocate OPEX, such as research and development and other overhead costs, by reference to revenue outcomes. That is why it is a conventional and widely used methodology for allocating costs.

598. It is therefore not surprising that Apple itself uses revenue share as one of the primary methods to allocate costs in its internal analyses[172].

599. Apple's objections are in reality concerns about the accuracy of the exercise, given the complex relationships between the product lines and the OPEX that supports them. However, we consider those concerns to be overstated:

(1) The internal exercises carried out by Apple for the benefit of senior executives reached similar results to Mr Dudney, albeit using different methodologies for allocation of OPEX.

(2) That is consistent with the evidence of Mr Schiller, who agreed that, very broadly, the App Store has been "extremely profitable" for Apple[173].

(3) As well as being a conventional and conceptually defensible methodology, Mr Dudney's revenue allocation appears to be conservative when compared with alternative methodologies.

(4) We note that the CMA, in the MEM Study[174], expressed the view that it is not unusual for there to be interdependencies between business units

[172] See Parekh 1 at [18] and the example given by Mr Dudney in the Dudney/Barnes joint expert statement at [7] and footnote 13.
[173] Day 7/37/18 to 7/37/21.
[174] MEM Study, appendix C at [30].

in different markets, and that it is normal for business and investors to make unit level assessments of profitability in those circumstances.

(5) Apple has declined to put forward a positive case on a more accurate methodology. It was not obliged to do so, but it would of course have been helpful if it had been able to do so, given that it has by far the best understanding of its own revenues and costs. Presumably it would have done so, had it been able to identify a more accurate approach. The fact it has not done so reinforces our assessment that Mr Dudney's approach is sufficiently reliable for present purposes.

600. Apple may well be right in suggesting that it is difficult to calculate a definitive single view of the profitability of the App Store. However, that is not necessary in order for us to be able to rely on Mr Dudney's results. It is clear that there is room for different outcomes, depending on the assumptions used. As far as we can tell, Mr Dudney has been scrupulous in applying choices in assumptions so that they favour Apple: for example, by allocating OPEX which on its face is unlikely to be linked to the App Store.

601. It is also obvious that, given the high gross margin[175] enjoyed by the App Store, there would need to be something materially wrong with the allocation process in order for the outcomes of Mr Dudney's analysis to materially change. Apple sought to suggest that this high gross margin undermines the choice of allocation methodology, because it creates a more or less fixed relationship between App Store revenue and OPEX. That does indeed appear to be a natural outcome of the business model pursued by Apple, but it does not invalidate the conclusion that the App Store is highly profitable. On the contrary, it seems to us to support that conclusion.

602. We would in any event be very reluctant to accept an argument that a degree of complication in allocating OPEX should prevent a Limb 1 evaluation taking place. The complexity largely arises from Apple's, perfectly reasonable, choice of business model and its decisions about how to organise its management

[175] Revenue less COGS and OCOGS.

accounts. As a matter of policy, to accept Apple's arguments would allow those decisions to provide an unjustifiable shield against scrutiny by courts and regulators.

603. Finally, to deal with Apple's specific points:

(1) We consider that Mr Dudney was entitled to rely on the LOBRs as evidence of a reliable approach to allocation. Whether or not they were prepared in the ordinary course of business, they were prepared partly at the request of the legal team in the context of external scrutiny and can reasonably be taken to present a fair allocation of Apple OPEX to the services unit, which includes the App Store.

(2) Other internal documents illustrate that a meaningful allocation of OPEX is possible, and that is precisely what Apple has done. The argument that those exercises are insufficiently precise is somewhat inconsistent with their alignment with Mr Dudney's allocations. In any event, the documents were presented to senior executives for an apparently important purpose and we consider Apple's argument that they lack accuracy to overstate their level of imprecision.

(3) The 16 January 2024 Price Committee document used billings[176] rather than revenue to calculate the operating margin. There is no obviously sensible reason why operating margin should be calculated by reference to someone else's income, and characterisation of the margin in that way was in our view misleading. Mr Parekh agreed that this was not the way operating margin would be calculated for financial reporting purposes[177].

(4) Dr Barnes, who advanced the argument that Mr Dudney's revenue-based approach fails to take account of the fact that a large volume of transactions executed on the App Store generate no commission revenue

[176] The aggregate of payments collected on behalf of developers and Apple's own revenue.
[177] Day 5/134/7 to 5/135/2 (private).

for Apple, accepted in cross examination that he had not taken into account the revenue which the App Store generates through developer programme fees and search advertising, or the capacity of free apps to lead to later purchases of paid apps or in-app purchases. He also acknowledged that the issue did not arise in relation to a direct costs allocation. This does not seem to us to be a material criticism of Mr Dudney's approach.

604. In relation to the challenges to Mr Dudney's approach to constructing an App Store balance sheet, we find that:

(1) Mr Dudney's allocation approach of revenue share is appropriate for the same reasons given above in relation to the allocation of OPEX.

(2) We agree with Mr Dudney's treatment of the marketable securities on Apple's balance sheet. It seems likely that those are, or include, assets held for tax efficiency purposes and should therefore be excluded from the pro forma App Store balance sheet.

605. We were not persuaded by Dr Barnes that the approach taken by Mr Dudney, and subsequently Mr Holt, in relation to the treatment of intangible assets was inappropriate. We regard Dr Barnes' reliance on the market capitalisation of Apple to be inappropriate, given that it represents the market's view of future cash flows, which has no established relationship with amounts expended by Apple on research and development.

606. Further, we note that any market valuation would include investor expectations of future cash flows which were inflated by any excessive and unfair pricing infringement, making it an unsuitable reference point for asset valuation purposes and introducing circularity into the analysis.

607. Instead, it seems to us reasonable to assume that expenditure by Apple in generating intangible assets will be reflected in its profit and loss account (including research and development expenditure properly treated in accordance with applicable accounting standards). In those circumstances, we

believe that Mr Dudney's treatment of OPEX and other costs adequately captures the point.

608. This is consistent with the approach taken by the CMA in its Market Investigation Guidelines[178] and its approach to similar arguments in the MEM Study[179].

609. We also took comfort from the exercise carried out by Mr Dudney to capitalise Apple's research and development costs and amortise those over a four-year period. This continued to show a high level of profitability across all three metrics. Dr Barnes suggested that a ten-year amortisation period would be more suitable, but we prefer Mr Dudney's selection of amortisation period, which matched Apple's approach to amortisation of assets such as its internal software.

610. In conclusion, we accept that Mr Dudney's figures for ROR, ROA and ROCE, set out in subsection (c) above, are reasonably reliable estimates for determining whether there was a significant and persistent difference between the price of services in the App Store and the costs of those services. We find that there was a significant and persistent difference over the Claim Period, as modelled by Mr Dudney (see the table at section G(2)(c)): (i) ROR from 74% to [✂]%; (ii) ROA from [✂]% to 120%; and (iii) ROCE from 351% to [✂]%. The Commission is therefore excessive for the purposes of the Limb 1 test.

(3) Application of Limb 2

611. Although the two established routes of analysis under Limb 2 (that is, unfair in itself and unfair by way of comparison) are alternatives, we will set out the arguments and our factual findings for each of them before drawing those factual findings together to make conclusions about each of them.

[178] CC3 (Revised), annex A at [14].
[179] See appendix C at [118]-[121].

(a) Unfair in itself

612. The Class Representative relied on the following matters, which she said are indicative of an unfair price:

(1) There is no proper basis for the 30% rate, which was "plucked out of the air in 2008" and has not been revisited save in limited instances which have nothing to do with competition from rivals.

(2) The high profits themselves indicate unfairness, by reference to the Limb 1 analysis.

(3) A proper assessment of economic value does not justify the level of profitability.

(4) There is no workable competition in the relevant market, given that Apple is a monopolist and there are very significant barriers to entry.

(5) The price trend over time shows no reduction in the headline rate, while reductions in rates have been for commercial reasons and have been limited in scope and value.

(6) Developer feedback suggests the price is unfair.

(7) There is a lack of transparency in the pricing arrangements.

(8) There is no justification by way of necessity or efficiency for the high price.

613. These points were all contested by Apple, one way or another. Since the economic value of the services Apple provides is at the heart of its defence to the allegations of abuse, we will deal with that item first.

(i) Demand side economic value

614. The Class Representative's approach to economic value was as follows. She accepted that it is a matter which needs to be considered. She chose to consider it in the context of Limb 2, and whether the price is unfair in itself. However, she maintained that it is not necessary to determine with any precision, or indeed even to seek to quantify, the economic value in order to reach a view on whether the price is unfair in itself.

615. That is particularly the case where the ROCE is so considerably greater than the WACC that any reasonable allowance for the economic value which represents the worth of the intangible assets to developers would still not justify the gap between the two. An exercise undertaken by Mr Holt[180] to assess the ROCE and WACC if the commission were 20% or 10% demonstrates that there would still be a considerable difference between them:

Table 5.4: The App Store's profitability in the Relevant Period – 10% commission rate

$ millions	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Return on Revenue (Operating Margin, or ROR)	28%	35%	35%	36%	[✂]	[✂]	[✂]	[✂]
Return on Assets (ROA)	19%	23%	24%	24%	24%	31%	30%	26%
Return on Capital Employed (ROCE)	109%	134%	133%	130%	133%	193%	191%	150%

Source: Dudney 2, Table 2.

Table 5.6: The App Store's profitability in the Relevant Period – 20% commission rate

$ millions	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Return on Revenue (Operating Margin, or ROR)	64%	68%	68%	68%	[✂]	[✂]	[✂]	[✂]
Return on Assets (ROA)	81%	81%	81%	79%	78%	89%	87%	81%
Return on Capital Employed (ROCE)	318%	325%	318%	302%	302%	375%	381%	322%

Source: Dudney 2, Table 6.

616. The Class Representative observed that Apple has made no attempt in these proceedings to quantify the value which is said to have been provided to developers. She also pointed to the willingness-to-pay fallacy and argued that Apple's reliance on the increases over time of the volume of commerce through the App Store, and the growth in revenue to developers as a result, is simply a variant of this.

[180] See Holt 3 at [176].

617. Mr Holt[181] developed this argument by noting that, in conditions of workable competition, even a price which reflected material value could be expected to be eroded over time. Mr Holt considered other features of the relevant market (the lack of contestability, the degree and persistence of profit, comparator evidence and the evidence of developers' views) and concluded that the high levels of profit, and therefore the price, are driven by these factors rather than demand side value from developers.

618. Apple's contention was that it provides economic value to developers through the intangible assets in which it has invested, which variously allow developers to do the following:

(1) Develop apps which are attractive to users, by using the tools and technologies which Apple makes available under the DPLA and by making use of the innovations in software and hardware which allow for new features, such as enhanced reality applications[182].

(2) Access the matchmaking service on the two-sided App Store market, thereby accessing users who have been attracted to Apple's brand.

(3) Monetise their apps, by way of transactions with users through the App Store and in-app purchases and also through other means of monetisation such as in-app advertising.

619. According to Apple, none of the comparator platforms relied on by Mr Holt provides anything like the level of tools, technology, brand and monetisation opportunities that Apple provides to developers through the App Store. They are therefore incapable of assisting in the assessment of economic value.

620. In any event (said Apple), the law does not require an inquiry into what workable competition might take place if another entity owned an intangible asset. On the contrary, cases like *ATR* and *Latvian Copyright* demonstrate an

[181] Holt 3 at [233]-[247].
[182] Enhanced reality applications combine real and virtual worlds, such as in the Pokemon Go and Night Sky apps.

assessment on a monopoly basis, with recognition that owners of intangible assets are entitled to extract demand side economic value to a very significant extent.

621. In our view, the analysis of demand side economic value is complicated by several factors:

(1) There is more than one source from which Apple can make a return on its intangible assets. In particular, it can and does make a significant return from sales of devices. There are also a number of other services which it provides to users, where it recovers a return on its investments.

(2) There are several services which Apple provides to developers, some of which are in different markets:

(i) The matchmaking service, which is in the iOS app distribution services market.

(ii) The payment services, which are partly in the iOS app distribution services market and mainly in the iOS in-app payment services market.

(iii) The provision of tools and technology to allow developers to make apps, which is not in either market.

(3) This is further complicated by the fact that Apple's approach to charging for the services does not correspond with the contractual basis it has agreed with developers under the DPLA (see section B(3)).

(4) That is important because not all developers face a charge beyond the Program Fee. On the contrary, Apple only charges a small proportion of developers who seek to monetise their apps through the App Store by way of initial purchases or in-app purchases. The vast majority of developers pay Apple no Commission at all, despite accessing the matchmaking service with the use of the brand that such use connotes.

(5) That reflects an important commercial objective for Apple, which is to enhance the range and quality of apps in the App Store to encourage users to purchase Apple devices.

(6) Similarly, a small number of users account for the vast majority of payments made for initial purchases or in-app purchases.

622. All of this greatly complicates the exercise of working out the extent to which the Commission might be justified by the demand side economic value which Apple provides to developers. Apple said this indicates why it is appropriate only to look at profitability on a whole firm basis[183].

623. Against that background, we make the following findings of fact in relation to the demand side economic value of the App Store's services, including the intangible assets which Apple makes available to developers:

(1) Apple has invested heavily in hardware, software and tools and technology[184].

(2) Apple has put forward no valuation of any of that – despite having had permission to submit evidence from an IP valuation expert and despite Professor Hitt's expertise in the area. It has chosen to assert the existence of the intangible assets, to challenge the Class Representative's approach, but not to advance any positive case as to value.

(3) Apple makes some of its intangible assets directly available to developers (e.g. tools and technology) and some of it indirectly available through the attraction of users to its brand, devices and therefore the demand for apps available through the App Store.

(4) It does so for multiple reasons, including to attract consumers to purchase its devices, as well as to attract users to the App Store and to monetise that through the Commission and other charges.

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[183] Apple's Re-Amended Defence at [134(a)].
[184] See the list of Apple's copyrights, design rights and patents in Harlow 1 at [10].

(5) An example of this is the continued development of the devices' camera, which encourages consumers to buy the devices and also allows developers to create new and innovative apps.

(6) The intangible asset value is therefore deployed for multiple purposes and cannot simply be said to serve the demand side economic value of developers.

(7) Developers are able to monetise their apps through in-app purchases and through in-app advertising. The amounts involved are considerable and have increased materially over time. In a press release in 2023, Apple confirmed that developers generated $109 billion in in-app advertising in 2022, and $104 billion for digital goods and services, and that developer billings and sales had been increasing by between 27 and 29% each year since 2019[185].

(8) There is evidence of dissatisfaction of developers in relation to the quality of the App Store and the level of Commission.

(9) It is therefore not possible to put any reasonably precise estimation on the value which developers attribute to Apple's intangible assets, including the provision of tools and technology.

624. We will return to consider the significance of these findings when we consider fairness in the round.

(ii) The basis for the 30% rate and the price trend over time

625. As noted in section D on market definition above, Apple relied on the circumstances in 2008 in which the Commission was set at 30% as showing that it was a competitive rate set by reference to a competitive market. Apple's case was that nothing has happened since that time to draw any other conclusion about the Commission.

[185] See Apple's press release *App Store developers generated $1.1 trillion in total billings and sales in the App Store ecosystem in 2022*, 31 May 2023.

626. The Class Representative submitted that the setting of the 30% rate was "plucked out of the air in 2008", without any reference to costs or value which Apple was providing to developers. The Class Representative said that is because, as a monopolist, Apple has never needed to consider such matters.

627. There are no contemporaneous records of the decision to set the Commission at 30% in 2008 (which at that stage was just for paid purchases, as in-app purchases were yet to be developed). The only evidence before us about the decision to set the Commission was:

(1) The evidence of Mr Schiller, who was senior vice president of worldwide product marketing at the time and was involved in making the decision. In Schiller 1, Mr Schiller said:

> "[191] Our decision in relation to the commission rate applicable to paid apps (the only app category to which commission applied at launch of the App Store) was not based on the costs that we expected Apple would incur in relation to the creation and development of the App Store. Rather, that rate, 30 percent, was set by reference to our analysis of then publicly available information about other platforms' commission rates for digital content. As I set out at paragraph 219 below, two of the digital app marketplaces that existed when the iPhone was launched, Steam and Handango, each charged a 30 percent commission rate at that time.
>
> …
>
> [198] I recall that, prior to the launch of the App Store, I and other members of the Executive Team spent most of our time discussing and working on what ultimately became the App Store business model when the App Store first launched. The initial business model allowed developers to set an up-front fee for the purchase of an app from which Apple took a 30% commission to remunerate Apple for access to the technology and services made available to them. We did not discuss in-app purchases or subscriptions at this time as they were not yet ideas for the App Store. However, the Executive Team did briefly discuss other alternative models to the commission structure ultimately adopted when the App Store first launched. This included charging for all apps, advertising commissions and a flat fee payable by developers. A flat fee was particularly unattractive to Apple because Apple has not historically been in the business of selling access to or licences for its technology and services. We also discussed the challenge of charging a commission on the purchase of physical goods as compared to digital goods as they are not received on device and Apple has no idea if they are ultimately delivered to the user.
>
> [199] There may also have been further possibilities but we did not discuss these in great detail or for very long. Our aim was to find a simple and understandable model which met Apple's goal of providing a seamless, high quality product experience for users and benefitted developers, users and Apple alike; in my view, the commission structure adopted was clearly the most

appropriate option. If the commission structure we adopted had not been open to Apple, we would have explored other ways to ensure that Apple was adequately remunerated by developers for the value made available to them by the Apple ecosystem.

[200] The key benefits of the commission model were, and are, as follows. First, the commission model is transparent for users: they pay a clearly identified price for digital content on the App Store and there are no hidden fees or extra charges. Second, and similarly, there are no surprises for developers. Developers are best placed to assess their own business and the commission structure enables developers to determine upfront how best to monetize their business on the basis of clear rules as to where and how commission will be charged. Third, the commission structure ensures that the interests of developers and Apple are aligned: Apple makes no money from the App Store unless developers make money and if developers make money from the iOS ecosystem, then Apple makes money from that too. Fourth, the commission model is 'clean' and not adversarial in the following way: Apple collects the payment from the user on behalf of the developer, Apple keeps the relevant commission and passes on the balance to the developer. As a result, Apple is not required to chase developers for unpaid bills, establish a collections department or impose penalties.

…

[219] I am aware of two digital app marketplaces which existed at the time the iPhone was launched: Steam and Handango. Handango was an online store for apps which could be downloaded to Blackberry, PalmPilot and other devices. Steam was, and is, a video game digital distribution service and storefront. Each of those platforms charged a 30 percent commission when the iPhone was released."

(2) A transcript of the launch event for the iPhone SDK on 6 March 2008, which is when developers were first permitted to develop native apps for the iPhone. During the event, the App Store was announced, as was the level of Commission:

"Now, developers are going to ask, 'Well, this is great but what's the deal? What's the business deal?' We think we've got a great business deal for our developers.

First of all, the developer picks the price. Pick whatever price you want to sell your app at. When we sell the app through the App Store, the developer gets 70% of the revenues right off the top. We keep 30 to pay for running the App Store. There are no credit card fees for the developer. We take care of all that.

There are no hosting fees. For us hosting the app we take care of all that.

There's no marketing fees. The developer gets 70% of the revenues and it's paid monthly. This is the best deal going to distribute applications to mobile platforms.

Now, we talk about the 70/30 revenue split but the developer gets to pick the price and you what price a lot of developers are going to pick? Free, right? So

> when a developer wants to distribute their app for free, there is no charge for free apps at all. [applause] There's no charge to the user and there's no charge to the developer. We are going to pay for everything to get those apps out there for free. The developer and us have the same exact interest which is to get as many apps out in front of as many iPhone users as possible[186].
>
> …
>
> And also, just to make it a little clearer, we don't intend to make money off the App Store. I mean, we don't make a lot of money off iTunes and the split with the music companies is about the same, so in the case of the iTunes Music Store, we give all the money to the content owners and we are basically giving all the money to the developers here and if that 30% of it pays for running the store, well that will be great, but we just want to create a very efficient channel for these developers to reach every single iPhone user[187]."

(3) Mr Schiller had also given evidence in the Australian proceedings[188], in which he confirmed that:

(i) He was involved in the decision in 2008 to set the Commission rate at 30%.

(ii) He was unable to recall what documents were in front of him for that purpose.

(iii) He and others conducted research into the commission charged by other app platforms – Steam and Handango – which were charging 30% at the time.

(iv) There was also reference made to other channels such as CD distribution and telecoms firms.

(v) He was not aware of any cost analysis done at the time, or any other financial analysis such as investment or forecast profitability analysis.

(4) Mr Schiller was cross examined[189] about the basis on which the Commission was set and confirmed his evidence in the Australian

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[186] Page 21 of the transcript for the iPhone SDK launch; the speaker is Steve Jobs, then Apple CEO.
[187] Page 27 of the transcript for the iPhone SDK launch, same speaker.
[188] Australian proceedings transcript, Day 16/1479/15 to 16/1481/39.
[189] Day 7/25/23 to 7/37/23.

proceedings about his inability to recall documentation, his recollections about looking at comparators and the lack of any financial or economic analysis to underpin the decision.

(5) A slide pack entitled "Developer Programs Analysis", apparently dating from November 2007, which includes a page (in a section headed "Checkpoints") which records the level of margin for several of Apple's major competitors. Apple suggested to the Class Representative's expert witnesses that this demonstrated Apple setting the Commission by reference to competition. However, there was no evidence from any Apple witness that this particular document was prepared for any decision about the level of Commission or taken into account in any such decision.

628. Mr Schiller acknowledged that the subsequent success of the App Store exceeded anything Apple had imagined[190]. In 2011 Mr Schiller asked in an email to Mr Jobs and others: "once we are making over $1B a year in profit from the App Store, is that enough to then think about a model where we ratchet down from 70/30 to 75/25 or even 80/20 if we can maintain a $1B a year run rate?".

629. As noted above at section B(2)(e), Apple did introduce a number of programmes to adjust aspects of its Commission, either to a reduced rate of 15% or to eliminate any Commission where a purchase took place on another platform, for subscription renewals or in certain other circumstances. It has however maintained its headline rate of 30% since 2008. We have dealt with the circumstances of the reduction and the resulting effective rate in section B(2)(e).

630. It appears that Apple's introduction of the programmes referred to above was either a commercial decision to increase revenue or a response to regulatory action, rather than any response to competitive pressure[191].

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[190] Day 7/37/13 to 7/37/15.
[191] Schiller 1 at [202(a)], [205] and [206(c)]; see also the cross examination of Mr Schiller on Day 6/39/22 to 6/41/13.

631. We make the following findings of fact in relation to the setting of the 30% rate:

(1) The Commission was not set in 2008 by reference to any costs that Apple expected to incur in the creation and development of the App Store. There is also no evidence before us that the level of Commission was linked to the investment made by Apple in its tools and technology, or indeed in any other aspect of its ecosystem.

(2) On the contrary, Mr Jobs stated during the March 2008 launch event that Apple did not intend to make money from the App Store and that he hoped (but was unsure) that the Commission would cover the costs of running the App Store.

(3) Nor was any other financial or economic analysis undertaken which might justify the level at which the Commission was set.

(4) There is no evidence that the Commission was set by reference to any quantified benefit to developers which was being provided by their ability to distribute apps through the App Store.

(5) We accept Mr Schiller's evidence that Steam and Handango were comparators which Mr Schiller and others had reference to when setting the App Store Commission. We also accept his evidence that the CD distribution market and the charges levied by certain telecoms providers were considered in the decision-making process.

(6) We note Mr Schiller's evidence in the Australian proceedings that Apple thought they were setting an "aggressive" rate with the Commission at 30%.

(7) It is also clear that Apple's intention was to attract developers to the App Store, with the intention that the offering in the App Store would be appealing to customers and would help Apple sell more iOS devices. In this sense, there was a competitive objective behind the initiative – to allow Apple to compete more effectively in the devices market.

(8) However, the extent to which competition in the devices market operated as a constraint (or indeed, what the relevant market for the assessment at the time actually was) was not the subject of any detailed evidence or consideration by the economic experts.

(9) It is clear that the conditions of the market during the Claim Period are quite different from those in 2008. In 2008, Apple had sold some 11.6 million iPhones[192]. In 2015 alone, it sold 231 million[193]. The size of the user group who can only install native apps onto their iOS devices through the App Store has become very material. It is the level of Commission which arises from the restricted access to that larger group of iOS device users from 2015 any onwards that matters for the assessment of workable competition, not the position seven years earlier.

(10) Apple noted that developers earned £1.36 billion from revenues obtained through the App Store in 2022. That however tells us little about the competitive position that prevails in relation to the setting of the Commission. Clearly, developers earn significant revenues, but the question is whether those revenues are unfairly depressed by Apple's pricing.

(11) In conclusion, the 30% Commission rate appears to be an arbitrary one, at least by the time of the commencement of the Claim Period, and one which is not reviewed or made subject to competitive pressure throughout the Claim Period, even though it has been reduced in some limited circumstances for commercial reasons or to respond to regulatory concerns.

(iii) The high level of profits

632. As noted already above, Apple's position was that the outcome of the analysis of excessiveness carried out by Mr Dudney and Mr Holt in relation to Limb 1 cannot shed any light on whether the Commission is unfair under Limb 2.

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[192] Apple's written closing submissions at [34].
[193] The 2015 10K filing with the US Securities and Exchange Commission.

633. Unsurprisingly, the Class Representative took the opposite view. She said that the very high and persistent (and indeed increasing) profits from the App Store are not what one would expect to see in conditions of workable competition, where such returns would normally have been eroded over time.

634. Much of Apple's objection to the use of the Limb 1 analysis in Limb 2 is covered in the subsection on Limb 1 above. It is essentially an objection to the use of a revenue-based methodology to allocate OPEX to the App Store, which Apple described as "purely mechanistic and circular". Apple sought to establish that a number of other cost allocation exercises would produce different results.

635. Apple also relied on a wide range of profitability figures put forward by Mr Holt in circumstances where the Commission was reduced to 15%[194]. Apple submitted that this showed that the level of profitability could vary materially and that the profitability analysis carried out by Mr Dudney and Mr Holt added nothing to the Limb 2 assessment.

636. In its written closing submissions, Apple's reasons for why excess profits at the Limb 1 stage did not help with the Limb 2 analysis were also about justification of the level of profits. This was mainly focused on the need properly to take into account the value of intangible assets – both in the calculation of ROCE and in creating value which far exceeds costs of creation. Apple also focused on the two-sided nature of the market, arguing that this extended to "the level of the wider platform". Apple argued that looking at one aspect of an integrated product was not sensible, and the position needed to be assessed holistically.

637. In our judgement, Apple's arguments are either variants of arguments we have already rejected, or engage other aspects of the unfair pricing analysis, such as the approach to economic value.

638. We have already found that Mr Dudney's figures for ROR, ROA and ROCE are reasonably reliable estimates for determining whether there was a significant

[194] Mr Holt's results varied from [✂] over the eight year Claim Period (Holt 3 at [225]) to a corrected figure of [✂] if a post-tax WACC was used (Day 19/100/3 to 19/101/1), to [✂] for eight years of future Commission after FY2024 assuming no growth and the post tax WACC (Day 19/103/3 to 19/103/21).

and persistent difference between the price of services in the App Store and the costs of those services and that there was a significant and persistent difference over the period modelled by Mr Dudney.

639. We have also found that the relevant markets are the iOS app distribution services market and the iOS in-app payment services market. It therefore becomes necessary to approach the question of profitability by reference to those markets, not the wider ecosystem. That requires an allocation exercise, which we have found can be, and has been, done meaningfully.

(iv) The market context

640. The Class Representative submitted that the lack of direct rivalry, the lack of scope for entry and the limited countervailing (that is developer) buyer power all indicate that Apple had the ability to exercise market power to achieve high prices. The relevant markets are therefore not functioning in a manner which is likely to generate a reasonable relationship between price and economic value.

641. Apple's position was of course that it does not have the market power alleged because it argued for a different market definition and for the existence of constraints from other channels, platforms and markets. We have found against Apple on these points. Apple argued that the Commission is justified by the value delivered by its intangible assets, but that is a different point. Beyond that, it is not clear what Apple's position on the subject of market structure was.

642. In cross examination, Professor Hitt accepted that, if the Class Representative was correct in her analysis of dominance, then prices would not be set in conditions of effective competition[195].

643. For the reasons set out in the section of our judgment above in relation to market definition (section D) and dominance (section E), we find that Apple's position in the relevant markets (as we have determined them) is one that is not subject to direct rivalry, lacks the scope for competitive entry and lacks meaningful

[195] Day 22/67/21 to 22/68/2.

countervailing buyer power. We therefore find that Apple is effectively unconstrained in the setting of the Commission and does so in circumstances which lack effective competition. In short, we conclude that, on the balance of probabilities, Apple is not currently setting the Commission in the App Store in conditions of workable competition.

(v) The price trend

644. There have been some adjustments to the level of Commission in certain circumstances. The main examples are the MSR, the Reader Rule, the ARS policy, the VPP and the SBP. Apple's position is that none of these adjustments was a response to competitive pressure. Instead, they were commercial decisions or responses to regulatory developments[196].

645. Otherwise, the headline rate for Commission remains at 30% and has not changed for almost twenty years.

646. It therefore appears that there has been no adjustment in the Commission as a result of competitive pressures, which tends to indicate a market in which there is not workable competition. That is consistent with our conclusions on the market context, as set out above.

(vi) Developer feedback

647. Mr Holt relied on developer feedback as a matter which could inform the unfairness debate, particularly in the context of the willingness-to-pay fallacy and the potential to determine whether the existing Commission rate was one which developers considered represented the economic value of the services they receive. Mr Holt identified a number of public statements or actions from large developers which indicated dissatisfaction with the Commission rate, as well as a 2020 survey of the iOS developer community, which was said to be the largest public survey of Apple's platforms[197].

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[196] Schiller 1 at [202(a)], [205] and [206(c)]; see also the cross examination of Mr Schiller on Day 6/39/22 to 6/41/13; see also section B(7) on specific instances of regulatory interventions and litigation.
[197] Holt 3 at [244].

648. The survey included a question about what was the "reasonable cut of revenue for Apple to take for the service the App Store provides". Mr Holt set out the range of answers in his table 6.1. These suggested that the great majority of developers thought Apple's Commission should be 15% or less:

Answers	2016
Nothing	2.0%
Between 1% and 5%	14.5%
Between 6% and 10%	34.2%
Between 11% and 15%	33.1%
Between 16% and 20%	9.3%
Between 21% and 30%	6.6%
Between 31% and 50%	0.3%
More than 50%	0.0%

Source: See, The iOS Developer Community Survey (2021), *The App Store*, Q77 <https://iosdevsurvey.com/2020/11-the-app-store/>(accessed 13 May 2024).

649. Apple contested the material which Mr Holt produced and challenged him on table 6.1. In the course of cross examination, Mr Holt accepted that the demand side value was more likely to be established through a comparator analysis. In her closing submissions, the Class Representative put relatively little weight on the developer feedback point.

650. We agree that limited assistance can be obtained from a survey in which developers are invited to suggest a price reduction. We also agree that a comparator analysis is more likely to inform us about likely demand side economic value, although as set out below at (b), the comparator analysis is itself not straightforward.

(vii) Lack of transparency

651. The Class Representative makes the point that the Guidelines prevent developers from communicating with consumers within apps about pricing and the extent to which the developer passes on Apple's Commission. We consider this point to be of marginal relevance to the question of unfairness.

(viii) Justification by way of necessity or efficiency

652. Apple did not put forward a case on objective justification in relation to the excessive and unfair pricing case.

(b) Unfair by reference to comparators

653. We have already discussed comparators at some length in sections D (market definition) and F (exclusionary conduct), and in particular the benchmarking analysis carried out by Dr Singer. Many of the points made there are relevant here, although the objectives of the exercises are to some extent different. In this section on unfair pricing, the question is whether any comparators are useful in indicating what price might have been charged for the relevant services had there been conditions of workable competition.

654. The Class Representative argued that there is a valuable set of comparators to be found in the PC app distribution market. It was accepted by Mr Holt that these are imperfect comparators, but he maintained that they constitute probative evidence, by way of evidence of what happens when there is market entry and competition.

655. In relation to iOS app distribution services, Mr Holt identified four comparators which are all platforms for distributing apps produced by developers to end consumers. These were:

(1) The Microsoft Store, as described in section B(6)(d) above.

(2) The Epic Games Store, as described in section B(6)(b) above.

(3) Itch.io, an open marketplace platform for independent digital creators.

(4) Steam, as described in section B(6)(c) above.

656. The background to the use of these comparators is that Steam was the incumbent platform, charging commission at 30% for over a decade, before – according to the Class Representative – the entry of competing platforms led to reduced

headline rates from Steam and generally lower rates from other PC app marketplaces.

657. Mr Holt concluded that, by comparison with the outcomes in the PC app distribution market, there would be a reduction of the Commission in the App Store to between 10% and 20% in conditions of workable competition. That range is linked to Itch.io's default rate of 10% and Steam's most competitive rate for its developers who have the greatest game revenue (over $50 million), which is 20%.

658. Apple attacked all of these comparators. Generally, Apple said that they are not fair comparators, as the analysis fails to take into account the tools and technology that Apple provides to iOS app developers, which justifies a higher rate of Commission than other platforms, which just provide distribution services.

659. Apple also advanced arguments about the applicability of each of the comparators chosen by Mr Holt:

(1) Apple argued that its Commission on a like for like comparison is the same or lower than Steam's rates (headline rate the same, Apple's minimum is 15% to Steam's 20% and Apple's effective rate is 25.2% to Steam's 27% and, "counting the zeros"[198], Apple is lower than Steam's 20%).

