IN THE COMPETITION APPEAL TRIBUNAL

Case No: 1403/7/7/21

Salisbury Square House
8 Salisbury Square
London EC4Y 8AP

Tuesday 14th January 2025

Before:
Ben Tidswell
Dr William Bishop
Tim Frazer

(Sitting as a Tribunal in England and Wales)

BETWEEN:

Dr. Rachael Kent

Class Representative

v

Apple Inc. and Apple Distribution International Ltd **Defendants**

A P P E A R AN C E S

Mark Hoskins KC, Tim Ward KC, Michael Armitage, Matthew Kennedy, Antonia Fitzpatrick (Instructed by Hausfeld & Co. LLP) On behalf of Dr. Rachael Kent

Marie Demetriou KC, Brian Kennelly KC, Daniel Piccinin KC, Hugo Leith, Hollie Higgins (Instructed by Gibson, Dunn & Crutcher UK LLP) On behalf of Apple Inc. and Apple Distribution International Ltd

Tuesday 14 January 2025

(10.30 am)

THE CHAIRMAN: Mr Armitage?

Submissions by MR ARMITAGE (continued)

MR ARMITAGE: Good morning. Just in terms of timings, I intend to be approximately another 45 minutes on the law, I will then pass the baton back to Mr Ward for the remainder of the morning on the application of the law to facts on unfair pricing and also on the issue of the incidence pass-on.

Yesterday afternoon, I gave you the first three of the promised ten propositions in relation to the substantive law. To pick up where we left off, I had just given you my third proposition which was that the two-limb approach from *United Brands* remains the conventional tried and tested starting point for the analysis of unfair pricing. I concluded yesterday by saying that in those circumstances we were surprised to see that Apple appears to contest the applicability of the framework, or at least Limb 1 of the framework, to a consideration of unfairness in relation to its commission.

Turning to that point directly, could we look please at paragraph 160 of Apple's skeleton

argument. That is at {A1/5/56}. Apple says here:

"There is no fixed hierarchy of evidence or methodologies across all unfair pricing cases. However, the case law and the *CMA*'s practice indicates that, where a price is paid for an intangible product, a cost-based methodology will be inappropriate or inadequate."

Then various materials are cited including Advocate General Wahl in *Latvian Copyright* and also a little lower down the *Attheraces* case. I should make clear immediately that Dr Kent rejects any suggestion that her own methodology for the assessment of unfair pricing is exclusively based on consideration of the App Store's costs. The point that seems to be being advanced here is not or not just a complaint about the specific methodology the Class Representative has employed here. It appears under the heading legal principles and it is put at an extremely high level of generality. We say that the argument framed at that level of generality is hopeless and indeed you may well have a sense of groundhog day because it has already been rejected by the Tribunal in the current proceedings when dismissing Apple's application to strike-out summary judgment at the CPO stage.

Could I just show you that briefly. It is at bundle {I/11}. You will recall that Apple did not contest certification but did seek summary dismissal of the unfair pricing element of the claim only. If I could just show you first Apple's submission on the relevant point. That is at page 24, paragraph 66, {I/11/24}. Apple was arguing that the unfair pricing abuse claim was fundamentally flawed. Then in the final sentence:

"... intangible value cannot be measured through a cost plus approach, which would ignore the demand side benefits delivered to developers and device users."

As we will see, Mr Holt has not, in fact, used a simple cost plus approach, but in terms of the legal point, we see it is put at the same level of generality as the proposition in paragraph 160 of Apple's skeleton. We see from the next page at 68(3), Apple was relying on some of the very same materials in support of the proposition. Sorry, at (2) we see:

"Costs are not a meaningful measure of the economic value of intangible products ...

(3) Such products can be sold at prices that do not need to be justified by reference to their costs

of production."

Then citing *ATR* -- that is *Attheraces*, and *Latvian Copyright*.

CHAIRMAN: We have lost it.

MR ARMITAGE: Yes, 68(3). Then we will see that the Tribunal rejected that argument in definitive terms, if we go on to page 28, paragraph 72 we see:

"*ATR*, *Scandlines*, *Latvian Copyright* and *Albion Water* do not, in our view, determine what the correct method and approach to economic value should be in a case like this. We have found those cases to be of limited assistance in determining these applications."

Then if we can go on to paragraph 77 on the next page, he said that:

"It is clear that cost plus is a conventional starting point for the *United Brands* analysis, and, where it can be performed, there is no basis to criticise that."

That is the point I was making yesterday about the orthodoxy of the two-limb approach from *United Brands*. I should say that the *CMA* specifically refers to and endorses this paragraph of the Tribunal's judgment in its written intervention, paragraph 60, that is {A3/1/20}, just for your note.

Then at 79 {I/11/30}, just to see the conclusion:

"We do not accept that there is any established rule for assessing demand side factors in relation to intangible products or services ... neither *ATR* *Latvian Copyright* decide that and both cases turn on their particular facts."

In our respectful submission, the argument remains hopeless for the reasons given by the Tribunal. In fact it goes somewhat further because what we say Apple is seeking to do is to reopen a legal point that has already been decided against it. We say Apple should not be permitted to do that, it is an abuse of the Tribunal's process. We will develop that argument in closing submissions. It was not dealt with in our skeleton because, of course, we did not know that Apple was going to resurrect the argument in its skeleton.

We have added, just again for your reference, one recent Court of Appeal authority, which in our submission helpfully summarises the relevant principles on abuse of process and res judicata issues. It is a case called *Orji v Nagra*. It is at {AB3/53.1}, and it is paragraphs 80-84 of the judgment of Nugee LJ on which we rely. As I say, we

will return to that in closing submissions as needed.

THE CHAIRMAN: Are you saying that 160 in the skeleton is arguing for a particular rule in relation to given intangibles or are you -- because I must confess I do not read it like that. In a sense, the second sentence perhaps is a little unclear because it talks about the cost based methodology being inappropriate or inadequate. Inappropriate might take you down the line you are going down, which is you should not be doing it. Whereas, inadequate might take you more down the line that paragraph 77 is aimed at, I think, which says that if you have intangible -- an intangible product, you do need to be careful to make sure it is properly captured when you are doing the analysis, whatever that happens to be. Now it seems to me that the second of those has not been foreclosed unless you are going to suggest otherwise. It does not immediately seem to me the second of those has been foreclosed by the strike-out judgment, in fact the strike-out judgment was all about saying, "let us see what you deliver and if it deals properly with demand side economic value then it will be fine and if it does not ...

MR ARMITAGE: I think we will hear what Apple say, in so

far as it is the first of the two alternatives, in so far as it is suggested that one does not look at costs and one does not take that into account in relation to assessment of unfairness, purely because you have a case involving intangibles, we say that is the legal point that is both hopeless and foreclosed. As I say, we will see what Apple say, I appreciate there is potential nuance. I think in terms of the abuse of process aspect, it is a point that struck us on seeing the way in which the point was framed in the skeleton, a high level of generality, as I say, but we will see how Apple puts the point orally and we will pick that up as needed, that aspect of matters.

THE CHAIRMAN: Yes, thank you.

MR ARMITAGE: I would now like to take you through some propositions concerning the proper approach to Limb 1. As I said yesterday, the modern approach is to confine Limb 1 to a consideration of whether prices are excessive by reference to costs, leaving the wider issues of fairness and economic value to be addressed at the Limb 2 stage. In terms of the test to be applied at the Limb 1 stage, this is my fourth proposition of the promised ten, the test is simply whether there is a material excess of price above

cost. Now, as we say in our skeleton argument at paragraph 201, different adjectives have been used in different cases to describe the requisite extent to the excess of price above cost for Limb 1 purposes. Just for example, can we go to the CAT's judgment on unfair pricing in *Albion Water*. If we can pick that up at {AB3/10/63}. We see from the heading that the Tribunal was considering the first *United Brands* question: Was the first access price excessive? We go over the page to paragraph 194, the Tribunal says there that:

"Thus the first *United Brands* question requires us to exercise our judgment as to whether the relationship between the disputed price and the relevant costs is excessive or not."

In terms of what that involved, if we go over the page again to paragraph 199, right at the bottom:

"The term 'excessive' is an ordinary English word, which may be applied in accordance with its ordinary meaning, having regard to the overall purpose of the Chapter II prohibition."

Then perhaps if you might just read on to the end of the paragraph. So as the Tribunal says there to satisfy Limb 1 there must be a material

excessive price above costs. We say that is not a particularly high bar. Importantly, it does not involve looking at any detail, at any broader evaluative factors concerning the reason for the excess. We will see that that is the subject of Limb 2. The question, as the Tribunal frames it here, is whether the difference is sufficiently large to be excessive. In this case, the Tribunal regarded an excess of 46.8 per cent of price above cost to be excessive for the purposes of Limb 1. More recently, in *Le Patourel* the Tribunal said that what needed to be shown was a significant and persistent excess of price above costs. Just to give you the reference that is paragraph 54 of *Le* Patourel, {AB3/62/19}. We say that is in substance the same relatively modest standard as in *Albion Water* No.2. In *Le Patourel*, in fact the Tribunal said that it would regard any excess of 20 per cent or more of price above cost to be significant. The reference for that again is paragraph 926 of *Le* Patourel, {AB3/62/214}.

In terms of the approach to ascertaining the dominant firm's costs under Limb 1, we say that the case law is clear, and this is my fifth proposition, that the Tribunal is entitled to use its judgment in

making appropriate allocations of indirect and common costs to the product under investigation. I take that proposition from *Albion Water* again. If we can go the page 33 within the same tab. At paragraph 88, the Tribunal remarks that:

"No consensus has emerged (in the cases) as to what, if any, is the most appropriate method of measuring cost in excessive pricing cases."

It refers to the statement of the Court of Justice in *United Brands* that one is looking at the "costs actually incurred" but says that:

"There is no rule of law as to how that is to be done: it is a matter of fact, accounting technique and economic assessment."

The Tribunal elsewhere in the same judgment refers to the need to ascertain the costs that are reasonably attributable to the product or service concerned. You see that for example at paragraph 198 of the judgment.

That will, of course, include an appropriate share of indirect costs or overheads, as well as a reasonable return on those costs, but as I say here the Tribunal emphasised that there is no rule of law as to how precisely that is to be done. Of course the fact that the exercise of allocating costs

requires the Tribunal to exercise a valuative judgment is emphatically not a reason for refraining from doing the exercise. As the Tribunal knows, the *CMA* regularly engages in cost allocation methodologies in these cases. It has been a practical necessity in all of the pharmaceutical cases, where the companies under investigation typically do not allocate indirect costs to the medicines that are said to be excessively priced. It was also a necessity for the Tribunal in *Le* Patourel, where BT had not put forward evidence as to the extent of common costs that were attributable to the fixed point services that were said to be excessively priced. There are various methods, of course, that can be used to allocate indirect costs and there are no fixed rules for that. In the present case, as we will see, the Class Representative's expert accountant Mr Dudney has used Apple's own internal cost allocation methodologies, in order to estimate the profitability of the App Store. Mr Ward will come to that.

Then in terms of the appropriate methodology for comparing prices and costs at the Limb 1 stage, in many of these cases the approach taken is to

ascertain the costs of producing a unit of the product under investigation, including an appropriate allocation of common costs and a reasonable rate of return, and then comparing that cost plus metric against the actual selling price. In the present case, as Mr Ward will show you, Messrs Dudney and Holt for the CR have adopted a broader analysis which involves estimating the App Store's overall profitability using a return on capital employed or ROCE metric, and then comparing the ROCE against the App Store's weighted average cost of capital for each year of the claim period.

My sixth proposition is that this ROCE WACC comparative approach is a well-established method for assessing profitability, both generally and in relation to Limb 1 specifically. I can take this conveniently from paragraph 175 of our skeleton, {A1/4/53} if you could turn that up, please. Beginning on the third line:

"Mr Holt's approach to Limb 1 is to evaluate the App Store's overall profitability, using a ROCE metric. ROCE was described by Green LJ in *Phenytoin* CA as an 'appropriate benchmark' for assessing whether a dominant firm's profit margin is excessive under Limb 1. It also reflects the well-established

standard approach of the *CMA* ..."

It is the approach that has been used in a number of the pharmaceutical cases. As Mr Ward will show you, although not an abuse of dominance assessment specifically, ROCE WACC was used by the *CMA* to assess Apple's profitability and its Mobile Ecosystems Report, in this specific context of considering whether the App Store commission is set at above competitive levels.

I would like then to move to Limb 2. Before doing so, can I just pick up an important point about the interaction between the two limbs of the tests. In *Phenytoin*, Green LJ emphasised that there is no fixed rule about how and where economic value is to be taken into account in the context of the two-limb *United Brands* framework. We do not need to turn it up but the reference for that is paragraph 172 of *Phenytoin*, Court of Appeal, {AB3/37/54}.

That said, as I think I mentioned around page 151 of yesterday's transcript, in *Le Patourel* the Tribunal observed that it found it helpful that the parties had taken economic value and other evaluative issues into account under Limb 2, confining Limb 1 to what it described as the more linear and somewhat more mechanistic process of

identifying whether prices are significantly and persistently above costs. Again, I do not think we need to turn it up at this stage but the reference for that is paragraphs 52 and 53 of *Le Patourel*, {AB3/62/19}. As we will see this is precisely the approach to economic value that Mr Holt has taken on behalf of the class representative in this case. Turning then to Limb 2, the question here is whether prices that are significantly an excessive cost, as identified under Limb 1, are unfair, either in themselves or in comparison to other products. In relation to the overall approach to the question of unfairness under Limb 2, could we please go back to paragraph 97 of *Phenytoin*, Court of Appeal, {AB3/37/31}. If I could direct you to subparagraph (v), this is the list of the general conclusions from the case law that Green LJ identifies. He is referring here to a cost plus test being applied specifically, determining whether the margin is excessive. That is obviously a Limb 1 question and this is in fact where he refers to ROCE as one of the appropriate possible benchmarks. He says in the final sentence:

"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."

That is the overall approach. It is important to be clear that that is not a question of objective justification such as Apple seeks to argue in relation to the exclusionary abuse claim. As we have noted in our skeleton argument at paragraph 212, Apple has not sought to argue objective justification in relation to the unfair pricing claim, in other words arguing that a price that is unfair prima facie under *United Brands* is, nevertheless, objectively justified by some other factor.

In relation to Limb 2, particularly when asking whether prices are unfair in themselves, what is required is an enquiry into the reasons why the dominant firm has been able to sustain a price that is materially in excess of cost. Among other things, are they legitimate, procompetitive reasons or do they, on the other hand, reflect the exploitation of market power. That is the point that also underpins the Tribunal's identification of the three cases or scenarios in the *Hydrocortisone* case, also picked up in the *Phenytoin* judgment, just

before Christmas. I do not propose to go into the case 123 rubric, in any detail in opening. Mr Holt, the CR's expert who is dealing with unfair pricing issues, explicitly addresses that framework at Holt 3, section 6.3. For your note that is {C2/10/84}. Somewhat curiously, Apple says at paragraph 165 of its skeleton that the case 123 rubric is inapplicable to the present case. In so far as that rests on the proposition we discussed earlier about the particular rules to be applied in cases involving intangibles, we say that is misconceived for the reasons already given. But it may be we return to *Hydrocortisone* on that point in closing.

In terms of the evidence that is of potential relevance for the question of whether prices are unfair in themselves, we should still have *Phenytoin* up on the screen, subparagraph (vi), his Lordship refers to "competition authority", for which we can read in this case the Tribunal:

"May look at a range of relevant factors" -- and then some factors are given, and the important point -- "there is no fixed list of categories relevant to unfairness" -- so no fixed list.

I would just like to briefly pick up two important factors which we say emerge from a

consideration of the case law. The first of those, and it is my seventh of ten propositions, is that the size of the excess identified under Limb 1 is relevant to the question of whether prices in themselves are unfair under Limb 2. That is a point that is made in *Le Patourel*, in terms, at paragraph 56. We do not need to turn it up, but it is {AB3/62/20}. The Tribunal says that the "size of the excess can be a factor pointing strongly towards unfairness", although there is no presumption, of course, that an excessive price under Limb 1 is unfair.

If I can also briefly show you what the Commission said about this point in the *Aspen* case, that is a Commitments decision from 2021 concerning the pricing of various cancer medicines in various EU member states. If we can go please to {AB6/19.1/33}. We have recital 163. It repeats the point that Limb 2 analysis:

"Has the purpose of examining whether there may be legitimate reasons underlying the excessive profits identified under Limb 1, in particular reasons not yet reflected in the cost analysis in ..."

It gives the examples of superior efficiencies,

innovation and so on. But then see the penultimate sentence:

"It is important to note, however, that even those reasons do not legitimise the charging of a price at any high level."

Now in the present case, as Mr Ward is going to show you, the Class Representative does not contend that any returns in excess of Apple's WACC are unfair. But as the Commission makes clear here in the *Aspen*'s decision, the existence of some factors justifying some degree of excess of price above cost do not confer unrestrained pricing freedom on the dominant firm.

The case law reveals, we say, another important factor to be taken into account at the Limb 2 stage. This is my eighth proposition, assessing whether a price is unfair in itself involves considering whether the relevant markets are capable of functioning in a manner likely to produce a reasonable relationship between price and economic value. That is something that will depend on a consideration of the market context. To see this, could we go back please to *Albion Water* No.2, pick that up at {AB3/10/69}. We see at the bottom of the page, paragraph 213:

"Contrary to Dwr Cymru's contention ... factors that establish a dominant position, notable barriers to entry, may well be relevant to determining whether a price is so high as to amount to an abuse by an undertaking of its dominant position. This is particularly true in excessive pricing cases, in which it is important to distinguish excessive prices shielded from effective competitive pressure from temporarily high prices that are the subject of normal market forces in a competitive market."

Then if we can move forward within the authority, please, to paragraph 266, which is at {AB3/10/86}. The Tribunal says that:

"When assessing the relationship between the disputed price and economic value of a service, and thus the potential unfairness of a price, we must take into account the competitive conditions and any related abusive conduct ..."

Over the page at paragraph 269, the Tribunal identifies some factors that were relevant in that case, market share of 100 per cent on the relevant market, together with the existence of significant barriers to entry. As Mr Hoskins has explained, we say that is also the position in the present case. Then at paragraph 270, "it follows that the relevant

market was clearly not capable of functioning in a manner that produced, or was likely to produce a reasonable relationship between [...] price and [...] economic value". Again, we would respectfully adopt that conclusion in the present case. There is a link here with my submissions yesterday on the willingness to pay fallacy. As I said yesterday, that consists in confusing the price that is actually paid by the consumers under conditions of insufficiently effective competition with the economic value of the products in question. The point the Tribunal is making here in *Albion Water* is that depending on the facts, the competitive conditions on the relevant market may be such that it is simply not capable of producing prices that bear a reasonable relation to the economic value of the product concerned.