(2) Both the Epic Games Store and the Microsoft Store were said to be inferior quality platforms, with poor reputations and relatively small market shares, while Apple has a premium, trusted and "loved" brand and can legitimately command a higher price for its services.

(3) Itch.io was said to be a completely different type of platform, operating at the fringes of the distribution market and includes objectionable and distasteful apps, while the App Store reviews all apps for content, which

[198] For detail on this, see section D(4)(d) above.

is attractive to developers and consumers and should be reflected in its pricing.

660. Apple argued that Mr Holt has ignored relevant comparators:

(1) The Google Play Store, which charges 30%, along with the similar rate charged by other Android app marketplaces. Apple said that this should be included despite questions about the competitive nature of this market.

(2) Commission rates of 30% charged by an online game platform, Roblox, which Apple said provides IP to creators of in-game content and charges commission between 30% and 70% of the revenue earned from game users who buy that content.

(3) Apple's own 30% rate set in 2008 in what was said to be conditions of workable competition.

661. We have already dealt with the argument about the need to take account of the licensing of tools and technology in the context of the foreclosure arguments at section F(2) above. In summary, we do not consider that Apple can rely on its commercial decision to recover charges for its tools and technology through its Commission as a sufficient answer to the usefulness of comparators. It is only through the lack of any valuation by Apple of those benefits, and the lack of transparency in its pricing of the Commission that the issue arises. It can be assumed that Apple will either find other legitimate ways to charge for its tools and technology (for example, through an enhanced Program Fee) which will be neutral to the analysis, or will be prepared to accept the loss of revenue for tools and technology in order to achieve other commercial objectives. We are concerned with the appropriate pricing for iOS app distribution services and iOS in-app payment services, which is what the comparators provide evidence of.

(c) Our conclusions on Limb 2

662. The Commission is, in our judgement, considering all the evidence in the round, an unfair price. It represents trading benefits which could not have been obtained in conditions of workable competition. We arrive at the conclusion through both aspects of the Limb 2 test – by considering whether the Commission is unfair in itself and by considering whether it is unfair by reference to suitable comparators.

663. While we approach consideration of these tests independently, we have also stood back and considered the outcome of the two tests together before reaching our final conclusion. The outcomes of the two tests are consistent and therefore reinforce our conclusion.

664. In reaching our conclusion, we have not attempted to identify what a "fair" (that is, non-abusive) Commission would be. While the comparators indicate what price might be charged for the services in conditions of workable competition, the various issues relating to the comparators, as set out in detail above, mean that reaching any reliable view on the level of a non-abusive commission is not possible, at least for the purposes of assessing fairness.

665. Our approach has been to take all the items of evidence and to attempt to give them weight according to their reliability and relative significance to the question before us. That has ultimately required the exercise of judgement based on all the material before us. The Limb 1 finding, the treatment of intangible assets and the assessment of demand side value are all important elements of that exercise, but in our view none of them are determinative either way.

666. We therefore disagree with Apple's approach to this Limb 2 exercise. For example:

(1) Apple argued that the Limb 1 finding of excessiveness should not be taken into account in the assessment in Limb 2. Apple did this by effectively recycling the arguments as to why the Limb 1 analysis by the Class Representative is wrong (failure to take into account of intangible

assets, inability to allocate costs fairly and reliably, and so on). That approach seems to us to be wrong as a matter of fact (as we have already found in our Limb 1 analysis) and wrong as a matter of law (as we are required to weigh all the evidence, including the Limb 1 outcome).

(2) On the other hand, Apple seemed to approach the assessment of demand side economic value as a test in its own right which was largely determinative of the Limb 2 analysis. This was essentially put as a burden of proof point, by arguing that the Class Representative had not conducted a valuation of the benefits to distributors delivered by the tools and technology, hardware and software developments which benefitted developers, Apple's brand and, at some points, the entire Apple ecosystem. We think this approach unduly focused on the valuation of demand side value as a component of economic value and to set an impossible hurdle (in practical terms) for the Class Representative to clear.

(i) Conclusion on unfair in itself

667. The metrics from the Limb 1 exercise demonstrate a very significant level of profitability on all measures, indicating a significant and persistent difference between the Commission and the costs of operation of the App Store.

668. We do not accept Apple's argument that the Limb 1 analysis is irrelevant to the Limb 2 exercise. Once the metrics are accepted as being reasonably reliable and plausible, it seems to us that Apple's objection falls away.

669. We also think there is a danger of Apple's approach elevating the significance of our excessive pricing finding when considered "in the round" for the purpose of assessing unfairness, before then seeking to pull it down as being unreasonable to apply in Limb 2. Apple acknowledges a high gross margin in the App Store and also acknowledges that the App Store is very profitable. A reasonable approach to OPEX allocation establishes an operating profit which, on reasonable assumptions, is very large on the basis of the usual metrics. It is significant and persistent profitability, on any sensible measure.

670. For the purposes of the Limb 2 analysis, that is useful information which feeds into our in-the-round assessment. It is, at the very least, indicative of a lack of competitive pressure on Apple's pricing illustrated by the maintenance of a very significant gross and operating margin. We recognise we need to look carefully at the reasons why that might be justified. But the excessive pricing we have found does pose the question as to whether there is a justification for those levels of profitability. We turn to that now.

671. We have already determined that the concept of workable competition is consistent with the need to take proper account of demand side economic value, and we have rejected Apple's arguments that the Court of Appeal's judgment in *ATR* and the CJEU's decision in *Latvian Copyright* hold otherwise. We do agree with Apple that care needs to be taken in any construct of workable competition which simply assumes that a price is unfair because the person charging it is dominant.

672. It is also important to remember that this is an exercise of evaluative judgement to be applied to a range of evidence, rather than an empirical exercise of qualification or disqualification of individual items of evidence. Apple sought to elevate the question of demand side economic value into a distinct test to be applied, to the exclusion of all other evidence, where there is a significant element of intangible assets which provide benefits to purchasers. As well as being wrong as a matter of law, we think that approach might lead to a number of important pieces of evidence being overlooked.

673. As noted in our factual findings in section B, Apple clearly provides value to developers through the App Store, which leads to significant financial benefits to those developers. Apple advanced that value as a complete answer to the question of fairness. We are not however satisfied that the level of those benefits can in itself reasonably be taken to explain the very high profitability of the App Store. This is for the following reasons:

(1) Beyond the absolute sums earned by developers, through the App Store and other means, we have little evidence before us that would allow any quantification (even on a broad-brush basis) of the benefit. Apple's

argument rests on some high-level figures for developer revenue which are somewhat ambiguous and lack any contextual explanation.

(2) In any event, the sums earned by the developers tell us nothing about the value which is actually provided by Apple's services through the App Store, not least because those sums include the value of the developers' own efforts in producing their iOS apps.

(3) They also tell us little, if anything, about the fairness of the price: developers may be paying a higher price than would be expected in conditions of workable competition, because of their wish to access the iOS user base to which Apple controls access (the willingness-to-pay fallacy).

(4) Although it had the opportunity to do so, Apple has not chosen to seek to quantify the value of its intangible products which it said justifies the Commission. Professor Hitt said this was possible and indeed held himself out as something of an expert in this area[199], but Apple chose not to attempt the exercise, so far as we are aware.

(5) The intangible products that Apple relied on have been invested in for a multiplicity of reasons. For example, the innovations in hardware and software have been designed to sell more devices by making the iPhone and other Apple devices more attractive in the markets in which they are sold. One example of this is the continuing development in the quality of the camera.

(6) The attempt to bring into the valuation exercise the entire value of the ecosystem, or even the totality of the value of the brand, seems to us to be highly ambitious. It is, for example, difficult to see how any reliable connection between the overall value of the Apple brand and the value attributed to that by developers can be identified and assessed meaningfully.

[199] Day 22/84/1 to 22/86/3.

(7) There is a lack of transparency in the way Apple approaches the charges for its various services to developers. Despite the Program Fee being identified as payable in return for access to Apple's tools and technology, Apple takes the approach of seeking to recover the value of those tools and technology through the Commission, which is inconsistent with the description in the DPLA of the purpose of the Commission.

(8) The position is further complicated by the concentration of commerce on both sides of the platform: the bulk of revenue from the Commission being concentrated in payments from a small number of users in relation to the apps of a small number of developers. Further, these payments are largely made through in-app purchases (through Apple's payment systems), where there is arguably no matchmaking or distribution service being provided.

(9) The Class Representative has attempted to bring intangibles into the assessment, by way of the exercise carried out by Mr Dudney in which he capitalises certain research and development costs and amortises them. It has also been considered by Mr Holt, who reaches the conclusion that it cannot reasonably explain the high levels of profitability and illustrates that even a substantially reduced Commission leaves Apple with very considerable profitability in the App Store. It cannot be said that the Class Representative has ignored the issue.

(10) While the Commission may originally have been set in some senses by reference to competitive conditions, it was not set in any way by reference to the value to developers of the costs to Apple of providing that. By the beginning of the Claim Period in 2015, the competitive position had changed very materially so that Apple had not only captured a substantial market share, but had also created an access market for iOS device users which it could control through the restrictions.

(11) As we have found in section D above, Apple has a monopoly position in that access market. It is not subject to any meaningful constraints and is able to maintain the Commission without concern about market entry or other rivalry. The restrictions are the means by which that monopoly is perpetuated. It seems to us unlikely that Apple is setting the Commission in such circumstances with any meaningful correspondence with conditions of workable competition. It has no incentive to do so.

(12) That is consistent with the lack of material change in the Commission rate over time, with such changes that have taken place being characterised by Apple itself as commercial decisions and not responses to competitive forces.

(13) While we place considerably less weight on this evidence, the material before us in relation to developers' views on the level of Commission suggest a degree of dissatisfaction which is not entirely consistent with Apple's theory of demand side value.

674. We therefore conclude on the basis of the evidence before us that the Commission is unfair in itself.

675. We wish to emphasise that we have not reached this conclusion on the basis of any burden of proof analysis. As is common ground, the Class Representative has accepted the burden of proof in relation to unfairness and has put forward a positive case to that effect. While it might be argued that some evidential burden then shifted to Apple, we have not approached the question that way. Nor have we worked on the basis of any presumption of unfairness as a result of any particular factor or factors.

676. We have instead noted the high levels of profitability shown by the Limb 1 exercise and asked ourselves the question as to whether this profitability was explained by factors other than a lack of workable competition. Taking all the evidence in the round, in our judgement there is strong evidence to suggest, on the balance of probabilities, that the Commission is considerably greater than

that which would be set in conditions of workable competition and is not explained to any necessary extent by the value which developers might attribute to the services provided through the App Store.

(ii) Conclusion on unfairness by reference to comparators

677. As far as the PC app distribution comparators chosen by Mr Holt are concerned, we agree with Apple that they are imperfect. Nonetheless, we find them to be useful evidence of how the market for iOS app distribution services might have been affected by more rivalry in the Claim Period. In short, despite their imperfections as comparators, we think they do give some indication of what a reasonable benchmark for app distribution commission might be in conditions of workable competition. In relation to each comparator:

(1) As previously noted, the position in relation to Steam's commission is uncertain. The point about "counting the zeros" (dealt with in more detail in section D(4)(d)) only arose in cross examination of the Class Representative's experts and we do not consider it possible to reach any firm conclusion about the actual level of Steam's average commission on the basis of the indirect evidence before us. However:

(i) The important point in the Steam example is that, in the face of competition, Steam reduced its commission from 30% to 20% for those developers who are likely to be the most valuable to it: those with the largest annual revenue, over $50 million. That seems to us to be a good indication of how an incumbent app distributor (not in Steam's case a monopolist) might respond to a credible threat of switching from an important set of customers.

(ii) It does not matter that Apple does not currently price differentially to that customer segment, or that Steam's overall rates (on a headline or average basis) may be higher than 20% or indeed higher than Apple's on some measures. That is not, as Apple argued, dispositive of the case against it.

(iii) We are not relying on the comparison with Steam to identify a non-infringing commission. We are, at this stage, simply trying to assess unfairness and in particular to identify, from a competitive market with some comparable features, what a competitive market might lead an app distributor to charge developers who may have economic significance and switching potential.

(iv) We do therefore draw the conclusion from the Steam example that 20% is a plausible level of commission which large developers would be willing to pay in conditions of workable competition.

(2) In relation to Epic and Microsoft, it may well be the case that there is a quality and/or reputational differential between those platforms and the App Store which would justify Apple charging a higher commission. However:

(i) There was considerable dispute between the parties as to the extent of any such difference. The evidence before us was not such that it was possible to reach any conclusion about who was right, let alone to quantify that potential difference in any way.

(ii) We note that Epic's 12% rate which it adopted on entry into the market in 2018 has been maintained, while the platform has grown in popularity with games developers and consumers[200]. It can therefore be seen as a commission level which has allowed Epic to attract developers and users. We are more cautious about adopting the 12% rate as the appropriate benchmark for workable competition, for the reasons given by Apple. But it does seem to us to be a useful and important piece of evidence in considering the question of what a reasonable benchmark for

[200] In 2020, Epic reported 31.3 million daily active users, with a peak of 13 million concurrent players; see Holt 3 at [319].

app distribution commission might be in conditions of workable competition.

(iii) Microsoft's reduction in its commission for games from 30% to 12% in August 2021 seems to us to be important evidence of the price which developers are willing to pay in conditions or workable competition, even taking into account again Apple's observations about the potential quality, scale and reputation differences between the Microsoft Store and the App Store.

(3) In our view, Itch.io is of less relevance as a comparator, given the difference between its operation and that of the App Store. We accept that it offers developers a different type of proposition and, as a result, the nature of the developers it serves are quite different from, say, the large developers that Apple would presumably wish to retain in the face of more vigorous rivalry.

678. As for the other comparators, which Apple said that Mr Holt has neglected:

(1) We have already in this judgment in section D(4)(e) noted the findings of the CMA in relation to the market for distribution of Android apps and have expressed our view that Google is not therefore a reliable comparator, as it is unsafe to assume that it operates in conditions of workable competition.

(2) In relation to Roblox, it is perhaps unfortunate, given the weight Apple appears to place on this company as a comparator, that the evidence before us was largely limited to Roblox's website and public filings of financial reports. We agree with Mr Holt[201] that it would be necessary to know a great deal more about the way in which this platform operates and who it serves before we would be willing to consider it as a valid comparator.

[201] Day 19/82/23 to 19/84/19.

(3) We have already determined that the conditions of competition in 2008 are uncertain and in any event unlikely to be of assistance when deciding on the fairness of the Commission during the Claim Period.

(4) Given the conclusions we have reached on market definition and the lack of constraints on the iOS app distribution services market from competition in the devices market, we consider it to be unsustainable for Apple to argue that competitive conditions relating to devices have any relevance to the question of what a reasonable benchmark for app distribution commission might be in conditions of workable competition. Apple's argument seems to suggest that a dominant entity in market A can justify an abuse in market A by reference to competition in market B, even when the competition in market B exerts no material constraint. That is not the law.

679. Overall, we therefore find that the commission rates charged by the PC app distribution platforms of Steam, the Microsoft Store and the Epic Games Store are valuable comparators, with the first two of those being the most useful. They suggest that a commission for app distribution in conditions of workable competition might be in the region of 12% to 20%, with some possible adjustment to the 12% rate to reflect differences in quality, scale and reputation.

680. While we have carried out this assessment of comparators as a separate exercise from the assessment of unfairness in itself, it is useful to stand back and consider the consistency between the two approaches. They are consistent in suggesting that the Commission is set at an unfair level, which allows us to reach an overall conclusion to that effect.

(4) Our conclusions on excessive and unfair pricing

681. We have found that the Commission is excessive (under the Limb 1 analysis) and unfair (under the Limb 2 analysis by reference to it being unfair in itself and by reference to comparators). We therefore conclude that Apple is abusing its dominant position by charging excessive and unfair prices in the form of the

Commission which it charges developers for iOS app distribution services and iOS in-app payment services.

H. JUSTIFICATION

(1) Introduction

682. We have concluded at sections F(3)(d) and F(4)(d) that Apple has infringed Chapter II/Article 102 through exclusionary conduct in the iOS app distribution services market and the iOS in-app payment services market by way of the restrictions, including by requiring that iOS apps can only be distributed through the App Store and that iOS app purchases and iOS in-app purchases must use Apple's payments system.

683. Apple argued that any exclusionary abuse, whether exclusive dealing or tying, is justified and is therefore not unlawful. Apple framed its arguments by reference to the restrictions.

684. A dominant undertaking may provide justification for conduct that would otherwise be abusive if it can demonstrate that:

(1) its conduct is objectively necessary; or

(2) the exclusionary effect produced by its conduct is counterbalanced or outweighed by advantages in terms of efficiency that also benefit consumers.

685. Apple's overarching contention in its justification defence, for the purposes of both the objective necessity and the efficiencies defence, was that offering an "integrated and centralised device ecosystem" is a legitimate objective to be pursued, for the purposes of: (a) allowing Apple to compete on the merits in the devices market; (b) benefitting users in terms of security, privacy and safety; (c) benefitting users through enhanced performance; and (d) operating an efficient system for the collection of the Commission.

686. The Class Representative submitted that Apple cannot meet the legal requirements for either of the objective necessity or the efficiencies defences. Alternatively, she submitted that Apple also fails to substantiate these defences on the facts.

(2) The correct legal approach to objective justification

(a) The efficiencies defence

687. The parties agreed that the efficiencies defence has four, cumulative conditions, as set out in the CJEU's judgment in Case C-209/10 *Post Danmark A/S v Konkurrencerådet* ECLI:EU:C:2012:172 ("*Post Danmark I*") at [42]:

(1) Efficiency gains are likely to result from the conduct under consideration.

(2) The efficiency gains outweigh any likely negative effects on competition and consumer welfare in the affected markets.

(3) Such conduct is necessary for the achievement of those gains in efficiency.

(4) The conduct does not eliminate effective competition, by removing all or most existing sources of actual or potential competition.

688. Apple accepted that it bears the burden of proof in relation to these conditions.

689. Unsurprisingly, the Class Representative submitted that Apple is unable to meet condition (4), as she said that the restrictions manifestly mean that all existing sources of actual or potential competition are removed from the iOS app distribution services and iOS in-app payment services markets.

690. Apple's answer to this was that condition (4) should be construed narrowly, so that conduct is only incapable of justification where it serves to eliminate all competitive constraints in the relevant market. Otherwise, said Apple, there would be absurd results, so that (for example) no technology company could

ever build an integrated operating system and device and then maintain control over what gets distributed on the grounds of security. Apple argued that if the fourth condition is *not* construed very narrowly, a sharp distinction would be drawn between situations which fall under *Magill* and those that do not: a distinction which, it is said, has no basis in principle.

691. In closing oral submissions, Mr Hoskins KC, for the Class Representative, described this as an "extraordinary" argument, in circumstances where there is, on the face of things, an abuse of a dominant position, and given that, the efficiencies defence is not intended to be easy to satisfy. He pointed out that a technology company that was not dominant would have no need for the efficiencies defence. Further, he submitted, the idea that out-of-market constraints (which he described in this case as weak and indirect) could justify otherwise abusive conduct was simply not credible.

692. We agree with Mr Hoskins KC. It seems to us that allowing a dominant firm to justify its apparently abusive behaviour by reference to potential constraints from *another* market would materially reduce the hurdle set by the fourth condition and is therefore unattractive as a matter of principle. We are aware of no authority to support Apple's argument.

693. We do not see any force in the argument that *Magill* somehow supports Apple's position. *Magill* deals with a particular situation, which is the reservation of infrastructure or IP for a firm's own exclusive use. If the requirements for that protection from Chapter II/Article 102 are not met, then we see no reason why a dominant firm exploiting its market power in technology markets should be allowed additional latitude in relation to the efficiencies defence.

694. In our judgement, the relevant competition which is or is not eliminated in the assessment of condition (4) is competition in the same market in which the conduct had its effect, and does not include other constraints which operate from outside that market.

(b) The objective necessity defence

695. The parties agreed that the test for this defence is that the conduct must be objectively necessary to the achievement of a legitimate objective and must be proportionate to that.

696. Beyond that, there were various disagreements between the parties about the detail of these requirements:

(1) Apple said the legitimate objective may include commercial considerations of the dominant firm, while the Class Representative said it is limited to benefits external to the product or services in question.

(2) The Class Representative said that public interest objectives are not permitted, while Apple said they are, provided they cannot be addressed through any suitable regulatory framework.

(3) The Class Representative said that the conduct in question must not eliminate competition from third-party undertakings. Apple said this is not a freestanding condition and merely forms part of the proportionality assessment (that is, the second of the two cumulative conditions).

(4) The Class Representative submitted that the legitimate objective must be *impossible* to achieve without the impugned conduct. Apple said that is not required by the defence.

(i) Commercial and technical considerations

697. The Class Representative observed that there appear to be no cases in which commercial objectives (such as technical justifications or to take account of negotiations with customers) have been successfully advanced as legitimate objectives for an objective necessity defence. She relied on the European

Commission's 2009 Enforcement Guidance (the "2009 Guidance"), which provides[202]:

> "The question of whether conduct is objectively necessary and proportionate must be determined on the basis of factors external to the dominant undertaking."

698. Apple said that the 2009 Guidance is out of date and about to be replaced. It is also inconsistent with the General Court's judgment in *Google Shopping*[203], where the General Court said:

> "[551] It is apparent from settled case-law that it is open to a dominant undertaking to provide justification for behaviour that is liable to be caught by the prohibition under Article 102 TFEU by establishing either that its conduct is objectively necessary from a technical or commercial point of view, or that the exclusionary effect produced may be counterbalanced, outweighed even, by advantages in terms of efficiency that also benefit consumers (see, to that effect, [*Post Danmark I* at [40] – [41]] and the case-law cited).
>
> [552] The objective necessity may stem from legitimate commercial considerations, for example to protect against unfair competition or to take account of negotiations with customers (see, to that effect, judgments of [*United Brands* at [184] – [187]], and of 9 November 1983, *Nederlandsche Banden-Industrie-Michelin v Commission*, 322/81, EU:C:1983:313, paragraph 90), but equally from technical justifications, for example linked to maintaining product or service performance or to improving performance (see, to that effect, *Microsoft* at [1146] and [1159]).")

699. The Class Representative observed that in fact the General Court in *Google Shopping* addressed the arguments about commercial objectives under the efficiencies defence advanced in that case.

700. The principle that the circumstances relating to objective necessity should be external to the dominant undertaking concerned does find some support in *Servizio Elettrico*, where the CJEU said:

> "[84] Where a competition authority shows that a practice of an undertaking in a dominant position is capable of impairing effective and undistorted competition in the internal market, it remains possible for that undertaking, in order to prevent that practice from being regarded as abuse of a dominant position, to show that that practice is or was justified objectively, either by certain circumstances of the case, which must, inter alia, be external to the undertaking concerned (see, to that effect, [*TeliaSonera* at [31] and [75]]), or,

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[202] European Commission, *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings* (OJ C 45, 24.2.2009).
[203] Case T-612/17 ECLI:EU:T:2021:763 at [551] and [552].

> having regard to the objective ultimately pursued by Article 102 TFEU, by the interests of consumers (see, inter alia, to that effect, judgment of 30 January 2020, *Generics (UK) and Others*, C-307/18, EU:C:2020:52, paragraph 165)" .

701. The question is what is meant by circumstances external to the undertaking. In the context of the objective necessity defence, it seems to us that the relevant distinction is between objectives which are for the benefit of Apple (which are not considered legitimate for the defence) and objectives which are for the benefit of consumers and others (which may be legitimate). In other words, the point about externality is that Apple should not be able to rely on the defence if it is doing something which is for its benefit, not the consumers of its products and services. That seems consistent with the reference by the General Court in *Google Shopping* to things which are necessary from "a technical or commercial point of view", which we think can only make sense if linked back to the legitimacy of the objective (that is, the benefits to consumers).

702. That suggests that Apple is permitted to advance an aim of offering an integrated and centralised service to the extent that is for the benefit of iOS device users or developers, rather than Apple itself. The circumstances which should be considered in assessing the objective necessity of that aim are the nature of those benefits to users and developers and the necessity and proportionality of the restrictions in seeking to achieve those benefits.

(ii) Public interest objectives

703. There then arises the further question (point (2) above) as to whether public interest objectives can be a legitimate basis for an objective necessity defence. The Class Representative relied on a variety of authorities for this point.

704. In *Hilti* and Case T-83/91 *Tetra Pak International SA v European Commission* ECLI:EU:T:1994:246 ("*Tetra Pak*"), it was made plain that it is not open to a dominant undertaking to impose self-serving conditions supposedly to address safety or other public interest issues. For example, in *Tetra Pak* the Court of First Instance said at [83]:

> "Furthermore, the applicant's argument as to the requirements for the protection of public health and its interests and those of its customers cannot be accepted. It is not for the manufacturers of complete systems to decide that,

> in order to satisfy requirements in the public interest, consumable products such as cartons constitute, with the machines with which they are intended to be used, an inseparable integrated system. According to settled case-law, in the absence of general and binding standards or rules, any independent producer is quite free, as far as Community competition law is concerned, to manufacture consumables intended for use in equipment manufactured by others, unless in doing so it infringes a competitor's intellectual property right (see the judgment of the Court of First Instance in [*Hilti* at [68]], and the judgment of the [CJEU in *Hilti* at [11] – [16]])."

705. Apple sought to distinguish those cases as being specific to attempts to prevent third parties from manufacturing consumables for use in equipment manufactured by others. Apple recognised that dominant undertakings should not normally take the law into their own hands when that can be done more effectively by a regulator but said there is no general rule that public interest objectives can never be a legitimate objective, especially if there is no prospect of regulatory intervention to deal with the relevant issue.

706. The 2009 Guidance deals with this point at [29]:

> "Exclusionary conduct may, for example, be considered objectively necessary for health or safety reasons related to the nature of the product in question. However, proof of whether conduct of this kind is objectively necessary must take into account that it is normally the task of public authorities to set and enforce public health and safety standards. It is not the task of a dominant undertaking to take steps on its own initiative to exclude products which it regards, rightly or wrongly, as dangerous or inferior to its own product."

707. Apple said this proposition finds no support in the EU case law and that the 2009 Guidance is being replaced in any event, but we think it is a good summary of the reasoning in *Hilti* and *Tetra Pak*.

708. In our judgement, to the extent that Apple's objectives are the protection of the public generally, as opposed to protecting the consumer from something inherently harmful in the product or service itself, they fall outside the ambit of the objective necessity test.

(iii) <u>The elimination of all competition or proportionality?</u>

709. Point (3) arises from a broader argument about the extent to which the objective necessity test under Chapter II/Article 102 is aligned with or differs from what is known as the ancillary restraints doctrine which applies to Chapter I/Article

101 cases. Under the ancillary restraints doctrine, a similar assessment of objective necessity is carried out. Apple acknowledges that the two tests are similar[204].

710. The Class Representative relied on the decision of the CJEU in Case C-333/21 *European Superleague Company* ECLI:EU:C:2023:1011 ("*Superleague*"), where the Court appears to seek to create a degree of consistency between Article 101 and Article 102, as well as between the objective necessity and efficiencies test which can be deployed in relation to each of them (in relation to Article 101, the ancillary restraints doctrine is equivalent to the objective necessity defence under Article 102; the statutory defence under Article 101(3) is the equivalent of the efficiencies defence under Article 102). As a consequence, the CJEU said the following:

> "[201] Consistently with what is provided for in Article 101(3) TFEU, it follows from the Court's case-law relating to Article 102 TFEU that an undertaking holding a dominant position may show that conduct liable to come within the scope of the prohibition laid down in that article may yet be justified ([*Post Danmark I* at [40] and *Servizio Elettrico* at [46]]).
>
> [202] In particular, an undertaking may demonstrate, to that end, either that its conduct is objectively necessary, or that the exclusionary effect produced may be counterbalanced or even outweighed by advantages in terms of efficiency which also benefit the consumer ([*Post Danmark I* at [41] and *Servizio Elettrico* at [46] and [86]]).
>
> [203] As regards the first part of that possibility, it follows from paragraph 147 of the present judgment that the establishment, by FIFA and UEFA, of discretionary rules on prior approval of international interclub football competitions, control of participation by clubs and players in those competitions and sanctions, precisely because of their discretionary nature, can in no way be regarded as being objectively justified by technical or commercial necessities, unlike what could be the case if there was a framework for those rules providing for substantive criteria and detailed procedural rules meeting the requirements of transparency, clarity, precision, neutrality and proportionality which are imperative in this field. Accordingly, objectively speaking, those rules, controls and sanctions have the aim of reserving the organisation of any such competition to those entities, entailing the risk of eliminating any and all competition from third-party undertakings, meaning that such conduct constitutes an abuse of a dominant position prohibited by Article 102 TFEU, one not justified, moreover, by an objective necessity."

711. The Class Representative said it is plain from the above, and especially [203], that the CJEU is recognising non-elimination of competition as an essential

[204] Apple's written closing submissions at [333].

element of the objective necessity test. Mr Hoskins KC submitted that, in this way, the CJEU is seeking to achieve consistency between the two defences of objective justification provided for under Article 101 and Article 102.

712. Apple pointed out that there are previous decisions of the CJEU where it did not apply non-elimination of all competition as a condition of the ancillary restraints defence under Article 101[205]. It also referred to a General Court decision about a selective distribution agreement where the same argument failed[206]. Apple submitted that the test of proportionality is an adequate one for determining whether the dominant firm has gone too far in reducing or eliminating competition.

713. It may well be that the CJEU's approach in *Superleague* seeks to make the defences under Articles 101 and 102 more consistent. That seems to us to be a sensible approach, with much to commend it. However, it is not clear to us that [203] of *Superleague* introduces into the objective necessity defence under Article 102 a requirement that the dominant firm should demonstrate that competition has not been eliminated.

714. The critical passage is the last sentence: "[a]ccordingly, objectively speaking, those rules, controls and sanctions have the aim of reserving the organisation of any such competition to those entities, entailing the risk of eliminating any and all competition from third-party undertakings, meaning that such conduct constitutes an abuse of a dominant position prohibited". It seems to us that this might simply be saying that the aim of the restrictions in question was to eliminate competition, which meant that it could not be a legitimate objective, which is a requirement of the defence.

715. We are not therefore persuaded that the non-elimination of competition is a required condition of the objective necessity test under Article 102 or Chapter II. The question of the elimination of competition is to be considered as part of

[205] Case C/309/99 *JCJ Wouters & ors v Algemene Raad van de Nederlandse Orde van Advocaten* ECLI:EU:C:2002:98.
[206] Case T-712/14 *CEAHR v European Commission* ECLI:EU:T:2017:748 ("*CEAHR*").

the two existing requirements: (1) is the restriction objectively necessary to the achievement of a legitimate objective and (2) is it proportionate?

716. As it happens, that conclusion makes no difference to the outcome of our consideration of Apple's objective necessity defence.

(iv) Is there a requirement that the operation is impossible to carry out without the restriction?

717. Point (4) also arises out of *Superleague* and the parallels between the objective necessity defence under Article 102 and the ancillary restraints doctrine under Article 101.

718. The Class Representative's argument was that, under Article 101, when considering an ancillary restraint, "it is necessary to inquire whether that operation would be impossible to carry out in the absence of the restriction in question". This would mean that the conduct has to be shown to render impossible not just the particular operation of the relevant undertaking, but the *type* of operation in which it is engaged. The Class Representative submitted that it is entirely logical that the same approach to objective necessity should apply under both Article 101 and Article 102 because it should not be easier for a dominant company to justify potentially anticompetitive conduct under Article 102 than it is for a non-dominant company under Article 101.

719. Apple relied on *CEAHR* as an example of an Article 102 case where that approach was not taken. In that case, luxury watch brands could justify their conduct not in relation to the operation of the manufacture of watches generally, but on the grounds that the brands sought to preserve the quality of their "prestige" watches in particular. The Class Representative responded by noting that *CEAHR* does not address the principle in question and is in any event concerned with selective distribution, which is subject to special treatment in EU competition law.

720. It seems somewhat surprising that there is no clear authority on this point. Apart from *CEAHR*, the only authority cited to us was the Opinion of Advocate

General Rantos in *Superleague*, who seemed simply to assume the same test should apply to both defences[207]:

> "131. Accordingly, the analysis developed regarding the application of the case-law on 'ancillary restraints' in the context of the answer given to the second question referred for a preliminary ruling can be transposed when examining the measures at issue in the present case in the light of Article 102 TFEU."

721. In our view, *CEAHR* does not resolve the question. We agree with the Class Representative that the case does not seem to address the point of principle and that the case is not directly comparable, as it was essentially a case about a selective distribution system and the interplay between the assessment of that under Article 101 and Article 102 is complex.

722. It does seem to us to make considerable sense to have alignment between the two defences, as they seem to seek to achieve essentially the same thing and, as the Class Representative pointed out, it would be odd if a dominant firm otherwise infringing Article 102 should have a lower hurdle than a non-dominant firm under Article 101.

723. As it happens, it is not a question which we need to resolve in order to decide this case, as we are able to reach a conclusion on Apple's objective necessity defence without addressing whether or not Apple's operation would otherwise be impossible. Given the complexity of the point, the paucity of authority cited to us and the relatively short time spent on it in submissions, we reach no concluded view on it.

(c) Other points of law raised by the Class Representative

724. The Class Representative submitted that only benefits that are causally linked to the relevant restriction (as opposed to the ecosystem as a whole) are relevant in the context of the defence of objective justification[208]. According to the Class Representative, Apple must identify (and quantify) any benefits attributable

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[207] The Opinion of Advocate General Rantos in *Superleague* ECLI:EU:C:2022:993.
[208] In reliance on *Sainsbury's Supermarkets Limited v MasterCard Incorporated & Ors* [2019] 1 All ER 903, [2018] EWCA Civ 1536, at [84].

specifically to each restriction. We did not understand Apple to challenge this proposition.

725. The Class Representative also argued that the Tribunal should take into account the absence of any contemporaneous documents supporting Apple's case, referring to Case T-321/05 *AstraZeneca v Commission* EU:T:2010:266 ("*AstraZeneca*") at [688] and *Purple Parking*[209] at [183].

(3) The evidence advanced by the parties in relation to justification

726. Apple called two witnesses of fact whose evidence was the primary vehicle for introducing the factual context for its justification arguments:

(1) Mr Kosmynka, the senior director of App Review at Apple.

(2) Mr Federighi, the senior vice president of software engineering at Apple.

727. We have recorded in section B the central points of fact which emerged from the witness evidence and extensive cross examination of Mr Kosmynka and Mr Federighi.

728. Both parties also presented expert evidence from experts in digital security issues:

(1) Dr Wenke Lee for the Class Representative, who is the Regents' Professor and John P. Imlay Jr. Chair at the School of Cybersecurity and Privacy, College of Computing, Georgia Institute of Technology Atlanta.

(2) Professor Aviel Rubin for Apple, who is a Professor Emeritus in Computer Science at Johns Hopkins University.

729. There was considerable disagreement between Dr Lee and Professor Rubin on a range of subjects. We found them both to be somewhat argumentative,

[209] The Class Representative's written closing submissions, appendix A, [8]; *Purple Parking*.

advancing opinions which seemed more founded in a desire to make a point for their instructing party, rather than necessarily founded in a proper evidential source or in an area of proper expertise.

730. As it happens, the facts which we think are material to Apple's justification defences are largely uncontroversial and are for the most part recorded in section B of this judgment. It is not therefore necessary to traverse in any detail the disagreements between the experts.

731. We will instead set out the central thrust of Apple's arguments, the Class Representative's responses, and our views on the important areas in dispute. Apple divided its arguments into four legitimate objectives (which are relevant to both the objective necessity defence and the efficiencies defence):

(1) Benefitting users in terms of safety, security and privacy.

(2) Benefitting users in terms of enhanced performance.

(3) Differentiating iOS devices and services and promoting competition on the merits.

(4) Operating an efficient system for the collection of Commission.

(4) Safety, security and privacy

732. Apple's arguments as to objective justification are primarily advanced on the basis of its objective of securing increased privacy, safety and security for iOS device users. A summary of these threats is set out in section B.

(a) iOS app distribution

733. Before we consider the relevance of the safety, security and privacy threats to iOS app distribution, it is necessary to say something about the counterfactuals put forward by the Class Representative, against which the questions of necessity and proportionality are to be assessed.

734. The counterfactual argument advanced by the Class Representative developed during the course of the hearing. Her initial position, as put forward in Lee 1 and 2, was a counterfactual where the restrictions are removed and Apple does not conduct a full App Review for iOS apps. That means that the level of review by third-party app marketplaces would potentially affect the safety, security and privacy of users who access iOS apps through those third parties. Dr Lee maintained that those third parties would have the incentives and the means to conduct a level of review that protected users sufficiently. We will refer to this counterfactual as the "initial counterfactual".

735. During the hearing, the Class Representative developed an alternative counterfactual in which Apple would maintain its system of conducting centralised vetting and certification of every app developer, centralised App Review of every iOS app against its full Guidelines, and periodic computerised checks of iOS apps. In other words, Apple would continue to do more or less what it does now in relation to the assessment of iOS apps distributed through the App Store. The Class Representative argued that Apple would in any event be carrying out this exercise as it was likely that all iOS apps would be available through the App Store as well as on any alternative app marketplace. We will refer to this counterfactual as the "security counterfactual".

736. There was a great deal of cross examination of Dr Lee and Professor Rubin, as well as other factual and expert witnesses, on these counterfactuals and the various aspects of safety, security and privacy that they give rise to. We were shown a number of reports and articles, some which seemed to have more evidential value than others. We had described to us various circumstances in which apps of an unpleasant nature were made available to users in some marketplaces, or users experienced bad outcomes from using apps with malign features.

737. It is not possible to record here every detail of that wealth of evidence. We will instead summarise the key points, as we understand them, and the arguments which flowed from them. We will do that by looking separately at each of the initial and security counterfactuals.

(i) The initial counterfactual

738. Apple advanced four reasons why there would be a material reduction in safety, security and privacy for users in the initial counterfactual:

(1) Third parties are unlikely to have the same incentives as Apple.

(2) Third parties do not have the ability to achieve an app review process which is as effective as Apple's App Review.

(3) Third parties could not practicably be compelled to operate an equally effective app review process through contractual regulation or an industry body.

(4) There would therefore be an increase in the availability and installation of malicious iOS Apps.

739. Third parties are unlikely to have the same incentives as Apple:

(1) Apple argued that Dr Lee failed to grapple with the problem of direct distribution through developer websites as a "vector for attacks", relying on industry studies which note a rise in "feral apps" as a result of this[210]. Apple referred to phishing and smishing techniques used on the Android platform, and Mr Federighi's evidence about attackers creating webpages appearing to be Apple webpages in order to manipulate users[211]:

> "So, for instance, take our banking app that we belaboured so. Now imagine I am a developer who says I want to create a fake App Store on which to serve that banking app to fool victims. I will get some benign app approved -- well, actually -- yeah, I will get some benign app to be approved by Apple, and then on my website, the banking website, will make itself look like the App Store, even though it is just a website. It will have Apple logos all over it, it will mimic the UI style of the App Store, and many unsophisticated users will be led to believe, 'Oh, great, I am actually on the Apple App Store', and now they are served up this banking app which is, lo and behold, featured as the number

[210] RiskIQ, *2020 Mobile App Threat Landscape Report*, February 2021, at pages 3-7.
[211] Day 8/79/21 to 8/80/11.

one most popular app that is trusted and has great reviews, and that is where I think I am buying from."

(2) Apple argued that other app marketplaces such as the Google Play Store do not prioritise user safety, security and privacy to the same extent as Apple, referring to the fact that Google only introduced human app review in 2015, only applied it to a proportion of apps, and only introduced mandatory verification of developer identities in 2023. Apples noted that, according to RiskIQ, there were 25,647 "blacklisted" apps on the Google Play Store in 2019, and 10,292 in 2020[212]. It noted that the App Store has been considered[213] to be superior to Google, Aptoide and Huawei's app marketplaces in the steps it has taken to protect user privacy. It noted that Google's prioritisation of advertising revenue provides a "powerful disincentive" to provide the level of privacy protection that Apple provides.

(3) Apple contended that app marketplaces on Android other than the Google Play Store are even worse as regards security and privacy, relying on a report from the National Cyber Security Centre[214]. Apple quoted from this report with regard to app marketplaces generally but referred in particular to Aptoide, which it said has looser content regulations and hosts pornographic content[215]. According to a review by the Department for Digital, Culture, Media & Sport (the "DCMS Review"), apps which have not passed the Aptoide malware screening will still be allowed on the Aptoide store[216].

(4) Apple submitted that Dr Lee's evidence was inconsistent in relation to the app review processes of other marketplaces, arguing that he eventually conceded that not every app marketplace would incentivise security to the same extent as Apple[217].

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[212] RiskIQ, *2020 Mobile App Threat Landscape Report*, February 2021.
[213] Department for Digital, Culture, Media & Sport, *Literature review on security and privacy policies in apps and app stores*, 9 December 2022.
[214] National Cyber Security Centre, *Threat report on application stores*, 4 May 2022.
[215] Joe Hindy, Android Authority, *10 best third-party app stores for Android*, 15 March 2024.
[216] Department for Digital, Culture, Media & Sport, *Literature review on security and privacy policies in apps and app stores*, 9 December 2022.
[217] Day 10/31/22 to 10/37/4.

740. Third parties do not have the ability to achieve an app review process as effective as Apple's App Review:

(1) Apple did not accept the Class Representative's argument that there is a commercially available alternative to each part of Apple's App Review, pointing out that that argument is flawed in three respects.

(2) The first flaw is that it is overly simplistic to take each tool in isolation, on the basis that App Review consists of an integrated pipeline combining several different proprietary tools developed by Apple. Mr Kosmynka referred to this as "taking a tool off of a different shelf and plugging it into the system"[218]. Apple noted that Dr Lee stated in cross-examination that this would be "a large engineering effort", depending on "the talent you have"[219].

(3) The second flaw concerns a situation where, even if an equivalent integrated set of tools were built, that would not be as effective as Apple's, because efficacy will depend on the quantity and quality of data available to those tools for training[220]. An alternative app marketplace commencing operations on 1 October 2015, the first day of the Relevant Period, would not have the same repository of data that Apple had gathered over the previous seven years. Even if the marketplace operator had some experience of app distribution, it would not have the same extent and quality of data that Apple has. Further, any retention of market share by Apple in the counterfactual would mean that it would continue to have higher quality data.

(4) The third flaw is that, even if a third party had the same data repository as Apple, the reality is that Apple knows more about its hardware, software and operating system than any third party, which confers an added advantage when it comes to conducting App Review.

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[218] Day 5/40/25 to 5/41/11 (private).
[219] Day 10/149/24 to 10/150/1.
[220] Apple's written closing submissions at [510]. Apple refers to Dr Lee's evidence at Day 10/150/21 to 10/150/24 that "the more data you have, the more high quality, relevant data you have, the better".

(5) Overall, Apple argued that it is unrealistic to suggest that an alternative marketplace would invest the level of resources required to secure the level of standards Apple has achieved. Apple noted that the Class Representative has not calculated the investment required to duplicate or improve Apple's system.

741. Third parties could not practicably be compelled to operate an equally effective app review process through contractual regulation or an industry body:

(1) Apple argued that any imposition by it on third-party marketplaces of contractual obligations is not practicable, will not deal with direct distribution, and will not address the fact that alternative app marketplaces will have different incentives. Apple relied on Mr Federighi's evidence[221] about the difficulty of enforcing contractual obligations to Apple from third-party app marketplaces under the DMA. According to Apple, Dr Lee's proposal of an industry body acting as an arbiter of these obligations does not resolve practicability issues. Apple noted that he conceded there could be "months" of delays to resolve issues[222].

742. There would therefore be an increase in the availability and installation of malicious iOS Apps:

(1) Apple based this argument on the Android experience, referring to industry reports demonstrating there is more malware on Android devices[223].

(2) Apple invited us to prefer Professor Rubin's evidence over Dr Lee's, citing the latter's refusal to accept that different distribution or app review models contributed to the disparity in outcomes between Android

[221] Day 8/104/11 to 8/106/18.
[222] Day 10/143/19 to 10/143/20.
[223] RiskIQ, *2020 Mobile App Threat Landscape Report*, February 2021; Platon Kotzias, et al, IEEE Symposium on Security and Privacy, *How Did That Get in My Phone? Unwanted App Distribution on Android Devices*, May 2021; Zimperium, *2023 Global Mobile Threat Report*, 28 June 2023; Nokia, *Threat Intelligence Report 2020*, 22 October 2020; Nokia, *Threat Intelligence Report 2023*, 6 June 2023.

and iOS. Professor Rubin stated that Android's decentralised distribution model was a "key" reason for the disparity[224]. Apple offered four reasons for believing that Android's policies on developer identification and code-signing and the presence of multiple manufacturers are "less significant causal factors" than its policies on distribution and app review:

(i) Mandatory developer identification and code-signing involve no review of the content of the apps.

(ii) Mandatory developer identification and code-signing are a weak deterrent.

(iii) Dr Lee provided no data to support his argument that the fragmentation of responsibility between manufacturers leads to the potential for delayed rolling out of software patches and updates which would address vulnerabilities, noting also that he accepted that Samsung has a "powerful incentive to prevent infections on its devices"[225].

(iv) Dr Lee could not cite a single source supporting his opinion as to the relative causal importance of mandatory developer identification and code-signing[226].

743. The Class Representative's arguments on the initial counterfactual were as follows:

(1) The Class Representative argued that the historical differences in safety, security and privacy between the iOS and Android systems is a consequence of factors other than App Review and the relevant restrictions. One key factor has been the historical lack of mandatory developer identification and code signing processes in the Android

[224] Rubin 2 at [15].
[225] Day 10/60/12 to 10/60/14.
[226] Day 10/48/11 to 10/48/22.

system. There was no mandatory developer verification in the Google Play Store until 2023. Self-signed apps were not prohibited on the Google Play Store until 2021[227]. Android devices are manufactured by multiple manufacturers, as distinct from Apple devices being from a single source. An email from Mr Federighi to Mr Cook recognised this as a "significant" structural issue affecting security[228].

(2) By contrast, mandatory developer verification and code-signing have been considered central to iOS device security from the commencement of operations on the App Store.

(3) In the initial counterfactual, Apple would continue to enforce mandatory developer verification and code-signing and would require all iOS apps to be signed using Apple-issued certificates. This means that: (i) the author of a malicious app could be identified, disincentivising a would-be attacker; and (ii) Apple would be able to prevent a malicious app from being downloaded onto an iOS device from any distribution source, prevent it from being run on any iOS device, and terminate the relevant developer's account.

(4) The Class Representative also argued that current app review processes in the Android system and in PC gaming (for example, Steam) are effective, suggesting that it would be feasible for third parties to build effective review processes for an alternative iOS app marketplace.

(5) The Class Representative also noted that there is an almost complete absence of internal Apple documentation which identifies safety, security or privacy (or indeed, performance) as the rationale for the iOS app distribution restrictions.

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[227] Day 24/117/21 to 24/117/24.
[228] Apple, *Email from C. Federighi to T. Cook (copied to P. Schiller and J. Gregory) with subject title "Re: Android's head of security claims platform now as secure as iOS – if not more so … | 9to5Mac"*, 16 March 2018.

(6) On the other hand, she noted that contemporaneous documents show that sandboxing and mandatory code-signing (which do not, it is said, depend on the iOS app distribution restrictions) were seen by Apple as central to the security of iOS devices in October 2007 and that centralised app distribution was seen as necessary only in so far as it was required to ensure that Apple's business model could be enforced.

(ii) The security counterfactual

744. The Class Representative's counterfactual argument seemed, by the end of the trial, to have shifted to rely substantially on the security counterfactual. In this version of the counterfactual, it was assumed that Apple would continue to maintain a full App Review for all iOS apps, regardless of where they were distributed. This was in addition to the centralised vetting and certification of every app developer and continued checks of iOS apps after distribution. Accordingly, the bulk of Apple's arguments at trial as to safety, security and privacy focused on this counterfactual.

745. Apple's arguments on the security counterfactual were as follows:

(1) Apple argued that its Guidelines are intended to ensure that: (i) iOS apps perform reliably in the way that users expect and minimum design standards are prescribed to prevent low quality and "copycat" apps; (ii) iOS apps are not infected with malware; (iii) iOS apps do not seek to manipulate users through social engineering; (iv) iOS apps seek informed consent for the way in which their data is being tracked and used; and (v) iOS apps do not display objectionable content.

(2) Apple asserted that there would be material reductions in security, privacy and safety outcomes for iOS device users even in the security counterfactual. It argued that the decoupling of iOS app distribution from App Review would result in:

(i) Fragmentation of information by which problematic iOS apps can be identified post-distribution. This has four aspects: (a)

identifying false marketing information; (b) user reviews and ratings; (c) user reports and concerns; and (d) transaction data.

(ii) Enforcement action and removal of problematic iOS apps being more cumbersome, with consequent delays allowing attackers to do more harm.

(iii) Weaknesses in iOS which would increase incentives to submit iOS apps that breach the Guidelines, leading to increased harm to iOS device users.

(3) The first fragmentation problem identified by Apple relates to situations where a developer may provide one set of marketing information for approval during App Review but present a different set to the iOS device user, in a form of false advertising or social engineering. Apple referred to two examples mentioned by Mr Federighi in the course of his evidence. One relates to banking "trojans", where an app with basic password functionality is approved and subsequently a user is manipulated into thinking that the app is associated with a banking institution. The second relates to a situation where a developer offers minimal but accurate information to Apple during App Review, and then markets that app for purchase on the basis that it has far greater functionality[229]. Apple submitted that developers would have no incentive in the security counterfactual to provide full marketing material to Apple, and Apple would have no "real lever" to force them to do so. That means it would be harder to spot false claims, and attackers would have more incentive to engage in "information arbitrage". Mr Federighi described centralised distribution and App Review as[230]:

> "critically interlinked in terms of the closed loop between them and the incentive structure for the developer…You break that link between those two things and the value of App Review is diminished and the opportunity for attackers to get in the system goes way, way up".

[229] Apple's written closing submissions at [364]; Day 8/53/19 to 8/55/1.
[230] Day 8/84/25 to 8/85/9, referred to in Apple's written closing submissions at [365].

(4) The second fragmentation problem relates to user reviews and ratings, the importance of which was emphasised by Mr Federighi[231]. Apple relied on a report by RiskIQ which Apple said supports the contention that a small number of malicious apps can affect a huge number of iOS device users, Apple noted that:

(i) Users are highly unlikely to leave reviews on the App Store when they have downloaded an app elsewhere, and Apple would not have the ability to police reviews left elsewhere.

(ii) Other app marketplaces may choose not to allow user reviews at all, as was the case for the Epic Games Store when it launched, meaning that review data might not exist at all.

(iii) Such reviews, if they exist, might not be reliable or authentic, as alternative app marketplaces might not be willing to police review authenticity the way Apple does. [✂]

(5) The third fragmentation problem relates to reports or concerns sent by iOS device users to Apple through Apple Care, the "Report a Problem" function, or by email. Apple stated that [✂], and users would be less likely to report concerns to Apple via other means if the relevant app had been downloaded elsewhere.

(6) The fourth fragmentation problem concerns transaction data, which Apple is currently able to access for every iOS app obtained on the App Store. Lacking this data from transactions on other marketplaces, Apple would not be able to identify so comprehensively patterns of fraudulent conduct or unusual activity (this issue is also relevant to the payment restrictions). Apple's transaction data facilitates its "multi-layer" approach to protection, which would be fundamentally undermined. Mr

[231] Apple's written closing submissions at [366]; Day 5/115/5 to 5/115/25 (private).

Kosmynka explained how the App Review team and other fraud and security teams interact in this regard[232].

(7) Apple does not believe that these fragmentation problems would be resolved by the fact that Apple could continue to run computerised checks of iOS apps post-distribution. This is because:

(i) [✂].

(ii) [✂].

(iii) [✂].

(iv) [✂].

(8) Moving on from fragmentation, Apple contended that enforcement would be more difficult in the security counterfactual because Apple would not be able to react swiftly to problematic iOS apps, as it would be required to consult with developers or alternative app marketplaces, leading inevitably to disputes and delays.

(9) Apple argued that, as the security of the system weakened, incentives to attack it would increase. Apple referred in this regard to Mr Federighi's evidence[233]:

> "MR KENNEDY: You would agree with me that the difference between the number of malware infections on iOS, as compared to Android, is similarly a function of the cumulative differences between the security architecture as employed on iOS on the one hand, and Android on the other hand, yes?
>
> MR FEDERIGHI: Yeah, although it is not clear in what proportion -- with iOS we think of it as holistically, if you create a chink in the armour, attackers will tend to attack that vulnerability. So it is not that if you remove 5% of the protections, you get a 5% increase in problems. If you remove 5% of a wall that is meant to protect something, you have opened the wall. So yes, it is cumulative, but the totality is extremely important."

[232] Kosmynka 1 at [93].
[233] Day 8/115/24 to 8/116/12.

746. The Class Representative's arguments on the security counterfactual were as follows:

(1) The Class Representative referred to the four elements of Apple's defence in depth approach set out in Mr Federighi's evidence[234]. She noted that Mr Federighi and Professor Rubin accepted that iOS devices would continue to use all the hardware and software security measures mentioned in their witness statements, even if the relevant restrictions were removed. The Class Representative noted that Mr Federighi accepted that iOS apps would continue to be sandboxed and signed by developers regardless of distribution channel, preventing installation of any iOS apps that had not been through App Review[235], and also that Professor Rubin agreed that Apple would be able to revoke iOS apps signatures[236]. As to App Review, Mr Federighi that Apple could continue to review iOS apps distributed in the UK against its full Guidelines, having previously accepted that it would be in principle possible to do so[237].

(2) The Class Representative considered that the removal of the iOS app distribution restrictions would lead to a change in only one feature of defence in depth. This would be that information about iOS apps would cease to be centralised within Apple, though it would remain the repository of information on iOS apps after App Review, and the dispersion would come after this. However, she noted that:

(i) Only [✂] of iOS apps turn out to be malicious after App Review.

(ii) Apple would be able to monitor apps post-App Review using information gathered from various sources.

[234] Federighi 1 at [49]-[51].
[235] Day 8/98/5 to 8/103/1.
[236] Day 11/138/3 to 11/138/12.
[237] Day 8/75/9 to 8/76/18.

(iii) Third parties are likely to be under contractual obligations to Apple to seek to identify malicious apps and take appropriate action.

(3) The Class Representative argued that, as a result, there might even be more proactive monitoring post-App Review in the security counterfactual than in the actual world.

(4) If, in the security counterfactual, a malicious iOS app was identified after App Review, the Class Representative argued that Apple could: (i) remove the app; (ii) ask third parties to remove the app; (iii) revoke its signature; (iv) review the App Store and App Review to ensure apps similar to it do not make it through again. On this basis, the Class Representative argued that fragmentation of information following the removal of the relevant restrictions is not a serious issue. Further, the Class Representative noted that Mr Federighi and Professor Rubin accepted that any differences in security between iOS, Android, Windows and macOS were not explained only by centralised app distribution. Finally, she noted that none of the privacy principles identified in Federighi 1 depend on centralised app distribution.

(b) The payment restrictions

(i) Apple's arguments

747. Apple contended that the requirement to use its payment systems, particularly when combined with centralised iOS app distribution, is part of how Apple protects iOS device users and developers. It argued that the Class Representative's proposition that Apple would be better off leaving this to third parties, who would protect users just as well, is intuitively wrong and also contradicted by the evidence.

748. First, Apple contended that its payment system minimises the potential "attack surface" for iOS device users as much as possible. This is premised on the fact that it is currently possible for an iOS device user to input their payment details

only once, following which they can be used for every subsequent purchase. The likelihood, if the relevant restrictions were removed, is that users would be asked to provide their details to a number of entities on a number of occasions. Apple noted that Paddle and other payment service providers can sub-contract certain functions, meaning payment details are being stored and transmitted by a number of third parties. The "larger attack surface" that is created by this cannot, it is said, be completely answered by digital wallet technology, in that it is "used by a minority of consumers" and could still result in the same larger attack surface problem. Apple also contended that Payment Card Industry Data Security Standard ("PCI-DSS") certification is a "baseline for protection" which needs to be supplemented. In addition, some payment service providers may not be compliant with it.

749. Second, Apple said that Dr Lee accepted[238] that other payment service providers might prioritise security differently to Apple. That means that, if developers were to use an alternative payment service provider, it might not protect user data in the same way as Apple. Dr Lee's suggestion that users could decide then which payment service provider to use was termed as "wholly naïve" by Apple due, essentially, to the fact that developers – and not users – would be the ones making these decisions. Further, payment service providers which provide developers with "webpage checkout functionality" would create the possibility for "malicious redirect" attacks which does not exist for Apple's payment services.

750. Third, even an alternative payment service provider willing to develop fraud protection comparable to Apple's would, it is said, face serious difficulties in doing that. Machine learning underpinning Apple's fraud detection depends on both quantity and quality of data. However, the data needs to be about in-app purchases to be useful. According to Professor Rubin, even though payment service providers may have a greater quantity of data for all types of payments, this may not be a solution, as those providers may be better at detecting "generic fraud" but not at detecting the specific type of fraud which may arise in in-app

[238] Day 10/210/17 to 10/211/5.

purchases[239]. Essentially, the argument is that having a large amount of data for different types of transaction would serve to "skew" the data in an unhelpful way.

751. Fourth, to the extent that decentralising leads to fragmentation of transaction information, Apple argued it will have a smaller and less representative dataset from which to train fraud detection tools. Apple noted that Dr Lee accepted this possibility[240]. Apple contended that this would also harm developers, because Apple currently seeks to identify and terminate fraudulent consumer accounts, which it could not do in the counterfactual. Apple noted that Dr Lee considered that alternative payment service providers would have an incentive to inform Apple about fraudulent customer activity[241], but Apple said that this should not be assumed, and the assumption does not consider the smaller datasets available to those payment service providers, as well as the potential for delay in communication. Apple noted that it is entitled to justify the payment restrictions on the basis of the benefits it accrues from applying them in as many jurisdictions as possible. Apple argued that any suggestion by Dr Lee that Apple could buy this data from other payment service providers is not practicable.

752. Fifth, Apple argued that the combination of a centralised payment system with centralised app distribution has particular advantages, especially for App Review. This relates to the data that Apple gathers from in-app purchase transactions, as well as to the fact that Apple's StoreKit API has a process which automatically communicates with the developer's system and notifies Apple when the digital goods or services have been delivered.

753. Sixth and finally, as to any suggestions made by the Class Representative that use of Apple Pay in a counterfactual without requiring the use of Apple's payment system would mean no security issues would arise, Apple noted that this case was not pleaded, and as such no evidence has been led. Apple said that the existence of Apple Pay does not mean the payment restrictions are unnecessary to secure enhanced security. Apple noted that Apple Pay is not

[239] Day 12/25/16 to 12/25/23.
[240] Day 10/212/20 to 10/213/12.
[241] Day 10/214/20 to 10/214/21.

engineered so that Apple obtains and/or stores specific transaction information which can be linked back to a user. Only anonymised information is retained by Apple from Apple Pay. Apple stated that Apple Pay is currently not engineered in such a way that all the same information drawn from in-app purchase could be received through Apple Pay, and problems with fragmentation and fraud detection would still remain. In the absence of any rule requiring use of Apple Pay, iOS device users might not have the choice to use it, nor might they be sufficiently informed about it. No counterfactual was put to the witnesses in which users would be required to use Apple Pay, and Apple noted that iOS device users would have a narrower choice of payment methods than currently, and alternative payment service providers would be limited in what they could offer.

(ii) The Class Representative's arguments

754. The Class Representative noted that Mr Schiller did not know the details of how Apple provides iOS device users' information to third parties in the context of in-app purchases, nor did he know the security processes surrounding them[242]. A similar point was made in respect of Professor Rubin. On that basis, the Class Representative argued that neither witness was in a position to give evidence on the comparative security of third parties. The Class Representative noted that Dr Lee's evidence on the adequacy of PCI-DSS compliance was not challenged, and Mr Burelli's evidence to the same effect was not "seriously" challenged. The Class Representative also noted that Professor Rubin accepted that, in other jurisdictions, Apple requires alternative payment service providers to be PCI-DSS level 1 compliant, despite its contention in these proceedings that compliance with the PCI-DSS is not sufficient to ensure security for iOS device users[243]. PCI-DSS is in fact the only specific security standard Apple requires for alternative payment service providers in connection with in-app purchases. Moreover, the Class Representative cited two reports which it said indicate failures by Apple itself to comply with PCI-DSS, to which Professor Rubin did not refer.

[242] The Class Representative's written closing submissions, appendix A, [22]; Day 6/146/11 to 6/146/18.
[243] The Class Representative's written closing submissions, appendix A, [24]; Day 12/7/8 to 12/7/13.

755. On the "generic fraud" point, the Class Representative noted that none of the characteristics identified as defining in-app purchases transactions were peculiar to iOS, noting that Mr Owens's evidence was that Paddle may have more data than Apple on digital purchases[244], and referring to Professor Rubin's acceptance of the fact that, in the counterfactual, payment service providers would grow their datasets and become more effective at identifying fraud[245]. The Class Representative relied on Dr Lee's evidence that third-party payment service providers are better than Apple at detecting fraud because of their "more comprehensive datasets", and noted this evidence was not challenged. She also referred to Mr Burelli's evidence that Apple's verification of developer identities is "standard practice"[246].

756. In spite of examples given by Professor Rubin as to data breaches associated with certain undertakings (where it is said that it is not clear that the relevant payment service providers were PCI-DSS compliant), the Class Representative noted that: (i) neither Dr Lee nor Professor Rubin could identify any security incidents which have arisen as a result of changes made to the payment restrictions in South Korea or the Netherlands; and (ii) Professor Rubin presented no evidence of data breaches associated with in-app purchases for physical goods and services (where Apple's payment systems cannot be used). Further, she noted that Mr Schiller accepted that Apple Pay could be used for digital in-app purchases in the UK in the absence of the payment restrictions, taking away the need for iOS device users to re-input their payment information[247].

757. The Class Representative noted that Professor Rubin accepted that whether Apple's ability to detect fraud would be impaired due to less data in the counterfactual depends on how much data would be lost and the quality of the data[248]. She submitted that, because no witness had sought to quantify how

[244] The Class Representative's written closing submissions, appendix A, [31]; Day 4/123/21 to 4/124/2.
[245] Day 12/32/12 to 12/32/19.
[246] Day 9/138/9.
[247] Day 6/156/15 to 6/157/19.
[248] Day 12/70/23 to 12/71/5 (private).

much data would be lost, there was no basis to find that Apple's ability to detect fraud would be impaired.

758. The Class Representative offered some further arguments as to the relevant restrictions. The first relates to Apple's role as a "single security checkpoint" for detecting fraud; in this regard she relied on Mr Burelli's evidence that numerous third parties play a role in processing payments, each of which have its own security checks[249]. She also noted that Mr Schiller and Professor Rubin accepted Mr Burelli's evidence that third parties could provide developers and users with the same services offered to developers by Apple[250] (though Professor Rubin did not accept this in respect of "Family Sharing")[251].

759. Finally, the Class Representative repeated her observations about the absence of internal documentation connecting the restrictions with payment system security and she noted that in recent US proceedings an Apple witness has suggested that the restrictions were introduced to make it easier for developers to sell digital goods, to make the user experience consistent and to prevent developers from circumventing the Commission.

(5) Enhanced performance

(a) Apple's arguments

760. Apple argued that the restrictions are necessary to achieve enhanced performance, arguing that centralised distribution enhances the efficacy of App Review which in turn helps iOS apps perform reliably, and prevents low quality or copycat apps.

761. Apple said the requirement to use Apple's payment systems is made necessary by three performance benefits:

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[249] Burelli 2 at [13].
[250] Day 6/170/1 to 6/172/14; Day 6/155/9 to 6/159/9; Day 6/155/10 to 6/159/24; Day 12/46/9 to 12/54/2; Day 12/51/18 to 12/53/19; Day 12/53/20 to 12/54/2.
[251] Day 12/45/8 to 12/45/11.

(1) Apple referred to the evidence of Mr Schiller[252] for its argument that in-app purchase has made the experience of purchasing digital goods and services inside an app a more efficient experience for developers and consumers, and it referred also to the evidence of Mr Burelli that this process is completely "seamless" and results in an increased conversion rate[253].

(2) Apple relied on the evidence of Mr Howell as well as Apple's own webpage[254] for the proposition that there is no alternative payment service provider which offers the full suite of services offered by Apple, meaning that in the counterfactual an iOS device user could lose certain services. Apple referred in particular to its subscription management service, parental controls, including the "Ask to Buy" functionality, and the Family Sharing functionality. All of these services, Apple said, could not be offered with the same functionality by other payment service providers in the counterfactual[255].

(3) The refund process for iOS device users is simplified because for any refund for any digital good or service purchased, users can go directly to Apple. Apple relied on Mr Howell's evidence that some alternative payment service providers may provide poor customer service in this regard[256].

(b) The Class Representative's arguments

762. In relation to centralised app distribution, the Class Representative argued that, in the security counterfactual, all iOS apps would continue to be reviewed against the Guidelines, so there would be no degradation of performance.

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[252] Schiller 1 at [141]-[142].
[253] Day 9/120/19 to 9/121/17.
[254] Apple Developer, *Using alternative payment options on the App Store in the European Union*.
[255] Apple refers to the cross examination and re-examination of Mr Howell to support this contention, in that he agreed that Paddle could not offer these services unless they were the nominated billing partner for the app. He also stated that a public API would be needed: Day 8/206/23 to 8/209/9.
[256] Day 9/23/13 to 9/23/16.

763. In relation to the requirement to use Apple's payment system, and specifically in relation to the seamlessness of in-app purchases, the Class Representative noted this is contradicted by the evidence about the in-app purchase of physical goods and services, which do not use Apple's payment systems, but accounted for $413 billion in billings compared with $61 billion for digital in-app payments in 2019[257].

764. The Class Representative also noted that, without the restrictions, there would be competition on parameters such as performance, with users and developers able to choose the option that suited them best.

(6) Differentiating iOS devices and services and promoting competition on the merits

(a) Apple's arguments

765. Apple argued that it needs to impose the restrictions in order to differentiate itself by its "centralised and integrated approach" to apps and payments. It argued that the way in which apps would be sold on iOS devices absent the restrictions would resemble the position on Android devices, with a multiplicity of marketplaces for apps offering worse protection for consumers than Apple's proposition. Without the requirement to use Apple's payment system, Apple could not offer its safe and seamless service to all users.

766. Apple referred to this approach as one of the two key features of the App Store emphasised by Apple to users and developers since its launch. It said that this differentiation would not be realistically available with less restrictive terms. The centralised and integrated approach has been a differentiator and driver of competition in the highly competitive markets for devices.

[257] Jonathan Borck, Juliette Caminade, Analysis Group, *How Large Is the Apple App Store Ecosystem*, 15 June 2020.