Finally on the substantive law, I would like to say something please about comparators. If we could go back to *Phenytoin*, Court of Appeal, at paragraph 172, that is {AB3/37/54}. Something like eight or nine lines down, Green LJ emphasises that the prices charged in relevant, comparator, markets which were effectively competitive, may be capable of acting as proxy evidence, as he puts it, of the economic

value, in that case of the benefit derived by patients from the drugs in question.

We know that *United Brands* Limb 2 refers to prices being unfair either in themselves or when compared with competing products. The interrelationship between those two aspects of Limb 2 was clarified by the Court of Appeal in *Phenytoin*. Among other things the Court of Appeal confirmed and this is my ninth proposition of ten, that the two elements of Limb 2 are alternative rather than cumulative requirements. That is actually to be seen most clearly from the judgment of the Chancellor. I think I will just give you the references, it is {AB3/37/74}, paragraphs 257-260. So alternative rather than cumulative requirements.

Now, *Albion Water*, for example, is a case in which no meaningful comparator analysis was possible but the prices were still held to be unfair in themselves for the purposes of *United Brands* Limb 2. Obviously where comparators are put forward by either side, it will be necessary and important to consider them as part of your overall enquiry into unfairness, but as a legal requirement, as I say, they are alternative and not cumulative. On the other hand, despite the reference in *United Brands*

to competing products, it is not necessary that comparators must be products within the same market, that is my tenth and final proposition on the substantive law.

The correct approach is instead as set out by the Tribunal in the *Hydrocortisone* case, I will briefly show you that it is at {AB3/57/164}. That os at paragraph 331. You will see at subparagraph (1):

"Comparators are of particular importance, even where they may not be clear or compelling. Comparators can include" -- among other things "comparators can include comparators on different markets".

As the Tribunal says in the final sentence of subparagraph (1):

"In all cases, the critical question for the court is whether anything probative can be derived from the comparator in question."

That completes, I think, my tour of the substantive law and the ten propositions. Before handing the baton to Mr Ward, I would like, if I may, to make a few short points about the correct approach to the unfair pricing evidence taken from the case law.

These points concern essentially the degree of

precision that can be appropriately required of the class representative in relation to the unfair pricing case in particular. I will say at the outset that Apple took no issue with these points in their skeleton arguments.

For the first point could we turn up please the CPO decision in the Gutmann case, {AB3/45/21}, paragraph 38. Sorry it should be page 29 {AB3/45/29}, I think. I think I said paragraph 38 but it should be paragraph 68. This was a judgment at the CPO stage, but we see four lines down the paragraph:

"To establish that conduct is an abuse does not require the identification of a counterfactual in specific detail. For example" -- and then the examples initially given is exclusive dealing.

Then the seconds sentence is the one I rely upon here:

"In an unfair pricing case, an excessive price can be shown to constitute an abuse without specifying precisely what would be the non-excessive price."

The Tribunal will have seen that Mr Holt has indeed advanced the detailed counterfactual for the unfair pricing claim. But in terms of establishing

whether there is an abuse, it is not strictly necessary, as the Tribunal makes the point here, for you to ascertain what the price would have been absent unfairness.

Secondly, in relation to the concept of the broad axe, Mr Hoskins has already addressed you on this, but I just want to make a couple of short points about how it relates to unfair pricing. Once the Tribunal is satisfied, if the Tribunal is satisfied, I should say, that the price in this case is unfair, the tort is perfected, the element of harm is present. The amount by which the prices are unfair, in other words a question of overcharge in relation to the unfair pricing claim, is a matter that goes directly to quantum. In relation to quantum issues, as Mr Hoskins said, the broad axe applies. The Tribunal must do the best it can with the available evidence. We make the point though that the broad axe applies whether questions of overcharge are strictly considered as a matter of quantum or liability. Could we just take finally the EPE to Gutmann, Court of Appeal, {AB3/49/15}. I think it is a little further along in the clip. It may be 17. Yes, sorry it is the wrong reference, it is paragraph 59. Let me just find it. "The axe and

liability", exactly. We see here that the appellants argued that the broad axe did not apply to liability issues and that there was no authority establishing that it did. The Court of Appeal says:

"This misunderstands the purpose of the axe. It is not so much a substantive principle of law, as a description of a well-established judicial practice whereby judges eschew artificial demands for precision and the production of comprehensive evidence on all issues and instead use their forensic skills to do the best they can." Then the Tribunal continues.

Then just towards the bottom of the page, I think five lines up:

"The duty of the judge to do the best possible with the evidence available applies as equally to questions of causation and loss (liability) as it does to other issues relating to quantum."

As I say, we made these points in our skeleton. Apple did not dispute them, save in one respect. Apple says at paragraph 185 of its skeleton that "if an analysis [...] is economically meaningless or legally irrelevant, the broad axe cannot improve it". We agree with that. If an analysis is meaningless or legally irrelevant, then it will not

be able to establish that a price is unfair. The point there is that once unfairness is established, which I think necessarily entails that the analysis underlying that is not meaningless or irrelevant, the broad axe comes into play in relation to quantum, but also the broad axe can be used along the way in order to help fill any lacunae in the evidence, the Tribunal actually makes the point about lacunae at paragraph 58 in the same judgment.

THE CHAIRMAN: So you are saying that there is a different exercise for determining the abuse over determining quantum, but I think Mr Hoskins was making that submission for a reason, which is that once we get past abuse and then to quantum, we should be looking at it in a different way, but you are saying that does not stop us applying our judgment to the available evidence in the abuse along the lines of what is said here in 59.

Is that the submission?

MR ARMITAGE: Yes, yes.

THE CHAIRMAN: So there remains, I think you are still saying there remains a difference in the way we should be looking at between abuse and determining quantum.

MR ARMITAGE: Yes.

THE CHAIRMAN: But there are some similarities in the approach to the procedural evidence.

MR ARMITAGE: The evidence as respect to the application of the broad axe. In particular, we say the broad axe can be used to help fill lacunae in the evidence where those lacunae are the responsibility of the Defendants.

That leads me to my final point which is on the burden of proof. Could we please turn up paragraph 189 of Apple's skeleton, {A1/5/64}.

THE CHAIRMAN: Sorry, just give the paragraph reference again.

MR ARMITAGE: 189. There is a suggestion that that Dr Kent has made an argument that is wrong in law:

"The party alleging an abuse of dominance (whether a competition authority or a claimant) bears the burden of establishing its elements."

To be clear we entirely accept that. Dr Kent bears the overall legal burden of establishing an unfair price. She has never suggested otherwise. On the other hand, though, it is important to emphasise that where Apple has sought to rely on particular factors in order to justify its high prices, for example the value of its intellectual property, Apple bears an evidential burden in

respect of those matters. We say the position here is akin to the questions that arise where pass-on is raised as a defence in competition claims.

For that can I show you very briefly the Supreme Court's judgment in *Sainsbury's*, which Mr Hoskins took you to for a different purpose, {AB3/38/73}. This is the well-known discussion of the questions of burden of proof that arise where a defendant in an overcharge case pleads that a claimant has a sought to mitigate an unlawful overcharge, for example, by raising prices to their own customers.

In paragraph 216, I am sorry I cannot see that on the page, maybe we can zoom out a little. The Supreme Court finds that:

> … The legal burden in relation to pass-on lies on the operators of the schemes to establish that the merchants have recovered the costs incurred in the merchant services charge. But once the Defendants have raised the issue of mitigation in the form of pass-on, there is a heavy evidential burden on the merchants to provide evidence as to how they have dealt with the recover of the costs in their business. …

The point here:

"Most of the relevant information about what a merchant actually has done to cover its costs [...] will be exclusively in the hands of the merchant itself."

As we will see, there is a parallel in Apple's position in relation to aspects of the unfair pricing case.

THE CHAIRMAN: So the relationship between in the analysis of abuse, the relationship between the burden of proof and the broad axe, you say you accept that you have got the burden of proof.

MR ARMITAGE: We do.

THE CHAIRMAN: So if we are dealing with the question of allocation costs and that proves to be difficult for whatever reason, you say that you have to meet the burden of proof. You are also saying, I think, that there is a limit to how far -- if you can only get so far, then we can fill the gaps. Is that the point?

MR ARMITAGE: Yes, yes.

THE CHAIRMAN: It is a slightly uncomfortable, and it is not really addressed in paragraph 59 of Gutmann, in the Court of Appeal, because it is a slightly uncomfortable relationship, is it not, because it could be seen as eroding the burden of proof for you

to turn up and say, "There's no need for a particular degree of precision", and proving your case in relation to what is essentially a financial matter on abuse.

MR ARMITAGE: Yes. As I say, we rely in particular on aspects of the case in relation to which evidence is exclusively or primarily in Apple's hands, in so far as issues of particular cost allocation or aspects of economic value arise. We do not demur from the proposition that we bear the overall burden of proof. It is just in so far as there are aspects along the way, the Tribunal ought not to insist on unreasonable precision at that stage either. But obviously the broad axe is a matter that has typically been relied on in relation to issues of quantum. We say that applies here too when one is looking at the overcharge.

THE CHAIRMAN: I can see the question is quite different if the burden is on the other foot because that is consistent with the problem that you have got, that you do not know the answer, and if they are not going to tell you the answer, you have to do your best to paint the picture for us. Then if the gaps are not filled in, then we should feel comfortable to do our best with that.

MR ARMITAGE: Yes.
THE CHAIRMAN: That is a bit different, I think -- I am not sure this really matters terribly because I am not sure, I hope this is not going to turn out to be a burden of proof case, but it is a little bit different from saying where you have the burden of proof and you can only get so far, the broad axe can fill the gap that might otherwise amount to the burden, if one can put it that way.
MR ARMITAGE: We are talking particularly about particular points where Apple puts forward some particular factor, the evidence for which is obviously within its control. So as I say, the value to which may be associated with intellectual property may be an example. It is in that regard that the broad axe may come into play on issues of liability. As I say, there is also a separate analysis in relation to quantum where the broad axe is more conventionally applied.

This is just an analogy here with the issues of pass-on that arise in these MSC interchange cases. It is, we say, a helpful instructive analogy but that is as far as we take it.

THE CHAIRMAN: Thank you.
MR ARMITAGE: As I say, unless there are any other

questions, I will pass the baton back to Mr Ward.

THE CHAIRMAN: Thank you, Mr Armitage.

Submissions by MR WARD

MR WARD: If you can just give us a moment to reshuffle, sir. Thank you, sir. I am going to turn to the application of the law to the facts. Our case is based on an entirely orthodox application of that law. Step one is whether the price is excessive. As I showed you yesterday, Mr Holt has relied upon a profitability analysis carried out by Mr Dudney, our forensic accountant. It is not just a cost price analysis, even though there are times when reading Apple's skeleton that you might think it was.

Then, at step two, Mr Holt has considered both limbs of the *United Brands* test, unfair in itself and by reference to comparators. What I am going to do is deal with each limb in turn. If I may just make one point clear at the outset, if it is not already, our unfair pricing case is not disaggregated between the two separate markets we allege. The reason for that is simply that the data does not allow it and the headline commission price of course applies to both. Just to give you some references for that rather than turning them up, Mr Holt's third report, paragraph 131, {C/10/59},

paragraph 205 {C/10/80} and 226, {C/10/87}. So it is our case that the prices charged in both markets are unfair.

Now, our case is strongly consistent with the *CMA*'s mobile ecosystem report. It considered the app store's profitability and it carried out a ROCE WACC comparison for Apple as a whole and for its device business, but what is important is that it rejected a number of the core arguments Apple is advancing before the Tribunal. The *CMA* was undeterred by those arguments.

I would like to start by showing you what it concluded, which is AB6, tab 25, page 140 it is paragraph 210 {AB6/25/140}:

"Finally, we have found that Apple's and Google's substantial and entrenched market power in native app distribution is reflected in the commission rate they arrange app developers for digital purchases which is set above the competitive level. The effective rate of commission has stayed between 25% and 30% over the years for both Apple and Google. This allows them to make substantial and growing profits (with high margins) from their app stores which have not been competed away by other distribution channels, such as sideloading or

alternative app stores. If other distribution channels were effective constraints on Apple's and Google's app stores, we would expect to see lower commissions and/or increased quality."

In so far as this is talking about Apple, it is, largely speaking, a fair summary of our case.

The basis of this was a detailed profitability analysis that was in annex C to the *CMA*'s report. I would like to take you to some of that.

If we could please turn to {AB6/28/7}, we see the start of that at page 7, please, we start with the App Store. It notes at paragraph 22, "the App Store represents the largest segment within Apple's service business, comprising between 20-40% of total services revenue. In the UK alone it generated 400-600 million revenue". Just to note for a point that will come up later for revenue the App Store refers to net billings, the amount it charges as commission. Then it says at paragraph 23 we can see net revenue from "2018 to 2021, highlighting strong growth, [...] net revenue increased by approximately [80-100]% on a global basis", then over the page paragraph 24:

"We estimate that the App Store's gross profit margins averaged [75-100]% over the period 2018 to

2021.

25. We also considered Apple's operating margin for the App Store. Operating margins can provide a more complete picture of a product or service's profitability than gross margin because they account for operating expenses."

Then Apple made a submission that is already, I am sure familiar, in this case. Apple submitted that any profit and loss documents prepared on an ad hoc basis with respect to the App Store are not maintained as profit and loss statements. According to Apple, such ad hoc exercises would not account for all costs attributed.

Then at 27:

"We have seen examples of reports of the profitability of individual segments. We also note that in the recent *Epic* Game Inc vs Apple Inc litigation, the *United* States district court found that Apple calculated a fully burdened operating margin for the App Store as part of its normal business operations and that this calculation was largely consistent with *Epic*'s expert witness's estimates of operating margins to be over 75% for both fiscal years."

Now, at 28 we see exactly the argument that

Apple is running in this case:

"Apple told us that the profitability of the App Store cannot be meaning any assessed on a stand-alone basis. It told us the presence of substantial common costs mean it is not possible to allocate costs in a reliable and economically meaningful manner."

The *CMA* address this in a way that we would respectfully adopt. It says at 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."

Then it talked about really Apple's, if you like, exceptionalism. It says:

"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.

Furthermore, it is not clear from the evidence

whether or not Apple operates on the basis of analysing the profitability of separate business units. Whilst Apple said that it takes a whole-company approach, we have seen examples of reports of the profitable of individual segments."

Then in footnote 26, please:

"As noted above, in the recent *Epic* Games Inc vs Apple Inc litigation, the *United* States district court also found that Apple calculated a fully burdened operating margin for the App Store as part of its normal business operations."

Just the reference for that in the *Epic* judgment is {AB5/7/44}. In distinction from the point Mr Hoskins was making yesterday that does not depend on any esoteric part of features of *United* States law.

So if we please could turn on to page 11 of the *CMA*, *Mobile Ecosystems Market Study Final Report*, {AB6/28/11}, we will see what the *CMA* concluded, at 38:

"Even if the 30% commission was competitive when the iPhone was launched, it does not necessarily follow that the same commission rate over a decade later and in a mature market should still be treated as a competitive benchmark.

Further, at the time of entry the iPhone and the App Store were very innovative products compared to other mobile devices and innovative products are generally able to charge a higher price even in the face of competition. Over time we would expect prices to reduce as competitors catch-up and the product becomes less of an innovation.

In summary, we find that the App Store was highly profitable on any reasonable measure of gross or operating margins."

But then it says importantly:

"Whilst this does not in itself demonstrate that prices are too high, it suggests that, if there were more competition, we would expect this to impact prices, and that the level of the commission and operating costs [sic] might fall over time to a greater extent than it has to date.

The scale of the operating profits associated with the App Store should also be seen in the context of Apple's overall return on capital invested. Apple needs to earn sufficient returns to cover its investment into its mobile ecosystem from a combination of its mobile devices revenues and the revenues from the associated services businesses. We consider Apple's return on capital in the

following section."

Then it goes on to do a ROCE analysis on the whole of Apple. We see in 41:

"As set out in our Guidelines ... we normally measure profitable using ... Return on Capital Employed", and then it explains four lines down:

"In a competitive market we would expect firms to 'earn no more than a "normal" rate of profit', at least on an average over time. ROCE is calculated by dividing earnings before interest and tax (EBIT) by the value of capital."

In fact that is exactly what Mr Dudney has done. It says:

"ROCE is a good measure to test where profits for a particular firm or sector are high because it can be compared against an objective benchmark" namely the WACC.

Then at 43:

"Another way of looking at this is that while all companies need to earn positive margins, margins themselves need to be considered alongside other measures in understanding whether the market is working well: Some sectors with high asset investment and low operating costs will tend to have high margins," which "would not necessarily [mean]

high economic profitability.

A finding that ROCE is higher than the WACC is not in itself indicative of a competition problem. A firm that innovates and gains a competitive advantage may earn higher ROCE for the period that it is able to sustain that competitive advantage. In a market characterised by effective competition, any excess returns above the WACC would then be expected to be eroded over time, as competitors would see an opportunity to enter and earn high returns on capital. However, our Guidelines indicate that a finding that 'profitability of firms which represent a substantial part of the market has exceeded the cost of capital over a sustained period could be an indication of limitations in the competitive process'."

That is a point which you will have seen in our evidence already and I am going to return to this morning. I also just want to draw attention to paragraph 46, which is the *CMA* here acknowledges a point that Apple make much of in this litigation:

"Our guidelines also set out that, in industries with a relatively low level of intangible assets, such as service and knowledge-based industries, the book value of capital employed may

bear little relationship to the economic value because of the presence of significant intangible assets. In digital markets, this is particularly the case."

Over the page you will see:

"We have considered the need to include intangible assets in the form of Apple's R&D [...] asset base below."

In fact, what happens is that it concludes that this makes no difference. It also performs a sensitivities on Apple's ROCE and so forth. I want to then go to page 17, please, paragraph 64, where Apple makes a point that is indeed made in this litigation:

"Apple told us that any analysis that relies on operating expenses at the product level, such as operating margin, are entirely driven by the criteria [...] for the allocation of [...] expenses."

I am so sorry I have come to the wrong paragraph. I was going to point out here that on this page there is a ROCE of Apple's device business which is treated separately from the whole Apple. Sorry I have just slightly lost my place. I was going to come to page 23. Thank you, paragraph 87:

"Apple further submitted that our levels of profitability are unrealistically high with the volatility pointing to the measure being flawed and that due to the difficulties estimating the ROCE reliably, comparisons between ROCE and WACC are not meaningful. Moreover, Apple disputed the relevance of a ROCE vs WACC ... in innovative technology markets."

That is exactly the submission that Apple makes in this case and the *CMA* rejected it. Overall it concluded that, if we go to page 26, first bullet point at the top of the page:

"Apple's profitability, when measured as a return on capital, is high, at over 100% ROCE per annum for Apple even when adopting cautious sensitivity analysis. If Apple's devices business was considered as a stand-alone business, and all the assets of the integrated devices and services business were allocated ... the standalone ... would still earn well above any normal level of ROCE. ...

We estimate that this high return combined with additional margins from services ... means Apple was able to earn at least £2 billion of profits in 2021 from their UK mobile business over and above what was required to sufficiently reward investors with a

fair return. These profits would be expected to decrease if Apple's UK mobile business faced greater competition, either through lower prices or greater investment in quality."