(b) The Class Representative's arguments

767. The Class Representative responded by submitting that Apple and other undertakings would compete on a number of parameters in the counterfactual, including price, quality, security and privacy. She referred to Professor Sweeting's evidence[258]:

> "MR KENNEDY: Focusing on differentiation, one undertaking may charge more and be more secure, and another may charge less and be less secure, yes? That is a possible outcome in a competitive --
>
> PROFESSOR SWEETING: That is possible, I would agree with you.
>
> MR KENNEDY: iOS Device users and iOS App Developers will choose between those undertakings according to what they value, yes?
>
> PROFESSOR SWEETING: They will choose according to all of the attributes that they value, price and quality in a number of dimensions. What they may not do is -- or what they would not be expected to do is to internalise some of the externalities they have on -- their choices may have on other users and developers.
>
> MR KENNEDY: So one user may prefer to spend more and receive greater security and another may prefer to spend less and take greater security risks, yes?
>
> PROFESSOR SWEETING: That is possible."

768. The Class Representative characterised Apple's case as contending that the competition process "cannot be trusted" and she submitted that proper competition on these parameters (that is, without the restrictions) would in fact be competition on the merits. She pointed to evidence that it is possible for third parties to carry out more comprehensive app reviews than Apple does. She contended that competition in the counterfactual could lead to better performance, privacy and security for users who value those factors, and to lower prices for users in general.

[258] Day 20/145/21 to 20/146/13.

(7) Operating a system for the efficient collection of commission

(a) Apple's arguments

769. Apple argued that the restrictions as they relate to payments – that is, the requirement to use Apple's payment system – are necessary to ensure the efficient collection of the Commission from iOS device users. Apple pointed to the evidence of Mr Schiller[259] in support of this argument, where he referred to the difficulties identified by Apple in introducing an "honour system" for the payment of the Commission in the EU under the DMA. Apple pointed to this as evidence of a less efficient process. Apple also pointed to Mr Burelli's evidence that it is "industry standard practice" for payment service providers to deduct fees before remitting the fee to the developer.

(b) The Class Representative's arguments

770. As to Mr Schiller's evidence of the "honour system", the Class Representative said this was in fact proof that Apple has the ability to design a process to collect the Commission without the payment restrictions. She also pointed to the Spotify Decision, where the European Commission rejected Apple's contention that its anti-steering rules were objectively justified because they prevent developers from circumventing the Commission[260]. The Class Representative referred also to Mr Burelli's oral evidence that the collection of the Commission could be automated through the use of APIs (that is, without the need for the restrictions[261]).

(8) Measuring efficiencies

(a) Apple's arguments

771. Apple noted that both Professor Sweeting and Dr Singer accepted the difficulty associated with the quantification of efficiencies. Professor Sweeting

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[259] Schiller 1 at [159]; Day 6/177/3 to 6/177/19.
[260] Spotify Decision at Recital (823).
[261] Day 9/124/24 to 9/125/18.

recognised the quantification will depend on the counterfactual at play. Dr Singer did not make any real attempt at quantification.

772. Professor Sweeting referred to the value that iOS device users place on the privacy and security of their data by reference to a study[262] in which individuals were asked how much they would need to be paid per month in exchange for certain institutions sharing types of their data with third parties. The data they valued most highly was financial and biometric data. By reference to the figures offered, Professor Sweeting concluded that the average UK consumer values those data in the range of £125.40 to £150.10 per year. Apple argued that this is a conservative approach in that it: (i) did not account for all the benefits all iOS device users derive from the fact that Apple reduces incentives for attacks to be attempted, and from negative externalities produced by actions of others in the ecosystem being mitigated; (ii) relied upon data from US or Latin American consumers, whereas UK consumers are likely to care more about privacy.

773. Apple pointed out that Professor Sweeting's proxies for the value which users place on the privacy and security benefits flowing from the restrictions greatly exceeds the per user overcharge calculated by the Class Representative's experts, which is in the range of £1.74 to £9.17 per annum.

774. Apple noted that Professor Sweeting acknowledged that only a portion of the estimated benefits will be lost in the counterfactual and the calculation of the true figure will be a matter for the Tribunal to decide, on the evidence before it[263]. In this regard, Apple referred to the Class Representative's suggestions in cross examination that the incremental benefit of the Ask to Buy functionality might be around £0.56 per class member per year, or that subscription management would approximate between £0.30 to £0.60 per class member per year. If similar valuations were applied to all the benefits valued by Professor Sweeting, Apple said the benefits would still outweigh the harms.

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[262] Jeffrey Prince and Scott Wallsten, Journal of Economics and Management Strategy, *How Much is Privacy Worth Around the World and Across Platforms?*
[263] Apple's written closing submissions at [408].

775. Though Professor Sweeting did not quantify benefits conferred on developers, Apple noted that the enhanced ability of Apple to detect fraud on the part of consumers is of assistance to developers. Generally, Apple argued that the Class Representative's case, without putting any evidence before the Tribunal as to what users want and what they think certain risks are worth, would force Apple to "create a chink in the very armour constructed to protect iOS Device users".

(b) The Class Representative's arguments

776. The Class Representative argued that Professor Sweeting's estimates were not estimates of the incremental causal effect of the restrictions but of the value that users may attach to specific features. The Class Representative contended that this is fatal to Apple's case on efficiencies, and said that Professor Sweeting's estimates were not reliable estimates of any benefits arising specifically from the restrictions and did not establish any benefits to users, let alone ones that outweigh the loss suffered. In any event, the Class Representative challenged various aspects of the figures which underpinned Professor Sweeting's analysis and she submitted that his calculations were unreliable.

(9) Our analysis – the efficiencies defence

777. Having set out in some detail the arguments made by Apple about the benefits to users and the Class Representative's challenges to those arguments, we are in fact able to deal with this defence relatively shortly. It is clear, as a matter of law, that the efficiencies defence cannot succeed where the impugned conduct eliminates effective competition, by removing all or almost all sources of effective competition.

778. We have already decided that this condition refers only to competition in the relevant market, and not to constraints which might operate from outside the market. We therefore reject Apple's argument that we should take into account competition in the devices markets or any other constraints which are external to the iOS app distribution services market or the iOS in-app payment services market, as we have defined them.

779. We find that Apple's restrictions do eliminate effective competition in those markets by removing all sources of competition. Accordingly, the efficiencies defence fails.

780. We would not in any event have been satisfied that the value of the efficiencies asserted by Apple outweighed the harm arising to users. This is for several reasons:

(1) Apple has failed to establish that any performance, security or privacy benefits were attributable specifically to the restrictions it has imposed in relation to iOS app distribution and iOS in-app payments. The evidence before us made it clear that, absent the restrictions, there would still be significant protections afforded by Apple's defence in depth system, which included the hardware sandbox protections, software protections and some degree of app review (either a full App Review by Apple in the security counterfactual, or the likelihood of at least some version of that on most alternative platforms).

(2) In the security counterfactual, all that would be materially different is the potential for fragmentation of information held by Apple. However, we are not persuaded that this is a sufficiently material issue to lead to a safety, security or privacy problem that requires the restrictions to resolve.

(3) In relation to the measurement of the value of any efficiency gain, Professor Sweeting's analysis failed to identify any causal connection between the restrictions and the value users might place on safety, security and privacy. He did not attempt to compare the effects of the restrictions on safety, security and privacy in the real world with a counterfactual world absent the restrictions[264]. The study he relied on was not specific to the UK and the questions it asked participants did not establish any causal link with the restrictions. Under cross examination, his analysis was exposed as superficial and not reflective of a realistic

[264] See Day 20/161/10 to 20/161/14 and Day 20/171/3 to 20/171/19.

counterfactual world. Apple produced no other evidence to show what link there might be between user value and the restrictions. In our view Professor Sweeting's analysis goes nowhere near the causal and quantitative specificity that is required in order to establish an efficiencies defence.

(10) Our analysis – the objective necessity defence

781. Apple's objective necessity case in relation to the restrictions on iOS app distribution is largely founded on benefits to consumers (as opposed to developers) which are said to arise from the integrated and centralised system for iOS app distribution. In the main, those benefits derive from the safety, security and privacy protections which Apple said are inherent in the iOS ecosystem.

782. We accept that there is evidence that iOS is a superior offering to consumers who are concerned about safety, security and privacy. That may in part be a reflection of the delay in the Android operating system and associated app marketplaces adopting good practices for delivering good outcomes in those areas. In other words, it is not clear to what extent the differences between the iOS and Android ecosystems are the result of the restrictions or some other process, such as developer verification or mandatory code signing. Our assessment is that the restrictions do, in their absolute control of iOS app distribution, contribute to the safety, security and privacy features of iOS.

783. We also accept that there is evidence that some users value safety, security and privacy. That evidence is mainly in the form of surveys and the results are somewhat mixed, reflecting the inevitable problem that survey outcomes tend to depend on the questions asked. However, we agree with Apple that there is likely to be a group of users, potentially of significant size, for whom safety, security and privacy are important issues.

784. However, that does not necessarily mean that that group of users (or indeed, the wider user population) need or want an integrated and centralised service for iOS app distribution and in-app payment services. In any counterfactual, iOS

device users will have the opportunity to download apps from the App Store only or only make in-app payments through Apple's payment systems. The introduction of competition through the removal of the restrictions does not force users to transact with other marketplaces or payment processors, if they prefer to use Apple.

785. In the security counterfactual, iOS device users will get the benefit of App Review and the application of the Guidelines in any event. We understood Mr Federighi to accept that this was a realistic counterfactual scenario[265]. As a result, it seems difficult to say that there is any material reduction, in such a counterfactual, in the benefits which an iOS device user who is concerned about safety, security and privacy will receive. Mr Federighi's evidence on the point was as follows:

> "MR KENNEDY: If the App Distribution Restrictions -- do you understand what I mean by that term, Mr Federighi, just before I ask the question? So, on this side of the court, we refer to the "App Distribution Restrictions" as the defined term to mean the prohibition on distributing apps outside of the UK App Store storefront, okay?
>
> MR FEDERIGHI: Okay, I will now understand it as such.
>
> MR KENNEDY: If the App Distribution Restrictions were removed for the United Kingdom, it would be technically possible for Apple to continue to review all iOS apps for distribution in the UK against the full set of App Review Guidelines, yes?
>
> MR FEDERIGHI: Again, depending on whether those commercial elements were also permitted, right? So if law in Europe said, 'Yes and even though apps are distributed on other sites they must use Apple's IAP', then Apple could continue to review for IAP. If part of that legislation said, 'No, no, no, you cannot do IAP either', we would start pulling away at those guidelines.
>
> MR KENNEDY: Do not worry about IAP. We have had a conversation with Mr Kosmynka --
>
> MR FEDERIGHI: Yeah, I am just saying that is-- (overspeaking) --
>
> MR KENNEDY: -- (overspeaking) -- just for your knowledge, I have explored that with --
>
> MR FEDERIGHI: Oh, with [Mr] Schiller?
>
> MR KENNEDY: -- Mr Kosmynka --

[265] See for example Mr Federighi's evidence at Day 8/76/5 to 8/76/18.

MR FEDERIGHI: Oh.

MR KENNEDY: -- and the interaction between App Review and IAP or the absence of IAP, but what I am interested in is essentially what is technically possible and the question is: is it technically possible for Apple to continue to review all iOS Apps for distribution in the UK against the full set of guidelines?

MR FEDERIGHI: Yeah, Trystan would probably be best equipped to understand the details of all the guidelines and whether that is strictly true, but in principle, I think it is possible, what you say.

MR KENNEDY: To the best of your knowledge?

MR FEDERIGHI: Yeah, I believe so.

MR KENNEDY: Apple would do so if it was possible?

MR FEDERIGHI: I would think so. I would think -- all that we could, yeah.

MR KENNEDY: Thank you."

786. At the same time, any iOS device user who does not value safety, security and privacy so highly will be able to choose a distribution option which is more competitive on other parameters of competition, such as price. That is an important benefit for iOS device users generally.

787. Apple argued that there will be a degree of degradation of its service through the fragmentation of information which would be available to it in any counterfactual and a dispersion of responsibilities which would make enforcement more difficult. We accept that some degree of fragmentation and dispersion is possible. However, we consider that to be a marginal issue in the assessment of the need for and proportionality of the restrictions and not one which could sensibly be said to justify the absolute nature of the restrictions:

(1) As the Class Representative pointed out, the level of problematic apps identified by Apple's review processes at present is small, in the region of [✂].

(2) It would be open to Apple to have contractual relationships with other distributors which allowed for the sharing of data and promoted collective enforcement.

(3) Unsurprisingly, the current Apple process is not infallible. We were shown evidence of malicious apps which had been missed by the App Review. That is not a criticism of Apple, but it does show that complete assurance is not realistic and that a low level of failure to detect malicious apps does not undermine Apple's objectives.

788. It may also be the case that some iOS device users who choose to access iOS app distribution or iOS in-app payment services from other providers are exposed to malicious actors and might suffer personal or economic harm as a result. Similarly, it is possible that iOS device users may not appreciate the risks of dealing with some distribution providers and may inadvertently suffer such harm. However, it is clear from cases such as *Hilti* and *Tetra Pak* that it is not the role of a dominant firm like Apple to protect users from such harms, at the cost of competition.

789. To the extent that Apple implements the restrictions with the objective of differentiating iOS devices from Android or other devices, it seems to us that the answer is the same. There is no reason why Apple cannot promote the choice it offers to users to transact through the App Store, with whatever enhanced protection Apple said it is able to deliver, as a means of differentiation. It is not necessary to remove user choice altogether to make that case.

790. In short, the restrictions relating to iOS app distribution are not necessary to provide iOS device users with the benefits which Apple said they are intended to promote and not proportionate to the objective of delivering those benefits.

791. In relation to the iOS in-app payment restrictions, Apple maintained similar arguments about security and privacy. In our judgement, these are unfounded. Any payment service provider who replaces Apple's payment services will have to be a PCI-DSS compliant entity. Apple sought to show that this is not a sufficiently exacting standard, by suggesting that it was possible to become compliant at a low level by way of self-certification and by providing examples of payment processors who had experienced security issues.

792. Neither of these arguments was convincing. We accept Mr Burelli's responses[266] to the effect that one would expect payment service providers who were processing iOS in-app payments to have the highest level of PCI-DSS certification, which is an exacting standard, and that certification does not provide assurance of security, as breaches can happen for unrelated reasons. The real point is that there is an industry-wide standard to ensure adequate protection for security and privacy in payments.

793. In that context, Apple's argument was essentially that it has a responsibility to protect users from the risks inherent in alternative providers who are meeting industry standards. That argument falls foul of the exclusion of public harm concerns as set out in *Hilti* and *Tetra Pak*. As a monopolist in the market for iOS in-app payment services, it is not for Apple to seek to exclude potential market participants on the basis that users need to be protected from the perceived risks of using those alternative providers.

794. To the extent that Apple's objective is to facilitate the collection of Commission, that is an internal benefit, not an external one, and cannot properly be the basis for an objective necessity defence.

795. As for Apple's arguments about the relative level of data to which other payment processors might have access in order to detect fraud, these seemed not only speculative but also lacking in credibility. As Mr Burelli pointed out, payment service providers are in general highly sophisticated at fraud detection and protection[267]. There is no reason to think that they would perform in a materially worse way than Apple does.

796. As a consequence, the restrictions associated with Apple's payment systems are not necessary to provide iOS device users with the benefits which Apple said they are intended to promote and not proportionate to the objective of delivering those benefits.

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[266] Day 9/130/8 to 9/135/23.
[267] See Burelli 2 at [13].

797. We are fortified in our views by several other factors:

(1) The near complete absence of any internal Apple documents making a connection between the need for the restrictions and the benefits they are said to deliver is a telling factor against Apple's objective necessity defence. Surely, if Apple thought it was an important objective to justify the restrictions, that would have been extensively documented internally.

(2) The regulatory interventions in the EU, the Netherlands and South Korea all suggest that there is a perfectly workable outcome where iOS app distribution services and iOS in-app payments services are open to competition, without material impact on the services Apple provides.

(3) The fact that the regulators in those jurisdictions have taken the steps they have tends to confirm that they do not see the restrictions as necessary or proportionate. We would not rely on that as a matter of evidence to reach our conclusions, but it is a factor which we think we can take into account as a sense check on those conclusions.

798. We therefore find that Apple's objective necessity defence fails, in relation to both the iOS app distribution restrictions and the iOS in-app payment restrictions. In our view, the restrictions cannot sensibly be justified as being necessary or proportionate to deliver the benefits which Apple puts forward as flowing from its objective of an integrated and centralised system. On the contrary, the competition which would exist absent the restrictions is in our view much more likely to deliver the benefits that consumers want, in the form and at the price point they want them.

(11) Our conclusion on Apple's justification defence

799. Apple has not met the required conditions to establish either of its justification defences. The efficiencies defence fails because the iOS app distribution restrictions and the iOS in-app payment restrictions lead to the elimination of

all competition in the iOS app distribution services and the iOS in-app payment services markets respectively.

800. The objective necessity defence fails because the restrictions cannot sensibly be justified as being necessary or proportionate to deliver the benefits which Apple puts forward as flowing from its objective of an integrated and centralised system.

I. QUANTUM

(1) Introduction

801. We have found that the Class Representative has established an infringement of Chapter II/ Article 102 in respect of:

(1) Apple's exclusionary conduct, in foreclosing the iOS app distribution services market and the iOS in-app payment services market from competition and in tying Apple's payment services to the App Store.

(2) Apple's excessive and unfair pricing by way of the Commission.

802. Up to this point, it has not been necessary for us to identify with any precision the level of competitive entry and the price that would apply in circumstances where the restrictions were removed (in the case of the exclusionary abuses) or, alternatively, what price Apple would have charged in conditions of workable competition.

803. These are not straightforward questions, as they involve the assessment of a variety of complex and interrelated factors to create a counterfactual world and a counterfactual competitive price against which the present level of Commission can be compared. That is by definition an exercise in speculation. As Mr Hoskins KC put it in his oral opening submissions:

> "There is something I do not want to shy away from. There is absolutely no doubt that the assessment of damages in a case such as this is difficult. It would be foolish for me to suggest otherwise. It is a very difficult exercise, but what is really important for the Tribunal is that that difficulty does not mean that

> damages cannot or should not be awarded. What it means is that the Tribunal must do the best that it can on the evidence available."

804. We certainly agree that it is a very difficult exercise. There are two broad tasks for us to carry out:

(1) To determine the overcharge, which is the amount by which the Commission exceeds the price which developers would be charged in the counterfactual. We will undertake this for the exclusionary abuses and the excessive and unfair pricing abuse.

(2) To determine the level of incidence, which is the amount of any overcharge which has been passed on to iOS device users (and therefore to class members).

805. Before turning to each of these subjects, there are some overarching legal points to consider.

(2) The legal framework for determining quantum

806. In English law, claims of competition law infringement are brought as breaches of statutory duty, which is a type of tort claim. It is well known that the measure of loss, in tort cases, is the amount of damages that will place the claimant in the situation they would have been in had the tort not been committed. This involves an assessment of what would have happened in a hypothetical or counterfactual case where the tort was not committed, so that the claimant's damages can be quantified.

807. In this subsection, we will address the following points:

(1) Establishing actionable harm or damage.

(2) The standard of proof and the "broad axe".

(3) Some issues relating to counterfactuals.

(a) Establishing actionable harm

808. It is a necessary condition of a tort claim that some actionable harm or damage has been caused by the wrongdoing. As long as the loss is not purely nominal, it is not necessary to establish the specific amount of any loss to meet this condition. A finding, on the balance of probabilities, that some loss has occurred is sufficient[268]. As we understood it, this was all common ground between the parties.

(b) Standard of proof and the "broad axe"

809. Once it is established that some loss has been suffered (so as to perfect the tort claim), the claimant's cause of action is complete, and the claimant is entitled to compensation almost as a matter of right[269]. In particular, the balance of probabilities test ceases to be the basis of assessment of the extent of loss suffered. Instead, the court will do its best to quantify the compensation on the available evidence[270]. This approach is referred to as the "broad axe" principle, under which[271]:

(1) The court will not allow an unreasonable insistence on precision to defeat the justice of compensating a claimant for infringement of their rights. The fact that damages cannot be assessed with certainty does not relieve the wrongdoer of the necessity of paying damages for its breach.

(2) The court must do the best it can on the evidence available, even if that is exiguous evidence.

(3) A resort to informed guesswork rather than scientific calculation is of particular importance when the court has to proceed by reference to a hypothetical or counterfactual state of affairs.

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[268] See for example the approach of the Chancellor in *Royal Mail Group Ltd v DAF Trucks Limited* [2024] 2 WLUK 413, [2024] EWCA Civ 181 ("*Royal Mail CA*"), at [138] -[145].
[269] See *Mastercard v Merricks* [2020] 2 All ER 637, [2020] UKSC 51 ("*Merricks SC*") per Lord Briggs JSC at [47]; *Royal Mail CA* at [145].
[270] See *Morris-Garner v One Step (Support) Limited* [2019] AC 649, [2018] UKSC 20 per Lord Reed JSC at [37].
[271] See *Merricks SC* at [46]-[54].

(4) Justice requires that the damages be quantified for the twin reasons of vindicating the claimant's rights and exacting appropriate payment by the defendant to reflect the wrong done. In collective proceedings, the second reason is fortified by the perception that anti-competitive conduct may never be effectively restrained in the future if wrongdoers cannot be brought to book by the masses of individual consumers who may bear the ultimate loss from misconduct which has already occurred.

810. Again, we understand this framework, and the application of the "broad axe", to be common ground between the parties.

(c) Counterfactual issues

811. We have already (in section F on exclusionary abuse) referred to the Court of Appeal's judgment in *National Grid*, which emphasises the discretion we have in determining the appropriate counterfactual. The parties agreed in general terms that the exercise in this situation is to reflect what would likely have been the position if the restrictions had not existed.

812. However, there was a disagreement about the nature of the counterfactual as at the beginning of the Claim Period (1 October 2015). In essence, the issue is whether any account needs to be taken of the way in which, and the period during which, the removal of the restrictions as at that date would have affected the relevant markets and prices.

813. The Class Representative's primary position was that it is not necessary to do so, as it must be assumed that Apple was dominant and therefore acting abusively immediately prior to 1 October 2015 (on the assumption that we have found an abuse existing on that date) and it is necessary to purge a counterfactual of any unlawful conduct on the defendant's part[272].

[272] The Class Representative relied in this respect on *Dune*, per Newey LJ at [39] and on a line of cases in the Tribunal: *Enron Coal Services (in liquidation) v English Welsh & Scottish Railway Ltd* [2009] CAT 36 at [87]-[89]; *Albion Water Limited v Dwr Cymru Cyfyngedig* [2013] CAT 6 at [61]; and *Achilles Information Ltd v Network Rail Infrastructure Ltd* [2022] CAT 9 ("*Achilles*") at [5(7)].

814. However, the Class Representative advanced an alternative case (the delayed counterfactual) against the possibility that she is wrong on this point.

815. Apple's position was that the Tribunal is unable to make a finding of abuse at any point prior to 1 October 2015, as we have no evidence to support that proposition and it cannot be inferred. As a consequence, it is necessary to hypothesise the removal of the restrictions on 1 October 2015 and then to consider how the market would have developed over time, in particular, how Apple's market position would be eroded over time, with the Commission decreasing accordingly.

816. We think that this is perhaps a simpler issue than either party's arguments suggest. Assuming for present purposes that there is an overcharge, it is part of an amount which has been paid by developers to Apple. Our task at this stage is not to model the removal of restrictions (or indeed to investigate any other change which occurred on 1 October 2015), but instead to work out by how much the actual Commission has exceeded a reasonably competitive commission in a counterfactual world without restrictions. That exercise does not require any analysis of a transition from an abusive to a non-abusive world. We are entitled to assume that the counterfactual is a non-abusive one for all of the Claim Period.

817. That is consistent with the authorities to which we were referred by the Class Representative, which make it plain that, for the purposes of the counterfactual world, we should assume Apple is not engaged in any violation of competition law or any other unlawful conduct. See, for example, the convenient summary in *Achilles* at [5(7)] and the authorities cited there:

> "(7) The counterfactual world is 'purged' of the competition law infringement in question and its consequences and any other unlawful conduct. That is to say, the Tribunal assumes, for the purposes of the counterfactual world, that Network Rail would not have engaged in any violation of competition law or any other unlawful conduct: see *Enron Coal Services Limited (In Liquidation) v English Welsh & Scottish Railway Limited* [2009] CAT 36 at [90] and *Albion Water Limited v Dwr Cymru Cyfyngedig* [2013] CAT 6 at [61]."

818. Apple suggested that this approach requires us to make a finding of unlawfulness prior to 1 October 2015 and that we should instead ask ourselves

what would have happened if the restrictions were removed on 1 October 2015. We disagree. All that is required is to assume that the abusive behaviour which we have found existed in the real world on and after 1 October 2015 did not exist on or after that date in the counterfactual. There is no exercise of retrospectivity required.

819. To approach the exercise in the way Apple suggested would necessarily involve Apple obtaining a benefit in the calculation of loss by reason of its abusive behaviour. There is no justification for Apple continuing to charge any element of a supra-competitive Commission on, say, 2 October 2015, just because it would take more time for the anti-competitive element of the Commission to be eroded away over time once Apple was forced to or decided to remove the restrictions and therefore faced rival entry into the relevant markets.

820. It would also add a considerable layer of complication to the quantification exercise, in circumstances where it is already a complex and difficult task. That would, in our view, unreasonably complicate the exercise of providing fair redress to class members.

821. For example, the question of whether or not Apple was committing an abuse prior to 1 October 2015 is a highly contentious one, with Apple saying the Tribunal has no basis on which to make such an order, and the Class Representative inviting us at least to infer such a state of affairs. It seems unrealistic and unduly burdensome to expect either party to address questions of dominance and abuse for an undefined period prior to the commencement of the Claim Period (which is after all driven by the limitation period to which class members' claims are subject). In order to ensure that class members have an effective remedy, and in the interests of fairness for both parties, it seems to us to be highly undesirable to be undertaking this type of exercise.

822. This conclusion does not require us to make any finding of dominance or abusive behaviour on the part of Apple prior to 1 October 2015. The simple point is that Apple is not entitled to be charging a Commission that reflects unlawful behaviour on or after that date and no analysis of a transitional period

is therefore required. As a consequence, we will give no further consideration in this judgment to the delayed counterfactual.

(3) Overcharge – the exclusionary conduct abuses

823. This exercise involves the identification of the level of Commission that would be charged by Apple in a counterfactual world in which the restrictions were removed and there was competitive entry. The key counterfactual elements are therefore the degree and nature of competitive entry and the effect that has on pricing for iOS app distribution services and iOS in-app payment services.

824. These are not new points. They were canvassed by the parties in relation to market definition and dominance and in relation to the assessment of the effect of the restrictions, as described in section F on exclusionary abuse. We did not find it necessary to delve in detail into the arguments in order to resolve the issues arising in those parts of the proceedings. We do now need to consider them in greater detail. The evidence and arguments put forward by the parties are described below.

825. The two points (competitive entry and pricing) are of course closely linked and there might usually be some logic in considering them together. However, we will address the arguments about them separately, as there are some points about pricing which deserve specific consideration. We will however be very conscious of the linkages between them when we come to make our assessment of the appropriate counterfactual.

(a) The degree and nature of competitive entry in the iOS app distribution services market

(i) The Class Representative's case

826. The Class Representative relied on the concession by Professor Sweeting, in Sweeting 1, that entry by competitors would be likely in the counterfactual. After discarding some implausible scenarios, Professor Sweeting's opinion was:

> "[309] Beyond these implausible scenarios, there are many potential states of the world that could exist in the counterfactual. In my view, one reasonably plausible state of the world is one in which a small number (potentially two or three) of larger alternative iOS app transaction platforms exist in addition to the App Store, along with a fringe of much smaller alternative iOS app transaction platforms. This assumption is supported by the fact that for other types of devices in which developers can transact on multiple app transaction platforms, such as Android devices and PCs, there are a small number of platforms operated by well-known companies plus a fringe of platforms operated by much smaller firms. In addition, the economics of two-sided platforms finds that the existence of indirect network effects often results in a small number of larger platforms. [...] [T]he App Store is likely to be the largest iOS app transaction platform in this scenario and would still command a large portion of revenue on iOS app transactions.
>
> [310] It is likely that at least some of the operators of these larger platforms would be existing technology firms, such as Google, Amazon, Microsoft, Facebook, and Sony, or digital game developers, such as Tencent, Electronic Arts, and Epic. This is likely since many of these firms already operate app transaction platforms or large storefronts that offer their own games. In addition, these firms are all well-known brands and could attract at least some developers and consumers to their app transaction platforms compared to new startup transaction platforms. It is possible that some of these firms would create app transaction platforms that offer multiple types of apps (e.g., iOS apps and Android apps)." (footnotes omitted)

827. The Class Representative noted that Mr Federighi supported this logic by predicting that a large developer would enter the iOS app distribution services market in the EU as a result of the changes promoted by the DMA[273].

828. The Class Representative also relied on Mr Howell's evidence to the effect that:

(1) There is no technical limitation which would prevent the use of alternative distribution channels to the App Store on iOS devices in the UK.

(2) Several alternative iOS app marketplaces have already been announced in the EU following the implementation of the DMA, and Microsoft has announced that it intends to create an alternative iOS app marketplace to operate in the EU.

[273] Day 8/141/11 to 8/142/8.

(3) Developers would wish to use alternative app stores if their operators charged lower commissions than Apple's App Store and it was possible to steer their customers to those cheaper alternatives.

(4) There are several reasons why iOS device users could be expected to use multiple distribution mechanisms in the iOS app distribution services counterfactual, including a desire to pay a lower price for an equivalent iOS app, innovation, where an alternative store catered to a particular type of user (e.g. a gamer or user of productivity apps), the reputation and trustworthiness of the platform and whether an alternative store offered additional functionality not permitted by the Guidelines (for instance native apps incorporating third-party messaging apps).

829. As for the extent of competitive entry, and the consequent effect on Apple's market share, the Class Representative relied on the analysis conducted by Dr Singer, supplemented by agreements between Dr Singer and Professor Sweeting in their joint expert statement.

830. Dr Singer selected a counterfactual market share for Apple of 50%:

(1) Dr Singer used the devices market as a benchmark for Apple's counterfactual share in iOS app distribution services. Dr Singer considered this to be a sensible, conservative benchmark which reflects UK consumer preference and brand loyalty in an upstream market in which the abuses alleged in this case do not take place. He identified Apple's real world market share in iPhones and tablets in the UK as 50% of the market.

(2) Dr Singer referred to economic studies of industries where once dominant firms have faced competition and where there is competition in two-sided platform contexts. There is a relative paucity of examples of the former, which means that Dr Singer has focused on events surrounding two large corporates in the US: the break-up of AT&T and the reduction of dominance by Alcoa. These suggest market shares in the range of 35 to 60% for dominant firms after rival entry. For the two-

sided market analogies, Dr Singer looked at examples of payment processing markets, in which the largest participants (Visa for all ecommerce payments and PayPal for digital wallet services) have 35% and 13.75% market share respectively.

(3) Dr Singer acknowledged that it cannot be known with certainty what the right counterfactual market share is but he expressed confidence that the correct answer is within the 35-60% range.

831. It should be noted that these counterfactual shares are used for two purposes:

(1) Specifically, as an input into Dr Singer's two-sided market model based on an adapted Rochet-Tirole model, to estimate market entry into the iOS app distribution services market and the consequent effect on prices.

(2) As a general indication of the extent of competitive entry (and therefore likely competition on price) faced by Apple in the counterfactual.

832. In relation to Professor Sweeting's views, the joint expert statement records his views at [92] in response to the proposition that a plausible market share for Apple in the counterfactual would be between 50 and 90%:

> "Agree. I determined that in these counterfactuals, Apple's share would be at least 50 percent and potentially as high as 90 percent in Dr. Singer's iOS App Distribution Market. See [Sweeting 1 at [353]]. I note that while Dr. Singer also considers that Apple's market share could be higher than 50 percent, he considers a plausible range for Apple's counterfactual market share in his iOS App Distribution Market would be 30 to 60 percent. I disagree that this is the plausible range. Dr. Singer has incorrectly considered that Apple's counterfactual market share could be as low as 30 percent, and he has not considered that Apple's counterfactual market share could be as high as 90 percent. I also disagree that the 'point estimate' of Apple's counterfactual market share is 50 percent. See [Sweeting 2 at [143], [145], [151]]."

833. The Class Representative noted that Professor Sweeting's opinion is based on benchmarks of the Google Play Store and Steam. In relation to these:

(1) The Class Representative submitted that we should not use the Google Play Store as a reference point because it has been found to be dominant in the market for Android app distribution.

(2) Professor Sweeting identified Steam's market share of 39% as an underestimate of what Apple's position would be in the counterfactual. The Class Representative said this supports a finding of 50%.

834. The Class Representative therefore submitted that we should assume a 50% market share for Apple in the iOS app distribution services counterfactual.

(ii) Apple's case

835. Apple submitted that it would maintain a very large market share of 90% or more in the counterfactual. This submission is largely based on a comparison with the Google Play Store, which has a market share of more than 90%. Apple argued that Apple would enjoy the same network effects in the counterfactual as the Google Play Store does in the real world, and that Apple's position in relation to these factors would be stronger in the counterfactual than they are for the Google Play store in the real world.

836. Apple said that, in the counterfactual, none of these network effects would give rise to competition concerns (which might or might not be the case for the Google Play Store in the real world), so there is no basis on which to disregard them.

837. The main network effects that Apple identified are as follows:

(1) Pre-installation: The Google Play Store is pre-installed on all Android devices. Both the CMA and Dr Singer have identified this as an important factor in driving the Google Play Store's market share. There is uncertainty as to whether and under what restrictions other Android marketplace apps are pre-installed. However, in the counterfactual the App Store would be the sole pre-installed app marketplace for iOS, because there is no other manufacturer of iOS devices. Apple's position would in fact be stronger than the Google Play Store's in the real world, as the evidence is that other Android app marketplaces are pre-installed by some device manufacturers.

(2) Sideloading: the CMA referred to relatively low levels of sideloading of apps and web apps on Android devices as a further factor contributing to the Google Play Store market share. This would also be the case in the counterfactual, where Apple's ability (legitimately) to warn against sideloading would contribute to a high market share.

838. Apple also noted that the CMA attributed the Google Play Store market share to other factors such as agreements with developers and restrictions on payment service, but it said that these are not material to the present analysis.

839. Apple also argued that its entitlement to charge a fee for tools and technology (see below in the pricing section) and the requirement in the security counterfactual for developers to submit all apps to Apple's App Review would make alternative app marketplaces less attractive and would provide Apple with a further advantage in terms of market share that is not enjoyed by the Google Play Store.

840. Apple said that Professor Sweeting's agreement in the Joint Expert Statement of a market share range with a lower bound of 50% simply reflects him considering alternative comparators when faced with an argument that the Google Play Store might not be an appropriate comparator.

841. Apple also argued that Steam has retained a high level (as much as 85%) of market share in PC gaming apps, whereas the lower overall market share needs to be treated with caution as it is due to competition from direct distribution, as opposed to competing app marketplaces, which is a situation unaffected by the entry of Epic and Microsoft into PC gaming app distribution.

(b) Competitive levels of pricing in the iOS app distribution services market

(i) The Class Representative's case

842. The Class Representative submitted that market entry by rivals would have led to Apple charging a lower rate of Commission in the counterfactual. She said

that Professor Sweeting accepted, as a general proposition, that once there was market entry Apple would set a competitive rate for its iOS app distribution services (and its iOS in-app payment services)[274]. As a consequence, it is "overwhelmingly" likely that the price set by Apple in a counterfactual competitive market for distribution would be lower than in the actual, monopoly world.

843. As for the likely level of Commission, the Class Representative relied on Dr Singer's assessment of the Epic Games Store and the Microsoft Store (both with 12% commission) as benchmarks and also on the two-sided market model adapted from Rochet-Tirole, which produces a 15.1% commission rate.

(ii) Apple's case

844. Consistent with its argument that the best comparator for assessing market shares is the Google Play Store, Apple submitted that the 30% commission charged by the Google Play Store and also by other Android app marketplaces, such as Samsung, demonstrates that Apple's commission in the counterfactual world is unlikely to be lower than its Commission in the real world.

845. Apple also advanced a number of other arguments to suggest that the Commission would not be lower in the counterfactual world:

(1) Apple would continue to charge developers for its tools and technology in the counterfactual. As a result, it would not be economic for other app marketplaces to compete with the App Store.

(2) Apple argued that, if regard is to be had to PC app distribution, Steam is a better comparator and provides strong evidence that Apple's pricing is competitive.

(3) Apple also argued that an analysis of the difference in quality and other characteristics between Steam and other PC app marketplaces such as

[274] The Class Representative referred to Day 20/64/20 to 20/65/1; Day 20/19/2 to 20/19/8 and Day 21/86/16 to 21/87/22.

Epic and Microsoft supports its argument that Steam's effective commission rate (which is above Apple's effective Commission rate) is competitive.

(4) Apple referred to the commission charged by the online game platform Roblox, which Apple said is between 30% and 70%.

(5) Apple submitted that we should also view games consoles as good comparators for a competitive rate of commission.

Charging for tools and technology and App Review

846. Apple argued that it would be entitled in the counterfactual to charge developers for access to its proprietary tools and technology, which are essential elements for the creation of native iOS apps. It said that the tools and technology are extensive and highly valued by developers, who would be willing to pay for them.

847. As any charge or licence fee for the tools and technology would be payable by developers regardless of the marketplace on which the app was distributed, any alternative distribution (or payment) service would need to make it worthwhile for developers to use them on top of the payment to Apple for its tools and technology.

848. Apple argued that it has the incentive to charge developers and relied on the evidence of Mr Schiller that, if Apple's commission structure had not been open to it, Apple "would have explored other ways to ensure that Apple was adequately remunerated by developers for the value made available to them by the Apple ecosystem"[275].

849. It also referred to developments in other jurisdictions in which it has been constrained from charging Commission at the level of 30% and has instead introduced a charge. Pointing to the adjusted arrangements following the

[275] See Schiller 1 at [199].

application of the DMA in the EU, Apple noted that it has introduced a charge for tools and technology in the form of the CTF. Apple did not suggest that this charge would be identical in the counterfactual which should apply in this case. Instead, it said the CTF is informative because it shows that Apple would impose charges of this sort in the counterfactual.

850. There was also a suggestion (put to Dr Singer in cross examination) that Apple might also charge for App Review in the security counterfactual, in which Apple conducts App Review for all iOS apps, regardless of the marketplace through which they are sold.

(iii) Steam as a comparator

851. Apple argued that:

(1) Steam's historic rate of 30% applied in a market in which there were alternative distribution mechanisms and where there were no barriers to entry. It is therefore evidence that 30% is a competitive rate.

(2) It is wrong in principle just to focus on the lowest rate (20%) in Steam's adjusted three-tier commission structure. The 20% and 25% rates apply at high revenue thresholds (US$ 50 million and $10 million respectively), and even a game with $50 million revenue will pay an overall commission of 26%, which is higher than Apple's effective Commission rate of 25.2%.

(3) As discussed previously in this judgment, Apple also argued, by reference to the *Valve* proceedings in the US, that Steam's effective rate of commission is 27%, which is higher than Apple's effective rate of Commission.

(iv) Differences in quality and other characteristics of PC app stores

852. Apple made a number of observations about the quality of the Microsoft Store and the Epic Games Store. In relation to the latter, Apple questioned its business model, suggesting it is unprofitable and has a particular strategic objective,

which is to market Epic's own games and put litigation pressure on Apple. Apple deployed these points to argue that:

(1) Epic's 12% commission is not a good comparator.

(2) There is a justification for a material price difference between the commission on Steam's platform on the one hand and in the Microsoft Store and the Epic Games Store on the other hand.

(3) Such a price differentiation would be all the more justifiable for Apple, with its premium brand and high-quality offering.

(v) Roblox as a comparator

853. Roblox is an online game platform which allows third parties to create content to sell within games on the platform. Apple referred to Roblox's published commission rates which show that it takes a commission on sales of in-game content, with the amount payable to the creator being as low as 30% for many categories of content.

(vi) Games Consoles as comparators

854. Apple noted that major games consoles such as PlayStation, Xbox and Nintendo have charged a 30% commission throughout the Claim Period and said there is no evidential basis for excluding them as benchmarks.

(c) The degree and nature of competitive entry in the iOS in-app payment services market

(i) The Class Representative's case

855. Once again, the Class Representative looked to the joint expert statement for agreement between Dr Singer and Professor Sweeting that there would be competitive entry into the iOS in-app payment services market in the counterfactual, with multiple payment service providers able to facilitate in-app

purchases and subscription purchases[276]. Professor Sweeting conceded in cross examination that, if a number of alternative providers did enter the market, then he would expect competition on price and quality and, broadly speaking, the more competitors, the smaller Apple's market share would be.

856. The Class Representative relied on the MEM Study, the Spotify Decision, the disputes between Epic and Apple about the use of an alternative payment service providers and the evidence of Mr Burelli, Mr Howell and Mr Owens to support the proposition that there is developer demand for an alternative payment service provider in the iOS in-app payment services market.

(ii) Apple's case

857. Apple said that the Google Play Store remains the best indicator of likely market outcomes in the iOS in-app payment services market as well as the iOS app distribution services market. This is because:

(1) If the restrictions associated with app distribution are removed, the outcome will be the same in both the iOS app distribution services and iOS in-app payment services markets, as developers will be able to use alternative distribution options which will discipline the pricing of Apple's Commission for payment services (in both markets) as well. Apple noted that this was Dr Singer's own evidence[277].

(2) The evidence suggests a lack of developer demand, given: (i) the need to develop a payment solution solely for apps which will be sold in the UK market; (ii) the difficulty in pricing competitively when developers are paying Apple a fee for its tools and technology.

(3) Apple also relied on evidence from the Australian *Epic* proceedings in which Epic executives described a low take-up by developers of alternative payment service providers when Epic permitted that as an option. According to this testimony, less than 50 developers out of a

[276] Singer/Sweeting joint expert statement at [89] and [105].
[277] See Singer 2 at [176] and [177].

developer community of around 1,100 took up this option, despite the acknowledged shortcomings in Epic's own payment services. This was said to undermine Mr Howell's reliance on Epic as an example of developer demand.

(d) Competitive levels of pricing in the iOS in-app payment services market

(i) The Class Representative's case

858. The Class Representative submitted that Paddle, the payment service firm founded by Mr Owens, is the appropriate benchmark for the counterfactual payment services commission. Paddle has a 10% maximum commission and an average effective commission in the range of 6 to 7%.

859. The Class Representative also relied on a simulation model developed by Dr Singer for assessing the counterfactual commission rate. This is a one-sided model known as the Landes-Posner model. Like the Rochet-Tirole two-sided model, the Landes-Posner model is based on inputs of real-world data from Apple's transactional records together with some assumptions about counterfactual market share, marginal cost and the incidence rate. Dr Singer calculated Apple's counterfactual Commission rate for iOS in-app payment services to be 9.1%.

(ii) Apple's case

860. Apple noted that Paddle's fee structure includes other charges on top of the 10% commission. It said that in any event Paddle is not a good comparator because its services are narrower than Apple's and less attractive to users. This includes the ability on Apple's system to enter card details only once and the family sharing and parental controls that Apple offers, which Paddle does not.

861. Apple submitted that there are fundamental flaws in Dr Singer's modelling exercise:

(1) Dr Singer modelled price setting (here the percentage Commission) for iOS app downloads (in the iOS app distribution services market) separately from price-setting for in-app purchases (in the iOS in-app payment services market). Apple pointed out that in all markets in evidence for all platforms the two commissions are the same. Yet Dr Singer concluded that the Commission would be 15.1% for app downloads and 9.1% for in-app purchases – completely at variance with the realities of actual markets.

(2) Dr Singer failed to model how competition might take place in the counterfactual. He assumed, first, that Apple's Commission is set as a monopoly price and, second, that in the counterfactual intense competition would occur and rapidly erode Apple's market share. Professor Sweeting's criticism was that "rather than thinking about shares as an outcome of competition and developers' choices, he is imposing a counterfactual share as a parameter exogenously." In proper modelling for a market such as this both the prices and shares should be the outcome of competition not the share erosion assumed and the price erosion calculated as a consequence.

(3) Apple submitted that four crucial factors that should have been central to the modelling of price and/or share erosion in the counterfactual played no part in the modelling: differentiated products; indirect network effects; pre-installation of the App Store; and Apple's strong and trusted brand.

(4) In using the Landes-Posner model to modify the Rochet-Tirole model, Dr Singer effectively assumed that in the counterfactual there would be intense price competition of the kind found in a commodity market where every supplier's product is viewed by consumers as identical, with the result that price is the only variable that matters. Apple emphasised Professor Sweeting's evidence that Landes-Posner was the source of the equation Dr Singer used to calculate Apple's counterfactual elasticity of demand – a number critical to Dr Singer's modelling – which comes from a model where the firms are

undifferentiated and there is only one market-clearing price. This procedure was wrong and inadequate to the task and that in contrast the modelling should have estimated counterfactual prices and shares as an outcome in a differentiated firm and product market.

862. Apple continued to rely on its arguments about the Google Play Store and other comparators to submit that its current Commission is set at a competitive rate and that would be apparent in the counterfactual, as it would not change materially.

(4) Overcharge – the excessive pricing abuse

863. We have found that Apple's Commission is an excessive and unfair price. However, we have not yet identified what price Apple would charge in conditions of workable competition, as we did not need to in order to be satisfied of the existence of the abuse.

864. We do now however need to deal with the question of what Commission Apple would have charged had it not committed the excessive and unfair pricing abuse. By definition, that is the Commission which would apply in conditions of workable competition[278].

865. To resolve that question, we need to consider two aspects, both of which have been substantially traversed already in this judgment:

(1) the correct reference point for determining the counterfactual price; and

(2) the implications for the overcharge calculation of Apple's ability to charge developers for its tools and technology.

(i) <u>The Class Representative's case</u>

866. The Class Representative noted that, in considering the excessive and unfair pricing abuse allegations, Mr Holt found an effective average counterfactual

[278] See *Phenytoin CA* at [61].

commission rate of 10 to 20%, by reference to what he thought were suitable comparators. Mr Holt then takes the mid-point of the range to come up with an effective average rate of 15%. Mr Holt's approach applies to Apple's Commission in both the iOS app distribution services market and the iOS in-app payment services market.

867. In relation to Apple charging for tools and technology, the Class Representative submitted that there is no evidence that Apple would impose alternative fees and charges and points out that Apple would continue to receive Commission on most iOS apps as developers would want them to be distributed through the App Store. Apple also has incentives not to charge for access to its IP and would in any event have to do so in compliance with competition law.

(ii) Apple's case

868. As recorded in section G above on excessive and unfair pricing, Apple challenged the reliance by Mr Holt on his chosen comparators and advanced other comparators which it said are more suitable. This includes the Google Play Store, Steam and Roblox, all of which are discussed above.

869. Apple also maintained that it would charge developers in the counterfactual for its tools and technology, on the same basis as is discussed immediately above.

(5) Our analysis of the overcharge arguments

870. Part of the complication in addressing this question comes from the fragmented nature of the exercise. We are asked to consider the following different situations:

(1) The assessment of an overcharge in relation to exclusionary abuses and also in relation to an excessive and unfair pricing abuse. There are differences in the evidential base for the consideration of those abuses (for example, different comparators used in some respects), so there is the potential for a divergent outcome.

(2) The assessment of an overcharge in two separate but related markets, the iOS app distribution services market and the iOS in-app payment services market. The services provided in those markets are different, but they are typically priced in both markets as a single service to developers and that is certainly the case with Apple's Commission. As a consequence, we have little detail about the economic basis on which prices are set in respect of the separate services by Apple and indeed by other potential market participants.

(3) As well as being an aggregate charge for iOS app distribution and in-app payment services, Apple's Commission is also (at least as far as Apple is concerned) a means by which it recovers value for the provision to developers of its tools and technology. Again, we have no information about how Apple (or indeed anyone else) attributes economic value to the tools and technology as opposed to the other services.

871. Now we are at the stage of constructing a counterfactual for the purposes of assessing the overcharge caused by those abuses. We are encouraged by the case law to approach that as an exercise of judgement (and if necessary, informed guesswork), rather than a scientific exercise. That seems to us to be entirely appropriate given the complexities we have described, the inevitably speculative nature of any counterfactual and the mandate we have to do our best to quantify class members' losses by reference to the available evidence, however exiguous.

872. Despite having set out the various arguments as separate components, we do not therefore intend to seek to deliver separate outcomes for the exclusionary abuse and excessive and unfair pricing abuse overcharges. It seems to us that a robust counterfactual for competition on the merits (that is, competition on price, quality, choice or innovation[279]) ought to produce more or less the same result

[279] This is the test for the exclusionary conduct abuses, as set out in *Royal Mail* at [18], *Servizio Elettrico* at [77], as discussed in section F(3) above.

as a price set in conditions of normal, workable competition[280], at least on the facts of this case.

873. It is of course possible to conceptualise a counterfactual in which the restrictions remain, but the Commission is not set at an abusive level – a point that Apple has made on various occasions. However, in choosing a counterfactual for the purposes of assessing quantum, we do not consider that we are required to take this possibility into account. This is for the following reasons:

(1) Our analysis of the overcharge is (as will be seen below) largely based on comparators which we consider best reflect the likely extent of competition and pricing in the counterfactual. We are not (for example) constructing a counterfactual which is based on a model of market entry following the removal of restrictions.

(2) Our objective in relation to the overcharge for the excessive and unfair pricing abuse is to identify a non-abusive price which would be realisable in conditions of normal, workable competition. It seems to us to be artificial to construct a counterfactual which aims to achieve that by excluding the possibility of any real competition (because the restrictions are still in place).

(3) Given the complexity of the counterfactual exercise in this case, and the discretion afforded to us by the "broad axe", we consider it necessary to adopt a pragmatic and common sense approach to the counterfactual, so that there is a degree of simplicity and a consistency between the abuses which we have found. That seems to us to be justified given the logical alignment between the exercise of determining the Commission in (1) a counterfactual world in which there are no restrictions and (2) a counterfactual world in which there is normal, workable competition.

[280] This is the test for the excessive and unfair pricing abuse, as set out in [61] of *Phenytoin CA*, as discussed in section G(1) above.

874. In relation to the iOS app distribution services market and the iOS in-app payment services market, it seems to be common ground that if the restrictions on iOS app distribution services are removed the outcome will be the same in both markets, as competition in the iOS app distribution services market will drive competition in the iOS in-app aftermarket of payment services.

875. This is because device users in the counterfactual will be able to choose app marketplaces other than the App Store. While the App Store might continue to tie iOS in-app payment services to the App Store, those other app stores would have incentives not to tie payment services to distribution (in which case there would be competition on price for payment services) or at least to price the payment services at a lower level, both of which would discipline Apple's pricing for iOS in-app payment services.

876. There is also the possibility that the restrictions on alternative payment services are removed as being abusive, but the restrictions on distribution are not. That is not the conclusion we have reached in our findings of abuse.

877. Notwithstanding the above, it seems sensible to approach the quantification of overcharge for iOS app distribution services and iOS in-app payment services as separate exercises, by seeking to identify a non-abusive counterfactual price for each service as a distinct product and price point. This is because:

(1) Apple's current practice of charging a single rate of Commission for the provision of services, regardless of whether they are distribution or payment services, serves to obscure the analysis of the non-abusive price for each service.

(2) Properly analysed, the overcharge relates to distinct services, namely distribution and payment, which can be assumed to have different characteristics which ought to lead to a different price. For example, the costs of distributing an iOS app for matchmaking purposes on the App Store can be expected to be different from the costs for processing an in-app payment transaction as a merchant of record in the single sided aftermarket.

(3) It is possible to identify distinct overcharges for each service, as only those developers who have charged users to download apps through the App Store have paid for distribution services and only those developers who have charged users for accessing in-app content through in-app payments have paid for in-app payment services.

(4) Consistent with that, the Class Representative sets out her claim for damages separately for each market.

878. In her written opening submissions, the Class Representative set out in two tables her estimates for quantum for the exclusionary abuses and the excessive and unfair pricing abuse[281]. The first table deals with the estimate for the exclusionary abuses, based on Dr Singer's analysis:

Counterfactual Commission	**Damages (iOS App Distribution Market)**	**Damages (iOS In-App Aftermarket)**
15.1% (iOS App Distribution Services)	[16.9]	n/a
9.1% (iOS In-App Aftermarket Services)	n/a	[898.0]

879. The second table deals with the estimate for the excessive and unfair pricing abuse, based on Mr Holt's analysis:

Counterfactual Commission	**Damages (iOS App Distribution Market)**	**Damages (iOS In-App Aftermarket)**
20%	[9.1]	[277.5]
15%	[15.7]	[544.3]
10%	[22.4]	[811.2]

880. It is immediately apparent from these tables that the Class Representative advances different sets of figures for each of (1) the exclusionary abuses and (2) the excessive and unfair pricing abuse. As already noted, we do not intend to consider separate counterfactual prices for the different abuses and will instead

[281] Annex A of the Class Representative's written opening submissions. We have used the tables which assume an incidence rate of 50% and we have excluded the interest calculation, which we will turn to later in this judgment. Figures are expressed in £ millions.

identify the counterfactual commission which we think best represents the outcome of competitive entry leading to workable competition.

881. It is also apparent from the tables that the aggregate overcharge claimed in relation to iOS in-app payment services is considerably larger than the aggregate overcharge claimed in relation to iOS distribution services. This illustrates the considerably greater extent of in-app transactions compared with the distribution of paid apps. In other words, a lot more commerce takes place in the iOS in-app payment services aftermarket than takes place in the iOS app distribution services market, presumably in large part through developer preference for a "freemium" business model, where the app is downloaded for free, but charges are made for in-app content.

882. While it is of course possible that there is an overlap between the two markets and services, with users paying to download a paid app and then also accessing in-app content, the transactions relating to each aspect will be separate and will be managed and recorded by Apple as separate items. There is therefore no risk of double counting and indeed that overlap suggests that it would be desirable to deal with each transaction by reference to the service provided, rather than as a bundle.

883. All of this supports our view that it is necessary to consider a counterfactual non-abusive price for each of iOS app distribution services and iOS in-app payment services separately.

884. First, however, it is convenient to consider the implications of the current aggregation in the Commission of charges for tools and technology and the potential for new charges for the tools and technology (and possibly other services, like the provision of App Review), which is a point that is common to all counterfactuals.

(a) Additional charges for tools and technology

885. Apple's contention is that it is entitled to charge for the tools and technology which are essential inputs for developers creating iOS apps. It considers the

current Commission – even though only charged to developers who charge for apps or in-app content – to be a means to do that, recovering its substantial investment in innovation and development. Assuming, in the counterfactual, that it would recover these costs against all developers by way of a tools and technology charge, the effect would apparently be to impose that common cost on all developers, regardless of the choice of marketplace through which they distribute their iOS apps.

886. Apple submitted that the consequence (for quantum purposes) is that potential distribution or payments service providers would find it difficult to compete in the counterfactual (with developers unwilling to pay them a material commission on top of the tools and technology charge). Apple would therefore maintain its overall charging structure and developers would be no better off in the counterfactual and have therefore suffered no loss.

887. However, Apple has tendered no evidence about what it would actually do by way of charging for tools and technology in the counterfactual. The evidence from Mr Schiller, quoted in section 3(b) above, that Apple would have explored other ways to ensure it was adequately remunerated if the Commission was not available is a reference to Apple's decision making in 2009 when the App Store was launched, not to Apple's position several years later (when the Claim Period commenced) or indeed even today. It is striking that not a single Apple witness, whether factual or expert, has given us any coherent view of what Apple might do by way of alternative charges as at 1 October 2015 or any time after that.

888. For example, in the hot tub, Professor Hitt told us "I do not know what the counterfactual fees might be"[282] and Professor Sweeting made it clear he was not commenting on "what exact level of charge for tools and technology is appropriate or consistent with different legal principles". Professor Hitt acknowledged in cross examination that there was no evidence from Apple telling us what it would do by way of alternative charges and that "I do not think we know exactly what they would do in this specific counterfactual"[283].

[282] Day 14/133/8 to 14/133/9.
[283] Day 22/167/6 to 22/167/16.

889. A similar issue arose in *Le Patourel*, where the Tribunal said this:

> "[1311] In fact, there is a further difficulty in our case, as the CR points out. This is that BT did not adduce any evidence as to what, in fact, it would have done in the putative counterfactual arising out of any finding of abuse. In a way, that is understandable, since BT's position was that Limb 1 would never have been reached and even if it had been, its prices were neither excessive nor unfair. It is simply not possible, absent such evidence, for a Tribunal to make any assumptions as to what BT would have done. There are, of course, cases where the question of a counterfactual, in the context of causation and loss, is not dealt with until after a trial on liability has been concluded, so that it can be assessed in the context of the particular findings already made. But that is not this case."

890. We find ourselves in the same circumstances here, where it does not seem possible to form any view on what Apple might have done in the total absence of any evidence to that effect. In its written closing submissions, Apple submitted that the Class Representative could not pray in aid the "broad axe" while failing to provide the Tribunal with proper evidence to support that exercise. That principle (with which we agree) must surely apply both ways, so that Apple cannot ask us to make assumptions in its favour, and on which it carries the evidential burden of proof, without providing evidence in support.

891. As for the evidence we do have, it seems at least in part to suggest that Apple would not have the incentive to impose alternative charging arrangements and in part to suggest that to do so is a complicated route to go down, and therefore potentially unattractive. In relation to incentives:

(1) Apple seeks to attract developers to the App Store to make the App Store an attractive destination for iOS device users, because the App Store adds value to the Apple ecosystem[284].

(2) That includes encouraging large numbers of small developers to develop apps for distribution on the App Store[285].

(3) As a result, a significant increase to the Program Fee, which is payable by all developers, would be unattractive to Apple[286].

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[284] See Mr Schiller's evidence at Day 7/11/11 to 7/13/3.
[285] This was confirmed by Professor Sweeting on Day 20/57/20 to 20/57/25.
[286] Ibid.

(4) Additionally, if Apple were to charge all developers who use its tools and technology, it would have to change its approach to not charging developers for apps which offer physical services or products and developers who distribute free apps and monetise their apps through in-app advertising.

(5) These changes would amount to a material revision of Apple's contractual arrangements with developers. Regardless of the way that Apple views the matter, it is clear that, as a matter of contractual interpretation, the Program Fee is charged as consideration for the supply of the tools and technology and the Commission is charged as consideration for iOS app distribution and in-app payment services. At the very least, Apple would have to make a significant change to the way it contracts with developers.

(6) Mr Schiller recorded the view taken by Apple in 2009 that a flat fee was unattractive because it was not "in the business of selling access to or licences for its technology and services". While we acknowledge that was expressed as a backward-looking view in 2009, no one (including Mr Schiller himself) has confirmed it is no longer true.

(7) Apple would continue in the counterfactual to earn a significant operating margin on its App Store activities, calculated by Mr Holt to be in the region of [✂] to [✂] if the counterfactual commission were 15%[287]. It would of course lose significant profit by reason of any reduction of the Commission, but the App Store would still be highly profitable.

892. Turning to the practicalities of changing the charging structure, the following points seem pertinent:

[287] Holt 3 at [176] and tables 5.4, 5.5 and 5.6.

(1) It is true that Apple has introduced a new charge under the DMA-mandated access arrangements to which it is now subject. This charge, the CTF, is essentially a fee for the provision of tools and technology.

(2) Apple relied on this as being informative of the "sort of charges Apple might impose" in the counterfactual. However, Professor Sweeting was reluctant to draw much from the DMA experience. In Sweeting 1, he stated:

> "[269] I note that the following sections contain discussion of the DMA. As I understand it, the DMA is a complex piece of legislation with multiple requirements intended to achieve particular objectives, and the question of whether Apple would have made the same or different decisions in a counterfactual in which only the Distribution Requirements and Payment Requirements were removed is a difficult question on which to speculate. While I may consider evidence on how competition under the DMA develops, any evaluation of that experience will need to take into account the particularities of the DMA regime. My instructions refer me to Articles 5, 6, 8 and 13 of the DMA, which appear to say more than that restrictions like the Distribution Requirements and Payment Requirements must be removed. The question of exactly what more is required in practice, however, is a legal one. Given those complexities, it is difficult to say whether, in the counterfactual, Apple would adopt structures similar to those that it has deployed in the EU as part of its compliance with the DMA, or whether it would adopt structures that are more similar to those that it currently uses." (footnotes omitted)

(3) As we understand it, there is a question as to whether the CTF complies with the requirements of the DMA. As at the date of the trial, that was a matter under consideration by the European Commission[288], and we have received no further information from the parties since then. It would be wrong to speculate about the outcome of that process, but it seems to us that the DMA example needs to be approached with real care and it illustrates at least, as Professor Sweeting put it, the complexity of the situation.

(4) Without any indication of how Apple would structure any alternative charging arrangement, it is not possible to assess the risk of that failing to comply with competition law. We can obviously make no assumption

[288] See for example the European Commission's press release under the DMA, *Commission sends preliminary findings to Apple and opens additional non-compliance investigation against Apple*, 24 June 2024.

either way, but it does seem to us that this is an important issue and one which highlights the need for a reasonably well-specified counterfactual scenario in order to be able to reach a view on competition law compliance.

(5) Other jurisdictions which have initiated regulatory action are of even less value, as they broadly all involve alternative payment service providers only and there is no requirement to remove most of the iOS app distribution restrictions.

893. It may be that the reluctance by Apple to put forward a counterfactual is in part because of the complexities which are apparent from the above. However, that is precisely why a reasonably well specified counterfactual charging structure is important. It would allow us to understand what was and was not realistic for inclusion in the counterfactual.

894. On the evidence we do have about Apple's incentives, it seems to us plausible that, in the counterfactual, Apple would not materially change its charging structure under the contractual arrangements it has with developers in relation to the provision of its tools and technology.

895. It was open to Apple to provide us with evidence to the contrary, which would have been a relatively straightforward exercise. Factual witnesses at the trial included the current CFO and the very senior figure of Mr Schiller, who has held important roles at the executive team level at Apple for almost thirty years. Apple has the evidential burden in relation to this matter, as it is asserting the alternative charging arrangements. Despite that, its economic experts have come to give evidence without addressing this issue, which sits at the heart of Apple's defence of these proceedings. That cannot be an accident, and we are satisfied that the plausible view expressed above, on the basis of the evidence we do have, is the proper one for us to adopt.

896. Apple complains that an outcome where developers can avoid paying for tools and technology, can distribute a free app, and then can monetise the app through in-app purchases, amounts to "free riding". We do not accept that

characterisation. It is Apple's choice to have set up its contractual and commercial framework in the way it has. It may well be inconvenient and unhelpful for iOS in-app payment services to be viewed as being in a separate market, with all the consequences that follow. However, we do not think that developers can be criticised for simply maximising their position within that framework.

897. We therefore find that, in the counterfactuals for the purpose of calculating the overcharge, Apple would not materially change its charging structure under the contractual arrangements it has with developers in relation to the provision of its tools and technology.

898. In the course of his evidence, Dr Singer suggested that any charge for tools and technology would be "competed away", as other providers of distribution and payment services would be competing on prices which did not include the additional charge for tools and technology, forcing Apple effectively to abandon those charges in order to maintain market share. Apple challenged this view, on the basis that developers need Apple's tools and technology to develop apps and no alternative marketplace could supply them.

899. We do not think there is a realistic scenario in which this issue arises as:

(1) We have already recorded our conclusion that Apple is unlikely to impose a material additional charge on developers for its tools and technologies supplied to them.

(2) Even if it did, we expect that any charge for tools and technology would essentially be a neutral factor, through being a constant charge for developers across all marketplaces. In other words, we consider it reasonable to assume that any charge would apply to all developers, regardless of how and where they sought to monetise their apps. In that case, the charge for tools and technology is a common cost for all

developers regardless of their choice of distribution or payment channel[289].

(b) Our analysis of the overcharge in the iOS app distribution services market

900. The main issues in this subsection are:

(1) The evidential value of Dr Singer's adapted Rochet-Tirole model.

(2) The appropriate choice of comparators.

(3) The likely market entry and pricing outcomes in the iOS app distribution services counterfactual.

(4) Our conclusion on the overcharge in the iOS app distribution services market.

(i) Dr Singer's models

901. We have already considered Dr Singer's adapted Rochet-Tirole model and have concluded that it is an illustration of a possible outcome, rather than being reliable evidence of a counterfactual price in conditions of competitive entry into the iOS app distribution services market.

(ii) The choice of comparators

902. We have already found, in section D of this judgment (dealing with market definition) and section G (dealing with comparators for excessive and unfair pricing), that Steam, the Epic Games Store and the Microsoft Store are useful comparators for the purposes of understanding what might be a competitive level for the Commission in circumstances of rival entry into the iOS app distribution services market. We have also found that the development of competition in the PC games market, including adjustments to Steam's pricing,

[289] This is the approach we took in section F(3)(c) where we considered this issue in the context of the exclusionary abuse allegations.

is a useful indicator of what rival entry might look like in the iOS app distribution services market. Those conclusions apply with equal force here. In relation to Steam in particular, we have decided that we have insufficient information to allow us to determine Steam's effective rate of commission, and we therefore have little choice but to work from headline rates.

903. As for the game console platforms, we do not consider them to be useful comparators for the purposes of assessing a competitive counterfactual Commission:

(1) We have very little evidence before us about how these platforms operate and what the competitive conditions surrounding them are.

(2) However, it is apparent that the owners of each of the main platforms and associated consoles (Sony's PlayStation, Microsoft's X-Box and Nintendo's Switch) operate exclusive digital distribution channels on their respective platforms, which suggests they do not face direct rivalry on parameters such as price for distribution services.

(3) In any event, to the extent that Apple relied on a comparison with game console pricing when it set the Commission in 2008, we consider that to be well before the Claim Period and of no real evidential value in relation to what might have happened in the event that the restrictions had been removed as from 2015, given the considerable change in Apple's position in the intervening period.

904. We have also disregarded the Google Play Store and other Android app marketplaces in earlier sections of this judgment, as there are credible indications that Google has market power in Android app distribution, which has been a sufficient basis to render it an unsafe comparator for the purposes of assessing what might be a competitive outcome in the iOS app distribution services market absent the restrictions and with a degree of competitive rivalry.

905. Apple's submission was essentially that, for the present exercise of determining quantum, Google's dominance does not render it an unsafe comparator. That is

because the conditions in which the Google Play Store operates and which the CMA suggest contributes to that dominance would apply in the counterfactual in this case, without there being any abusive behaviour.

906. The examples given by Apple are the preinstallation of app marketplaces and low level of sideloading which Google experiences and which Apple said would also apply in the counterfactual to deliver Apple a very high market share. As a consequence, it is said, there can be no assumption that the price resulting from that relatively low level of competitive entry would be materially lower than the current Commission.

907. Apple seemed to be drawing a distinction between:

(1) Google as an unsafe comparator for the purposes of determining the likely competitive price in circumstances of workable competition.

(2) Google as a safe comparator for an assessment of what is likely to happen in the counterfactual where there are no restrictions but there are other features of the real world as they currently apply to Google.