I have taken some time with that because actually what you see there is a prefiguring of much of the argument you are going to hear from Apple on the excessive pricing case and it was rejected by the *CMA*. Of course the *CMA* was not doing an excessive pricing analysis, it was a market study, but it had no difficulty with precisely the kind of points that are prayed in aid by Apple here.

Having done that I want to start with WACC. As far as we can tell, there is no issue about the correct measure of WACC. Mr Holt used WACC for the whole of Apple because there was not sufficient data to calculate an App Store only WACC. Just for your note, that is Mr Holt's third report, {C2/10/71} paragraph 169. There has been one small adjustment in Apple's favour by Mr Holt following the joint expert process, essentially accepting that the ROCE and WACC figures should be both on the same tax basis, it slightly bumps up the WACC. The arithmetic I think is agreed with Gibson Dunn and there either is or soon will be a letter in the

bundle setting out the difference.

THE CHAIRMAN: I have seen that.

MR WARD: I am sorry I do not have the reference. Obviously it makes no difference whatsoever to our submissions, given the disparity between the ROCE and the WACC.

I do want to address one point in Apple's skeleton about Mr Holt's analysis and this is {A1/5/62}, paragraph 182. You will see it says correctly in the first sentence of 182:

"Mr Holt makes use of Mr Dudney's profitability analysis in order to find that the commission is excessive, by comparing it to Apple's WACC. However, Mr Holt also accepts that the WACC may not be an appropriate benchmark where the product being supplied is innovative."

The reference given the Holt 3/145. I would like to show you what Mr Holt actually said and it is as the citation in the skeleton says, it is {C2/10/63}. You will see at paragraph 143 Mr Holt explains what ROCE and WACC are, but then at 144 he quotes competition guidance, Competition Commission guidance:

"If a company's ROCE is significantly and persistently higher than its WACC, this shows that

the business is making significantly more returns than the cost ... of capital."

As the first quotation says:

"Over [an extended] period this could be an indication of the limits in the competitive process."

It is 145 which Apple says shows Mr Holt distancing himself from the WACC:

"It should also be noted that the *CMA* has subsequently clarified that a finding that ROCE is higher than WACC does not imply a competition problem on its own" -- I just showed you that from ecosystems report -- "For example, a firm that innovates and gains a competitive advantage may earn a higher ROCE for the period that it is able to sustain that competitive advantage. However, the *CMA* has also made clear in a market characterised by effective competition, any excess returns above the WACC, would be expected to be eroded [away] over time. I agree with the *CMA* that, in a market in which high and persistent returns are earned, this would tend to attract entry and prices would be expected to converge towards a competitive level over time (absent entry barriers)."

Really the selection from Mr Holt's evidence in

the skeleton does not quite capture the flavour of it.

I mentioned yesterday that Apple's case is that it is not possible to construct a meaningful profitability analysis or to allocate all direct and indirect costs to the App Store. Just to show you that, it is in Apple's skeleton, {A1/5/62}, paragraph 184:

"There is a debate between the accounting experts ... Apple does not produce a fully burdened profit and loss statement ... that is because it is not possible meaningfully to allocate all direct or indirect costs."

You have seen exactly this argument before the *CMA* and you have seen the *CMA*'s observation that in fact they had found a large number of accounting documents which seemed to do this. Now, what has happened in this case is that the Class Representative's expert forensic accountant has constructed an analysis of Apple's profitability doing the best they could out of Apple's documents. But as you will recall, there has been an extensive and contested disclosure exercise to try and obtain the relevant information.

Could I just ask you to turn to {B2/0.1}. This

is a witness statement from Mr Doris for Gibson Dunn, filed in February 2023, when the issue was about what expert evidence should be permitted. Could we please turn to page 10 {B2/0.1/10}. What you will see at the top of the page is 33:

"Apple seeks permission to rely on [expert] evidence from an accounting expert, addressing issues as to the allegation that Apple's profitability is excessive."

If we could just scroll down while we are here, albeit it is a point we will come to later, under the heading "Intellectual Property":

"Apple seeks permission to rely on evidence from an intellectual property expert, addressing issues as to the intellectual property made available by Apple to developers and the protection and value of that intellectual property."

I am going to come back to that later, I thought it would save going to this document twice. You, sir, granted permission for both of those things in an order of 10 May 2023 and just for the transcript that is {I/28/2}. But then if we go forward to March 2024, into the period of battles between the Class Representative and Apple over disclosure, you may recall, Sir, you made a reasoned

order. I do want to go to this. It is {I/45}. This is the reasoned order which was in fact made in March 2024, dealing with disclosure. Could we go to the next page, please, paragraph 5. Thank you very much:

"The essential basis of the requests" -- i.e. the disclosure requests -- "is that the Class Representative seeks to analyse revenue and cost information for her excessive pricing claim in the. Collective proceedings in relation to the … App Store. The Defendants maintain they do not account for costs particularly at the App Store level. However, the Class Representative has identified some documents already produced by the Defendants which are apparently presentations containing an analysis of costs at the App Store level."

What was sought was a proportionate search for more. You said sir, at 6:

"Revenue and costs data which is capable of being analysed at the App Store level is obviously of considerable relevance to the excessive pricing claim. In the circumstances where the Defendants do not maintain management accounts at that business unit level, the next best source of data is likely to be revenues and costs at the ISS level " -- which

I think means services -- "and evidence of the approach taken by the Defendants themselves when they carry out any allocation exercise of revenue and costs at the App Store level. The Defendants have explained ... that these allocation exercises are incomplete and unreliable. They are nevertheless the best information available."

Then you say at paragraph 8:

"The approach of the parties to resolving these issues has been unsatisfactory, as I made plain at the informal CMC in February. It is also, as a practical matter, unhelpful that there is no accounting expert instructed by the Defendants to act as a counterpart to the Class Representative's expert in this area. I would ordinarily expect the respective parties' experts to be co-operating to ensure that the best possible evidence was available to the Tribunal. While it is a matter for the Defendants as to whether they instruct an accounting expert, it is undoubtedly unhelpful from a procedural perspective for that dynamic of co-operation to be absent."

In fact what happened is that Apple did serve a forensic accountant's report, but only in reply to the evidence of Mr Dudney and Mr Holt. That is the

report of Dr Barnes of September 2024, which is in {C3/5}, and he does not carry out any profitability analysis of his own. He says instead that attempts to allocate costs to the App Store are arbitrary and the results are meaningless. What you will see in due course is the only factual evidence Apple has served in respect of these documents is extremely high level generality.

Now, despite this, there is actually an important measure of common ground on Mr Dudney's ROCE calculation. Could I please now turn up the report of Mr Barnes. I will perhaps make this point and then suggest a pause. This is {C3/5/58}. This does not resemble my pagination. Could you scroll back, please, I am actually looking for paragraph 76 and I cannot understand at all why my pagination is different. This is the right report. Keep going back please to paragraph 76. {C3/5/38}. I think I just gave you the wrong reference. You will see:

"In short, there are no issues in how Mr Dudney has measured the App Store's revenue, COGS (cost of goods sold) OCOGS (other cost of goods sold), or gross profit" -- so all of that is effectively common ground -- "There are however significant issues in how he measures what he claims to be the

App Store's OPEX."

Over the page, please, to the next page:

"These issues stem from the way in which he has interpreted the phrase 'Apple's costs [...] relating to the App Store'. While there are certain (direct) costs that Apple incurred and that clearly 'relate to the App Store' - the COGS and OCOGS ... that is not generally the case with Apple's OPEX. ... Mr Parekh ... notes that 'Apple cannot allocate all indirect costs'."

Then he says:

"My understanding of the point he is articulating - at least in large part -- Apple's OPEX costs are indirect costs, i.e., costs that Apple incurs that do not benefit a single part ... rather [than] the business as a whole. As such, the notion of 'Apple's OPEX relating to the App Store' is something of a non-sequitur."

That is the issue then, the focus is on OPEX which includes R&D. If this would be a convenient moment to pause, after that I will show you some issues on the disclosure.

THE CHAIRMAN: Yes, we will come back at ten to.

(11.41 am)

(Break)

(11.54 am)

MR WARD: What I am now going to do is show you some examples of the kind of profitability analysis that are strewn through Apple's disclosure. There are plenty of others but I want to show you some important types. These documents are all marked as confidential, and what I intend to do is describe the slides that we are looking at, but of course without reading out any numbers at all. I have already explained to Ms Demetriou that is the proposal and of course she will be on red alert, no doubt.

The first one is at {D1/764}. This is an, "App Store business management FY20 overview." There are lots of documents of this kind produced annually for senior management and they contain profit and loss with OPEX and operating margin figures for the App Store. I am just going to show, but without going to the figures. If we go firstly to slide 4, this is a figure for the overall level of the business.

Then at slide 6 a comparison is made between the App Store and a well-known list.

MS DEMETRIOU: I am so sorry to interrupt, Mr Ward, but could we just ask that Mr Ward's instructing solicitors cover their screens because these

documents are coming up to the screens and they are visible to members of the public who are in the court.

THE CHAIRMAN: I don't know what the best way of doing this is. In some ways if you can do it without the screens.

MR WARD: I am happy to get on in whatever way Apple are willing to live with.

MS DEMETRIOU: Sir, the alternative is we just go into private for this part.

MR WARD: I do not want to do that.

THE CHAIRMAN: Another alternative would be to move people, a small number of people from the back of the court, whether they might be able to move to the side. That might be better.

Is there anybody at the back of the court who is not in the confidentiality ring? Would it be a great imposition if I could ask you just to move to the side. I am sorry to do that to you. This gentleman is from the *CMA*, I do not know whether you are concerned about him seeing the documents?

MS DEMETRIOU: I think they are not in the ring so it is safer that we --

THE CHAIRMAN: So everybody else at the back of the courtroom is in the confidentiality ring, is that

correct? Would you mind moving just a little bit further that way just to give us some more comfort that you are not going to see anything.

MR WARD: To be clear, sir, we are still in open --

THE CHAIRMAN: You do not need to leave the courtroom. Gone. Right, okay.

MR WARD: We are proceeding in open session?

THE CHAIRMAN: We are in open session, yes.

MR WARD: I was showing you, but only you, slide 4. Mine still seems to be on. Is that acceptable? Slide 4 which compared the App Store to a certain list, but I won't even read that out.

Then at slide 78 what we see is an App Store P&L. I am just going to mention some of the categories of items that are in this P&L, without reading out any numbers. You will see there is a margin, just looking in the bold in the column, margin OCOGS, gross margin, total OPEX and net margin.

THE CHAIRMAN: You are looking at the numbers themselves, are you?

MR WARD: I was just looking at the names of the rows.

THE CHAIRMAN: We cannot actually see that.

MR WARD: Is it possible to blow it up? That is better. You can see again, standard margin, just looking

what is in bold, standard margin, total OCOGS, gross margin, total OPEX, net margin.

Now there are quite a few documents like this, but I want to make clear Mr Dudney does not rely on this as fully burdened. He has conservatively accepted there may be items omitted from allocations of divisions above the App Store. But can we now go please to document 760, which is another document of a type of which there are a number. I am going to take the same approach to this. So you will see what it is called, a products & services profitability based on August/19LRF, dated September 2019. It is worth bearing in mind Apple's financial year starts in October.

At page 3 we can see, again I am just going to read out the title and describe what is in here, "FY20 products & services summary". In the bottom left there is a summary for OPEX and more or less in the middle of that you can see a figure, which I won't read out, for the App Store. Then to the right of that, so bottom right quadrant, is operating margin and again there is a figure for the App Store.

Then if we move on please to page 8, I think is the one we want. Yes, thank you very much. Here we

have some graphs which show divided into products and services operating margin, and if you look in the right-hand column, we want to look at the operating margins graph. There is a breakdown between different products including the App Store, and there is a thick line that at least looks black on this screen for the App Store. You will just see if we could scroll to the bottom of that slide, please, you can see right above where it says, "Apple confidential-need to know" there is some text which I think I can safely read out it says, "Based on method 2 for allocation of OPEX."

What Mr Parekh says in his statement is Apple uses two methods, method 2 which is OPEX in proportion to direct costs; and method 1 which is allocation by use of revenue. I am now going to show you an example of the latter. These are the so-called line of business reports and these are gone back to a period before that covered by this litigation. Mr Dudney relies on some of these.

Could we go to {F/18.1}, please. If we could click because this is actually a spreadsheet. Do we have the spreadsheet? Thank you very much indeed. This is a spreadsheet and you can see the tabs at the bottom are "iPhone", "iPad", "iPod" and

"Services". In the "Services" tab where we are now, I am again just going to highlight some of the things in the left-hand column where you can see at row 24, gross margin, row 27, R&D, then various other types of operating expenses, which are totalised at row 39. That is for services as a whole.

Can we just scroll down to the very bottom, please. You can see the asterisk at 45, "Opex is allocated based on revenue mix." This the revenue based allocation. To save time, I will just explain. What Mr Dudney did was he used Apple's own basis, but he checked it against method 2 that we looked at a moment ago. If we can turn up now {C2/7/43}. This is Mr Dudney's report. You will see in the middle of the page, sort of crossed out, is that slide you were looking at a minute ago. It has been just marked as confidential obviously with a highlighter.

Over the page, please. In the box at the top, Mr Dudney has compared return on revenue. The first row is his analysis based on allocation by revenue and the second row is the analysis based on those slides. Some of them are marked as confidential, some are not, but you can see the comparison very

easily.

Our short point in this contested area is that Apple can and does calculate P&Ls for the App Store. It uses different methods, but they seem to come to very similar results. Then if we can now go, please, to Mr Holt's third report, {C2/10/76}. Actually we will go to the next page, please. Here is table 5.9 where he shows OPEX alongside gross profit operating profit, so then he says proxy App Store OPEX which is Mr Dudney's figure. The point he makes just above the text, in the bottom four lines is:

"It would be unlikely that reasonable changes of the allocation of common costs would significantly affect the App Store's excessive profitability. This supports that the findings of the App Store's excessive profitability are robust to changes in cost allocation and that, hence, his results" -- meaning, Mr Dudney's -- "are not driven by such allocations."

If we can remind ourself what the *CMA* said in the Mobile Ecosystems Report, that is {AB6/28/9}, you will see it says at 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."

It is our submission that that is exactly where we are.

Just before leaving this topic, I want to turn to our skeleton argument to make one point about one further type of document. I am just going to read the skeleton out of an abundance of caution. If we can go, please, to page 56, which is {A1/4/56}, we say in 189 that, we note that Apple's response is it is all impossible. Then picking up and just only reading things that are marked as non-confidential:

"This extreme position is impossible to reconcile with the fact Apple routinely estimates the App Store's profitability for its internal purposes. Indeed, in *Epic* vs Apple the US district court found that that Apple did calculate 'a fully burdened operating margin as part of [its] normal business operation.' For example, Apple's late disclosure provided on 14 November 2024 includes a January 2024 price committee presentation which contains an 'indicative' P&L for the App Store for the purposes of understanding the impact of Apple's

business of complying with the injunctive relief granted in the US district court in the *Epic* case. The judgment [sic] contains various estimates of the App Store's operating profits."

Then if you read the rest, please. What I would like to do without any comment is just show you the slide that is being discussed there. It is {D1/1649/10}. All I invite you to do is just look at the left-hand column names. I appreciate this is a very recent document and I do not want to trifle with it. Now, all of this is obviously going to have to be explored in closed session, but I just want to make one further point about it. We served a purely arithmetical calculation last week by Mr Dudney based on these figures. That is at {C2/18}. It is in the form of a short report. It has I think two to three operative pages. Apple have agreed that it should be admitted, and we have asked them actually to agree the arithmetic it contains. I do not want to explain it at the moment. We do not actually have confidentiality markings on it, and it will obviously be dealt with as far as necessary in closed session, but I do formally ask permission to adduce it in the absence of any opposition from Apple.

THE CHAIRMAN: Is that opposed?

MR PICCININ: We do not oppose the admission.

MR WARD: Thank you, sir. With that, I want to turn to Limb 2, which is whether the price is unfair in itself. As Mr Armitage said, this is where Mr Holt has dealt with the concept of economic value. That is an entirely orthodox approach.

In so doing, Mr Holt relies on a range of factors and for your note they are at {C2/10/97}, paragraph 263. But I want to focus on what is the central issue here, the willingness to pay fallacy. It is central but it is also simple. As Mr Hoskins explained yesterday, Apple has charged the commission in markets where it is a monopolist insulated from competition by its own restrictions.

The result is, in our submission, profits that are not only extraordinarily high but indeed persistent. Mr Holt's view is that in conditions of workable competition, they would have been expected to come down in the last 16 years. Indeed, in accordance with the view of the *CMA*. He explains that just for your note, at {C2/10 /89}, paragraphs 236-240.

Now what I would like to do is deal with what Apple says is the fatal flaw in our case. That is

explained in their skeleton argument at {A1/5/60}. It is paragraph 176. They say, there are a number of things packed into here and I am doing to try and unpack them:

"That the commission is paid by developers for use of Apple's technology -- and not just the App Store itself -- is fatal to Dr Kent's excessive and unfair pricing claim."

If we look at (a):

"It means that Mr Holt's cost-based analysis of the 'excessive' limb is flawed in principle, since (i) it is measuring a set of costs that is too narrow."

I have already explained that cost-based is selling it a little short, but if Apple was saying that more costs should have been taken into account then of course that would have been even less favourable to them. What we understand the argument to be really about is what we call economic value. They are saying that these matters which are outside the App Store should be taken into account for economic value. We can see this explained by Professor Hitt in his second report at page 209. So this is, please, {C3/4/209}. At 369 he explains:

"I understand that as a matter of law, the

assessment of whether Apple's commission rates are excessive and/or unfair must account for the value that the App Store and the wider iOS ecosystem provide developers and consumers. The assessment must account for the fact that the commission Apple charges is its compensation for providing all the products and services that contribute to the value consumers and developers derive from the iOS ecosystem and not just what Apple provides at the actual moment of a transaction ..."

If we go on to 373 on the next page, he says the same thing, really. He says at the bottom of the page:

"In considering this issue, [of economic value] in my view, it is necessary to consider the value that Apple provides - through the App Store, iOS and its devices - to the consumers and developers that use its products."

We do respectfully disagree and this will obviously be a point of contention in the trial. So in our respectful submission, these devices, for example, are in different markets, they generate revenue for Apple and there is no sensible reason why costs and revenue cannot be apportioned to the App Store itself.

But then there is an IP variant of this argument in the skeleton argument, at paragraph 179. So now we are back at {A1/5/61}.

MR FRAZER: Mr Ward, just before you get to that I want to make sure I have not made a mistake in relation to your conclusion. You said, I think at the beginning, that if more costs were involved it would be worse for the Defendants.

MR WARD: Sorry, I just misspoke. You are quite right, thank you.