908. We find this distinction difficult to understand. It amounts to saying that the removal of the restrictions will not, of itself, lead to conditions of normal or workable competition. As a starting point, that seems unsustainable in the context of the excessive and unfair pricing abuse, where the measure of the overcharge must logically be the difference between Apple's current Commission and a Commission set in conditions of workable competition.

909. We would then be faced with what might be considered an odd circumstance, in which the counterfactual for the exclusionary abuses did not assume a competitive outcome, but something less than that. Earlier in this judgment, we found that even the loss of 10% of market share (which was effectively conceded by Apple's expert, Professor Sweeting) had an appreciable effect on competition, providing an answer to the exclusionary abuse question. We did not however limit our finding to that level of loss of market share. It was unnecessary to go any further for those purposes.

910. It is in principle possible that the removal of the restrictions might not in themselves substantially reduce the level of market power which Apple has. It is also correct that the possession of market power is not itself an abuse, and there might be all sorts of factors which contribute to market power which would not normally be considered abusive. For example, the market power which comes from a premium brand.

911. However, we are sceptical that identifying the Google Play Store as a comparator is an appropriate way of addressing those possibilities. That is for the following reasons:

(1) Apple has pointed to some of the factors which the CMA identifies as contributing to the Google Play Store's dominance, but not all of them. It has for example not referred to the CMA's view that developers consider there to be a lack of suitable alternative app marketplaces to the Google Play Store[290]. It is also apparently the case that Google will not permit the installation of alternative app marketplaces on the Google Play Store[291].

(2) There was also considerable debate between the experts about the extent to which contractual arrangements or understandings between Google and other Android device manufacturers might affect Google's market power. We have already recorded, in our discussion of the exclusionary dealing abuse, the cross examination of Dr Singer and he was pressed on his understanding of the restraints which entrenched Google's market power at a high level and allowed it to charge a 30% commission. That debate did not advance matters materially beyond what is set out in the relevant section in the MEM Study[292].

(3) These points suggest that the analysis of the market power of the Google Play Store is not a straightforward exercise. We have already indicated that we intend to apply the findings of the MEM Study with care (see

[290] See the MEM Study at [4.78].
[291] See the MEM Study at [4.81]
[292] See the MEM Study at [4.82] and following.

section C). Apple was inviting us to take specific conclusions from the CMA's work and to apply them in a different context in the counterfactual in this case. This exercise risks reaching a conclusion which seems potentially different from the overall view of the CMA, which was apparently that there was little price competition in relation to Android apps[293]:

> "The limited competition over the level of the commission from alternative app stores may be due to a range of factors set out above in this chapter, which limit the ability of alternative app stores to attract transactions away from the Play Store and overall mean that they place a limited constraint on the Play Store."

(4) Our view is that the restrictions do have an exclusionary effect and therefore that there will be greater competition of a substantial nature if they are removed. That seems inconsistent with the logical conclusion of Apple's argument that there will be little price competition even without the restrictions. That is a reason to be sceptical about Apple's use of the Google Play Store as a comparator and the selective use of the CMA's conclusions.

(5) In our judgement, Apple's forensic approach is inappropriate and does not justify us reaching a different conclusion from that we have reached previously about the use of Google as a comparator. The same conclusion applies to the other Android marketplaces on which Apple relied. We do not consider them to be safe comparators for the purpose of defining the appropriate counterfactual for iOS app distribution services.

(iii) Market entry and pricing considerations

912. It was common ground between the experts that there would be market entry by a small number (perhaps two or three) of substantial firms seeking to offer an alternative iOS app marketplace in the counterfactual.

[293] See the MEM Study at [4.186].

913. As we understand Professor Sweeting's position, it was also common ground (as expressed in [92] of the joint expert statement) that, in the absence of the Google Play Store as a suitable comparator, Apple might only retain between 50% and 90% of its market share of the iOS app distribution services market. That is based on an assessment of the loss of market share of Steam as a result of rivalry in the PC games market, with an adjustment to reflect the increased quality and brand which Apple has. Professor Sweeting did not express an upper bound to his range on the basis that Google is not an appropriate comparator. He did however use indicative market shares of 70, 80 and 90% when testing Dr Singer's models and he did also say that Dr Singer's upper bound of 60% is arbitrary[294].

914. That seems sufficient for us, at least as a matter of "informed guesswork", to conclude that Apple would lose material market share in the counterfactual, to at least one large and well-resourced competitor. By "material market share", we mean at least 20% and possibly as much as 50%, with particular reference to the position of Steam after competition increased in the PC games market.

915. That is a sufficient level loss of market share for us to be able to assume that there will be competition on price from the new entrant(s) and that Apple is likely to respond by setting a competitive price itself. Again, Professor Sweeting confirmed that this was his expectation when questioned by the Tribunal:

> "THE CHAIR:…I think you are accepting that when you get into that world of competition, Apple is going to set a competitive price for its commission for the distribution services[...]?
>
> PROFESSOR SWEETING: Yes, the commission for Apple's distribution service that is going to be applied by kind of the menu of prices, and commissions and fees that developers are offered, will reflect -- you know, the prediction is that the implied price for Apple's distribution service will be competitive, and that, for example, would mean it will reflect the costs of providing the service."

916. The premise of that question was that Apple's Commission would be "disintermediated", which is the term used by Professor Sweeting to describe the identification of the separate fees for the separate services (in this case the

[294] See Sweeting 2 at [151].

iOS app distribution services) which Apple was providing. That is consistent with the conclusion we have reached about assuming that Apple will not, other than in the form of the current Program Fee, charge for its tools and technology in the counterfactual. We are therefore concerned with Apple's counterfactual Commission for iOS app distribution services. Professor Sweeting is acknowledging that Apple would charge a competitive price, reflecting the rate of commission charged by others, which would in turn reflect the costs of providing the distribution service.

917. The comparators from the PC Games market provide an example of similar competition causing the dominant firm (Steam) to reduce its headline rate for its largest customers to 20%, in the face of pricing as low as 12% from the market entrant, the Epic Games Store, and the Microsoft Store, which followed Epic's lead.

918. Apple submitted that Steam's lowest level of headline commission rate (the 20% level) only in fact applies to a small part of Steam's developer base, as the revenue threshold at which the lower rate applies is high. That may be the case, but as Apple has reminded us in other parts of the case, the high value developers are the ones which a platform would wish to retain, as switching by them is likely to be costly for the platform. They therefore indicate that, where switching is a realistic possibility, Apple is likely to price competitively at least to secure its high value developers. Whether it chose to extend that price to all developers is a matter on which we have insufficient evidence to form a view. However, the current Apple charging structure does not generally differentiate between developers by reference to size[295].

(iv) Our conclusion on the overcharge

919. The comparators available to us (the Epic Games Store, the Microsoft Store and Steam's lower headline rate) suggest that the competitive rate of commission would be in the range of 12 to 20%. We do think it is reasonable to make some adjustment to that range to accommodate the points made by Apple about its

[295] The SBP is a notable exception to this, but it operates the opposite way – that is, the lower revenue developers obtain a reduced Commission.

premium brand, the quality of its offering and its established market position. However, we do not think those would be sufficient to displace the upper end of the range and are likely to operate mainly at the lower end, where the offerings are arguably less attractive to users for those reasons.

920. Applying again an approach of "informed guesswork", on the basis of the evidence before us, we find that the likely range of Apple's Commission for iOS app distribution services in the counterfactual is between 15% and 20%. For the purposes of quantifying the overcharge (for both the exclusionary abuses and the excessive and unfair pricing abuse) we will use the mid-point of that range, which is 17.5%. The overcharge is the difference between a commission set at that level and the Commission actually charged by Apple for those services.

(c) Our analysis of the overcharge in the iOS in-app payment services market

921. The main issues in this subsection are:

(1) The evidential value of Dr Singer's Landes-Posner model.

(2) The appropriate choice of comparators.

(3) The likely market entry and pricing outcomes in the iOS in-app payment services counterfactual.

(4) Our conclusion on the overcharge in the iOS in-app payment services market.

(i) Dr Singer's models

922. As with Dr Singer's adapted Rochet-Tirole model, we view his Landes-Posner model for the prediction of counterfactual prices in the iOS in-app payment services market to be an illustration of a possible outcome, rather than being reliable evidence of a counterfactual price in conditions of competitive entry into that market.

923. Like the Rochet-Tirole model, the Landes-Posner model requires inputs which depend on assumptions as to matters such as the extent of market entry. Those assumptions have a potentially significant effect on the outcome of the model. For example, Professor Sweeting carried out an exercise using Dr Singer's models which identified that, where Apple had a counterfactual market share of 70%, the level of Commission implied by the model for iOS in-app payment services would be 12.16%. Where Apple had a 90% market share, the implied rate was 21.34%. Those outcomes are to be compared also with Dr Singer's outcome, which assumes a 50% market share and a counterfactual Commission of 9.1%.

924. These calculations show that this single assumption (there are others) can have a material effect on the outcome. We therefore prefer to see the output of the Landes-Posner modelling by Dr Singer as illustrative of possible outcomes, rather than definitive as an outcome.

(ii) The choice of comparators

925. In relation to iOS in-app payment services, the comparator exercise is more straightforward. As we have already found in section F(3) on exclusive dealing, there is a wide range of potential payment service providers who could provide the substantive payment services offered by Apple at present. The Class Representative's preferred comparator is Paddle, which has a 10% maximum commission and an average effective commission in the range of 6 to 7%.

926. Apple's objections to Paddle as a comparator concern the likelihood of market entry and the assessment of the counterfactual price for payment services, given differences in the services provided and the actual charging structure adopted by Paddle. These are dealt with below.

927. Aside from these, we take the view that Paddle is clearly a useful comparator for the provision of payment services, given that it is an established payments

and billing platform for developers of digital products, operating on a wide geographic basis with a substantial developer client base[296].

(iii) Market entry and pricing considerations

928. We have already concluded (in section F(3) on the exclusive dealing abuse) that there would be an appreciable degree of interest in market entry by alternative payment services providers.

929. Although there are examples of the removal of payment restrictions in South Korea and in the EU, for reasons we have already explained (the paucity of evidence and uncertainty about regulatory compliance), we are not able to use those as indications of what the counterfactual would look like.

930. Apple's main argument about market entry is that the market would be unattractive to potential participants like Paddle because:

(1) The UK market is not big enough to warrant the development of a product to offer developers.

(2) That is all the more so because developers would also be reluctant to invest in new payment mechanisms in their apps, given the size of the market.

(3) In any event, the fact that developers would have to pay a separate fee for Apple's tools and technology as well as the commission charged by alternative payment service providers, would make entry by those providers difficult.

931. In relation to the last point, we have already concluded that, in the counterfactual, Apple would not materially change its charging structure under the contractual arrangements it has with developers to charge a separate fee, other than in the form of the current Program Fee, for the provision of its tools and technology.

[296] See Owens 1 at [5].

932. It also seems to us to be the wrong way to look at commission for payment services. These are in an aftermarket and, if there was a charge for tools and technology, that would presumably be common across all apps. Where the app was distributed through the App Store, a developer who wanted to create and distribute a free app with subsequent in-app purchases would either:

(1) pay Apple a charge for each of the provision of tools and technology, iOS app distribution services and iOS in-app payment services; or

(2) pay Apple a charge for each of the provision of tools and technology and iOS app distribution services, and pay a third party for iOS in-app payment services.

933. In those circumstances (treating the charges as disintermediated, in the phrasing used by Professor Sweeting), the charge for the tools and technology ought to have no bearing on competition between Apple and a third-party payment provider for iOS in-app payment services.

934. Apple's position on the first two points seems to have been substantially based on the evidence of Mr Owens on Day 4 of the trial, which we have set out in section F(3)(c)(ii) of this judgment. As recorded in our review of that evidence, we do not think Mr Owens was indicating that Paddle would not be interested in market entry in the UK iOS in-app payment services market.

935. On the contrary, we understood his evidence to be that Paddle would evaluate each market "case by case". We also understood his evidence to be that the primary consideration in making this commercial decision would be the likely appetite of developers to release a separate version of the app which was tailored for the specific counterfactual circumstances:

> "THE CHAIR:…Can you just explain what you mean by, 'the substantial barriers that are put in place commercially'?
>
> MR OWENS: I think the -- I think they are numerous but I think the primary one is the amount of additional kind of work that these developers have to go through in order to release a separate build of their application that is tailored for a specific market, so that they can distribute that version of their application in that market, including something like Paddle's SDK within it. Whereas, they

would have to build a separate version of their application to distribute in other markets as well."

936. In Sweeting 1, Professor Sweeting expressed the view[297] that:

> "[277] … Apple would have a clear incentive to ensure that third-party payment processors meet minimum security requirements (as it does in the Netherlands) in order to maintain security and prevent fraud on the iOS ecosystem. However, whether Apple is allowed to impose such requirements or not in the counterfactual, I expect that many third-party payment processors that currently provide payment processing for purchases on websites, for physical good purchases in iOS apps, and for other locations online, would also want to offer payment processing for iOS apps and in-app purchases."

937. That opinion seems somewhat at odds with Apple's position in its closing arguments based (perhaps somewhat opportunistically) on the evidence of Mr Owens. To be fair to him, in the course of cross examination Professor Sweeting indicated that the evidence of Mr Owens had made him more sceptical about market entry[298]:

> "THE CHAIR: So here in this paragraph you accept that in the payment systems counterfactual there would be many potential competitors to Apple, yes?
>
> PROFESSOR SWEETING: Yes, so specifically in the context of the first report, this was really very much focused on payment processing as being kind of the product we were talking about. So in that context, I was thinking about large payment processing providers who I was thinking it would be quite easy for them to enter, obviously without knowing exactly kind of their costs of entry. Obviously things have slightly shifted in terms of a focus more towards, you know, payment services provider with a bigger set of products and maybe higher entry costs, and obviously, you know, the evidence of Mr Owens has actually made me probably more sceptical that those firms might find it profitable to enter, particularly in a UK-only counterfactual, than I was when I wrote this report.
>
> THE CHAIR: But you have not, in any of your later reports, tried to draw any distinction to suggest, on a broader concept of payment service providers, that many people would not seek to enter the market. You have not actually made that point in writing anywhere, have you?
>
> PROFESSOR SWEETING: No, I do not believe that they have, and I was -- you know, I was actually surprised when I heard some of Mr Owens' testimony."

[297] Sweeting 1 at [277].
[298] Day 20/42/19 to 20/43/19.

938. However, Professor Sweeting did not seek to resile from his earlier opinion, despite having the opportunity to do so. We think that was an appropriate position for him to take, as our understanding of the evidence of Mr Owens is that he did not exclude entry by Paddle into the UK market in the counterfactual. Instead, we understood Mr Owens to say that the main consideration in deciding whether to enter the counterfactual market would be the extent of developer demand. That seems entirely sensible, and indeed rather obvious.

939. Turning then to developer demand, Mr Howell told us that he was "absolutely certain" that developers would wish to take advantage of advantageously priced third-party payment provision for iOS in-app payments[299].

940. In cross examination, Mr Kennelly KC put to Mr Howell that the example of low take-up when Epic allowed alternative payment service providers showed a lack of interest by developers in alternative payment options, despite Epic's existing payment services being acknowledged as poor. Mr Howell was unwilling to accept that proposition, expressing some scepticism about the extent to which Epic was able to support integration of third-party payments[300].

941. Dr Singer also noted[301] that Epic's commission rate of 12% (including payment services) provided little incentive for developers to look elsewhere for those payment services. Apple submitted that there would still be a difference between the 12% and Dr Singer's own counterfactual rate of 9.1%, and that there might be technical reasons to induce a developer to switch to an alternative provider.

942. Our conclusion in the face of these competing arguments is that the Epic example is sufficiently unclear that it is difficult to apply it in any meaningful way in this case.

943. Mr Kennelly KC also challenged Mr Howell on the factual basis for the conclusions he had expressed about developer demand, noting that he had not

[299] See Day 9/51/1 to 9/51/9.
[300] Day 9/2/10 to 9/10/10.
[301] See Day 15/11/2 to 15/11/19.

explored the experience on other platforms which allowed alternative payment service providers.

944. Professor Sweeting's position was that Apple's market share in the counterfactual for iOS in-app payment services would be lower than in the actual world, but that nearly all developers would continue to use Apple's services[302]. This view was apparently based on his understanding that the total cost to developers would not be lower if they used an alternative provider, because of the change by Apple to its charging structure. We have concluded that there would be no such change.

945. Overall, we were left with relatively little evidence on this point. It would have been helpful for us if there had been more direct evidence from developers. We are however able to form some views as a matter of commercial common sense.

946. It is no doubt the case that any developer will need to consider economic factors before committing resources to building an alternative API which would permit alternative payment service providers. Apple argued that this decision would be restricted to the economics of entry into the UK market alone (which is assumed to be the only market in which the restrictions are lifted). However, in a world in which there is increasing regulatory intervention to separate iOS app distribution and in-app payment services, that decision may not be simply one about access to the UK market but may have wider geographical considerations.

947. In any event, if the potential economic benefit is sufficiently large (so that the Commission relating to iOS in-app payment services is materially lower than it is at present), that may well provide a good reason to make the investment decision. Obviously, the size of the potential benefit is something that individual developers may form different views on, depending on their assessment of the likely competitive outcome, especially in relation to price.

948. In that regard, one of the complications in these proceedings is the way in which Apple aggregates the charges for its various services, so that the Commission

[302] Singer/Sweeting joint expert statement at [107].

of 30% is said to encompass not only the charge for payment services, but also distribution services and the provision of tools and technology. That means that a developer who would not expect to be charged for the provision of the tools and technology or for iOS app distribution services (for example, where the app is being distributed for free) is charged 30% Commission apparently simply for iOS in-app payment services, when we know that the industry-wide rate for in-app payment services is considerably lower than that.

949. Apple's position is that it is entitled to decide how and on whom it will charge Commission. That may be correct, but it does leave it in the awkward position that it seems inevitable that competition between Apple and a third party on the price for the provision of in-app payment services will result in a commission for that service which is considerably lower than 30%. As Mr Howell sensibly points out, it would not be surprising if there was developer demand to access that outcome.

950. As we have concluded that Apple would not alter its charging structure to charge for its tools and technology, it follows that the developer who distributes a free app through the App Store will have every incentive to switch payment providers for iOS in-app payment services. While the position may be different for developers who are seeking to distribute on other platforms (for example, in the absence of the iOS app distribution restrictions), the likely volume of commerce in the example we have given does seem to point to obvious developer demand[303].

951. On that basis, and in the absence of any further developer evidence on that point, our assessment is that Mr Howell's evidence was reasonably clear and, although Mr Kennelly KC's cross examination created a degree of uncertainty about consistency across the entire developer community, we accept the broad thrust of what Mr Howell said, which seems to us to accord with commercial common sense. It is also consistent with the evidence of Mr Owens that Paddle has

[303] Professor Hitt sets out the value of free downloads, paid download and in-app purchases in exhibit 1 of Hitt 2. He also sets out the developer revenue (after paying Apple's Commission) for initial downloads and in-app purchase in exhibit 2. The developer revenue in 2022 was £1.36 billion, of which we know that a very large proportion represents in-app purchases.

received "many requests over the years from iOS App developers to use Paddle's solution"[304].

952. We therefore conclude that there is likely to be a material degree of developer interest in alternative in-app payment service providers and, with the opportunity to access a lower Commission, investment by developers in the counterfactual to take advantage of those services.

953. That also answers the prior question about the interest of third-party payment service providers in entering the counterfactual market. In our judgement, Professor Sweeting's view in [277] of Sweeting 1 is to be preferred and we conclude that there would be significant interest from payment service providers like Paddle in entering the iOS in-app payment services market if the payment restrictions were removed.

954. Turning to pricing in the in-app payment services market counterfactual, it seems to us inevitable and obvious as a matter of common sense and standard economics that market entry by multiple payment services providers is likely to result in vigorous competition on price, and that the greater the market entry, the lower Apple's market share would be and the greater Apple's incentive to price competitively to maintain market share – opinions which are shared by Professor Sweeting.

955. Apple suggested that there would be material differentiation in the services available because only it would be able to offer some payment related services, such as parental controls, family sharing, or subscription management. While there may be some iOS device users who particularly value those features, we were shown no evidence to support that proposition. To the extent that Apple's additional services (or indeed any additional services other providers are able to offer over and above Apple's services) are real parameters of competition, that can only be a positive outcome. We doubt however that they will materially affect price across the overall iOS device user base.

[304] See Owens 1 at [17].

956. We are aware, from Mr Burelli's evidence, that Apple (and any other counterfactual payment services provider) will have some costs of processing transactions. This is essentially the third-party acquiring cost for (for example) card payments and was estimated[305] by Mr Burelli to be in the region of 2 to 3.5% on a weighted average basis for Apple in the UK in recent years.

957. We also understand[306] that payment service provider costs (including any third-party acquiring costs) are generally in the region of 5 to 7%, with additional costs for particular services over and above the basic merchant of record services which are necessary to process the transaction. That is consistent with the evidence of Mr Owens that the average effective commission that Paddle charges is in the range of 6% to 7%.

958. Apple suggested that Paddle's commission could be considerably higher, given that its charging structure includes additional charges for services such as currency conversion or international bank transfers. The evidence supports the existence of those additional charges, but we accept the evidence of Mr Owens about the overall average effective commission, which applies across a very significant customer base of thousands of developers.

(iv) Our conclusion on the overcharge in the iOS in-app payment services market

959. In our judgement, Paddle's headline commission rate of 10% represents a fair and reasonable benchmark for the level of Apple's Commission in the iOS in-app payment services market counterfactual. This is higher than Paddle's average effective rate for its customers, as we think some allowance should be made for the ability of Apple to maintain some competitive advantage from its strong brand and the benefits of its integrated services (including the additional features it offers).

960. Any higher a rate of counterfactual commission would, in our view, risk ignoring the reality of market entry and downward pricing pressure on what is

[305] See Burelli 1 at [79].
[306] See Burelli 1 at [84].

largely a commodity service once it is separated from distribution services and the provision of tools and technology.

961. For the purposes of quantifying the overcharge (for both the exclusionary abuses and the excessive and unfair pricing abuse) we therefore find that the counterfactual price for iOS in-app payment services is 10%. The overcharge is the difference between a commission set at that level and the Commission actually charged by Apple for those services.

(6) Incidence

962. In this part of the quantum section, we will deal with the question of how much of the overcharge was borne by developers and how much of it was passed on to the iOS device users who have made payments for app downloads or in-app content during the Claim Period (constituting the class members in these collective proceedings).

963. Broadly speaking, the Class Representative argued for a rate of incidence of between 50 and 91%. Apple submitted that the Class Representative has failed to prove and quantify the extent to which developers would have charged lower prices in the counterfactual and that the available evidence in fact suggests no loss to class members at all.

(a) The Class Representative's arguments about incidence

964. The Class Representative relied in the first instance on the Spotify Decision, which she said was a major investigation extending to all significant streaming service providers in the EU. The Decision is said to contain detailed empirical analysis of pass through in the sector, finding a rate of 90 to 95% incidence for Spotify itself. It also found that all music streamers had to pass on the commission, given the size of that charge and their small margins after royalty payments to music rights holders.

965. The Class Representative also relied on Mr Howell's evidence to the effect that the Commission would form part of the basket of costs that larger and more

sophisticated developers would use to set prices, and that smaller developers would follow those prices. The Class Representative pointed to the statutory accounts of large US developers which show distribution commissions as costs of revenue, which she said supports Mr Howell's evidence.

966. The Class Representative identified various Apple documents which she said demonstrate Apple's knowledge and understanding that developers pass on the Commission to iOS device users, including:

(1) Apple's response to the European Commission's Letter of Facts in the course of the investigation in the Spotify Decision, which refers to "pass on" of the commission by music streaming services.

(2) An internal Apple document from 2015, when Apple decided to increase tier prices in the UK App Store to respond to VAT increases, which refers to demand for apps being inelastic, suggesting pass on of any increase.

967. Dr Singer treated the 2015 VAT increase as a "natural experiment" and concluded that it demonstrated an incidence rate in excess of 100%, although he noted this result should be treated with caution given other potential factors affecting pricing decisions. Instead, he preferred to rely on econometric models to estimate incidence indirectly. He produced two models – a linear demand model and a logit demand model – to estimate the likely shape of the demand curve. The results of this modelling suggest a rate of incidence between 50% and 90.8%.

968. Dr Singer's view was that economic theory would predict a high rate of pass on from developers to iOS device users, because the Commission is a large and transparent marginal cost (despite being an ad valorem cost, which is a cost that applies in proportion to the value of the services provided).

969. The Class Representative also pointed to evidence given by Professor Hitt (who was Apple's expert dealing with incidence) in US proceedings which she said is inconsistent with the evidence in these proceedings.

970. The Class Representative submitted that, at a very minimum, there is sufficient evidence of pass on to show some loss to the Class and therefore to perfect the tort. Beyond that, she submitted that the Tribunal has sufficient evidence for the exercise of "a sound imagination and the practice of the broad axe", in order to find a rate towards the top end of the 50 to 90.8% range.

(b) Apple's arguments about incidence

971. Apple relied on a set of "natural experiments" carried out by Professor Hitt, in which he analysed the prices charged by developers to iOS device users in the context of reductions which Apple has made to the Commission. These reductions have happened on four occasions:

(1) The launch of the SBP in December 2020.

(2) The implementation of the ARS policy in June 2016.

(3) The launch of the VPP in 2016.

(4) The implementation of the NPP in August 2021.

972. According to Professor Hitt's analysis, these events demonstrate that the vast majority of products analysed through these natural experiments did not experience a reduction in price when the Commission rates were changed[307].

973. Apple also relied on economic theory, as espoused by Professor Hitt in what he called the "four economic realities" which explained the outcome of his natural experiments. These were that:

(1) Economic theory predicts zero or low pass-on of ad valorem charges by firms with zero or low marginal cost.

(2) Competition from developers that do not pay commission could drive low pass-on rates.

[307] Hitt 2 at [423].

(3) Uniform pricing practices could have the same effect.

(4) Developer substitution between in-app advertising and in-app payments could actually create incentives for developers to increase prices in response to a reduction in commission.

974. Professor Hitt carried out various empirical investigations to demonstrate the conditions under which the four economic realities would apply.

975. In relation to Dr Singer's VAT natural experiment in 2015, Apple said this was an example of Apple changing price tiers –rather than providing evidence about developers responding to a price change.

976. Apple challenged Dr Singer's linear and logit demand models on various bases:

(1) They assumed that the relevant cost was a marginal cost, which is not the case.

(2) Dr Singer had put forward two estimated fits to the data, one linear the other logit. He said that both were possible, reasonable explanations of the pass-through relationship; that either of these equations could reasonably be used as an estimate of the pass-through rate. He noted that both were statistically significant.

(3) Apple said that this had shown nothing; that the economic literature had established that what needed to be estimated was the shape of the demand curve, not just that it sloped down; that it was inevitable that there would be some sort of inverse relationship between price and quantity when price changed. Dr Singer had not shown that the linear model was better than some plausible alternative model, nor that the logit model was better than some plausible alternative model. In all this, Apple said, Dr Singer had departed from sound, standard statistical procedure.

(4) Apple pointed out that when the same evidence was proffered to the US District Court for Northern California, District Judge Donato had rejected it, giving it as his opinion that "it fell outside the range where experts might reasonably differ".

(5) Apple also criticised Dr Singer's evidence when he wrote that it was a point in favour of both models that both estimates had high "coefficients of determination" – high r-squared statistics; that is, each estimate appeared to "explain" a very high percentage of the variation in the data. Apple said that nearly all the explanatory power came from the "fixed effects" variable, being variables used in econometric estimates to net out effects flowing purely from the different groupings of the data (for example, games, dating apps), and not from the key variable being studied – here, the price to quantity relationship. Dr Singer agreed in his oral evidence that less than 1% of the data was explained by the price variable.

(6) Apple also submitted that both linear and logit models were fatally flawed in yet another way. In both cases Dr Singer had tried to follow standard procedure in using an instrumental-variables approach to correct for any endogeneity in the data. In both cases he intended to use the VAT rate as a variable not correlated with the underlying variables (price and quantity) under study. But, said Apple, he had used not the VAT rate but the VAT times price as the instrument. This meant that price itself was being used to correct for bias that depended on price – a fundamental error in selecting an instrumental variable, rendering his estimates worthless.

(7) Apple also criticised Dr Singer's procedures in relation to standard specification tests, being tests designed to establish whether the data were suitable for logit analysis; logit being a procedure that assumes stable shares amongst the various variables. Dr Singer used the "Hausman test" which, however, gave the "wrong" answer: that is, the test indicated that the data were not suitable for logit as the substitutability between the items was not uniform but "lumpy" (so for

example, when (say) game X (a war game) lost market share it did not lose it uniformly to all other games (including knitting and painting games) but instead to game Y (another war game) and other games that were similar to X itself).

(8) Dr Singer suggested that the standard test really did not matter, quoting an informal comment by a sociologist and also a comment from a well-known econometrician (Dr John Train). Apple said the former comment was simply irrelevant as it carried no authority, while the latter was taken out of context, as when read carefully it only applied to logit estimates where everything was thoroughly explained by the estimated parameters (which was clearly not the case here).

(9) Apple pointed to a test of the data carried out by Professor Hitt, which sought to test empirically whether the key property of the data – independence of irrelevant alternative ("IIA") – was or was not true of the data set. The test strongly rejected the IIA assumption, meaning that logit estimation could not be carried out reliably on this data set. Dr Singer did not dispute that the data set failed the Hausman test.

(10) Apple strongly criticised a final attempt by Dr Singer to bolster his logit estimates, saying that his estimates were generally stable in 20 out of the 28 data groupings. This was raised for the first time in the hot tub but without accompanying written explanation or supporting computer print-out.

977. In relation to the Spotify Decision, Apple said that pass on was a peripheral issue in that investigation and that the quote from the response to the Letter of Facts has been misrepresented by the European Commission.

978. In its written closing submissions, Apple submitted that a divergence of approach between Dr Singer and Mr Holt meant that the Class Representative had no evidence to support her case on incidence in respect of the excessive and unfair pricing part of her claim. Apple's argument is that:

(1) Dr Singer adjusted his position during his oral evidence to introduce the concept of developers steering users to cheaper options as a way of sharing any reduction in Commission in the counterfactual, which would in turn lead to a degree of incidence (as some of the cost reduction would be passed on to the user).

(2) This approach could only apply to the exclusionary abuses, as there would be no relaxation of the restrictions in the excessive and unfair pricing counterfactual.

(3) Mr Holt, in his reports relating to the excessive and unfair pricing abuse, simply adopted the rate of incidence produced by Dr Singer.

(4) However, Dr Singer expressly disavowed any previous consideration of the rate of incidence in the excessive and unfair pricing counterfactual.

(5) As a consequence, there is no evidence supporting incidence in the excessive and unfair pricing counterfactual.

(c) Our analysis of incidence

(i) Economic theory

979. The obvious starting point is economic theory in relation to incidence. As Professor Hitt accepted, an entity that treats a cost as a direct cost (that is, a cost associated with the production of a specific unit of sales) will include that cost in its profit maximisation calculations, so that the cost will directly affect price[308]. The change in cost which occurs for each additional unit of production is referred to as the marginal cost.

980. In perfectly competitive markets, economic theory predicts pass through of changes in such costs at 100%. However, markets are not perfectly competitive and the extent to which a change in a cost subject to a profit maximisation exercise will be passed on will depend on the nature of the market, and

[308] See the exchange between the Chair and Professor Hitt on Day 23/65/7 to 23/65/23.

especially the demand curve for the product, which is an indication of how consumers (as a group) change the amount they buy as the price of an item changes[309].

981. Economic theory also recognises that an entity might take a different approach where two conditions are satisfied:

(1) First, the cost is an ad valorem cost, so it changes proportionally with the value of units sold. The classic example of this is a tax such as VAT, which increases as a fixed percentage of sales revenue.

(2) Secondly, the entity has no other marginal costs. In other words, it is able to continue to produce units for sale without incurring additional costs.

982. When both conditions are met, economic theory predicts that pass on of costs changes will be low or zero. This is because choosing a price to maximise profits becomes the same as choosing a price to maximise revenues, which means that the optimal price the entity sets remains the same even if the ad valorem cost changes. It is important to note that the inquiry about marginal costs concerns costs other than the ad valorem cost in question.

983. As we understand it, the description of economic theory above is broadly accepted by both parties and their experts. The difference between them arises in the application of the theory to the facts. In that regard, we also note that economic theory is designed to predict outcomes but also recognises that behaviour in the real world will be affected by the particular circumstances and might not always be rational. Departures from economic theory are therefore to be expected.

[309] Singer 2 at [272]. We understand this not to be contentious, as a matter of theory.

(ii) Qualitative evidence: developer incentives

984. We will start our consideration of the evidence by looking at the way developers view the Commission. That ought to give some insight into the extent to which economic theory is likely to hold good in the real world.

985. The only developer who actually gave evidence at trial was Mr Howell, who gave evidence as an expert in relation to apps and digital content, including the business models adopted by developers. In Howell 1, he said:

> "[88] In my experience, iOS App developers certainly take the Commission into consideration when choosing a pricing strategy for Relevant Purchases. When considering more specifically how the applicable level of Commission charged by Apple impacts pricing, I distinguish between large and small iOS App developers.
>
> [88.1] Larger iOS App developers will have a sophisticated price-setting methodology which takes into account factors such as estimated demand elasticity and extensive market research. For these developers, the Commission is one of the costs that will be considered as part of that methodology. Similarly, for developers who incur incremental costs for each additional download or user, the Commission is also likely to feature in their pricing decisions. Conducting a comprehensive cost analysis is vital to ensure that the selected business model and pricing strategy adequately cover all expenses — including development, marketing, and operations — while also remaining profitable. If the Commission and any incremental costs are not reflected in the prices of their Relevant Purchases, the developer will not have a sustainable business model. This could mean setting higher price points for each type of Relevant Purchase to maintain profitability after the Commission is taken. Large iOS App developers will also use tools like A/B testing to better gauge demand elasticity and thereby refine their pricing. In addition, some developers effectively perform A/B price testing by offering different prices in different regions.
>
> [88.2] For smaller iOS App developers, their pricing is typically determined by reference to existing comparable apps. For example, a small iOS App developer of a calculator app might look at similar iOS Apps in the App Store to identify the appropriate price.
>
> [89] The category of app may also influence pricing strategy. For example, a higher price tier can suggest and reinforce a perception of higher value, and consequently increase demand, for productivity or business apps. An iOS App developer may therefore enjoy not only an increase in overall revenues but even in unit sales as a result of increasing prices. However, this counterintuitive market response is an exception to the rule that increasing price generally drives a decrease in demand and unit sales." (footnotes omitted)

986. He also commented as follows on the outcome if the Commission were reduced[310]:

> "[90] If Commission levels were lower, I would expect this to have an impact upon the pricing decisions of iOS App developers. Some iOS App developers would immediately garner more revenues, and would choose to reinvest more rapidly in improving their apps. Other developers would decrease their prices. Combined, these two factors would likely result in a greater quantity and quality of iOS Apps, at better prices, being available on iOS, strengthening Apple's competitive position among device manufacturers. A reduction in Commission rates might prompt other platform owners to consider similar adjustments in order to remain competitive in device markets.
>
> [91] Lower Commissions might also drive some iOS App developers to change business models, for example those who had adopted subscription-based monetization due to its lower Commission renewals, might consider alternative monetization strategies such as one-time app purchases."

987. In Howell 2, he addressed some observations made in Hitt 2, which essentially argued that developers face no or minimal marginal costs. Mr Howell responded as follows[311]:

> "[17] I disagree with the opinion that developers' costs do not increase with additional sales "as the marginal cost of delivering the app to an additional consumer is negligible". Once an app has been developed, the developer continues to incur costs. Some of these are fixed and others are marginal. For example, the costs of app updates and compatibility maintenance are generally fixed as they do not vary by number of users. However, there are several examples of ongoing costs, including server storage, bandwidth, and customer support, that continue to increase per number of users and/or per number of app downloads, in-app purchases and subscription purchases and should therefore properly be categorized as marginal costs. Depending on the type of app, such marginal costs can be substantial. For a complicated productivity app, the developer may incur relatively high costs for technical support. For a game or streaming-media app, the developer may incur additional bandwidth costs each time a user makes an in-app purchase of game content or a movie that requires downloading from its server. For a social media app, the most significant marginal costs may be server storage and processing power required to manage and serve large volumes of user-generated content, as well as the bandwidth needed to handle high levels of media sharing and ongoing human moderation efforts. For document management apps like Dropbox and Box, the primary marginal cost is typically cloud storage and the bandwidth required to sync large files across devices and users (see further below).
>
> [18] I also disagree with the opinion that "for a successful app, revenues can far exceed, and indeed bear no real relation to, costs." This may be correct in some cases. However, there are many successful apps for which this is not the case. By way of example, Dropbox, which may be accessed through its website or app, has over 700 million registered users but only 18.12 million of those

[310] Howell 1 at [90]-[91].
[311] Howell 2 at [17]-[18].

> are paying users (c. 2.6%). Therefore, the vast majority of Dropbox's user base is contributing to increased marginal costs such as server storage, bandwidth and customer support while not yielding any revenue to the developer." (footnotes omitted)

988. Mr Howell was cross examined by Mr Kennelly KC on these paragraphs[312]. Mr Howell accepted that his evidence was largely based on personal experience and that he had not investigated the extent of marginal costs for those transactions which account for the bulk of the App Store's commerce. He also acknowledged Mr Kennelly KC's calculations from Dropbox's published accounts to the effect that the marginal costs Mr Howell identified at Dropbox amounted to about 6% of its revenues. Mr Howell also acknowledged that the provision of digital currency by way of in-app purchase would not carry with it significant marginal costs, which meant that marginal costs were more likely to arise in non-gaming apps (although he said that some gaming apps would have marginal costs associated with increased bandwidth arising from, say, video streaming costs).

989. Mr Howell did however maintain his view that developers do take commission into account in pricing decisions. That view was, he said, based on his own experience of pricing apps and the interactions he has had with a large number (he said thousands) of developers. He also maintained his opinion that the Commission would be a significant cost, saying that for the vast majority of developers the cost of running the business was about equal to the revenues, so they barely broke even.

990. As Mr Kennelly KC pointed out to Mr Howell, there was very little specific evidence that Mr Howell could point to and no evidence in the nature of any industry-wide survey. Our assessment is that Mr Howell's evidence on this point is truthful and reliable, but limited. It discloses that there is likely to be a range of different views and approaches taken by different developers. For some developers, and perhaps a substantial majority in number, the Commission will be a significant cost. For others, it will be relatively small compared with its overall revenue.

[312] See Day 9/28/18 to 9/42/4.

991. Further, developers are likely to have different cost bases and in particular may differ as to the extent to which they have marginal costs (other than the Commission). That is likely to lead to a range of outcomes (something which Mr Howell seems to assume in [90] of Howell 1, where he discussed developers' options of reinvestment or price reduction when faced with lower commission costs). It does not establish a consistent approach, far less any indication of the actual level at which incidence might take place at an average level.

992. The Class Representative also relied on published accounts from a number of large developers, which indicated that they treated platform distribution costs (which would include the Commission) as costs of revenue, which would normally be treated as marginal costs for profit maximisation pricing purposes. For example, in a US filing by King Digital Entertainment Limited (the owner of the popular game Candy Crush), it is recorded that: "[c]ost of revenue primarily includes amounts charged by platform distribution partners…".

993. This suggests that large developers' decisions are affected in several ways by platform distribution costs: some costs are truly marginal, rising with each unit sold (for example, royalties to the music owner on every single song) while other are incremental, incurred (or not) in batches as the developer seeks to improve its product or to scale its product offering, up (or down). These incremental costs need to be covered if the firm is seeking to expand profitably. The position may be different for an exiting firm, which can be expected just to maximise revenue less truly marginal cost. Whether a cost is to be thought of as relevant to pricing therefore depends in part on the firm's plans for the future.

994. Finally, Dr Singer referred us to statements on the websites of major digital content providers such as Spotify, Netflix, Amazon and Google which warn customers that local sales taxes are passed on in full to consumers[313].

[313] See Singer 2 at [276].

(iii) Qualitative evidence: Apple's own views

995. The first aspect of this which is relied on by the Class Representative concerns a passage in the Spotify Decision, where the European Commission said:

> "(614) In its Response to the Letter of Facts, Apple also concedes that music streaming service providers '"pass on" Apple's commission', even if it states that they do it 'to a different extent'."

996. In these proceedings, Apple said that this mischaracterises its position in the Spotify Decision investigation, as other parts of the Spotify Decision make it plain that Apple did not intend by this to make a concession about pass on. It said that the use of quotes round the words "pass on" reflects Apple's intention to rebut a point made by the European Commission about the differential between prices for subscriptions through Apple's payment systems and subscriptions paid for elsewhere.

997. We were shown Apple's reply of 12 January 2024 to the European Commission's Letter of Facts ("LoF"), in which Apple said:

> "[✂]"

998. This passage appears in a section of the reply addressing the question of whether music streaming services make their own commercial decisions about the pricing of in-app subscriptions, or whether they are forced to reflect the Commission in a specific way (which was apparently the view of the European Commission in the Letter of Facts).

999. It seems clear to us that, in responding to those concerns from the European Commission, Apple has acknowledged that music streaming services consciously included some or all of the increased Commission in pricing to customers. The fact that this acknowledgement came in response to a different issue (which seems to be the case), is irrelevant. We take it as evidence that Apple was aware that there is a degree of incidence in relation to the Commission charged to music streaming services, which is a category of app developers.

1000. In the course of re-examination, Professor Hitt told us that the proportion of commerce in these proceedings relating to music streaming was in the low single digits. Again, therefore, Apple's acknowledgement relates to a limited part of the developer community. However, we agree with the Class Representative's submission that Apple's acknowledgement is informative of its view more generally, and that in any event the commerce relating to music streaming covers many millions of pounds in commerce.

1001. The Class Representative also referred to an Apple internal document relating to the 2015 VAT increase (which we will turn to shortly, as it is the subject of the natural experiment carried out by Dr Singer). A slide pack entitled "Tax & Foreign Exchange Update – iTunes & App Store Impacts" and dated 28 August 2013 anticipated the 2015 VAT increase and set out a proposal for dealing with the impact of that. The analysis in relation to the proposed way forward is said to assume that "demand for apps is inelastic when making small price changes".

1002. It seems plain to us that this is recognition that developers pass on at least small cost increases including increases in VAT (an ad valorem cost) to their customers. It is not clear who at Apple thought this, but it is consistent with the general theory that an ad valorem tax like VAT is generally passed on in prices and that the developers concerned were incentivised to do so.

1003. Finally, under this heading (although of a somewhat different nature), we turn to the submission by the Class Representative that Professor Hitt has been inconsistent in the evidence he has given before us and the evidence he has given in US developer proceedings.

1004. This concerns evidence which Professor Hitt gave in proceedings on behalf of Apple, which was the defendant in a class action by developers in the US District Court of Northern California. The developers were arguing that there was no pass on of the Commission.

1005. In his written evidence[314] in those proceedings, Professor Hitt said:

[314] Expert Report of Professor Hitt dated 10 August 2021, at [354]-[358].

> "[354] Professor Economides asserts that marginal costs for developers are typically small, which means that developers do not have incentives to reduce prices in the but-for world. As Professor Willig discusses, developers with zero marginal costs will set prices independent of the commission rate charged by the App Store. A developer with zero marginal costs would therefore not change prices in the but-for world, even if the developer paid a lower commission rate.
>
> [355] Thus, while Professor Economides is correct that developers with low marginal costs are unlikely to pass-through lower commission rates, he makes the flawed assumption that every developer has low marginal costs and therefore would not pass-through a lower commission rate. In reality, marginal costs vary across app developers, and individualized inquiry would be required to determine whether a proposed developer class member has low or high marginal costs.
>
> [356] Contrary to Professor Economides' assumption, some app developers may face meaningful marginal costs. For example, music streaming apps may face marginal costs for each additional in-app subscription, depending on the royalty arrangement that the developer pays to license music on the app. For example, Professor McFadden acknowledges that music streaming services like Spotify and Pandora have meaningful marginal costs. For these types of developers, Professor Economides' assumption that developers would not pass through lower commission rates because of limited marginal costs would not hold.
>
> [357] At the same time, contrary to Professor McFadden's assumption, many app developers have zero or de minimis marginal costs. Professor Prince discusses how the academic literature has found that digital products, such as software, have low marginal costs. For example, a research paper by Lambrecht, et al. (2014) finds that digital products have 'near zero marginal cost of production and distribution.'
>
> [358] In short, individual inquiry will be required to determine whether a developer has low marginal costs and thus whether it would pass-through any lower commission rate in the but-for world."

1006. A deposition took place on 11 October 2021, which records Professor Hitt's answers to questions about pass on:

> "Q: What constitutes meaningful marginal costs?
>
> PROFESSOR HITT: So a meaningful marginal cost could be nonzero. Some of these -- for example, media apps -- have significant licensing fees, which could be a substantial fraction of the -- in total could be a substantial fraction of revenue.
>
> Q: Sure. And other than royalties and licensing fees and that sort of thing for music and entertainment, do you have any marginal costs of developers in mind?
>
> PROFESSOR HITT: Oh, well, so this wasn't something that was the focus of my report, but -- but certainly developers could have operational costs that they may need -- need to incur that do scale with the number of users and quantity and use.

> Q: Okay. Have you done anything to examine the marginal costs of any developer?
>
> PROFESSOR HITT: Other than the mention -- other than mentioning in a couple places in my report that those costs may be nonzero, I haven't done any further investigation. But there is some -- there are some things that are referenced in other reports. There are some mentioned -- for example, media -- has licensing fees on it. But I didn't do a detailed investigation of the marginal costs of various apps."

1007. A second further deposition took place on 14 April 2023:

> "Q: Do you believe that any apps have meaningful marginal costs?
>
> PROFESSOR HITT: There are definitely apps that have marginal costs that are enough to affect pricing, certainly. For example, anything with licensed content could potentially have significant marginal costs if the content is licensed on a basis where the number of purchases affect, for example, a royalty payment.
>
> Q: And other than royalties and licensing fees, do you have any other marginal costs of developers in mind as being meaningful?
>
> PROFESSOR HITT: So there could be any number of sources of marginal costs. When they get large enough to affect economic behavior, they become meaningful. There could be other costs, as well. But, again, that would vary at an app-by-app level. The one that is most prominent would be -- a licensing cost are the most clear. There could be specific operational costs that are incurred for supporting apps that have payments in some circumstances. Again, every app may be different as to what is part of the fixed cost and what is part of the marginal cost. But, yeah, the one I was mostly considering was licensed content."

1008. When these passages were put to Professor Hitt by Mr Ward KC in cross examination, he did not accept that they were inconsistent with the evidence in these proceedings, maintaining that he was consistent in saying that there were circumstances in which the "zero marginal cost assumption would be violated"[315]. In re-examination, Professor Hitt identified a footnote in Hitt 2 which referred to "[a]n exception to zero marginal cost"[316]. That footnote was in the section of his report dealing with the economics of app development and monetisation, not the section dealing with incidence.

1009. Putting aside the question of consistency (to which we will return) it is plain that in these passages Professor Hitt is acknowledging that some developers of

[315] Day 23/133/23 to 23/133/25 (private).
[316] Hitt 2 at footnote 113.

apps will have marginal costs of production which will impact prices. That is consistent with the conclusions we have drawn from the available developer evidence and from the other material which indicated Apple's view on that question.

(iv) The natural experiments

1010. Dr Singer's natural experiment involves the 2015 change in EU tax regulations which required online sellers to begin to charge VAT according to the customer's location, rather than where the seller was based. This meant that VAT on UK App Store purchases would increase from 15% to 20% from 1 January 2015.

1011. According to Dr Singer, Apple, in response to this change, adjusted almost all its price tier levels, which had the effect of passing on some element of the increased VAT. Using the prices before and after this increase, Dr Singer calculated an average absolute incidence of 1.35, which corresponds to a 189% rate of incidence in absolute terms. As he put it[317]:

> "The absolute incidence is equal to the change in price divided by the change in cost. From 2014 to 2015, the price increased by £0.50 (equal to £5.50–£5.00), and the cost increased by £0.27. Therefore, the incidence is £0.50/£0.27≈1.89."

1012. Dr Singer said that he considers this an illustration of incidence rather than a value for calculating the incidence in this case. That is because there may have been other reasons for the price changes (in addition to the VAT increase) and there may be a difference between the willingness of a firm to raise prices and the willingness to lower prices when faced with a cost change (whereas, at least in the delayed counterfactual, there would be a cost decrease).

1013. Apple's position on this was that the VAT increase was an example of Apple setting prices, not developers, and so it could not be taken as evidence of developer behaviour. In the hot tub, Dr Singer noted that developers were given an option as to whether they "rode up" the price increases Apple made to the

[317] Singer 2 at [291], last sentence.

tiers. He disclosed that he had conducted further analysis to determine that about 70% of developers did "ride up", while 15% did not (the remainder choosing a higher price than Apple's suggested tiers). Dr Singer confirmed in cross examination that he had performed this analysis after the joint expert meetings and so it was not in his reports or the joint expert statement or otherwise shared with Apple until the hot tub.

1014. It was then put to Dr Singer in cross examination that developers were likely to price on a global basis and were therefore unlikely to make a pricing decision about the UK market only. He did not accept that would be the case where a significant change was made to an ad valorem tax.

1015. In our judgement, the VAT increase is further evidence to support the proposition that developers do see a connection between changes in costs, like an ad valorem tax, and price. However, we do not consider it to be evidence of the *extent* of incidence which arises from such a change.

1016. Professor Hitt's natural experiments concerned four of the programs introduced by Apple to provide a reduced Commission to certain developer groups or charging events – the SBP, the ARS policy, the VPP and the NPP. In each case there has been a reduction in the rate of Commission and Professor Hitt has been able to test whether developers have reduced their prices at the same time. According to Professor Hitt, these natural experiments cover a wide range of different type of apps and collectively account for [✂] of total transactions for paid product in 2022[318].

1017. The results of Professor Hitt's work are as follows:

	Apple Partner Program or Policy	Percent of Products Studied with No Reduction in Prices
1.	Small Business Program	87.0%
2.	Auto-Renewing Subscription Policy	92.0%
3.	Video Partner Program	93.5%
4.	News Partner Program	68.0%

[318] Hitt 2 at [421].

Source: U.K. Storefront App Store Transaction Data; SBP developers as of 05.09.22.xlsx; Global VPP Partners as of 05.03.22 .xlsx; TV Partner Program as of 05.12.2022 .xlsx; News Partner Program as of 05.12.22.xlsx; NPP Partners 2024.xlsx. Note: I summarize results from Exhibit 36, Exhibit 38, Exhibit 41, and Exhibit 43. For details on how these figures are calculated, please refer to those exhibits and accompanying discussion.

1018. Professor Hitt also conducted a "difference in difference" analysis for his ARS policy and SBP experiments. This involved him comparing the developers under those programs with other control groups, to test whether there might be other factors which have caused the price change. He concluded that there were not. He also expressed the view that, because the average pass on rate from his analysis is zero, it is safe to conclude that there has been no pass on at all by developers.

1019. The Class Representative advanced various criticisms of Professor Hitt's work, of which the mains points were:

(1) The introduction of the SBP in December 2020 coincided with high inflation and Covid-19, when developers were unlikely to be passing on cost reductions. This would not be identified by the difference in difference analysis, which did not compare small developer groups with large developer groups[319], whereas, the Class Representative said, small developers would have a stronger incentive not to pass on costs savings. There is also a structural problem, in that the SBP operated below a $1 million revenue threshold and developers would be concerned about losing the discount if they exceeded that. Professor Hitt accepted that this was a possible incentive[320].

(2) The ARS policy allowed for a discount for those subscriptions, but only on the price that was set at the outset of the subscription[321]. As a consequence, developers had a disincentive to pass on the reduced price as they did not know if the consumer would renew in later periods. Professor Hitt accepted that might be the case, depending on the developer's expectation of renewal rates[322].

[319] As confirmed by Professor Hitt at Day 23/109/12 to 23/109/23.
[320] Day 23/105/10 to 23/106/8.
[321] See Howell 1 at [82].
[322] Day 23/111/15 to 23/111/24.

(3) Both the VPP and NPP required developers to sign up to Apple's TV and news offerings, which would have commercial implications for the developer, and which would therefore make any pricing decision in relation to the cost reduction complex. Professor Hitt acknowledged that he had not looked into this and that it might create difficulty with at least some apps[323].

(4) All the natural experiments involved price reductions, which was the opposite of the direction of Commission change in the Primary Counterfactual. It is accepted in the economic literature that price reductions may be passed on more slowly than price increases.

(5) The natural experiments did not involve attempts by developers to steer customers towards cheaper distribution channels, which typically would lead to developer and iOS device user splitting the savings from any price reduction.

(6) Professor Hitt's observation about the mean incidence rate was questionable as a matter of common sense as the analysis he undertook showed some pass on, including in the NPP and VPP where there was no difference in difference analysis carried out.

1020. We found Professor Hitt's natural experiments interesting, and we agree they are obvious opportunities to observe the relationship between cost changes and prices. However, as is the case with many natural experiments, we were left with considerable uncertainty about the correct conclusions to draw from them.

1021. That is because the criticisms advanced by the Class Representative do seem to have considerable force. It seems difficult to place any material weight on the NPP and VPP experiments, given the wider commercial factors which might influence the pricing by a developer who received those Commission reductions.

[323] Day 23/116/22 to 23/117/19.

1022. In relation to the SBP, it seems to us quite possible that some of the factors identified by the Class Representative (in particular the concern about exceeding the threshold) could create a disincentive to pass on the decrease, which would not be identified in the difference in difference analysis. Similarly, the structure of the ARS policy may well operate to disincentive pass on of the Commission reduction.

1023. Of the four natural experiments, the SBP is, we consider, the most useful and provides some evidence (although not strong evidence for the reason identified above) for the proposition that smaller firms have not passed on the Commission decrease as a result of the introduction of the programme.

1024. That is all in the context of a cost change which is in the opposite direction from the cost change in our quantum counterfactual. We are concerned with whether costs which should not have been charged to developers have been passed on by them as a matter of fact, so the more appropriate counterfactual to test that must be one in which there is an increase, not a decrease, in costs. We agree with the Class Representative that cost decreases are in general expected to be passed on at a lower rate than cost increases. We did not understand either of these points to be seriously contested by Professor Hitt or, indeed, by Apple.

1025. We do not agree with Professor Hitt's suggestion that we should somehow conclude from the mean incidence rate from his analysis that there had been no pass on at all. That seemed to us to be a significant overreach by Professor Hitt, especially when he was unable to carry out a difference in difference analysis for the NPP and VPP, both of which showed a degree of pass on in his assessment of prices.

1026. Our conclusion about Professor Hitt's natural experiments is that one of them (the SBP) provides weak evidence of a lack of pass on, but that otherwise they show at most a potential reluctance by developers to pass on cost reductions, especially where there is uncertainty in their commercial position (for example, by reason of complexity in the way the price reduction works). They also seem to establish a degree of pass on in some circumstances, which at the very least

tends to confirm the Class Representative's case that there are nominal damages to perfect the torts she is pursuing.

1027. Beyond that, our assessment is that Professor Hitt's natural experiments are unreliable for the purpose of determining the likely level of pass on of an increase in Commission and are certainly not capable of evidencing a likelihood of no pass on at all.

(v) The Spotify Decision

1028. In the Spotify Decision, the European Commission found that Apple had committed an infringement of Article 102 TFEU and Article 54 EEA by imposing the anti-steering rules on music streaming service providers to the detriment of consumers. The Spotify Decision was issued in March 2024, the investigation having commenced in July 2015.

1029. The European Commission made findings in the Spotify Decision about the extent to which music streaming services passed on the cost of the Commission (which they became subject to when they were able to offer subscriptions through iOS in-app payment services) by way of increased subscription prices[324]:

> "(611) It is therefore unsurprising all major music streaming service providers in the EEA actually increased their subscription prices for transactions concluded through IAP, typically from EUR 9.99 to EUR 12.99 for individual subscriptions, compared to the price they had applied before implementing IAP and/or the price they kept offering through other channels (such as their own website), thus passing on the commission to their iOS users in the form of a higher in-app subscription retail price.
>
> (612) This is the case for Spotify during the period it enabled IAP, for Deezer, SoundCloud, Napster, YouTube Music and Tidal. For example, when Spotify implemented IAP between June 2014 and May 2016 as well as when Deezer enabled IAP from 2016 onwards, they both increased the monthly subscription fees, typically from EUR 9.99 to EUR 12.99 for an individual subscription. This triggered numerous user complaints."

1030. That increase in monthly subscription fee corresponded to a pass on rate of between 90% to 95%[325]. The Decision records Spotify's evidence that if it had

[324] Spotify Decision at Recitals (611)-(612).
[325] Spotify Decision at Recital (214).

"absorbed the 30% surcharge, the remaining revenue would not have been sufficient to cover its other costs"[326].

1031. Apple was dismissive of the evidential value of the Spotify Decision in relation to pass on. It said that pass on was at most a side issue in the decision and there was no analysis of direct evidence of pass on, but merely observations about price changes coincidental with the implementation of IAP and about the extent of the burden placed on music streaming services by Apple's Commission, neither of which were relevant. Further, to the extent the Spotify Decision did indicate pass on, it was limited to music streaming services which were a small part of the commerce in this case.

1032. Apple submitted that we should focus on the primary evidence and not get drawn into the argument about the evidential value of the findings in *Spotify*, reminding us of the caution in *Hollington* about the dangers of that.

1033. We have dealt with the *Hollington* point in section C of this judgment, where we indicated that we would prefer to make decisions on the basis of primary evidence but would also look to the Spotify Decision as a point of reference for consistency or to fill evidential gaps. That approach recognises that the Spotify Decision represents the outcome of detailed and extensive infringement proceedings by the European Commission, after all of the procedural rights which Apple was entitled to exercise in that investigation.

1034. In this respect, we do consider that there is a paucity of other evidence on which we can make our decision about incidence. We have found that the natural experiments advanced by experts for each party have their limitations. We have some developer evidence, but it is limited in its scope.

1035. It seems to us that the question of pass on was not just a side issue in the Spotify Decision, but one in respect of which the European Commission showed serious interest and in respect of which they had sought evidence from developers. There may not have been any econometric analysis, but that developer evidence

[326] Spotify Decision at Recital (213).

was direct evidence about the relationship between the additional Commission charged for subscriptions and the price of those subscriptions.

1036. That evidence suggests very clearly that there is such a relationship, driven by the basic economic realities for music streaming services and the need to protect their viability. We accept that this is just a segment of the group of developers that make up the commerce in this case, but it is not an immaterial one and it helps cast light on what factors might influence developers in the real world.

1037. There was a collateral argument between the parties about the approach Professor Hitt took to the Spotify Decision, which he essentially ignored in the section of his report dealing with incidence. We have already recorded our views in relation to a similar criticism in section D(4)(h) above, where we expressed the view that Professor Hitt ought to have addressed contrary views expressed in the Spotify Decision as part of his evidence. The same applies in this instance.

(vi) Professor Hitt's four economic realities

1038. Given that we have covered some of the relevant ground already in this section, we can deal relatively quickly with Professor Hitt's four economic realities. These were advanced as reasons why Professor Hitt's natural experiments produce a different outcome from that which one might expect as a matter of orthodox economic theory. In other words, they explained the departure in the programs analysed from the expectation that developers would pass on costs which were linked to volume of production, which the Commission, as an ad valorem charge, clearly is.

1039. No pass-on of ad valorem charges by firms with zero or low marginal cost: As already noted, this may well be the case as a matter of theory, but the real question is the extent to which developers have marginal costs associated with app distribution or in-app content production. The evidence before us suggests that this will vary between developers, depending on the type of app and the functionality it has.

1040. For example, it seems to be the case that some apps will require ongoing expenditure linked to user activity, such as bandwidth charges for video streaming or storage for document repositories. Others will have licensing costs associated with unit sales or usage.

1041. There is also evidence that developers generally are conscious of the size of the Commission relative to their other costs and are inclined to treat it as a cost of revenue. See, for example, the accounts of the large US developers referred to above. That is consistent with the way in which the music streamers in the Spotify Decision reacted to a large cost increase, the way in which developers reacted to the 2015 VAT increase, and the website notifications by large digital companies about passing on ad valorem tax increases.

1042. In short, as Professor Hitt put it in his evidence in the US proceedings: "individual inquiry will be required to determine whether a developer has low marginal costs and thus whether it would pass-through any lower commission rate in the but-for world".

1043. In relation to ad valorem costs, we should make it clear that we do not understand that the ad valorem nature should affect the incidence rate in the way Apple argued, absent the feature of zero or low marginal costs. On the contrary, increases in ad valorem taxes are often passed on to a substantial extent precisely because they are industry-wide, so entities know they can pass on the cost increase without negatively affecting demand, at any rate where the market demand is inelastic.

1044. Competition from developers that do not pay Commission could reduce pass on rates: This argument was not so much one of economic theory as commercial practicality. That is whether developers need to price their apps to compete with developers who do not pay Commission but instead monetise their apps from in-app advertising or from subscriptions on their own website[327].

[327] Hitt 2 at [502].

1045. Professor Hitt relied heavily on examples of video streaming apps, which he said amounts to some [✂] of the commerce in this case. He did not provide any direct evidence to back up his argument. It may be that some video streaming services do price with reference to competitors who are distributing on a different economic basis, which may create some constraint on price. However, as we have explored in some detail in sections D (market definition) and E (dominance) of this judgment, we do not consider those other monetisation options to amount to substitutes for access to iOS device users who are only able to download apps and obtain in-app content through the App Store. Nor is in-app advertising a viable option for many developers. Considering all these factors, the point is at best a marginal one and we do not consider that it changes our view on the question of incidence.

1046. Uniform pricing practices could have the same effect: This argument is again essentially a commercial one. It is that developers who distribute over multiple channels will want to set the same price across all of them.

1047. In fact, the material relied on by Professor Hitt appeared to show a variation in pricing between developers, which did not support his argument and tended (at least to some extent) to support the existence of pass on, as shown by this exchange with Mr Ward KC[328]:

> "MR WARD KC:…Well, I am putting it to you, Professor Hitt, that you are deploying against the Class Representative that half of these websites had uniform pricing, but what is to be found in your exhibit is plenty of websites where in fact there is reduced pricing where the Commission is not paid. Would you agree?
>
> PROFESSOR HITT: Yes. In fact you can find examples that go both directions. But, yes, there are examples in there. That is what -- again, roughly, in these various exhibits, about half have uniform pricing. Where they do not, sometimes it is higher, sometimes it is lower --
>
> MR WARD KC: So this economic reality is entirely consistent with the Class Representative's case on incidence, is it not?
>
> PROFESSOR HITT: If it were causal, that would be -- that would be consistent, but there is nothing -- again, developers are welcome to set whatever prices that they want across different websites. It is also consistent with other stories, for example, different levels of demand, or it is consistent with the story where they recognise that there is an opportunity, for example,

[328] Day 23/142/10 to 23/143/14.

> to directly contract with consumers and avoid the Apple Commission, and they have the opportunity within the existing rules to attempt to do so.
>
> MR WARD KC: Well, it is always evidence against the Class Representative, but never -- the flipside can never be evidence for the Class Representative, can it, on your version of reality?
>
> PROFESSOR HITT: No, I think that is unfair. You are asking me to explain why I have reached the conclusions I did. I am explaining why."

1048. We are not persuaded that there is any real evidence to support this third proposition.

1049. Developer substitution between in-app advertising and in-app payments might increase prices: this theory turns on the idea that developers might be induced to switch from in-app advertising to higher app or in-app pricing, enticed by a lower Commission. It did appear to be a theory rather than being based on any real evidence. As the Class Representative observed in her closing, it seems counterintuitive that lower costs would lead to higher prices.

1050. We are not persuaded that there is any real evidence to support this fourth proposition.

(vii) The significance of steering

1051. In its written closing submissions, Apple placed considerable weight on what it characterised as Dr Singer's "late reliance" on steering to establish incidence. In essence, the point is that developers would have incentives to pass on Commission reductions if they could induce users to transact on other platforms where the reduction could be shared between the developer and the user (thereby providing a component of pass on to the user).

1052. Apple criticised Dr Singer for the late articulation of this point. It also attacked the logical and evidential basis for it. Further, Apple submitted that Dr Singer's reliance on steering was fatal for the Class Representative's case of incidence for the excessive and unfair pricing abuse (which was constructed in reliance on the incidence arguments for the exclusionary abuses, but where steering would not apply) and fatal for the delayed counterfactual.

1053. We have already decided that we will not consider the delayed counterfactual. We also find it difficult to see how there can be a finding about incidence which applies to one abuse and not the other, when they both concern the same economic activity. The one thing that seems clear about incidence is that developers are not pricing by reference to the type of abuse to which they have been subjected.

1054. We do not consider that the steering argument adds materially to the overall picture on incidence. It is just one way in which a developer in certain circumstances might be incentivised and have the facility to pass on a reduction in Commission.

(viii) Dr Singer's linear and logit demand models

1055. We have concluded that neither of Dr Singer's two attempts to estimate the degree of incidence added anything to the reliable evidence before us and we have concluded that Apple's criticisms of Dr Singer's procedures were essentially sound and that the estimates could not be relied on:

(1) Apple was correct to say that a high r-squared is simply irrelevant, especially where nearly all the explanatory power comes from fixed effects variable and not the variable of interest – price whose effect was tiny.

(2) The statistically significant coefficient on price is of little account when such data sets almost inevitably will show some inverse relationship.

(3) As Apple submitted, the key point for pass-through/incidence is the shape of the demand curve. Dr Singer did not produce any estimates that could reliably estimate this shape, nor did he show such estimates superior to other plausible equation specifications.

(4) We also accept Apple's criticism that Dr Singer's attempt to correct for endogeneity in the data misfired. We did not understand Dr Singer to deny that the instrumental variable he used was (unintentionally)

correlated with price. This misstep rendered the estimates unreliable because of failure to correct properly for endogeneity.

(5) Apple and Professor Hitt were also correct in pointing out that the logit model failed the Hausman test, a test designed for the very purpose of discriminating between data sets that are homogeneous enough for the IIA assumption to be reasonable and those that are not. We cannot accept Dr Singer's assertion that this standard test can somehow be ignored.

1056. We have therefore given them no weight in our assessment of the evidence before us on incidence.

(d) Our conclusion on the rate of incidence

1057. Our conclusions about the rate of incidence for the overcharges in this case is as follows:

(1) We are dealing with a counterfactual in which it is to be assumed that the Commission paid by developers to Apple for iOS app distribution services has increased from 17.5 to 30% and the Commission paid by developers to Apple for iOS in-app payment services has increased from 10 to 30%. That is likely to be a material increase in their costs for most developers.

(2) Basic economic theory suggests that marginal costs will be passed on to consumers. The Commission is a marginal cost and the initial premise is that it will be passed on to a material extent.

(3) However, where an entity has no or negligible marginal costs then the premise above may be displaced in relation to an ad valorem charge. The Commission is an ad valorem charge.