I was going to go to the IP variant. This is in the Apple skeleton, please, {A1/5/61} and it is paragraph 179. They say:

"As Dr Singer accepts, the commission is paid for ... access to the technology ... The technology is protected by Apple's IP rights and is a form of intangible property, which Apple grants developers ... Consistent with the case law ... an analysis of costs is inappropriate and inadequate for an excessive pricing claim where the price is paid for intangible property."

Of course, as we have already said, it is not just an analysis of costs. Mr Armitage, this morning, has explained why this is just wrong on the law. What we will see later is the experts have

carried out some sensitivities in this area. In our respectful submission, this fatal flaw has itself a fatal flaw and that is the willingness to pay fallacy. There is no doubt that Apple has IP that has value, but Apple's argument really amounts to insisting that the price people are willing to pay under monopoly represents its economic value and indeed it seems all its IP. It just assumes that the price of the commission must reflect the value of any IP rights that it can be said to somehow apply to. But here I am afraid I do want to go back to the procedural history.

I already reminded you that Apple had applied for permission to adduce an IP expert on valuation and it won't have escaped your attention that there is not one before the court. I would like to show you the correspondence on this topic. It is {B2}, so sorry, the correspondence the (CB2/0.1}. This is a letter written by my solicitors shortly after the CMC in May. You will see at paragraph 3 they say:

"We should be grateful if your clients could now confirm the discipline and qualification of their intended IP Valuation expert."

At paragraph 4, they said we would like to know more about it, what the IP is. As Mr Hoskins said

yesterday, there had already been an unsatisfactory RFI on this. Then over at 5:

"Please therefore confirm how and when your clients propose to provide to our client full details of any allegedly relevant intellectual property and associated licences and/or other contractual agreements."

As Mr Hoskins observed yesterday, we did not get anything until the annexes to the skeleton. In any event that letter was written in May and there was a holding reply and then the substantive reply came on 29 November. That is {CB2/3}, yes, thank you, November 2023, I should say. Here Gibson Dunn explained in the third paragraph:

"Dr Kent will note that the Defendants no longer seek to adduce expert evidence in the field of intellectual property valuation. The issues proposed for that expert were not intended to call for a full valuation of the relevant intellectual property. Rather, they were intended to elicit evidence that would be useful to the Tribunal by highlighting the links between the Defendants' intellectual property and the benefits that developers and users derive" -- and then they say:

"However, given Dr Kent's objections to these

issues, the Defendants no longer intend to adduce expert evidence ... and will, instead, rely on a combination of factual and other expert evidence, as well as submissions ..."

In reality what they are doing is relying on submissions. Having made a conscious decision not to adduce evidence they had permission for and having provided no particulars of the IP relied upon at least until something in their skeleton argument, and having provided no evidence about the valuation of the IP. What you are left with is an entirely circular argument, which is the commission is set at 30 per cent, so the value of the relevant IP must itself be 30 per cent. Indeed again for the transcript, exactly that kind of argument was rejected in *Epic v Apple* and the citation is authorities bundle {AB5/7/35} and {AB5/7/95}.

While we are on this topic, I want to pick up another way in which Apple describe Mr Holt's evidence at the bottom of page 61. So it is {A1/5/62}, paragraph 181 right at the bottom please. Sorry, it is the pagination. Sorry, we have it now. They say at 181:

"Mr Holt agrees with the proposition that, 'For innovative products and services that embody

substantial investments in intellectual property, like iOS and the App Store, costs are not a reliable measure of value'" -- this is from the joint experts' statement, proposition 19 -- "but maintains cost can be informative for the 'excessive limb'. However, inconsistent with that acknowledgment, both Dr Kent and Mr Holt rely - for the unfair limb - on the analysis of the App Store's costs ..."

I would like to just show you what actually was said by Mr Holt in the joint experts statement this is under {C4/4/10}. This is proposition 19 and if we could in any way zoom in I think that would be helpful. Here is the proposition that they rightly say Mr Holt agrees with, they say:

"For innovative products and services that embody substantial investments in intellectual property, like iOS and the App Store, costs are not a reliable measure of value."

He agrees, but he says:

"The economic value of the App Store should be determined by the competitive market outcome. Cost is not an appropriate measure of the App Store's economic value. However, cost can help to inform whether the price is excessive."

"Inform" is obviously the right word because it

is a ROCE/WACC analysis, it is not just cost compared to prices.

So again, the citation of Mr Holt's evidence perhaps does not give quite the full picture.

While we are discussing innovation, the short answer is again the same. The fatal flaw in this fatal flaw is that the price Apple is obtaining for its innovation is a monopoly price, not a price in workable competition. I do want to just re-emphasise a point you have already heard, that it is not our case that even WACC is the correct measure of economic value, never mind cost, but not even WACC. Mr Holt's view is, in workable competition Apple would have been able to charge a counterfactual between 10 and 20 per cent with a central case of 15. It would be a matter for you in the application of the broad axe, if you are with us thus far, to determine which of those counterfactuals apply. So this still allows Apple a huge return.

Could we turn now to {C2/10/87}. He says in the part that is not highlighted as confidential, paragraph 225:

"Taking 15 per cent as the Counterfactual Commission, I would expect the App Store to have

earned a cumulative profit above WACC of around USD 31.4 billion over the Relevant Period."

So our submission is that that recognises a huge return on Apple's innovation and its R&D.

Now, time is slightly starting to run out on me so I am going to press forward, if I may, to Limb 2 part 2, which is "Unfair when compared to competing products".

As Mr Armitage has already explained, the key question is whether the chosen comparators are informative as to the prices Apple would be able to charge in workable competition. There is plenty of debate between the experts on this, there will be cross-examination. Just really for the transcript, Mr Holt has identified PC app distribution platforms as a particularly relevant comparator, it is section 7.3 of his third report starting at {C2/10/106}. This is based on an assessment of their characteristics in the round and again to save time I will just give you some transcript references. He says they provide services with obvious similarity to the App Store, that is {C2/10/106}. Unlike the App Store they currently operate in conditions of workable competition {C2/10/107}, and importantly, they demonstrate how commission has fallen as there

has been competitive entry, that is {C2/10/104}.

Beyond that I will leave it for cross-examination and if I may in the time available I will move on to incidence.

Now important but probably obvious point that this issue applies in the same way across both limbs of the case. So we have an exclusionary abuse, we have an unfair pricing abuse, but if you are with us on either of them then the same question of incidence arises. In a literal sense there is no doubt that the commission is paid by consumers. Apple collects the payments on the App Store and it remits the payments net of the commission to developers. But despite that Apple says consumers have suffered no loss. We respectfully disagree and I want to just make some high level points at this stage.

The first is a very, very well-known point from *Merricks*. There is no need for any individual assessment of the loss because this is a class claim and just for the transcript, that is *Merricks* in the Supreme Court, {AB3/39}, paragraphs 58 and 77.

The second point is the broad axe. Again, as Mr Armitage has said, to perfect the tort we have to show some incidence on the class. If we do, then it

becomes a matter for the Tribunal, doing the best it can on the evidence available, to decide how much incidence applies. The balance of probabilities does not apply but the principle of effectiveness does. In our submission, that low threshold for perfecting the tort is plainly satisfied in this case.

May I take you now please to the Commission's *Spotify* decision, and that is in {AB6/45}. This is, as you know, an infringement decision to do with Apple's anti-steering rule, but the issue of incidence arose because the Commission was considering whether consumers had been harmed as a result and it decided that they had. Could we please turn to page 171, recital 599. It says after a redaction:

"Uninformed iOS users may end up paying higher prices for music streaming services on iOS than they would have paid absent Apple's Anti-Steering provisions. This is the result of the fact that: (a) in-app transactions conducted through IAP and intermediated by Apple are accompanied by an obligation for app developers to pay Apple a 30% commission fee during the first year" -- and a 15% afterwards -- "(b) the commission fee level imposes

a substantial financial burden on music streaming services and, as a result, (c) the cost of the commission must be and is passed on to iOS users in the form of higher prices ..."

Then if we go to page 177, we see -- sorry, that is the wrong reference, it is page 174. 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 they do it 'to a different extent'."

Then at 615:

"Although in relation to a different industry" -- and we do have an unredacted version of that we will get to at some point -- "This supports the finding that app developers subject to the commission fee have no other option than to pass it on."

That is the only detailed study of incidence in this are there has been, but what we will also see is that Professor Hitt's own evidence in fact supports some degree of incidence. We will explore that at trial. Needless to say, we say, it understates the level of incidence.

Now if I may just sort of put our perspective at a high level, the starting point is that there

are obvious and compelling reasons to expect the commission should be passed on. In the long run a profit maximising firm must either charge a price that is sufficient to cover average total costs or exit the market. Now in this case, we are talking about a charge that is levied on every transaction. Now, Apple's expert declines to characterise that as a marginal cost but to avoid any semantic debate, we can characterise it instead as a cost that must be paid on every sale. We mustn't lose sight of the fact that we are not talking about a small surcharge or a secret overcharge. It is a very large sum indeed. It is not likely to get lost in the wash. Not only that but Apple is of course a monopolist and that means that the charge is industry wide. But Apple's position is an extreme one. It says that this long standing large industry wide charge would be treated as not being a cost of business at all. We note again, I am afraid it is a theme of our submissions, Apple has chosen to adduce no factual evidence at all in respect of incidence. We have reams of expert evidence but no factual evidence.

Now, what the Class Representative is seeking to do in this case is demonstrate incidence on what

is often called a top down basis. That is typical, even if not universal, in class claims. Of course, such methodology involves a degree of imprecision and you have had plenty of submissions about that already. But it is also, of course, entirely appropriate in a class action going back to 2015, involving millions of consumers. But the nature of the commission itself poses a challenge in this area, because the headline has remained at 30 per cent since 2008. As a result, Dr Singer the Class Representative's expert has concluded there was insufficient variation to directly measure incidence though a regression of price on the level of the commission. The reference for that is Singer 2, paragraph 280, {C2/8/136}. As far as we understand it, there is no challenge to that. Apple does not say you could and should have done that regression. But what in fact has been done instead, in an attempt to address this issue, is to bring to bear various other forms of evidence, direct and indirect, which will be no doubt the subject of cross-examination. But part of that evidence is Dr Singer's formal models, which you will have seen. It might be convenient just to show you briefly so that we can see what we are talking about. They are

in {C2/8}. Yes, starting at page 144. At 293, Dr Singer says:

"Because direct methods of estimating incidence using Apple's Commission are not appropriate in these circumstances, I instead apply standard econometric models to the UK Transactional Data to estimate incidence indirectly. This approach can be thought of in two steps. First, I estimate app demand curves, which seek to ascertain the relationship between prices and quantity demanded" -- and, "I estimate [them] separately by genre", they create a demand system, then "I test the goodness of fit." Then at 294:

"Economic theory shows that incidence is a function of demand curvature - that is, the relationship between prices and quantity demanded. Incidence can therefore be ascertained in a given case by identifying which demand system best explains variation ... in the case of linear demand, incidence is 50 be percent. In the case of logit demand, incidence is proportional to the firm's share of sales of a product category, with larger share firms exhibiting lower pass through ..."

Just to step back and try to observe the shape of that. These regression analyses are not testing

incidence directly. The purpose is to establish the shape of the demand curve. What Dr Singer found was the data demonstrated that both linear and logit demand provided a reasonable approximation of the shape of the demand curve. The consequence of that was that the models implied incidence of between 50 and 90 per cent. They provide, in a sense, the parameters of our claim. Obviously, there is a great deal of technical debate between the experts on this topic, which I will leave to the hot tub, but I do want to just make one high level point here, which is the objection is that there is something internally inconsistent about this, precisely because Dr Singer has carried out two tests and we rely on them both. But we do not accept that criticism. This is a class claim. Of course the class contains variation over time. It is not our case that either of these models demonstrates definitively that the shape of the demand curve for the entire class is one or the other.

I will just show you the way Dr Singer put it. If we look at the linear demand model which starts at page 147, actually it does not start there but I want to go there. These are the results which are

coefficients which show essentially relationship between price and quantity demanded. We see they are all negative and they are almost all negative, highly statistically significant.

The conclusion Dr Singer draws at page 148, please, is at 300:

"The fact that almost all of the coefficients are correct in sign, reasonable in magnitude, and statistically significant suggests that linear demand curve provides a reasonable approximation of the actual demand ... Put differently, the demand for iOS Apps can be said to be approximately linear, which (when paired with an assumption of constant marginal costs), which isn't challenged "implies that the incidence rate is 50 percent".

Then in the case of logit demand, he carried out a regression of price against market share and this reflects the fact that the basic intuition behind logit demand is that consumers within a market will substitute across products in accordance with their market shares. In other words, if a consumer switches they are more likely to switch to a product with higher market share than lower and an increase in price will reduce market share, as opposed to quantity. If we look at page 151, we

again see the coefficients that he has to test that proposition, whether price affects market share. He again concludes at 152, please, paragraph 306:

"That almost all of the coefficients are correct in sign, reasonable in magnitude, statistically significant, and that the logit models produce such high R-squared values suggests that the logit demand provides a reasonable approximation ..."

What he does on the next page in Exhibit 17 is calculate by genre what the market share implies for pass through, recognising that in logit demand pass through is a function of market share. So he is very clear that these models are, in a sense, a reasonable approximation, but in our submission in so far as we bear a burden of proof here, this is sufficient to discharge it on a top down basis, but also I have already submitted and will be submitting that by the time we get to these models, we are firmly in the territory of the broad axe.

Now, I want to say something very briefly about quantum, for which we can go to our skeleton argument at {A1/4/80}, where we have an annex. There is an immediate oddity about this annex that all the figures in it have been marked as

confidential. These are the figures in our quantum claim and it has been done by my solicitors in a good faith attempt to apply what they think Apple has been asserting is confidential, but I perhaps would invite you just now, sir, to rule that our quantum figures cannot realistically be confidential.

THE CHAIRMAN: Well, is that a contested point, I am not sure --

MS DEMETRIOU: Well, it is the first time we have heard it, so can we reflect?

THE CHAIRMAN: I think that the statement earlier in the morning demonstrates that the less we have to worry about the better, so if we are able to agree particularly with numbers like this, then it would be helpful.

MS DEMETRIOU: Sir, yes, equally it would be helpful if my learned friend would not spring it on us in the middle of submissions but would raise it with us in advance and then we could take sensible instructions.

MR WARD: I am sorry if I have caused offence. I have no need to read these numbers out anyway, I was only going to show you the shape of it. What you will see is we have two sets of tables one under the

heading "Exclusionary abuses" on page 80 and another one on page 81 under the heading "Unfair pricing abuse". If we go back to page 80, you will see that what we have is calculations of quantum based on counterfactual commission assessed by Dr Singer in the exclusionary abuse case, by reference to the 50 per cent incidence for the linear model and 90.8 per cent incidence for the logit model. Then on the next page we have essentially the same set of numbers for unfair pricing where the assessment of the counterfactual commission was done by Mr Holt and the numbers are slightly different.

That is really not to make any submissions but just so you can see your way around the quantum analysis. Obviously, we say, ultimately broad axe as to which of these numbers applies.

Now, that leaves me with just one final thing to cover, which is the supplementary note filed by Dr Singer. Now, the chairman at least will recall in the PTR, on 15 November 2024, we explained that we were going to seek permission to serve a supplemental report from Dr Singer arising out of the joint expert process. The essential point was that Professor Hitt had introduced some new economic analysis into the process during the agree/disagree

process. I would like to show you the transcript from the PTR. Is it in the bundle or are we just handing up an extract? We tried to put this in but I am afraid it has not made the bundle. This is just the PTR transcript. (Same handed)

We just extracted page 84 which I think is the only relevant section. At line 7 you will see me say: [Not on electronic documents]

"You will see from our skeleton that there is an issue which relates to the joint expert statement between Dr Singer and Professor Hitt. We explained in our skeleton we are seeking permission to file a supplementary memorandum from Dr Singer and this arises directly out of the joint expert statement. In Dr Hitt's responses he included some new economic analysis and I can show you if this would be of any assistance" -- and you, sir, said -- "I think we should look at it. Just so I am clear this is not something that has come out of the last round of reports, it comes out of the joint expert statement" -- and I said -- "Absolutely, if we can turn it up it is in the expert report bundle" -- and Mr Kennelly KC said -- "May I save some time here and cut across this. We are not objecting to this going in at this stage, but we reserve our rights

pending sight of it to object to anything that is not material or disproportionate. We simply reserve our rights to object to it when we see it."

Now in fact we served it on 21 November 2024, some seven weeks ago and we are going to go to it shortly. It is {C2/17} in the bundle, it is 13 pages long, and at the time it was made there was no objection to it made, although Apple reserved its rights. We referred to it again in our skeleton and again there was no objection made to it and it is referred to on page {A1/4/76} of our skeleton. But this Saturday, this Saturday of this week, we received a letter from Apple saying they would not object to it provided we consented to an entirely new and unheralded report from Dr Hitt. Could I show you that letter which is {CB2/19}. This was received on Saturday and among other things at point 2:

"Further to our 22 November e-mail, we confirm that the Defendants do not object to the admissibility of Singer 4, subject to the condition that the Class Representative agrees to the Defendants filing with the Tribunal a supplemental report by Professor Hitt in reply to the new points raised in Singer 4, and which also addresses several

documents regarding the Music Streaming Investigation disclosed in the 25 November Production", a copy is enclosed.

We are going to leave Professors Hitt's fourth report for a minute but I simply observe no objection of substance is taken in any way to Singer 4 here. What is offered instead is a trade for what is in fact a 46 or 47 page expert report, started precisely no days, working days, before the start of the trial.

I am going to leave it to Apple to explain why that is justified. It is obviously too late and of course we object to it. No doubt we will deal with that this afternoon. But what I am seeking at the moment is permission for Dr Singer's report. To make that good, I am going to show you now how it arose. Last time, Mr Kennelly cut me off but unfortunately it has turned out we do need to go there. There is ample time to do so before the break. But I want to start with the joint expert report between Dr Singer and Professor Hitt. That is at {C4/3}, and if we go to the back of it, the last page is a good place to start. I am so sorry I have given you the wrong reference, it is {C4/7/40}, thank you. This is the Singer/Hitt joint expert

report. The last page, again I do not need to read out anything confidential, there are two things this is Exhibit 1 and Exhibit 2. These are the results of some more economic analysis conducted by Professor Hitt during the joint expert process. The first one, all you need note is it is to do with Netflix downloads. The second one, at the bottom of the page, is to do with logit regression. Now I want to take you into the body of the joint expert statement so you can see how it arose. For that we have to turn first to {C4/7/20}. This is Mr Hoskins' area of case so he will quickly correct me if I mangle this. This is to do with substitution. Proposition 44:

"The real-world example of Netflix shows that video streaming App Transactions across app transaction platforms are substitutes."

Dr Singer disagrees, Professor Hitt agrees. Then he says he refers to analysis which he has done, which is in fact what is attached. You will see a note there from Dr Singer saying that this was newly added and he has not seen the work papers. So that is Netflix.

Then if we move on to incidence, we can see a similar story, starting on page 35, which is the

logit model -- Dr Singer's logit model satisfies the IIA assumption. Just for the benefit of the Tribunal members that may not be 100 per cent familiar with the IIA assumption, this is the assumption that an irrelevant alternative will not change relevant preference. It is common ground, it is an assumption that is part of the logit model. I can explain it in more detail if it is convenient now, but probably not, but at some other stage.

In any event, what Professor Hitt says is this assumption is not satisfied and he runs two tests to seek to demonstrate this. If we turn to the next page, so that is page 36. In the second paragraph there in about the fifth line he says:

"I replicate" -- do you see that in the second paragraph, specifically -- "I replicate Dr Singer's logit regression for the Entertainment genre partitioned into two subcategories", and he draws conclusions about that.

Then at the bottom of that paragraph there is a third new test where he says about six lines up:

"I similarly find the coefficient on price", and so forth, and then he says:

"I get qualitatively similar results ... when I exclude the top app by consumer spend within each

genre."

Those are the tests I showed you were summarised in the exhibit. Again, Dr Singer says:

"These analyses were added the day before submission. I have not been provided with the work papers."

It was against that context that we understood that Mr Kennelly's submissions were, if I can put it this way, at least not completely combative on the subject of why Dr Singer might see the need to provide some additional thinking on this. The result of this back in November was Dr Singer's supplementary report which is at {C2/17}, which I want to just very briefly show you. This was served on 21 November. If we just do a fairly rapid page turn through it, just so you can see the content. You will see he starts off on page 2 with the Netflix analysis, so he deals with the new Netflix issue. Then over the page on page 4, he has done his own version of what was in the back of the joint expert statement. Then he turns on to the IIA assumption and he explained how it arises in his model. Then at pages 10 through to the rest of it, he explains why he says it remains reasonable even if approximate, and he addresses these tests.

I have just skipped over one thing that I want to show you, which is at paragraph 9, he has one paragraph dealing with another contested point in the joint experts statement, which is about what he calls "steering", which is the propensity of developers to steer customers to platforms, if there were any, with lower commission and Dr Singer's point is that they would be induced to do so and that is a form of bargain splitting of the reduced commission. That is an additional point that he has made in response to the joint experts statement. But that is the contour of it.

As we received no objection to it, we referred to it in our skeleton argument. After we served the skeleton argument we assumed it was, if you like, tacitly but reluctantly admitted to. Then on Saturday what we received was the offer of a grand bargain on this topic in the face of a report which again, if the application is pursued, as no doubt it will be, I will explain why we respectfully submit it is just obviously far too late, inimical to orderly process in this Tribunal and indeed permission should be refused. That is obviously for Apple to make good that submission this afternoon. For now I simply seek permission to rely on

Dr Singer's supplemental report.

THE CHAIRMAN: So what is the position from Apple; is that condition still attached?

MR PICCININ: Yes, sir, it absolutely is and we suggest that perhaps the best way to deal with is that we can make brief submissions on that issue at the end of our opening.

THE CHAIRMAN: Just so I understand, what is the basis on which you are saying you are entitled to impose a condition, given what Mr Kennelly said in the PTR?

MR PICCININ: Sir, essentially the point is this. Dr Singer's report is not simply responsive to the two very short, very specific things that were genuinely new in the joint statement. It actually ranges quite a lot further than that. Mr Ward has just accepted that there is one point in it that is entirely new, but there is quite a lot else that is not on those topics really at all. We could have objected to that and we could have said, having seen it, which was after the PTR, we could have said this material is not responsive to the new points in the joint statement and therefore tried to strike out this paragraph or that paragraph or the other paragraph. That did not seem to us to be a very pragmatic or helpful way forward because being

realistic, we all understand that when Dr Singer is cross-examined he is obviously going to say all of these things in response to questions and likewise, presumably, Mr Ward and Mr Hoskins will put all of these points to Professor Hitt in cross-examination. So it is actually helpful, rather than unhelpful, to see it all written down.

Then, sir, just to complete the point, exactly the same goes for Professor Hitt, both in responding to the points that are new and not responsive to the analysis in the joint statement, but also to the new things that Dr Singer has said that do respond to the new analysis in the joint statement. It is helpful to everyone to know in some brief written opinions what Professor Hitt has to say about those matters.

THE CHAIRMAN: It is helpful as long as it is done in a way that is orderly and clear to deal with. There is a question, isn't there, as to why if you had this statement from when you first got it, you said you had it from the PTR.

MR WARD: 21 November, sir.

THE CHAIRMAN: So why has it turned up on the -- that is really more about Professor Hitt's report, and also I think there are going to be some questions about

whether Professor Hitt is now simply responding to what Dr Singer is saying when producing more material the better. I do not want to suggest that there might be. I do not want to get into the gory detail of all that yet, maybe we will have to. But the problem we have got is that we have just got this drip, drip, drip of expert material and I do not think you can say that it was unreasonable for it to be dealt with at the time of the PTR, but it may be becoming more difficult to take the position now. You are not going to let Dr Singer's report in because you want to respond to it, but you have not responded to it until the day before the trial.

MR PICCININ: Sir, on that there are really two points. One is that Dr Singer's report came after the PTR at a time when obviously there was quite a lot else being done, like the production of very substantial written opening submissions for trial and trial preparation generally. So it has taken some time to come up with a response to the 14 full pages of analysis that Dr Singer has put forward.

The more significant point really is that Professor Hitt is not actually going to be cross-examined on any of this for about a month. I can show you and take you through his report. There

is not much in it actually and there is no great difficulty that Dr Kent's counsel can possibly have in dealing with that in their cross-examination. So we say there is no prejudice and it is helpful to everyone. In any event, Professor Hitt is inevitably going to say all of these things in response to cross-examination and I can put all of the same points to Dr Singer in due course. So this material comes into the case one way or the other. As you said, sir, it is a question of whether it comes in in an orderly way or in a way that just bubbles out of the hot tub or in cross-examination, which we say is less helpful.

THE CHAIRMAN: I think the answer probably, Mr Ward, is that we need to deal with these things together.

MR WARD: Yes.

THE CHAIRMAN: I am not saying and I do not think I am accepting at all Mr Piccinin that there is any entitlement to conditionality, because I think we are talking about different things because of the time. I do not see much point on trying to rule on one of them now and then having to do it all again later in relation to the same subject matter. So why do we not deal with them together at the end of Apple's closing submissions. Let us deal with it

that way.

MR WARD: Sir, thank you. I just simply cannot help but observe that Mr Piccinin said that they wanted to be pragmatic and helpful and that they would cause no prejudice and they served a 47 page expert report on the Saturday before trial.

MR PICCININ: That is not correct. It is not a 47. No, that is not correct either, that is actually largely Professor Hitt's CV.

MR WARD: I am told it is 27 operative pages, obviously we are going to have to go through it.

MR PICCININ: It is under 27.

THE CHAIRMAN: I am sure we are going to have plenty of opportunity to deal with the length of it and the content from the sound of things. And the complaints, the complaint is heard, Mr Ward, and understood.

MR WARD: Thank you, sir.

THE CHAIRMAN: But let us deal with it in an orderly way together later.

MR WARD: Unless you have any questions, those are the opening submissions for the Class Representative.

THE CHAIRMAN: In that case we will rise and we will start again at 2 p.m.

(12.55 pm)

(Break for lunch)

(2.00 pm)

Submissions by MS DEMETRIOU

MS DEMETRIOU: May it please the Tribunal. Dr Kent advances a competition law case which is oversimplistic. The central flaw in her case is that it conspicuously mischaracterizes the very subject of her claim, the App Store. The claim proceeds on the basis that the App Store provides developers with nothing more than distribution in the sense of app discovery and download, and payment processing services, but it is similar to platforms like Steam and itch.io, that when it facilitates in-app transactions it is comparable to payment processes like Paddle. It is not.

The App Store is part of Apple's integrated technology platform that comprises in combination hardware and software, including iOS, its own operating system and various other products and services.

When Apple entered the mobile phone market with the iPhone in 2007, it had to compete hard for market share. There were already very successful smartphones on the market at the time, from market leaders Nokia, for example, and also the Blackberry

from RIM and manufacturers like Samsung who at that time produced smartphones on the Palm OS operating system. The vast majority of consumers did not have smartphones at all, they used simpler devices from the incumbent manufacturers like Nokia, Motorola and Samsung. So Apple needed to win over new consumers from all of those manufacturers. When Apple launched the App Store in 2008, its share of the device market, however you define it, was tiny. The App Store was a key means of attracting consumers and developers with the associated network effects. But it is easy to forget that while the App Store was revolutionary and spawned many a successful app developers business, there were already third party mobile apps, including games, available on other operating systems. Different manufacturers and mobile network operators offered different distribution models, but it was common for developers to receive significantly less than half of what consumers actually paid for those apps. This is a point that Mr Schiller explained when giving evidence at trial in Australia, and there are documents that we can look at in due course that showed how it all worked.

The poor quality of the existing arrangements

back in 2007 and 2008 created an opportunity for Apple to do something better, something that would create enormous benefits for developers, consumers, and therefore also, ultimately, of course for Apple. It was a win-win-win. That opportunity was to create a platform with software development tools that were easy for developers to use. The platform would have a store for developers' content that looked attractive and intuitive, but even more importantly the entire platform could be trusted by consumers because Apple would retain control and invest significantly in making it a secure environment. The platform would offer financial terms that were extremely attractive to developers. Unlike previous offerings from Apple's competitors, it allowed developers to cut out a long list of middlemen and retain 70 per cent of what consumers paid. We know that Apple's overall offering with the App Store was extremely attractive to developers because it attracted enormous interest from developers in a very short space of time. Large players like Electronic Arts were keen to invest in developing for iOS. Vast numbers of small independent businesses came into being as a result of the creation of the App Store. Some developers

who launched apps on the iPhone have grown into massive multinational corporations that turn over billions of dollars a year.

We also know that it was an attractive business proposition because competing developers like Google, like RIM all rushed to create copycat stores. They could see that they had to do that in order to make devices that could compete with Apple's iPhone. Some succeeded, notably the Google Play Store and the Android operating system to which it relates, others failed, as we know in our own experience. There is no dispute about the fact that Apple's success was down to the cut and thrust of competition. It offered a high quality device and a high quality platform for developers to create content for consumers to use on those devices and through the usual economics of two sided markets that was a recipe for success.

To understand this case properly, we need to look more closely, the Tribunal needs to look more closely, in our respectful submission, than Dr Kent does, at what it is that Apple actually provides. Apple licences developers to use its proprietary technology to create and publish apps for iOS. Apple provides developers with the software

necessary to interface with Apple's devices and operating systems. Apple also provides developers with innovative technology, tools and services which are the result of very substantial investment which enables developers to create better and more attractive apps. These include improvements to the device itself, cutting edge software and App Review, and all of these things attract developers to the platform because the developers stand to gain very substantial rewards, and in turn the platform is more attractive to consumers, enabling Apple to compete vigorously and successfully in the device markets. More demand from consumers benefits developers also. The markets for the development and sale of mobile devices are very competitive even to this day and we say that Dr Kent is somewhat churlish in her reluctance to accept that fact, but she does not allege, nor could she, that Apple is dominant in those markets. We can see they are competitive when we think about the pace of innovation because newly invented devices with new features and better performance and new operating systems are released every year. Competition in those markets takes place not only on price, but also on quality, which includes factors like

privacy, security, performance, availability of apps and so on.

Those are the ingredients that explain why Apple has succeeded where others have failed and they are also the parameters on which Apple continues to compete against Android manufacturers amongst others. A critical way in which Apple distinguishes itself from its competitors in the devices markets and also in the transactions markets, is precisely that it offers an integrated and centralised system whereby all apps can only be downloaded and installed through Apple's App Store and transactions for digital goods and services are facilitated through Apple's commerce engine. It is wrong to think of these as mere contractual restrictions, as though Apple were a retailer saying to a product manufacturer that if they want to use the retailer's shop, they must commit to not using other shops. The contractual provisions establishing this system are in fact the scope of the permission that Apple grants to developers to use its tools and technologies that Apple has invented and which are protected by Apple's intellectual property.

Apple's decision to limit the scope of the

permission granted in this way is what allows Apple to be more secure and protective of privacy and to ensure that the apps which are available on its devices conform to certain standards. A consumer buying an iPhone can be confident that the whole system will work, that there is much less risk of them downloading harmful software, that their payment details are protected and only need to be given once, that records of payments are being retained so that refunds can be made where appropriate. That they will receive the content they paid for and if they do not, Apple will assist.

In thinking about why that approach might be valued by consumers, it is useful, in our respectful submission, to think about the wide range of people who use these devices. Some are old, others are young, some are tech savvy, but many are not. Some lend their devices to their children to use and then carry on using them themselves for their personal and work purposes afterwards. It is easy to understand why knowing that it is essentially impossible to download native apps on to a device without Apple having scrutinised the app first might be attractive to large numbers of consumers, and also why any theoretical benefits of being able to

access apps from other sources might not weigh very heavily in the balance for many consumers.

The Tribunal will hear evidence during the course of this trial about the way in which Apple's integrated system results in better performance, privacy and security for end users than that that provided by its competitors. But ultimately competition law does not require the Tribunal to sit in judgment on whether Apple's business model is better than Google's or Samsung's or vice versa. Competition law favours a market outcome in which competitors design the products that they think will sell best and their competing visions battle it out, making changes over time, as they see fit, with consumers deciding which they prefer.

We say it is ironic, given that this is a claim by a consumer class, that the very premise of Dr Kent's claim is that Apple should not be permitted to distinguish itself from its competitors by offering an integrated and centralised platform. If Dr Kent's competition law arguments were well founded, which they are not, consumers would be deprived of this choice, a choice which has proved to be extremely popular with them.

So thinking about the way in which Dr Kent's

case mischaracterises the App Store, the error can be broken down into three propositions which are in our submission central to the analysis of the issues in this case.

Proposition one is that through the App Store, Apple provides developers with a vast amount of value in the form of technologies both hardware and software and tools and services, not limited to the narrow distribution and payment services which are the focus of Dr Kent's case. The commission charged by Apple is payment for the totality of those services.

Proposition two is that as you would expect, the tools and technologies that Apple permits developers to use are proprietary to Apple, they are protected by Apple's intellectual property rights.

Proposition three is that the so-called restrictions, of which Dr Kent complains, are an important facet of how Apple competes. Those restrictions are essential elements of Apple's integrated and centralised platform which is part of how it distinguishes itself, an important part of how it distinguishes itself from its competitors. So the restrictions therefore actually constitute competition on the merits in the devices markets,

and the transaction markets, and can equally be seen as being objectively justified on the basis that they are the means by which Apple provides higher levels of privacy and security and performance.

These three propositions, commission is payment for vast economic value, the tools and technologies protected by intellectual property rights and the requirements imposed by Apple are the means by which it competes are, as I said, central to this case and are points to which we will be returning.

Let me just give you two examples in relation to each part of the case of why we say that is. So first of all, the enormous value that Apple provides to developers through the App Store, which is protected by its intellectual property rights, so propositions 1 and 2, are critical to the unfair pricing case. If we go, please, to Professor Hitt's report at {C3/4/210}, we can see there that Professor Hitt shows at the bottom of the page the huge increase in value associated with the App Store since it was launched in 2008. During this time of course, as we have explained in our skeleton argument, Apple's commission has reduced and not gone up. If we can look at the points being made, if we can go over the page and let me focus just for

present purposes on (c) and (d) and just ask the Tribunal to read (c) and (d) please to yourselves. Of course the question in any unfair pricing case is this. Does the price charged bear a reasonable relation to the value provided to users? We say that that question cannot be answered without considering what the value is that is being provided to users. You see here Professor Hitt explaining the vast value that developers achieve from the App Store.

We say that Dr Kent does not do this at all because Dr Kent's case on unfair pricing, which is hers to prove, fails entirely to take this value into account. Instead she artificially slices out the narrow set of distribution and payment processing services on which she chooses to focus and we say that is a critical error, one which we foreshadowed in our application for reverse summary judgment, and it is an error that Dr Kent has failed to fix.

Second, all three propositions are of critical significance to the exclusionary abuse allegations and let me give you four reasons for that. Given that the restrictions Dr Kent complains about are the means by which Apple competes on the merits,

proposition three, this conduct cannot be abusive. It is elementary that dominant undertakings are allowed to compete on the merits and the integrated versus decentralised debate is one that we see play out in all sorts of markets and is a perfectly normal aspect of competition.

The second reason is that what Dr Kent characterises as exclusive dealing is not exclusive dealing at all, it is Apple reserving to itself particular activities in the exercise of its intellectual property rights, proposition two. It is of the essence of any intellectual property right that the owner can decide whether and to what extent to licence them. Apple has decided not to licence firms to provide competing App Stores, it has decided not to licence firms to provide payment services. It has reserved these activities to itself. Competition law only interferes with that fundamental right in exceptional circumstances. That is why if Dr Kent wanted to challenge the restrictions, she needed to plead and prove that she satisfied the conditions of the Magill case law. She has not done that, and she cannot evade those requirements by mischaracterising a refusal to deal as exclusive dealing.

The third reason is that in the counterfactual world, where the restrictions complained of by Dr Kent are removed, it is inevitable that Apple would wish to monetise the enormous value provided by its IP protected tools and technology, propositions one and two. We see a real world example of that under the DMA in the European Union because Apple has been required by the EU, not under competition law, but under a specific piece of legislation passed by the EU legislature, the DMA, to offer different licensing conditions which permit developers to distribute their iOS apps other than through the App Store, and which permit rival app stores to distribute rival iOS apps. Where a developer chooses to move to the new business terms, Apple charges a fee, the core technology fee, of 50 cents for each annual install of an app after the millionth install in the calendar year.

So in so far as Dr Kent analyses the counterfactual to her alleged exclusionary abuses, she fails entirely to account for the charges that Apple would make for use of its proprietary technology, Dr Singer's analysis which purports to show what Apple would charge in the counterfactual assumes that Apple would charge nothing to

developers who use alternative distribution or payment processing services. But it is obviously important to account for the charges Apple would make for use of its proprietary technology, not just for calculating any damages, but fundamentally for determining whether removing Apple's requirements would lead to any appreciable increase in competition.

Just while I am on this point, we make a more general point which is that the competition rules are not an appropriate means by which to address the allegations raised by Dr Kent because, as we have heard, any attempt to do so results in an overly simplistic application of competition law principles which is at odds with both the existing case law and the fundamental realities of this market, these markets and this product.

To the extent that there are concerns with respect to market outcomes, these cannot be addressed by challenging legitimate conduct under the guise of the Chapter II prohibition or Article 102. We have seen that both the EU and the UK have enacted legislation to create bespoke regulatory regimes. Apple believes that the approach the European Commission has taken under the DMA creates

risks for the security and privacy of consumers. But leaving that point aside for the moment, the new arrangements, as I have just explained, summarised, the new arrangements for alternative distribution and commerce introduced by Apple in the EU as a result of the DMA look nothing, nothing at all, like the simplistic world that Dr Kent's case envisages, which is a world where Apple has to allow without further considerations, competing distribution and payment providers, reduce its commission, compulsorily licence its IP and charge nothing for the use of its tools and technology.