(4) The existence and extent of marginal costs will vary considerably across developers. It is not possible in the circumstances of these proceedings to conduct the individual inquiry that Professor Hitt said is necessary for

a precise answer. Indeed, that would be a challenge in most circumstances, absent an extensive survey of developers.

(5) Instead, we have before us a patchwork of evidence which is far from complete. There is therefore a need for guess work and the piecing together and weighing of different types of evidence. Where there are gaps we must do our best to fill those on the basis of accepted economic principles and our judgement.

(6) Where developers do have material marginal costs, we expect they will pass on an increase in the Commission at a significant rate in accordance with standard economic theory. That rate is likely to be in the region of, or above, 90%.

(7) Where a developer does not have material marginal costs then economic theory suggests that the Commission, as an ad valorem charge, may not be passed on to any significant extent, or indeed at all. However, real world behaviour may depart from economic theory where the increase in the Commission represents a material part of a developer's margin, in which case it may be that the developers will seek to pass on the increase in the Commission regardless of economic theory.

(8) We do know that music streaming services are likely to pass on at a high rate, because the Spotify Decision says so, with explicit reference to the evidence taken by the European Commission from music streaming services in the course of their investigation. That is inevitable as they themselves must pay a high music royalty for each unit delivered – that is, they truly face high marginal costs. We therefore consider this to be reliable evidence of the likely approach to pass on of that group of developers.

(9) The treatment in large developers' accounts of platform service charges is based on accounting principles, rather than economic principles. It does suggest that these developers view the Commission as a marginal cost, but it cannot be treated as definitive evidence without further

information about the way those developers deal with the Commission in their price setting processes.

(10) The material on large developer websites supports the proposition that they pass on ad valorem taxes (implying the existence of non-negligible marginal costs). This suggests that some large developers may have non-negligible marginal costs and would pass on a Commission increase, but again is not definitive evidence.

(11) The position in relation to smaller developers is uncertain. The 2015 VAT experiment suggests there might be widespread pass on of increased ad valorem charges, though we are cautious about placing too much reliance on that. The natural experiment of the SBP provides some evidence (but not strong evidence) that small developers would not always pass on a price decrease. The incentives of smaller developers may depend on the size of their operating margin compared with the value of any increase in the Commission.

(12) There may not be an even distribution of pass on across large and small developers. Mr Howell suggested that small developers might follow large developer pricing and we can see some commercial logic in that, especially given the tiered pricing structures adopted by Apple and the transparency of pricing for apps in the App Store.

(13) Taking all of this together, it seems likely that the distribution of incidence by developers in response to an increase in the Commission of the magnitude described above will produce a distribution curve ranging between zero and 90%. There is considerable uncertainty as to the shape of that distribution curve and it is not possible, on the evidence before us, to say a great deal more about whether there would be a greater weighting of incidence at the upper or lower end, or indeed any other part of the curve.

(14) Our assessment, taking into account all of that evidence and to an extent resorting to the "informed guesswork" permitted by the case law, is that

50% is a fair and reasonable rate to set for incidence generally in relation to the overcharges in this case.

(15) Finally, for completeness we should note that the Class Representative is seeking aggregate damages on behalf of a class of indirect purchasers. It is therefore immaterial (at least for present purposes) that there is a distribution of potential outcomes as far as incidence is concerned. The Class Representative is entitled to rely on our assessment of a single representative figure for the incidence across the developer population.

(7) Interest

(a) The arguments of the parties

1058. The Class Representative seeks an award of simple interest on losses suffered at a rate of 8%. Apple submitted that the appropriate rate for any award of interest is the rate which the Tribunal indicated it would have awarded in *Le Patourel,* which was 2% above the Bank of England base rate.

1059. The parties agreed that the principles which we should apply were those set out in the Court of Appeal's decision in *Carrasco v Johnson* [2018] 2 WLUK 48, [2018] EWCA Civ 87 ("*Carrasco*"). In [17] of that judgment, Hamblen LJ summarised the relevant principles as follows:

> "[17] The guidance to be derived from these cases includes the following:
>
> (1) Interest is awarded to compensate claimants for being kept out of money which ought to have been paid to them rather than as compensation for damage done or to deprive defendants of profit they may have made from the use of the money.
>
> (2) This is a question to be approached broadly. The court will consider the position of persons with the claimants' general attributes, but will not have regard to claimants' particular attributes or any special position in which they may have been.
>
> (3) In relation to commercial claimants the general presumption will be that they would have borrowed less and so the court will have regard to the rate at which persons with the general attributes of the claimant could have borrowed. This is likely to be a percentage over base rate and may be higher for small businesses than for first class borrowers.

(4) In relation to personal injury claimants the general presumption will be that the appropriate rate of interest is the investment rate.

(5) Many claimants will not fall clearly into a category of those who would have borrowed or those who would have put money on deposit and a fair rate for them may often fall somewhere between those two rates."

1060. The Class Representative submitted that:

(1) The guidance about considering general, rather than specific, attributes applied with even greater force to an aggregate claim on behalf of a class which was likely to be overwhelmingly comprised of individuals, not businesses.

(2) According to several cases, including the Court of Appeal decisions in *Jones v Secretary of State for Energy and Climate Change* [2014] 3 All ER 956, [2014] EWCA Civ 363 ("*Jones*") and *West v Ian Findlay Associates* [2014] 3 WLUK 815, [2014] EWCA Civ 316 ("*West*"), it is appropriate to distinguish between commercial entities and private individuals.

(3) The class in this case is overwhelmingly a consumer class made up of private individuals.

(4) In that light, it was not appropriate to award the commercial rate. The Tribunal's approach in *Le Patourel* appeared to rely on previous Tribunal decisions in competition cases, but those were all cases where the claimant was a business.

(5) Cases like *Attrill v Dresdner Kleinwort Limited* [2012] 5 WLUK 908, [2012] EWHC 1468 (QB) ("*Attrill*") showed that the appropriate inquiry was the unsecured borrowing cost for individuals.

(6) Bank of England data for the relevant period for rates of borrowing for £3,000 and £5,000 on an unsecured basis showed rates which were consistently around or above 8%, which meant that an award at 8% was a fair outcome.

1061. Apple submitted that:

(1) The losses for each individual class member on an annual basis were very small amounts and we should not simply assume any incremental borrowing as a consequence of those losses. On the contrary, that seemed inherently unlikely.

(2) To be consistent with [17(4)] of *Carrasco*, we should instead be concerned with the rate of investment by class members, not the rate at which they could have borrowed.

(3) Apple relied on an extract from Butterworths Personal Injury Litigation Service[329] to establish that the approach that applied to personal injury claims also applied to other claims for past losses.

(4) According to data presented in that section of Butterworths, the Special Account rate for the period ranged between 0.5% in 2009 to 6% in 2023, with a heavy weighting towards the lower end of that range for much of the Claim Period.

(5) As a consequence, it would be a fair outcome to adopt the approach in *Le Patourel* and award 2% above base, which would comfortably compensate for lost investment at the Special Account rate over the period and would avoid a significant risk of overcompensation at any higher rate.

(b) Our analysis of the interest issue

1062. The key questions that we need to determine are:

(1) Is the rate for private individuals the same or different from the rate for commercial borrowers?

[329] *Division I, Fundamentals of Damages and Loss: L Interest* at [1926]-[1927].

(2) Should that be a rate for borrowing or for investing, with particular reference to the size of the overcharge on an individual basis?

(i) Are individuals treated differently?

1063. It is clear from the authorities cited by the Class Representative that, as part of the discretion exercisable by the Tribunal in respect of interest, it is appropriate to consider the position of private individuals, and not just to treat them the same way as commercial entities. In *Jones*, the point was put as follows:

> "[18] The rate may differ depending on whether the borrower is classed as a first class borrower, an SME or a private individual. Historically at least, first class borrowers, have generally recovered interest at base plus 1 per cent, unless that was unfair or inappropriate though in the light of recent interest rate developments there is no presumption that base rate plus one per cent is the appropriate measure of a commercial rate of interest: see *The Commercial Court Guide* at para J14.1 (page 67). SMEs and private individuals have tended to recover interest at a higher rate to reflect the real cost of borrowing to that class of litigant: see for example, *Jaura v Ahmed [2002] EWCA Civ 210*, F & C Alternative Investments Ltd and [*Attrill*]."

1064. To the same effect, the Court of Appeal said in *West* that:

> "[78] We do not agree that persons in the Wests' position are those who borrow at the cheapest possible secured rate by taking up occasional one-off internet offers. Such people have to borrow at normal commercial rates. They cannot necessarily be expected to charge their home or some other property to secure short term borrowing required pending the conclusion of litigation. Apart from anything else, they did not know how long the borrowing would last, and they had to draw down at unpredictable intervals as and when invoices required payment. That situation does not necessarily lend itself to a carefully planned mortgage for a fixed amount at the best available internet rates.
>
> [79] Accordingly, the judge ought to have been looking for an appropriate borrowing rate for persons in the Wests' position – the fact that Mr West happened to be a banker was as irrelevant as was his decision to take a Swiss Franc mortgage and the exchange control losses that the Wests sustained.
>
> [80] The judge was not provided with any evidence as to the rate of normal borrowing for solvent borrowers like the Wests, but he did tell the parties what his experience was and they do not seem to have contradicted him. Nonetheless it seems to us that it would have been unwise had he taken that anecdotal judicial knowledge into account."

1065. It is not clear from the judgment of the Tribunal in *Le Patourel* whether these cases were brought to the Tribunal's attention or whether, alternatively, the Tribunal decided to exercise its discretion to adopt the commercial rate (noting

that this was in circumstances in which it had already rejected the claim in those proceedings). In any event, the preference expressed in that case for a rate of 2% above base (which does seem more akin to a commercial rate) does not provide any basis for departure from the position established by the Court of Appeal in *Jones* and *West*.

1066. We therefore proceed on the basis that it is appropriate to distinguish between private individuals and commercial entities when considering the appropriate rate of interest to compensate those private individuals for being kept out of their money.

(ii) Investment rate or borrowing rate?

1067. As is plain from the above extracts from *Jones* and *West*, and indeed from *Carrasco*, the general position seems to be that successful claimants will be compensated for being kept out of their money at a borrowing rate, on the assumption that it will have been necessary to finance losses by way of borrowing.

1068. Apple's challenge to this position arises from a combination of arguments:

(1) The reference in [17(5)] in *Carrasco* to the possibility that a fair rate might fall between an investment rate and a borrowing rate where it is not clear which category the claimant falls into. Apple also relied on [17(4)], which discusses the application of an investment rate to personal injury claims as confirmation that it is appropriate to use the investment rate when claimants are kept out of their money.

(2) The overcharge, on an annualised basis, is such a small amount that it cannot be inferred that an individual class member would borrow to finance the loss.

1069. Starting with the second of those points, it seems possible that there is a wide range of circumstances across the class. For example:

(1) Class members might have existing borrowings of some sort, which may or may not be relevant to their daily economic position, so that even a small loss might or might not be reflected in their levels of borrowing. The borrowing might be by way of a mortgage, through unsecured loans or through the use of a more expensive mechanism such as credit card balances. There could be material differences between the applicable borrowing rates, depending on which of these the class member used.

(2) Class members might not have borrowings at all or might have borrowings which are largely unaffected by the incurring of small losses on a daily, monthly or annual basis.

(3) The position may have changed for particular class members over the Claim Period, so that at some points in time they fell into one of the cases in category (1) and at other points they fell into category (2).

1070. We note that in *Le Patourel*[330] the economic expert for the class representative put forward analysis about the likely mix of savings and debt which would apply to the class members in that case. The Tribunal preferred a different approach, in part for reasons of less complexity.

1071. That seems, with respect, to be a sensible response to an exercise which produces the sort of complex analysis which *Carrasco* counsels us to avoid. It would be difficult, and perhaps impossibly difficult, to reach any sensible view on the distribution of different approaches of borrowing and saving which might apply across the class members in this case. The question needs to be approached broadly in the case of a class of claimants, with reference to general rather than specific attributes.

1072. The question is therefore whether what seems to be a general presumption that private individuals will borrow to finance losses is displaced by the size of the losses in these proceedings. We do not think it is possible to reach that conclusion. It seems likely that there will be some class members for whom that

[330] See *Le Patourel* at [1425].

will be true, but some for whom it is not. There is no way of knowing what the distribution across the class will be, as we have no evidence whatsoever of that.

1073. Nor do we think that the reliance by Apple on the reference to personal injury in [17(4)] of *Carrasco* assists us. There are clearly particular rules relating to personal injury, which is why the Court of Appeal in *Carrasco* identifies it as a separate case. We are also wary of the suggestion that we should view the Special Account rate as a proxy for the rate at which class members could invest during the period. We have no evidence from Apple about the general market rates which would apply to investments during this period.

1074. To the extent we are considering private individual borrowing rates, the material from the Bank of England showing unsecured deposit rates for unsecured loans of £3,000 and £5,000 seem to provide good evidence of a suitable rate. However, we have considered whether we should seek to identify a rate which is lower than these rates, in order to:

(1) Reflect a rate between a borrowing rate and an investment rate, as suggested might be appropriate in some cases by [17(5)] of *Carrasco,* so as to reflect the potential for difference between the debt and asset positions of class members.

(2) Adjust for the likely inclusion in the class of at least some commercial entities which would ordinarily be treated as borrowing at a commercial rate, as described (for example) in *Jones*.

1075. We have decided not to make any such adjustment, on the basis that it seems to us that doing so would be an entirely arbitrary exercise and one which is inconsistent with the case law which discourages us from detailed investigation of individual circumstances.

1076. In relation to the first point, we have no evidence on the relevant investment rates and no evidence about the profile of class members in relation to borrowing or investing, or in relation to whether personal or commercial rates would apply to them. While we have elsewhere exercised our discretion to fill

gaps in the evidence (the broad axe), we do not consider that appropriate in circumstances where we have an absence of any evidence, so that any exercise of discretion would be completely speculative.

1077. We are also not in a position where we consider it necessary to fill any evidential gaps, as the case law (see for example Carrasco at [17(2)]) encourages us to make assessments of characteristics at a board, not individual level. Applying that to a collective action in which we are seeking to determine an aggregate award of damages, we think that militates against an inquiry into the characteristics of individual components of the class.

(c) Our conclusion on the interest issue

1078. Exercising our broad discretion and on the basis of the information before us, we have therefore decided that the Class Representative should receive interest at 8%, which is a rate which fairly represents the rate of borrowing for private individuals throughout the Claim Period (by reference to bank of England data on unsecured loan rates for £3,000 and £5,000 loans).

J. DISPOSITION

1079. We make the following findings and orders.

(1) Market definition and dominance

1080. The relevant markets for the purposes of analysis of the alleged abuses in these proceedings are the iOS app distribution services market and the iOS in-app payment services markets.

1081. Apple has held a dominant position in each of those markets throughout the Claim Period.

(2) Exclusionary abuses

1082. Apple has infringed Chapter II of the 1998 Act, for the whole of the Claim Period, and Article 102 TFEU, from the commencement of the Claim Period

until 31 December 2020, in abusing its dominant position by foreclosing competition in the iOS app distribution services market and the iOS in-app payment services market by the means of the iOS app distribution restrictions and the iOS in-app payment restrictions.

1083. Apple has infringed Chapter II of the 1998 Act, for the whole of the Claim Period, and Article 102 TFEU, from the commencement of the Claim Period until 31 December 2020, in abusing its dominant position by tying its payment services for iOS in-app payments to the App Store.

(3) Excessive and unfair pricing

1084. Apple has infringed Chapter II of the 1998 Act, for the whole of the Claim Period, and Article 102 TFEU, from the commencement of the Claim Period until 31 December 2020, in abusing its dominant position by charging excessive and unfair prices in the form of the Commission which it charges developers for iOS app distribution services and iOS in-app payment services.

(4) Apple's justification defences

1085. Apple fails in its arguments that there is an objective necessity defence and an efficiencies defence to its abuse of dominance in respect of the exclusionary abuses.

(5) Quantum

1086. The level of overcharge suffered by developers as a result of the exclusionary abuses and the excessive and unfair pricing abuse in the iOS app distribution services market is the difference between a Commission set at 17.5% and the Commission actually charged by Apple for those services.

1087. The level of overcharge suffered by developers as a result of the exclusionary abuses and the excessive and unfair pricing abuse in the iOS in-app payment services market is the difference between a Commission set at 10% and the Commission actually charged by Apple for those services.

1088. The rate of incidence at which developers have passed on the overcharge to iOS device users is assessed at 50%.

1089. The Class Representative is entitled to damages in respect of the claims of class members, assessed on an aggregate basis under section 47C(2) of the 1998 Act, for the total amount of the overcharge described above which has been passed on to class members.

1090. The Class Representative is entitled to interest on those damages at a simple rate of 8%.

(6) Consequential matters

1091. The Tribunal will convene a hearing on the first convenient date after 3 November 2025 to hear submissions on all consequential matters, including costs, any applications for permission to appeal and the process for resolving any questions relating to the calculation of quantum.

1092. The parties are to seek to agree a draft order reflecting the outcome of this judgment and this should be available either in an agreed form or for determination of any differences at the consequential matters hearing.

(7) Unanimous judgment

1093. This judgment is unanimous.

Ben Tidswell
Chair

William Bishop

Tim Frazer

Charles Dhanowa, CBE, KC (Hon)
Registrar

Date: 23 October 2025

GLOSSARY OF KEY TERMS

This is intended to be a glossary of the key terms referred to in the judgment rather than a full account of every term and abbreviation used.

Term	Description	First mentioned in judgment
1998 Act	The Competition Act 1998.	[1]
2009 Guidance	European Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (OJ C 45, 24.2.2009).	[697]
Accent Survey	The survey commissioned by the CMA for the purpose of its MEM Study so as to "develop a more in depth understanding of purchasing behaviour in the UK smartphone market, with a particular focus on switching behaviour between smartphone brands and operating systems."	[25]
Ad valorem cost	A cost that applies in proportion to the value of the services provided.	[968]
Aftermarket	A market for products and services which are used together with a primary product, and which are purchased after the purchase of the primary product.	[115]
Android	The Android operating system developed by Google. It is used on mobile devices sold by Google as well as by other undertakings including Samsung.	[95]
Android device(s)	A mobile device which runs using the Android operating system e.g. a Samsung Galaxy smartphone.	[98]

Term	Description	First mentioned in judgment
Anti-steering	Contractual or operational requirements which prevent informing consumers about alternative purchasing possibilities.	[76]
API(s)	Application programming interfaces: a computing code which allows different software components to communicate with each other.	[38]
App Review	Apple's App Review process: the process by which apps, app updates, app bundles, in-app purchase procedures and other in-app events are submitted to Apple and cleared for publication on the App Store, using automated and human forms of review. **Where not capitalised ("app review"), this will refer to a process similar to Apple's App Review utilised by certain comparator undertakings, such as Google.**	[11]
App Store	An app pre-installed on Apple devices which allows developers to offer apps to users, and users to find and download apps produced by developers. **Where not capitalised ("app store"), this will refer to marketplaces distributing apps other than the App Store.**	[1]
App(s)	Application software packages which perform various functions, such as games, communication, social media, mapping, etc, and which thereby provide additional functionality to the mobile device. They are written specifically for a relevant operating system.	[1]

Term	Description	First mentioned in judgment
Apple	The Defendants, Apple Inc. and Apple Distribution International Ltd.	[1]
Apple Developer Program	A program in which developers are required to enrol if they wish to sign up to the DPLA in order to sell apps on the App Store.	[33]
Apple's payment systems	A term used to encompass Apple's payment systems as they relate to both the purchase and download of apps on the App Store and the facilitation of in-app purchases.	[46]
Aptoide	A third-party app marketplace which operates on Android devices and on iOS devices in the EU since the passing of the DMA.	[98]
ARS Policy	Auto-Renewable Subscriptions Policy: a policy allowing iOS device users that have accrued more than one year of paid subscription service a Commission rate to be reduced to 15% for each further renewal.	[77]
ASPS	The term used by the Class Representative to refer to Apple's payment systems.	[46]
Bait and switch app(s)	Apps that manipulate users to grant them permission to access either certain functionality of an iOS device or data stored on or by the device. These could include "banking trojans" which manipulate users to provide their banking information.	[91]
Barnes 1	The expert report of Dr Ronnie Barnes.	[21]
Burelli 1 & 2	The expert reports of Mr Francesco Burelli.	[17]
Cellophane fallacy	A situation where a SSNIP test analysis starting at a price already above a competitive one will tend to include products that would not have been considered substitutes at a	[142]

Term	Description	First mentioned in judgment
	competitive price, therefore including too wide a collection of products and thereby leading to the wrong conclusion about the relevant market.	
CJEU	The Court of Justice of the EU.	[381]
Claim Period	1 October 2015 to 15 November 2024.	[2]
Class Representative	Dr Rachael Kent.	[1]
CMA	The Competition and Markets Authority.	[5]
COGS	Cost of goods sold.	[569]
Commerce engine	The term used by Apple to refer to its payment systems.	[46]
Commission	The price paid by developers to Apple on any payment by an iOS device user for an app or for an in-app purchase. **Where not capitalised ("commission"), this will refer to prices paid by developers to alternative app marketplaces for similar services.**	[1]
Cost Plus	A method for calculation of pricing which is done by reference to applying a profit margin on top of average or marginal costs of a business or certain product.	[542]
Counting the zeros	As referred to by Dr Singer, Apple's approach to taking Steam Keys into account when calculating Steam's effective commission rate so as to include them.	[242]
CTF	Core Technology Fee: a fee Apple now charges to developers in the EU following the application of the DMA.	[121]

Term	Description	First mentioned in judgment
DA	The Apple Developer Agreement: the agreement to be executed in order for a developer to log into and access Apple's online developer portal. A developer cannot enter into any other agreement with Apple until it is a party to the DA.	[33]
Defence in depth	A term used by Apple to refer to its layered approach to protecting the security of iOS devices.	[92]
Delayed counterfactual	An alternative counterfactual in which the restrictions existed for a time but ceased at the start of the Claim Period.	[463]
Developer(s)	A company or individual involved in the creation, development and dissemination of an app, whether iOS or otherwise. Generally, this will refer to developers of iOS apps.	[1]
Devices market	A market for the selling and buying of smartphones and tablets, including iOS devices and Android devices.	[143]
Digital code signing and digital signatures	A process which verifies the source of code executed on a device and data within an app. A digital signature indicates software is authentic and has not been modified since it was signed.	[101]
DMA	The Digital Markets Act/Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828.	[120]
DPLA	Apple's Developer Program License Agreement: the agreement between a	[33]

Term	Description	First mentioned in judgment
	developer and Apple which provides the developer with access to Apple software.	
Dudney 1, 2 & 3	The expert reports of Mr Louis Dudney.	[20]
EEA	The European Economic Area Agreement.	[114]
Effective commission rate	A commission rate taking account of all payments whether at a headline rate or at a different rate. Apple's effective Commission rate on this basis is estimated by Dr Singer to be 25.2%.	[74]
Epic Games or Epic	Epic Games, Inc.: a large private US corporation which develops and distributes video games.	[98]
Epic Games Store	A games transaction platform offered by Epic available on Android, PCs and Macs, and now, in the EU, on iOS devices.	[102]
Federighi 1	The witness statement of Mr Craig Federighi.	[13]
Freemium app(s)	Apps which are free to download but within which users can make in-app purchases for additional content.	[302]
Google Play (Store)	Google's proprietary Android app marketplace.	[97]
Guidelines	App Store Review Guidelines: the set of principles Apple applies in deciding whether to approve an iOS app, iOS app update, or in-app purchase, for distribution on the App Store (i.e. during App Review).	[40]
Harlow 1	The witness statement of Ms Jacqueline Harlow.	[15]
Hausman test	A test designed to discriminate between data sets that are homogeneous enough for the IIA	[976]

Term	Description	First mentioned in judgment
	assumption to be reasonable and those that are not.	
High value developers	The small group of developers who account for a very large proportion of the App store revenue.	[290]
High value users	The small group of iOS device users who spend the great majority of money on iOS app and in-app purchases.	[214]
Hitt 1, 2, 3 & 4	The expert reports of Professor Lorin Hitt.	[25]
HMT	The hypothetical monopolist test, which generally involves assessing whether a small but significant and non-transitory increase in price would be profitable for a hypothetical monopolist.	[142]
Holt 1, 2, 3 & 4	The expert reports of Mr Derek Holt.	[23]
Howell 1 & 2	The expert reports of Mr David Howell.	[16]
IIA assumption	Independence of irrelevant alternatives assumption: the assumption that estimated values would not change if an additional product were added that was functionally equivalent to another product already available.	[976]
In-app purchase(s) or IAP	Apple defined this functionality as a feature of the App Store commerce engine whereby developers can offer digital content and services to consumers within their apps and can receive payment for those.	[42]
Initial counterfactual	A counterfactual where the restrictions are removed and Apple does not conduct a full App Review for iOS apps. That means that the level of review by third-party app	[734]

Term	Description	First mentioned in judgment
	marketplaces would potentially affect the safety, security and privacy of users who access iOS apps through those third parties. Dr Lee maintained that those third parties would have the incentives and the means to conduct a level of review that protected users sufficiently.	
iOS	The operating system for iOS devices, developed by Apple, and used exclusively on its proprietary devices, such as the iPhone and, until recently, the iPad.	[1]
iOS app distribution restrictions	Restrictions referable to the iOS distribution services market.	[47]
iOS app distribution services	A term used by the Class Representative to refer to the collection of services that facilitate the purchase and distribution of iOS apps to iOS device users, whether for a fee or without charge. The Class Representative defines these as: "(i) a matchmaking service whereby Apple matches iOS Device users seeking to purchase iOS Apps with iOS App developers seeking to sell iOS Apps; (ii) the distribution of iOS Apps and subsequent updates to iOS Device users; and (iii) payment, record keeping, fraud detection, and tax compliance services."	[1]
iOS app distribution services market	The market for iOS app distribution services.	[46]
iOS device(s)	A device built by Apple which runs using the iOS operating system i.e. iPhones and iPads.	[30]

Term	Description	First mentioned in judgment
iOS in-app payment restrictions	Restrictions referable to the iOS in-app payment services market.	[47]
iOS in-app payment services	The Class Representative defines these services as encompassing: "checkout, collecting and managing payment information, payment processing, customer support (including refunds, cancellation, chargeback services, and disputes), subscription management, fraud prevention, tax calculations and remittance, currency conversions, record keeping, distributing funds, family sharing, authorising the unlocking of in-app content or functionality, and cross-device support."	[1]
iOS in-app payment services market	The market for iOS in-app payment services.	[46]
Jailbreak(ing)	The process of modifying iOS on an iPhone (or other iOS device) so as to enable the installation of unauthorised software, including applications or other interfaces.	[35]
Kosmynka 1	The witness statement of Mr Trystan Kosmynka.	[11]
Landes-Posner (model)	A one-sided model used by Dr Singer which is based on inputs of real-world data from Apple's transactional records together with some assumptions about counterfactual market share, marginal cost and the incidence rate.	[859]
LOBRs	Line of Business Reports which are internal Apple accounting documents.	[569]

Term	Description	First mentioned in judgment
Lee 1 & 2	The expert reports of Dr Wenke Lee.	[18]
Limb 1	The first limb of the test for excessive pricing under *United Brands*, also known as the excessiveness limb.	[261]
Limb 2	The second limb of the test for excessive pricing under *United Brands*, also known as the unfairness limb.	[528]
MEM Study	The CMA's Mobile Ecosystems Market Study.	[80]
Merchant(s) of record	A payment service provider that provides payment facilitation services and is also the legal entity selling to the customer, with corresponding additional responsibilities. Merchants of record may for example be responsible for tax calculation and filings. Examples include Paddle, and Apple's payment systems.	[9]
Microsoft Store	Microsoft's app marketplace merged from different devices in 2015 including the Windows Phone Store and the Xbox Store.	[105]
MSR	Multiplatform Services Rule: a rule allowing iOS device users to access content, subscriptions or features purchased in an app on another platform.	[79]
Native app(s)	Native apps are apps written specifically for a certain mobile operating system.	[35]
Notarization	The baseline review applied to all apps regardless of their distribution channel; a subset of App Review but not as intensive. Notarization involves a combination of automated checks and human review to ensure	[121]

Term	Description	First mentioned in judgment
	apps are free of malware, viruses, or other security threats, and function as promised. This process is of particular relevance in the context of the DMA.	
NPP	News Partner Program: an Apple program that allows developers that also provide their news in Apple News format to qualify for a lower Commission rate.	[81]
OCOGS	Other cost of goods sold.	[569]
OPEX	Operating expenses.	[564]
Owens 1	The witness statement of Mr Christian Bailey Owens.	[9]
P&L	Profit and loss account.	[564]
Paddle	Paddle.com Market Limited, a merchant of record service to developers of digital goods and services.	[9]
Parekh 1 & 2	The witness statements of Mr Kevan Parekh.	[10]
Payment restrictions	Restrictions referable to Apple's payment systems and relevant to one or both of the Class Representative's alleged markets.	[47]
Payment service provider(s)	A service that helps merchants initiate online, in-app and in-person payments. These include merchants of record and other types of payment systems.	[112]
Price dispersion	Variation between prices for the same product offered by different sellers to different buyers.	[194]
Program Fee	A charge by Apple to developers which they have to pay when they enter into the DPLA. It is £79 in the UK.	[49]
Reader app(s)	Apps including those relating to magazines, newspapers, books, audio, music, and video.	[75]

Term	Description	First mentioned in judgment
Restrictions	All of the contractual and operational restrictions Apple has placed on the developers in relation to both the iOS app distribution services market and the iOS in-app payment services market	[47]
ROA	Return on assets: the operating profit of the App Store expressed as a percentage of the assets on the Apple balance sheet which are attributed to the App Store.	[561]
ROCE	Return on capital employed: the operating profit of the App Store expressed as a percentage of capital employed by the App Store.	[561]
Rochet-Tirole (model)	A model of price setting by a firm operating a two sided market which: (1) observes and uses real world value of prices and quantities; (2) makes the assumption that these observables have resulted from profit maximising behaviour by the firm; then (3) solves for the key unobservable values to derive the parameters of the model.	[193]
Rollins 1	The witness statement of Mr Mark Rollins.	[14]
ROR	Return on revenue: the operating profit of the App Store expressed as a percentage of its revenue.	[561]
Reader Rule	This rule allows an iOS device user to purchase content or subscriptions for certain Reader apps outside the iOS app but still to access that content within the iOS app.	[75]
Rubin 1 & 2	The expert reports of Dr Aviel Rubin.	[19]

Term	Description	First mentioned in judgment
Sandbox(ing)	A security mechanism where software is executed within a controlled environment (the "sandbox"). This essentially creates a boundary around the software to ensure it is contained, restricting access by the software to a subset of system resources and user data. Apple, during the App Review process requires all apps to be sandboxed to prevent them from affecting the device or other apps.	[83]
SBP	Small Business Program: a program for developers that earn no more than $1 million in app revenue and new developers to pay a reduced Commission of 15%.	[80]
Schiller 1	The witness statement of Mr Philip Schiller.	[12]
SDK(s)	Store Developer Kits: a collection of software development tools in one package which facilitate the creation of certain types of applications.	[38]
Security counterfactual	A counterfactual where the restrictions are removed but in which Apple would maintain its system of conducting centralised vetting and certification of every app developer, centralised App Review of every iOS app against its full Guidelines, and periodic computerised checks of iOS apps.	[735]
Sideload(ing)	The process of installing software onto a mobile device from external third-party sources.	[101]
Singer 1, 2, 3 & 4	The expert reports of Dr Hal Singer.	[22]

Term	Description	First mentioned in judgment
Spotify Decision	The European Commission's Spotify Decision in Case AT.40437 on Apple's App Store Practices.	[114]
SSNIP (test)	A small but significant and non-transitory increase in price, the effect of which is tested as part of a HMT.	[142]
Steam	A PC gaming distribution platform launched in 2003 by the developer Valve.	[104]
Steam Keys	Digital codes offered by Valve, through Steam, to developers for free to allow them to offer promotions to reviewers, influencers or other users.	[241]
Sticky/stickiness	Features of a product, in this case iOS devices, that make it difficult for consumers to switch away from it.	[31]
Storefront	The country- or region-specific version of the App Store e.g. in this case we are concerned with the UK storefront of the App Store. Apps may appear in more than one storefront, but users are automatically directed to the storefront geographically associated with their account.	[83]
Sweeting 1 & 2	The expert reports of Professor Andrew Sweeting.	[23]
Systems market	A market suggested by Apple as including sales of devices and iOS app distribution services.	[173]
TFEU	The Treaty on the Functioning of the EU.	[1]
The (iOS/Apple) ecosystem	The integrated offering of the iOS device, iOS and the App Store. A mobile "ecosystem" generally comprises the software, hardware	[29]

Term	Description	First mentioned in judgment
	and apps associated with an operating system and whatever hardware on which it runs.	
Third-party (native) app(s)	Third-party native apps, in the context of iOS, are iOS apps made by a developer other than Apple.	[36]
Tools and technology	A shorthand way of referring to the SDKs, APIs and other programming tools (in all of which Apple asserted proprietary IP rights) provided by Apple to developers to assist them in the app development process.	[52]
Two-sided platform/market	A platform or market that serves as a matchmaking service between buyers and sellers e.g. the App Store.	[32]
VPP	Video Partner Program: a program for developers to pay the reduced 15% Commission rate if they integrate their video apps with certain Apple technology.	[78]
WACC	Weighted average cost of capital.	[561]
Web app(s)	Web versions of apps which run and are accessed through an internet browser, written using industry standard web programming.	[37]
Willingness-to-pay fallacy	It is a fallacy to assert that a consumer's willingness to pay the price for a product/service that a monopolist has set is evidence that this price must reflect a reasonable relationship to its economic value.	[560]