The fourth reason is that Dr Kent ignores the link between the restrictions and Apple's approach to security and privacy. The fact that the requirements are necessary for Apple's approach to privacy and security is a complete defence to this claim, the defence of objective justification. Even if that is wrong, what measures does Dr Kent say Apple would put in place in the counterfactual in order to mitigate the harm that decentralised distribution would cause to security and privacy? Is her case that Apple would impose charges for the additional measures it would have to take, or is her case that there would be a deterioration in privacy

and security and, if so, what then? Her case is unclear.

So we say that it is only by ignoring the three central propositions that we have identified that Dr Kent is able to even begin to fashion an argument. Once those central points are taken into account, her case collapses. What we propose to do during the course of our opening submissions is to explore in a little more detail the points that I have already summarised as well as, of course, addressing the way in which Apple puts its case on the remainder of the issues that the Tribunal has to determine -- market definition, dominance and incidence. We propose to structure the remainder of our submissions as follows. We will first address the Tribunal on some of the factual points that underpin our three propositions. I will address you on the tools and technologies that Apple provides to developers. I will also show you how Apple grants permission to developers to use its technology, and Mr Kennelly will then address you on the privacy and security aspects of Apple's platform.

Mr Kennelly will then outline Apple's case on market definition and dominance. I will then address you on the allegation of exclusive dealing.

Mr Kennelly will address you on tying and objective justification, which is of course relevant to both exclusive dealing and tying. Then back to me for unfair pricing and then Mr Kennelly will address you on incidence. That is how we have divided it up between us.

Before we proceed with those topics, there is one overarching point that I would like to mention that follows from something Mr Hoskins said yesterday. It was when he was taking the Tribunal to parts of the *CMA*'s market study, following his discussion of *Hollington v Hewthorn*. If we can turn up yesterday's transcript, to day 1, page 135, line 10 {Day1/135:10}. If you look at line -- if you could read from line 10, you will see at line 14 he says:

"One of the crucial issues will be whether Apple has adduced sufficient evidence before this Tribunal to cause you to come to a different view than the *CMA* did."

Now I am not sure if Mr Hoskins meant to say that, but it is obviously wrong to reverse the burden of proof in that way because the burden in these proceedings is on Dr Kent to establish that Apple has infringed competition law. It is entirely

wrong, we say, to point to conclusions of regulators and say that Apple needs to disprove those. That is the wrong way of looking at this. Of course, if my learned friends want to take you to particular evidence that the *CMA* has considered and persuade this Tribunal that it should reach the same conclusions as the *CMA* did on that evidence, then of course it is open to them to try to do that. But it is not open to Dr Kent to ask the Tribunal to place weight on the opinion that the *CMA* has reached. This Tribunal must decide the issues for itself on the basis of the evidence it hears in this case.

With those introductory remarks, I would like to start by elaborating on proposition one, the value Apple that makes available to developers, which is what the commission is payment for. Could we first start please with looking at Mr Schiller's witness statement, {B2/5/19}.

You will see at paragraph 66(b) Mr Schiller sets out in summary form what the App Store provides to developers. I would just ask the Tribunal please to remind yourselves of that paragraph. If you could read it to yourselves.

Perhaps we could now turn, please, to page 59. I just want to remind you of some of Mr Schiller's

evidence where he elaborates on some of these points. If we look at paragraph 213 of Mr Schiller's witness statement, we see that the point that I made in my opening remarks, that Apple is a product company and it considers the features of its device holistically, a bundle of software, hardware and services which combine to offer users value. The developers obtain value by the combined, use of the combined features of the product including the hardware, so including for example the camera, because if Apple invests money in making an improvement to the camera on its device, then that is going to be of value to developers who wish to create apps which will use the camera because those apps will be improved as a result of the improvements to the hardware itself.

Then if we go to paragraph 214, the next paragraph, Mr Schiller explains here that many apps use multiple technologies that have been put in place by Apple and gives us an example ARKit, so augmented, AR stands for augmented reality. I will come back to this in a bit more detail shortly. Moving down in his witness statement to the top of the next page, paragraph 215, he makes the point that Apple has developed an extensive array of

software tools that it makes available to app developers.

Then looking at 216, we see that Apple is building and improving all the time its development tools and then he gives some illustrative examples of the tools which Apple has developed for and provided to app developers. Of course, prior to the App Store's launch, Apple invested substantial resources in creating a software development kit for developers. They could use Apple software and related services in order to develop software that runs on iOS. With each major release of iOS, Apple releases new software development kits with improved features. As Mr Schiller says there, these kits, software development kits, assist developers to take advantage of new technologies and features of iOS and mobile devices.

Then at (c) he gives an example of the introduction in 2014 of SpriteKit for iOS, which is a powerful graphics framework built for developing 2D games. It included built-in physics support, software, which for example governs the interactions on a user's screen when two objects collide with each other and simplified the process of developing 2D games.

Then we see at (d) the example of Metal, which is a graphics, a powerful computer graphics API, which developers use in the development of 3D games or other professional applications.

Then if we scroll down, please, to subparagraph (e), ARKit and Core ML. So ARKit I have mentioned, and what it does in a nutshell is allows computer generated images to be placed in the real world as seen through a user's iPhone camera. So you are pointing your camera at the room, and you can have a computer generated image look like it is in the room for you. That is technology that Apple developed and which has multiple different applications in games but also different types of app.

Then Core ML (machine learning) provides developers with machine learning tools that they can download a copy of to their devices, which enable them to write software that would be difficult to write using traditional software programming techniques.

Then at 217 we see the vast numbers of APIs that Apple has created and made available to developers, and of course, it is constantly improving these and fixing issues in them and updating them.

Then at 218 there is a large array, range of services which Apple makes available to developers in the developer programme, which assist them to test market and distribute their apps. Mr Schiller has given some examples of those services in that paragraph.

Now, can I show you what Mr Howell, the app industry expert called by Dr Kent, says about Mr Schiller's evidence regarding Apple's technology. If we go to {C2/4/15}, that is Mr Howell's first report. It is the top of the page, paragraph 26.3:

"Native apps are often created by developers using amongst other things, libraries which are proprietary to the owner of the operating system in question. Mr Schiller's evidence is that, 'It is not possible to build a native app for use with an iOS device without using Apple's technology because the operating system code and the applications software code which are proprietary to Apple must be compatible.' To the extent that iOS apps must use Apple's proprietary libraries in order to do anything useful, such as displaying something on the device screen or responding to user actions, I agree with this statement."

So that is common ground. We have elaborated

on some of this in the annex to our skeleton argument. If we could pick that up now, please, at {A1/6/1}. We have essentially drawn together Mr Schiller's evidence as well as some publicly available sources here in the annex. So at paragraphs 1 to 10 there is an overview of the technologies, tools and services that Apple provides to developers, as I say, drawing on the evidence of Mr Schiller as well as publicly available sources. I am going to come back to the IP aspects of those, but if we look at paragraph 5, a further point I want to emphasise at this stage is that Apple's development resources allow developers to unlock vast capabilities enabled by advanced Apple proprietary technologies with only a few lines of code. For example:

"ARKit allows a developer to create a game combining digital elements with the physical environment around them, without having to invest the substantial resources required to research and develop that technology."

When I was trying to understand all this in preparing the case, I came across a video on YouTube of an 11-year-old boy who has made his own game using ARKit, and it was something I felt I could do

myself because it does not use computer coding, as I would understand that to be, you are really dragging things from one box to another box.

This is all part of the value that Apple is conferring on developers. Now, paragraph 6 refers to the resources, including detailed guides and I think, it is difficult to see, we have footnoted some of the publicly available videos that are on Apple's website. If the Tribunal has time it would be worth just to understand the points we are seeking to make to look at some of those videos.

Then paragraph 7, let me just take the Tribunal through paragraph 7. We say that:

"The volume of Apple proprietary technology and services provided to developers is enormous. It includes various development environments, computer program, software and functionalities ... These innovations which are protected by Apple's IP rights include", and we go through the different categories. So the "SDKs, [...] the software development tools in one package, that facilitate the creation of apps. Around 200 frameworks for iOS", and then if we go down, please, "around 250,000 APIs [which] provide the means by which software (such as iOS and an iOS App) communicate

and interact with one another…"

These enable the apps to interact with other technologies and functionalities of the device, so for example including the camera.

"Apple's Xcode IDE (integrated development environment) which provides developers with software functionalities that are necessary to design, develop and debug software for use on iOS."

Then at paragraphs 11 to 19, I said I would come back to ARKit as an example, what we have done here is set out some of the ways in which ARKit can be used by developers to produce a variety of different applications. So you can see at 12 that what it does is "allows developers to create apps that place virtual objects into a real world environment as seen through the user's camera." So if we go down please to the next page, so as the device moves and the orientation of the camera changes, the object stays in place. So it presents this 3D object as though it is in the real world. We say, for example, a retail app could use those tools to show users how an object could look in their home. So if you want to buy a sofa, you can point your camera at your living room and superimpose the picture of the sofa to see exactly

how it would look in place.

Then we say at 13 that these capabilities "extend to immersive gaming experiences as demonstrated by apps such as Pokémon Go" and we have given a little illustration there as to what that looks like, as well as educational apps, such as Night Sky, which uses AR to provide interactive star gazing experiences. So you point the device at the sky and users can see stars and constellations and planets overlaid on the sky in realtime. So you are pointing at the sky and it is showing you what the constellations are that you cannot see with your naked eye, but it is superimposing that on your real-world view.

If we go over the page, we see there an example of -- the ability at 16 provides the ability to track and visualise faces. So somebody selling glasses, you can try on the glasses by looking at your phone and that superimpose the glasses on your face. These are just examples of the range of functionalities that ARKit, which was developed by Apple gives rise to, so the possibilities that it opens up for different app developers.

Then if we go on please to the next page, 18 is a point I wanted to come back to. It is the point I

was making a few moments ago, which is that the code is very, very simple. So the code that is provided to the developers is very simple, and I would just ask the Tribunal to read this paragraph to see in a slightly more informative way the point I was trying to make when I referred to the 11-year-old making the game by himself. It is translating something very, very complicated that unlocks lots of possibilities into just a few lines of something very intuitive that developers can use, very easily, without investing in a build-up of knowledge or research and development.

Then if we go down to the next paragraphs, please, so 19 is making that point. Can we go over the page. At paragraph 20 we give the example of UIKit which provides functionalities for managing interactions, such as swipe gestures and scrolling and zooming. I would ask the Tribunal in your own time just to look at those paragraphs. These are just examples of some of the technology that Apple has developed.

Another example we see on page 9, paragraph 24, StoreKit, so this enables developers to accomplish a store front with very few lines of code. So Apple's resources simplify building the store front, and so

developers can customise components that integrate with Apple's in-app purchase system in a very simple way to build their own store front. There are resource, such as guides and videos, that explain exactly how to do that.

Pausing here, when the Tribunal comes to look at the alleged comparators relied upon by Dr Kent's experts, which are PC app stores, like Steam and the *Epic* Game Store and itch.io, none of these are integrated platforms, because PCs are made by all sorts of manufacturers not those parties, and the operating systems on PCs are made by the likes of Microsoft and Apple, not by those stores. So none of those PC stores offer anything like this value to developers. Their function is confined to narrower functions like discoverability of apps, download and payment processing and that is why they are not proper comparators.

So to adapt Mr Howell's way of putting the point, for a developer to develop a gaming app that is sold on Steam or the *Epic* Games Store, the developer does not need to use any technology provided by those firms in order to do anything useful with the game. What Apple provides to the developers, what the commission Apple charges is for

is an entirely different proposition with value of a very different order of magnitude. That really is a fundamental point in these proceedings.

So by contrast to the position with these other stores, the relationship between a developer and the App Store is a collaborative one where both are contributing substantially and substantively to the end product.

If we turn within this document, please, to page 11. So we have made the point that any single app will be using any number of different pieces of Apple's proprietary technology and software. Sorry, at paragraph 29, so page 11, we give the example here of *Epic*'s Fortnite game and we take these facts from *Epic*'s own pleading in the US proceedings. And so what *Epic* says is that it made use, in developing the iOS version of the online video game Fortnite, it made use of the following:

"Thousands of Apple's APIs for the development of iOS Fornite...

APIs from the following frameworks in the executable code of iOS Fortnite", and you see the frameworks listed and there are a large number of them:

"Apple's ARKit for internal experimentation and

demos of iOS Fortnite ...

The iPhone, iPad and Mac SDKs" (those are the software development kits) "to develop iOS Fortnite ...

Xcode IDE for writing and debugging code when working the development of iOS Fortnite ...

Other tools included with Xcode IDE to measure the performance of iOS Fortnite, to install builds of iOS Fortnite on development devices and upload builds of iOS Fortnite to Apple's Store Connect for distribution.

Other tools ... beyond those referred to", and so on.

So this is *Epic*'s own evidence, own pleading.

THE CHAIRMAN: Can I ask you, there is potentially a range of ways of looking at this because at one end there are some things which are very obviously tools for the developers to do things with and you see some of them referred to here.

At the other end of the range you have got things which Apple is innovating on the device, which actually could be said to be largely for the benefit of the user, or might be for the benefit of the user and the developer. But I think from what I am getting from what you are saying is, you would

say a great deal of that range, so for example the modifications with the ARKit and the Store Kit and so on, a great deal of that is actually aimed at allowing developers to develop products that can then go through the App Store. Is that -- am I getting that sense? I think it is probably impossible to draw a line and say, "This is for users, this is for developers", but I am getting the sense that you are presenting this as being the weight of the effort that is going in here, the development of apps. Is that fair?

MS DEMETRIOU: Yes, that is fair. If I could just make two points by way of response. The first is absolutely we agree that a lot of the very substantial innovation that is protected by IP is aimed at enabling developers to create apps and to interact with the hardware and software that is on the device. So a great proportion of that is aimed at developers, but we make a wider point. This really goes to the point about it being impossible meaningfully to draw a line, because I gave you the example of the camera. There is also LiDAR, so scanning technology in the camera. Now on the one hand, if one is trying to allocate it in your head you might say, well that is a device thing because

it is about the camera. On the other hand, the LiDAR technology and the camera itself, they are critical for many apps. So when one is thinking about, I do not know, an interior design app that scans a room and gets the precise measurements, you are using there ARKit and the LiDAR technology and the camera that is on the phone. So when you are thinking about, well who is this valuable to, well it is obviously valuable to the consumer that has the device but it is super valuable to the app developer that is creating that interior design app. It is what enables them to create that app and monetise it. That is why it is really difficult to draw these distinct distinctions.

THE CHAIRMAN: Thank you.

MR BISHOP: This is all very impressive, this technology. One has the impression that the only way you could develop an app is to do it on Apple, but my impression is that developers, I know a couple incidentally, socially, is that they say, "Oh we have to develop two apps in this industry, one for Apple and the other for the other for Android."

MS DEMETRIOU: Yes, so there will be evidence on that. That is going to be covered in the evidence. But the key point is that in relation to -- in order to

do either of those things, app developers need to make use of proprietary technology. So in order to do either, they need to make use of the proprietary technology. So they are gaining value from that technology.

When one thinks about -- there is another dimension to that as well, sir, if I could just make that point at this stage, which is, when one is thinking about ARKit, so as I understand matters, Apple was really at the forefront of developing augmented reality for a phone. So it was the first manufacturer to get that on to a phone. Then of course Google then followed a year or so later. So it is this innovation and competition in those markets that enables technology to progress and develop and provide new opportunities of value to developers.

Now a simple way of illustrating the appeal of Apple's proposition to developers and the value of that proposition is to look at how developers have responded to Apple software development kits and to the possibility of them marketing, then marketing their apps and their digital goods and services through the App Store. As I mentioned when the App Store and the first SDK were launched in mid-2008,

Apple had a tiny share of the device market. There were also at that stage only 500 iOS apps. Then what happened is that by the start of 2009, 15,000 iOS apps had been created by third party developers and 500 million apps had been downloaded. This is all material in the public domain. The reaction from other device makers including Nokia, which had by far the largest share of the device market was to attempt to follow what Apple had done. So within six months of the launch of the App Store, Nokia, Research in Motion and others launched their own app stores or announced that they would do so. Today there are around 1.8 million apps currently on the App Store and some 36 million developers have created accounts with Apple. We do not need to turn it up but that is Mr Schiller's statement at paragraph 88.

So we say it is no exaggeration to say that Apple has really kick started an entire industry.

Can I also show you what Dr Singer, Dr Kent's expert, has said about the value that Apple provides to developers and how this relates to the Commission. If we go to the joint expert statement between Dr Singer and Professor Sweeting at {C4/2/19}. This is proposition 5, you can see the

proposition that:

"Apple currently monetizes the value of its Proprietary Technology and Services through its Current Commission Rates on Relevant Purchases through the App Store."

You can see that Dr Singer "partially agrees", he says that he agrees that:

"Apple monetizes this value through device sales, through a flat £79 fee ... and through its Commission on Relevant Purchases, Apple captures the value of its Proprietary Technology and Services through these revenue streams."

So it is common ground that the commission is commission for the value conferred by Apple through these proprietary technologies that they permit, in a limited way, developers to use.

Now turning to our proposition 2, the intellectual property rights that underpin this technology, let me take you first of all to the unchallenged evidence of Ms Harlow at {B2/2/1}. Just in terms of chronology, when Mr Ward showed you the letter from Gibson Dunn, that letter predated this witness statement. So when we said we are not in the end going to have an expert looking at this, we then filed this witness statement after that

letter, from Ms Harlow. Ms Harlow is familiar, she explains on what basis, with Apple's intellectual property portfolio.

So if we go to the next page, please, you can see at 5 she explains that is familiar with Apple's IP portfolio. If we go to page 3, paragraph 10, you can see that Apple is listed as the registered owner of more than 5,000 registered US copyrights. I am not going to read it out. Can I just ask the Tribunal to read that paragraph. Then at 11:

"Apple provides developers limited licences to a broad array of proprietary technologies and services, underlying which are various Apple IP rights."

12, that "Apple registers the copyrights in its key software products" including iOS in jurisdictions like the States where registration is a feature of copyright law. Copyright also protects software development kits, APIs and other software products and tools. Then at 13, Apple obtains patents to protect inventions relating to iOS, et cetera, including development tools accessible by developers through APIs. Then at 14:

"In order to access Apple's proprietary technologies or services a developer must first

enter into agreements with Apple, including the ... DPLA."

And 15, the licence that Apple grants to use its intellectual property rights is limited in scope and of course include the restrictions that are the subject of Dr Kent's exclusionary abuse claim. I am going to take the Tribunal back to the DPLA shortly. If we just look at the list accompanying the annex to our skeleton argument, {A1/7}, we have provided here a non-exhaustive list of Apple's patents relating to its proprietary user interface and interaction technologies. Now these are all obviously in the public domain and you can see from the patent numbers that they are all European patents or UK patents. I can tell you that all of the European patents are designated in the UK, so those technologies are patented here as a matter of UK law too. Now obviously in this trial it would not have been anything like feasible to conduct anything like a patent trial on each of these patents, explaining the detail of what they all do. As you know we are not running a patent valuation case which requires the Tribunal to analyse for each patent or each intellectual property right how much it is worth in isolation, or trying to fix any

particular value on them. The reason we wanted to provide this list was to illustrate for you the point that in addition to the copyright protection that applies to all of Apple's software, Apple also has a large number of patents that cover technologies that developers take the benefit of when they publish apps for iOS. If you can just scan your eyes down the list of the titles, you can see they kinds of things that are covered. So they cover various specific aspects of the way that the device and the operating system and the apps running on it enable users to interact with their apps on the devices.

Could we go back please to the DPLA, which Mr Hoskins took you to. Having heard Mr Hoskins' submissions, I do not think there is very much between us on what it is the DPLA actually does, but I just want to go back to it to emphasise a few points. It is at {E/18}, please. You can see the "Purpose" summarised and the first couple of sentences:

"You would like to use the Apple software (as defined below) to develop one or more Applications [...] for Apple-branded products. Apple is willing to grant You a limited license to use the Apple

Software and Services ... on the terms and conditions set forth in this agreement."

Then we see at clause 1.1, in order to use the proprietary technology, the developer has to accept this agreement and if they do not they are not permitted to use it.

Then if we can go, please, down to page 13 clause 2.6, at the bottom of the page:

"Except as otherwise set forth in this Agreement, You agree not to rent, lease, lend, upload to or host on any website or server, sell redistribute, or sublicense the Apple Software ... or any services, in whole or in part, or to enable others to do so."

So you can see there that there is a prohibition on using Apple's proprietary technology in any way at all, other than for the limited purposes set out in the agreement. That reflects the point at the outset which is that this is a limited licence to use Apple's proprietary technology.

Then if we go forward please to page 18, at 3.2 you see, perhaps we need to go back to the bottom of page 17, thank you. So use of the Apple proprietary technology is limited by the subparagraphs that

follow, and if you look at (a):

"You will use [the technology] only for the purposes and in the manner expressly permitted by this Agreement."

So again it is making clear that the scope of the licence is limited.

Then if we go to (c) please on the same page, the application has to be developed in compliance with the documentation and the programme requirements. Those are set out in section 3.3 which we can look at in a minute. But if we go over the page at (g), we see that applications developed using the proprietary technology may be distributed only -- so, I am going to leave aside the exceptions because they are limited and everyone accepts they are irrelevant to this case -- only for distribution via the App Store.

Then if we look at clause 3.3 over the page, the -- so applications may only use, have to comply with the documentation and programme requirements in clause 3.3, and this encompasses a requirement to comply with the App Review Guidelines. Then 3.3.1:

"Applications may only use Documented APIs in the manner prescribed by Apple ..."

As is I think common ground between us, one of

these is the in-app purchase API, another is the external purchase API, so a third party payment provider would have to use these APIs, so this provision effectively precludes third party payment processes.

And then 3.3, so B, at the bottom of the page, "Executable Code". If we go over the page, this provides that code, whether executable or interpreted, can not be used to create a store front for other codes or applications, so again it is reinforcing the limited nature of the licence. Then if we go to, if we look at C, there is prohibition on using Apple's technology to create apps which provide additional functionality through other distribution mechanisms. Then if we skip forward to page 42, clause 7, "Distribution of Applications and Libraries", so applications developed under this agreement can be distributed through the App Store if selected by Apple. If we look at 7.2, this concerns, again Mr Hoskins took you to it, and there is no dispute between us in how we read it, it concerns apps for which the developer intends to charge end users a fee and developers are required under this provision to enter into an agreement under Schedule 2. What you can see at the end of

the first paragraph is that once the Schedule 2 agreement is concluded, then it is incorporated into the DPLA. Let me just take you briefly away from this document to Schedule 2. So that is at {E/22}. We can see at page 4, paragraph 3.4. You have seen it before but that provides for payment of the commission. If we go back to the DPLA at {E/18/45}, clause 7.6. "No Other Distribution Authorized Under This Agreement". Can I just ask the Tribunal just to read to yourselves clause 7.6.

If I can just summarise very shortly the points we take from the DPLA. There are seven material points, I can summarise them shortly.

The first is that Apple does not permit any developer to use its proprietary technology to publish iOS apps unless it accepts the terms of the DPLA.

The second point is that through the DPLA Apple grants developers a limited licence to use its proprietary technology for particular purposes and in particular ways.

The third point is that Apple does not licence developers to use its proprietary technology to create an app marketplace for iOS apps.

The fourth point is that Apple does not licence

developers to use its proprietary technology to publish apps that incorporate third party payment processing services.

The fifth point is that Apple provides a limited licence to its proprietary technology to developers who wish to crease iOS apps. This licence does not permit developers to create iOS apps for distribution, other than through the App Store.

Sixthly, it follows that Apple exercises its intellectual property rights to reserve iOS distribution and payment activities to itself.

Seventh and finally, developers who wish to charge for their apps created using Apple's proprietary technology, or charge for in-app purchases, have to pay Apple a commission in respect of use of that technology as well as in respect of Apple's distribution services.

So those are the seven points that we take from the DPLA.

Now that is what I wanted to say on the facts about the tools and technology and the value that Apple confers on developers through its tools and technology and I was going to hand over to Mr Kennelly to address the privacy and security

aspects on the facts. Now, unless you have any questions for me at this stage.

THE CHAIRMAN: I think I asked Mr Hoskins what happens if you start off with a free app and then move to a paid one, 7.6 is the answer to that, is it not?

MS DEMETRIOU: Now I should have then taken instructions about that but I remember agreeing with Mr Hoskins' answer, which is if you want to then offer in-app for purchases, for example, what you see in clause 7.2 is that you have to sign Schedule 2 and so that then becomes incorporated into your agreement with Apple. I do not know if you want Mr Kennelly to start now or whether you want to take a break now? We are in both of your hands.

THE CHAIRMAN: Mr Kennelly, would you like a bit of time?

MR KENNELLY: I am entirely in your hands, sir.

THE CHAIRMAN: Why not keep going. Let us get started then we will take a break in ten minutes.

Submissions by MR KENNELLY

MR KENNELLY: As my learned friend, Ms Demetriou, explained just now, Apple's integrated and centralised approach is competition on the merits. I will outline the factual background to that submission that she will develop later in exclusionary abuse, because we say the challenged

requirements are a means by which Apple competes on the device market and on the transaction markets as well, especially and this is my focus, on the parameters of competition of safety, security, privacy and quality.

At this stage, as I say by way of factual background, I will summarise what Apple does and how Apple uses its approach to differentiate itself from Android and its other competitors when they compete to sell mobile devices.

I will deal first with the importance of these parameters of competition. For that I would ask you to take up a document in the bundle. It is at {D1/1273/1}. This is a report from 2022 published by the National Cybersecurity Centre, as you can see at the top of that page, that is a part of GCHQ. As it says it is a "Threat report on application stores, the risks associated with the use official and third party app stores". This report focuses among other things on the nature of the threat faced by mobile device users in particular from de-centralised app distribution. That is where a multiplicity of app marketplaces operate on a particular operating system. I would ask you to turn to page 3 of this document. Sorry, it is

actually {D1/1273/3}. On the left-hand side.

THE CHAIRMAN: We are going to need it a bit bigger I think.

MR KENNELLY: Sorry, I am looking at my hard copy. Just by way of introduction:

"Over the last decade there has been an enormous increase in the availability and use of smartphones and smart devices. Many of these devices feature application stores ('app store') which allow users to download additional applications and content. The vast majority of users, particularly on mobile platforms, download apps via these app stores.

There has also been increased demand for apps, primarily as a result of the COVID-19 pandemic as more people work, shop and stay in touch online.

Since there is a great variety of devices (and supporting app stores), there are a number of disparate and complex security issues that can expose consumers and enterprises to online threats."

You see the purpose of the report, just skipping down a few lines, was to inform Government, DCMS "on current threats associated with app stores."

If you go please to page 4, {D1/1273/4}, you

see at the top the key statistics for UK adults. Just to emphasise to the Tribunal the enormity of the challenge in this case and the importance of the parameters of security and privacy that we address. Because the extent to which UK consumers are exposed to app stores is truly striking. 87 per cent, and this is from over two years ago, own a smartphone; 28 per cent download apps every month, 16% download apps weekly and on average 2.8 hours a day spent using apps, not just on the phone but actually using apps themselves.

Below that you see three columns of text on the same page and I draw your attention, if I may, to the middle column:

"Apple and Google provide their users access to a dedicated App Store [(App Store for Apple, the Play Store for Google)] where they can download free and paid apps[...[OEMs]] also provide stores such as the Huawei AppGallery, the Samsung Galaxy Store and Amazon's App Store", there is also IoT devices:

"The UK is amongst the leading nations for consumer spends and downloads on Apple's App Store and the Google Play Store."

You see the figures for downloads, 52 per cent of UK consumers have downloaded apps from the Google

Play Store, 44 per cent from the Apple App Store. To the next column on the right on the same page, dealing with the threat surface:

"Furthermore, the effect of COVID-19 (with remote working and socialising [...] has accelerated the number of installations of applications across all devices. Six in ten households have increased their use of IoT devices with the average household purchasing two more smart devices since the beginning of the pandemic. Meanwhile, the gaming population has increased by 63 per cent during the course of the pandemic."

Immediately to the right of that:

"What is the risk? Given the market for apps in the UK, it is important that UK consumers can trust apps (and the stores that host them). If popular apps available on app stores are compromised, millions of users are potentially vulnerable, whilst vendors could face financial and reputational damage.

As the following sections in this report explain, even official app stores, [such as the App Store and the Play Store], with vetting processes to detect malicious functionality in apps have been impacted by malware. Furthermore, the current

well-known third party app stores" -- and there will be great focus on those in the trial -- "(that is, stores which are not provided by the manufacturer or the operating system provider) appear to have less robust vetting processes and so represent a greater risk."

In the same document, please if we go to page 5, {D1/1273/5}:

"Cyber attacks on compromised apps". Just to pull out on the right-hand side please of that document, "Systematic vulnerabilities of app store developer submission checks":

"A number of systemic vulnerabilities within app store submission processes have been exploited by attackers."

I am just looking at the first two because these you will see in the evidence when we come to look at it:

"App republishing occurs when an application is copied and redistributed through third party app stores with malicious code added. If an app is banned in their native country (or has been removed from the official app store) a user may try and download it via a third party store."

Immediately below that, "[App] updating":

"When a legitimate [app] has already been reviewed and published, but the next update contains malware [and] [t]his may be due to the developer choosing to included malicious code, or an attacker compromises the developer's system and inserts malicious code into the release."

If you go please on to page 6, the next page, "Overview of app stores". On the right-hand side under the heading, "Third party app stores":

"Unlike iOS, the Android platform allows for third party app stores. These are app stores that users must download or access separately" -- and this is important members of the Tribunal when we come to look at the balance that the various app stores strike in their approach to safety and privacy as opposed to openness and risk appetite -- "typically characterised by their focus on user and developer freedom (as opposed to the safety and privacy of users)."

Skipping past jailbreaking which is not relevant for present purposes:

"While there are less people using the most common third party app stores (compared with official app stores), a lack of robust vetting processes means that their users are especially

vulnerable to threat actors uploading malware, as the case studies show. The threats from official or third party stores include spyware, banking malware and malware used for toll fraud."

Just to wrap up this document, at {D1/1273/11}, there is a summary, second paragraph:

"While all app stores share the same threat profile, mobile app stores are the most commonly targeted due to the sheer number of smartphone users, and the wealth of data stored on modern smartphones. Users of third party mobile app stores are particularly vulnerable, due to their lack of robust vetting processes."

That is just to tee up, members of the Tribunal, the wealth of evidence that is coming your way on these questions of safety and security.

I move on now to what Apple is doing about this.

THE CHAIRMAN: Is that a convenient moment?

MR KENNELLY: Yes, this may be a convenient moment.

THE CHAIRMAN: Ten minutes, thank you very much.

(3.15 pm)

(Break)

(3.25 pm)

MR KENNELLY: Members of the Tribunal, I was moving on to

what Apple is doing about these threats, and I was going to take you to Mr Federighi's statement, not all of it, just the highlights. Two points arising out of what Ms Demetriou said, first to show you how Apple seeks to differentiate itself by dealing with these problems, but also by offering a more attractive platform in real terms to developers and users in relation to safety, security and privacy. Mr Federighi's statement -- if you go straight to {B2/3/11}. We will just get straight in to where he deals with the potential types of attacks on Apple devices. At paragraphs 42 to 43, he makes the point that, and much of this is uncontroversial,.
The devices “face a number of different types of threats, some which seek to override or otherwise infect the underlying device by exploiting a vulnerability, and some of which manipulate or fool a user into voluntarily ceding control of their device.” that is an important distinction we will come back to because on one level it might be said, "The hardware contains all the security protection you need."

What Mr Federighi and the experts go on to address is that is not enough, which is why more is required and is provided at least in Apple's case.

Paragraph 43:

"Consumer malware may be the most commonly known of [those] threats. If malware, or malicious software, can bypass security protections on a device, it can inflict various types of harm, such as unauthorised surveillance of the user, vandalising, destroying, or stealing user information, encrypting the user's data as part of a ransomware demand, or using the device's controls to spread malware to others" -- an important point, a vulnerability on someone's device or through software one downloads, isn't a problem just for you, the downloader, it can be a serious problem for your contacts and for others who may be contacted from your device -- "and/or wreak additional damage to the device or a connected network".

Skipping down, 44:

"Critically, we have seen that bad actors are turning to social engineering attacks more frequently because they lower the cost of developing a successful attack. [Because] rather than needing to write software that is capable of breaking through existing security protections, a social engineering attack manipulates the user into deliberately disabling and/or circumventing existing

device protections to voluntarily give the attacker access to the user's device and data. [And that] means that even where a user believes they are choosing to download only the 'official' or 'authorised' version of an App, that user may be coerced or tricked into doing otherwise. Moreover, because they rely on manipulation of a user rather than a virus or software code, [...] associated malware, malware scanners will not detect social engineering attacks" -- in general.

47, over the page -- I am skipping the examples. I am sure Mr Federighi will be taken to these in cross-examination:

"For similar reasons, social engineering attacks can be more difficult to stop. A malware scanner can identify and search for known malware software or the vulnerability exploited by malware can be patched in update [...] With a fake banking App it looks very similar to the authentic banking App there may not be a virus or other malware code that can be readily detected by a malware scan."

Skipping down to 49, we see how Apple has approached security with this in mind:

"Apple has taken an in depth approach -- sometimes referred to as 'defence in depth' -- to

its security. [It is] a multilayered architecture ... to ensure that even if one layer is temporarily circumvented, there are multiple other layers of security ready to protect against malicious threats. [The idea is that it increases] the chance that an attack will be economically unviable for attackers."

Skipping ahead to page 14 just pulling out the headings which describe in summary the defence in depth, you have the bottom of page 14 "Hardware, Security and Biometrics", so "Apple has built security protections into the hardware of the devices themselves." Over the page, page 15, paragraph 55, "Software and Operating System Security", "Apple also employs numerous encryption and other software techniques to enhance its hardware protections" and those are listed at that page and over the page.

At page 16 please, could you look at paragraph 58, this will tee up an issue that will be debated between the experts in relation to the significance of code signing. At paragraph 58:

"App code signing process. Code signing is a cryptographic technique used to try to ensure that the only software installed on an iOS Device is trusted. Apple requires that any software installed

on an iOS Device be 'signed' with an Apple-issued certificate."

You will see later the distinction between that and the approach in Android:

"When the operating system is asked to the software, it will verify whether the software was signed by someone with a trusted certificate."

Skipping down a sentence:

"After an App is verified to be from an approved source, iOS enforces other security measures, such as sandboxing and ASLR", and I will come to sandboxing in a moment.

Then 59, although code signature is an important deterrent, it has certain known weaknesses. The signing infrastructure can be compromised. Mr Federighi speaks of attacks where a threat actor has obtained control of the signing infrastructure of an otherwise legitimate developer, and the actor is able to submit Apps that look like they have come from a legitimate developer and if approved for distribution, will look to the user like they come from a trusted developer.

Over the page at paragraph 61 we see sandboxing. Mr Federighi summarises it three lines down in that paragraph:

It "essentially creates a boundary around a piece of software to ensure that it is contained, thus restricts access by that software (such as an App) to a subset of system resources and user data. Apple requires all third party Apps to be sand boxed to prevent them from accessing files stored by other Apps or making changes to the device or gathering and modifying information stored by other Apps."

At 62:

"While sandboxing is a very effective security tool, it can be compromised by social engineering."

This is important because it shows how problems spread out of the App on to the device and beyond:

"Sandboxing can prevent one App from accessing the data stored by another App, unless the user provides consent. Certain Apps will elicit this consent through deceptive means, [by downplaying or hiding the implications of consent], or they may do so by conditioning access to an unrelated feature."

So to get to the next level of the game you need to give us access to your contacts or your photos:

"[On] either scenario, the App at issue will have bypassed the sand box protections because of the user's help and without needing to overcome

Apple's security measures. All the operating system can do is enforce what the user says they want the software to be allowed to do." This is why social engineering attacks are so difficult to stop.

In relation to stopping them, Mr Federighi goes on to centralised distribution and App Review. Now we come to the heart of what distinguishes Apple. At paragraph 64, again by reference to social engineering attacks he makes point that that will not be spotted by a malware scanner and at paragraph 65 he says:

"Given the heightened threat model for iOS Devices, we have thus built critical additional security layers on top of these ... security protections."

At 66:

"[We use] centralised distribution to distribute Native Apps" -- and by that he refers to how apps are distributed to the user -- "A centralised App distribution model is one in which the operating system is required to go to a single location in order to download Native Apps to the device and there is a single point of enforcement. Use of a centralised distribution model ensures that a user is getting Native Apps from a reliable

source."

Over the page to "App Review". It is a critical part of Apple's security and defence in depth is App Review. In summary, paragraph 69:

"App Review [involves reviewing each and] every App and App update approved to the App Store in an effort to ensure [...] that the App Store will 'provide a safe experience for users get apps and a great opportunity for all developers to be successful.' [The mission is to] hold Apps to clear, published and high standards for privacy, security and safety, to assure [users] that they can expect to go to the App Store and get safety and trusted Apps whose content and software have been reviewed", but also to provide that assurance for the benefit of developers.

Paragraph 71:

The review team "reviews not just [the] binary code for the App, [(the software)] -- but also the configuration files, the instructions that describe how the App should behave, and user facing images and icons provided by the developer."

So the reviewer is not looking just at the content of the actual app, but what users will see when they decide whether or not to download the app

giving users an assurance that it is not being misrepresented as to what it will do and process ongoing. App review continues to review apps even after they have been approved to ensure that they remain safe and trustworthy. To that end App Review will remove apps later found to be malicious or unreliable from the app store as well as to terminate malicious app developers as well as to prevent them submitting any more apps. They also review ratings and reviews published on the App Store, that is a critical part of security protection for signs of fraud or misrepresentation and will remove ratings and reviews that are fraudulent themselves.

Page 23, please, skipping ahead to the steps in App Review. We will go into this in more detail when Mr Kosmynka gives evidence but just again headlines. Paragraph 79:

"Every App approved to the App Store is then reviewed through [...] static and the dynamic computer analysis [...] as well as manual human review." Apple has generated, as you can imagine, a "repository of knowledge from over a decade of App Review" and the benefits of knowledge of its own hardware and software. No other mobile ecosystem

secures privacy, security safety in this way."

You can put Mr Federighi's statement aside for now. The short point that I seek to make from it, and Ms Demetriou will go into this in more detail on exclusionary abuse, is that Apple uses these requirements to differentiate itself from Android and its other competitors in the device market and to persuade developers or users to use its App Store rather than other platforms.

MR FRAZER: Can I just ask one question. You talked about the importance of social engineering concerns, is it your submission that the unique characteristics of the App Store and the Apple software review process are effective against those are just against malware?

MR KENNELLY: Our evidence, but Mr Federighi, Professor Rubin and Mr Kosmynka will speak to this, it is clear that Apple's App Review is directly intended to address social engineering attacks as well as malware attacks and viruses, and so forth. In fact, our evidence is that Apple's App Review is best placed and demonstrably best placed to address social engineering attacks because of the nature of its human review involvement. It is better placed to address those in the way, for example, that a

machine, a computer, even a sophisticated one, cannot. There will be extensive evidence on that point. That is a point on which Apple seeks to distinguish itself from its competitors and markets itself accordingly.

The point I was coming on to is that Apple says its App Store is genuinely safer than its rivals and I will take you to the evidence on that in summary. What matters at this stage is something even more obvious, that the challenged requirements are central to Apple's competitive offering to consumers and developers. This emphasis on security and privacy is central to its competitive offering on which it competes on the merits. Its competitive offering is that its devices on the App Store are more private, secure and safe and of higher quality than its rivals because of its centralised and integrated approach.

To make that good, I will take you, if I may, to two categories of documents. The external story that Apple tells and third-party documents that recognise how Apple has told that story, and its significance, the extent to which that story has landed in the general public, consumers and developers alike.

If I may go first then to Apple's own external marketing. I begin, this is not a new contrivance which Apple has dreamt up in order to deal with competition concerns, this has been at the heart of the App Store since it was launched in 2008. If I could ask you to turn first to {D1/36/26}. This was Steve Jobs' launch of the App Store in 2008. In the course of the presentation, during which the App Store was launched, you see on that page 26 the last question indicated by the letter Q asks -- I should say that if you go to the first page of this document just to show who is speaking. Second page, please, you can see from the key that "S" is Steve Jobs and "SF" you will see him in a moment, is Scott Forstall. He has a word also. But skipping ahead, please, again to page 26, the question that is asked is:

"What sort of safeguards have you built in to make sure that all these apps and applications that are going to be coming on to the iPhone are secure?"

We are in the birth of the App Store itself, so this is necessarily a summary of what was to come, but Mr Jobs says:

"That is a good question ... [w]hat have we done to make sure that these applications are going

to be secure and don't violate user privacy", privacy was central to Apple's competitive offering from the very beginning.

Skipping down that paragraph to the last sentence, Mr Jobs says:

"We want to take the reliability and dependability of that iPod and we want to take the ability to run third party apps from the PC world but without the malicious applications. So how are we going to do that?"

Mr Jobs then goes on to identify two ways in which that would be done, two ways that guide Apple's treatment of this issue right through to the present day.

The first goes to identifying and verifying developers themselves. He says:

"We are going to get developers to register. With us […] they [will] pay to join the program, [they will get a certificate,] and that tells us who they are, so if they write a malicious app we can track them down […] We know who they are."

Over the page, the second key aspect of this:

"The other thing that we can do, since the distribution of their applications is going to be through the App Store" -- and I would add only

through the App Store -- "if we are alerted to a malicious app that we don't catch, we'll turn off the spigots so no more people download it. So we are putting controls in place, some of which we are talking about here today and others which we'll just keep to ourselves for now to keep the iPhone a great experience."

Then Mr Forstall follows up by saying:

"Technically, we are putting a number of different things in place from sandboxing to other technical things you want to do to protect apps and the system, but primarily we are actually, when people submit their applications, we will make sure that it's not doing things it shouldn't be doing."

That went on to become App Review, which Mr Kosmynka will speak to in more detail.

Just tracking through in time to how a competitive offering manifests itself today, we see a typical example of that in {D2/317/1}. The emphasis again on trust:

"The apps you love from a place you can trust. For over a decade the App Store has proved to be a safe and trusted place to discover and download apps [...] It is an innovative destination [to bring you] amazing experiences and a big part of those

experiences is ensuring that the apps we offer are held to the highest standards for privacy, security, and content."

THE CHAIRMAN: What is this, Mr Kennelly? That is presumably when you land on the App Store page?

MR KENNELLY: This is everywhere. You see this -- in the course of the trial you will be buried in material like this. Apple has been telling this story and this message relentlessly since the App Store was created. I am giving you the highlights. There are many more. It is central to Apple's marketing. The extent to which you get it on the App Store itself I would have to check.

THE CHAIRMAN: I was thinking about the document.

MR KENNELLY: I think it is taken from Apple's website.

THE CHAIRMAN: Marketing or some sort --

MR KENNELLY: It is the web page of the App Store. The reason why I hesitate is because there are also hundreds of press releases where Apple is emphasising this point again and again to the market to distinguish itself from its competitors. An example of that is page {D1/1800/1}. The Tribunal has my point. I am not simply here delivering advertising on behalf of my client. This message is central to the case for the reasons I have already

explained and Ms Demetriou has explained. You see that again in the end of the first paragraph:

"Today, the App Store stands at the forefront of app distribution, setting the standard for security, reliability, and user experience."

Over the page, Apple's marketing continues. How does it market itself? It says:

"From 2020 through 2023 Apple prevented a combined total of over $7 billion in potentially fraudulent transactions, including more than $1.8 billion in 2023 alone. In the same period Apple blocked over 14 million stolen credit cards and more than 3.3 million accounts from transacting again [...] Apple found that in 2023 it rejected more than 1.7 million app submissions for failing to meet Apple's stringent standards for privacy, security, and content" -- there was 1.7 million that got through the initial stage for App Review and were rejected -- "In addition, Apple's persistent efforts to stop and reduce fraud in the App Store resulted in the termination of nearly 374 million developer and customer accounts" -- people that had got through and were revealed to have been acting fraudulently -- "and the removal of close to 152 million ratings and reviews over fraud concerns."

This tells you the extent of the problem, but also the extent to which Apple is dealing with it.

Account fraud, next paragraph three lines down:

"In 2023 Apple terminated close to 118,000 developer accounts." It was a reduction from the previous year thanks to an improved process for dealing with potentially fraudulent accounts.

Sorry next page, page 3, please. App Review:

"Apple's App Review team of over 500 experts" -- 500 experts -- "evaluates every single app submission -- from developers around the world -- before any app ever reaches users. The team reviews approximately 132,500 apps a week, and in 2023, reviewed nearly 6.9 million app submissions helping more than 192,000 developers publish their first app on to the App Store."

Just to give you again a taste of how Apple is explaining the problems that arise to the market, the last two paragraphs on that page, page 3, the Tribunal can read to yourselves, dealing with the kinds of problems that arise that Apple is helping address.

THE CHAIRMAN: I am not sure we have that.

MR KENNELLY: Document presenter, bottom of that page, please.

CHAIRMAN: Thank you. Yes.

MR KENNELLY: Thank you. Could you go now please to {D1/972/1}. This again is a page from the App Store and again it emphasises Apple's approach. Next page, please. Apple says:

"We created the App Store with two goals in mind: that it be a safe and trusted place for customers to discover and download apps, and a great business opportunity for all developers.

We take responsibility for ensuring that apps are held to a high standard for privacy, security and content because nothing is more important than maintaining the trust of our users."

Over the page, in our submission emphasising the integrated and centralised nature of the offering:

"It is our store and we [Apple] take responsibility for it. We believe that what's in our store says a lot about who we are."

It goes on to summarise the nature of the controls and limits that govern was goes on to the App Store.

At page 4 over the page the emphasis is placed on the fact that Apple reviews every app and every update.

Finally, on Apple's presentation to the market, and the focus on privacy, which is again a critical differentiating factor in Apple's case, at {D2/388.1}, this is the, "Privacy. That's iPhone" poster campaign. You can obviously see the ad, but if the document presenter could scroll down through this document and just keep going because really a point I want to get across is the nature of the marketing that we see, reflecting the focus that Apple places on privacy in App Review and a key distinguishing factor, as you will see. To show that the external presentation that Apple creates has been recognised externally, I would ask you now to go briefly to some third-party commentary on it.

I go first, if I may, to an article published by Dr Kent's own expert, Professor Lee, from whom we will be hearing in the course of the trial, that is {D2/626}. It is an article about Jekyll apps on iOS, and you will see that Professor Lee, Wenke Lee, is the last name on the list of authors from the Georgia Institute of Technology. The short part I want to take from it is on the first page of the article, page 2 of this document please. If you could zoom in please on the bottom of the first column. Professor Lee, among others, makes the

point that by the end of -- it is under the heading "Introduction", second sentence:

"By the end of June 2012, Apple had sold 400 million iOS Devices ... despite the tremendous popularity and the history of iOS, only a handful of malicious apps have been discovered. This is mainly attributed" -- and again I take you to this to show the impression which Apple's marketing and the data has created -- "to the advanced security architecture of iOS and the strict regulations of the App Store."

On the second column, you see on the second column, second main paragraph:

"According to the official App Review Guidelines, developers should expect their apps to go through a thorough inspection for all possible term violations. During this process, many reasons can lead to app rejections, such as stealing data from users and using private APIs reserved for system apps."

Again I emphasise the next paragraph, Professor Lee says:

"Although the technical details of the review process remain largely unknown, it is widely believed that such a selective and centralised app

distribution model has significantly increased the difficulty and cost for malicious or ill-intended apps to reach end users."

Could you go next please to {D1/1355/1}. This is a review on security and privacy policies in apps and app stores. It is a review of the literature prepared by the professor of computer science at Nottingham University for the *United* Kingdom Government, for the Department of Digital, Culture Media and Sport. If you go please to page 3 and perhaps it is best to zoom in. It is hard to read. I would ask you to go to the second paragraph of that executive summary, and to skip down to the second last sentence because the report notes that:

App stores "vary considerably in terms of their associated security and privacy provisions. This includes both the guidance and controls provided to safeguard app users, as well as the policies and procedures in place to guide and review developer activities.

Evidence suggests that many users have concerns regarding the ability to trust apps and their associated use of data. As such, they find themselves very much reliant upon the processes put in place by app stores to check the credibility of

the apps they host. In reality, however, practices vary significantly across providers -- ranging from stores having clear review processes and attempting to ensure that developers communicate the ways in which their apps collect and use users data, through to situations in which apps are made available in spite of having known characteristics that could put users' devices and data at risk. When it comes to supporting users this review reveals that app stores have varying approaches with correspondingly variable levels of information and clarity. This is observed in terms of both the presence and content of related policies as well as in relation to supporting users' understanding when downloading specific apps. The latter is particularly notable in terms of the presence and clarity of messaging about app permissions and handling of personal data, with some stores providing fairly extensive details and others providing nothing that most users would find meaningful."

Finally, I take from this page the next paragraph:

"There are also notable variations in how different app stores guide and support app developers, including the level of expectation that

appears to be placed upon providing safe and reliable apps that incorporate appropriate protections and behaviours in relation to users' personal data. While some stores include formal review and screening processes and scan apps to prevent malware, others offer a more permissive environment that enables threats and risky app behaviours to pass through without identification."

If you go now please to page 6 of this, {D1/1355/6}. Again, we will be relying on this material for the question of competition on the merits and objective justification in due course. Operating systems platforms, second paragraph:

"Given that the combined worldwide market share of Android and iOS now accounts for almost 99% of smartphone devices, it is most relevant to consider the position in [those] contexts."

Then this in terms of market perspective:

"Historically there has been a notable difference in the stance each takes[,that is Android and iOS,] to user privacy and security. In summary the difference has been characterised as Apple aiming for security 'whatever it takes' versus Google aiming for things to be 'secure enough'."

It goes on to note differences in positioning,

but that is the message which is understood to have been communicated.

Page 13 of the same document, please, paragraph 3.3, app security and privacy information for users. Skipping down to the second paragraph beginning:

"Apple has made a particular virtue of the security and privacy of its product offer, explicitly marketing the operating system and app store environment as offering the user a level of protection they may not receive elsewhere. The prominence of their stance has included the 'Privacy. That's iPhone' advertising campaign" -- which the Tribunal has seen -- "A 13 storey billboard poster at the CES 2019 technology exhibition [...] (at which the company otherwise had no official presence), proclaiming that 'What happens on your iPhone stays on your iPhone', and having made such statements so publicly, it is unsurprising to discover that Apple follows up on this with the privacy support offered to users.

In December 2020 Apple introduced new requirements for developers to be explicit about the data collection and usage practice of their apps [...] as a result they were required to declare information about app date collection and usage via

App Store Connect, the service by which they submit and manage apps to the App Store."

Skipping ahead please to page 15, {D1/1355/15} second paragraph from the top:

"In terms of what other app stores are doing in this space, the Google Play Store allows users to obtain privacy related information by getting a list of the permissions that an app requires [...] including app version, size, [...] ratings presented at the bottom of the [...] page. Once the link is followed, the permission details are then presented to the user as shown [...] However, there is a notable difference between this permission-based approach and the privacy focused representation used by Apple, in so far as while it tells the user what the permissions are for, it does arguably not tell them how they are being used."

You may skip ahead, please, still in the same document to page 26, because there the Professor for DCMS was explaining the difference between the Apple App Store and the Google Play Store. Now on page 26 there is a particular focus on third party app stores and I take you to malware and risky behaviour:

"The problem of malicious code on mobile

devices continues to grow", skipping past the figures for the numbers of malicious installation packages detected for Android, "While malware can potentially affect both of the [operating system] platforms the likelihood (and therefore end-user risk) is amplified on Android devices, particularly as a result of the potential for apps to be more readily installed from third party app stores."

Over the page, please, page 27, skipping down below the bullet points, skipping down please further, it is the paragraph beginning:

"According to research and Risk IQ. There were [over 170,000] blacklisted apps in 2019" -- this is on Android -- "they are far from evenly distributed across different platforms and sources, with the majority being Android focused and linked to third party stores. It was noted earlier that various app stores had review processes but Risk IQ's findings demonstrate that they vary in their effectiveness in terms of keeping malware out. Indeed, while the report describes both of the leading app stores as being 'inhospitable for malicious apps'" -- and we will come back to that -- "it still notes a clear difference in the effectiveness of their restrictions. For example, it was observed that

[over 25,000] blacklisted apps were identified in the Play Store during 2019, compared to the overall total of [over 714,000] newly observed apps [...] (a malware concentration of 3.5 per cent). By contrast, it is reported Apple's approach was likened to Fort Knox with malware 'rarely' finding its way on to the app store. A 2020 study from NortonLifeLock and IMDEA Software Institute revealed that users cannot trust apps purely on the basis of downloading from the official store. The research analysed over 34 million app installs (for 7.9 million unique apps) across over 12 million devices [in 2019]. Between 10 and 24% of the apps were classed as malicious or PUPS" -- that is potentially unwanted programmes. The definition of that is earlier in the document -- "The research assessed 12 routes for app installation, (including the official Play Store" [(that is the Google Play Store)], "third party stores, web browsers, [messages] and file sharing apps). The headline finding was that two thirds of the installs (67.5%) of the malicious apps were originating from the [official Google Play Store] (with the store being the root for 87% of app installs overall.)"

So that, we say, is a taster of the

differentiated approach between Apple, Google Play Store and in particular third party app stores you will see expanded in the evidence. The question is what difference does this make to users. What demand is there for this differentiated approach. For this we note that even in the *CMA* market study, in respect of which we disagree on many matters, the *CMA* market study itself commissioned a study, which addressed, among other things, the extent to which consumers cared about privacy and security.

I will take you to that first because I think some reliance is placed on it by Dr Kent. That is in {D1/1287/22}, page 22. If you could zoom in please on the figure itself. The Tribunal will see that below the halfway point the questions is:

"What factors were important in your decision to buy or choose your current smartphone?"

And security and privacy are identified as important factors in the decision to buy or choose your device by. There is a key on the right-hand side. For iOS users 29 per cent and for Android users 22 per cent. On any view that is already millions of people, but in our submission it undersells the significance of security and privacy because brand in Apple's case, and we will seek to

make this good in the evidence and later in the trial, brand in Apple's case includes its relentless emphasis on security, safety and privacy and brand, as you can see, is treated as important by 66 per cent of the respondees. Overall, however, we say that this survey undersells the importance of safety, security and privacy to consumers because Apple itself has commissioned surveys in the ordinary course of its business not for the purpose of the litigation. As the Tribunal will expect, Apple is extremely interested in what buyers, both of its devices and what buyers of Android devices, value in terms of the decisions they take when purchasing devices. There are many of these surveys in the bundle, I will show you extracts from three, a representative sample.

I would ask you first to go to {D1/837/6}. If you could zoom in please. The question asked in the survey is the importance of features/aspects in the purchase decision. What percentage said that these features were extremely important. We see on the left-hand column security and privacy and for UK consumers that is..... [redacted]

I am so sorry I have just read out a confidential figure, I am sorry. I am sorry I will

have to at this point say that needs to be removed from the transcript. Obviously the material coloured in peach is confidential.

{D1/1202/74}. Expand please. Again, in terms of the importance given to the matters I have discussed, you see the figure under the column third from the left or fourth from the left, and if you can read that, maybe the document presenter is able to expand it further. Thank you.

Then again {D1/1294/42}, same column, same place, same question. I am not taking the Tribunal to any more of that material. I will take you to one more document before I go to market definition. To summarise the significance of this, this is a differentiated offering. It plainly resonates with consumers, there is significant demand for it and to be clear this differentiated offering, this promise of greater safety, security and privacy, is grounded in reality. This is the last document I will show you by way of factual background before I move on to market definition, I would ask you to turn to {D1/803/1}. This is the Nokia "Threat Intelligence Report 2020". If you can please to page 2, you see the basis upon which this report presents its findings. I am sorry again, the text is difficult

to read because it is white printed on black, but hopefully you can see at the top of the page the report is focusing on malware activity, in both mobile and fixed networks, and the data has been aggregated from networks, which have used Nokia's NetGuard EndPoint Security solution. So Nokia has provided this security solution and the networks that use it report back to Nokia.

The network based malware detection solutions enable Nokia customers to monitor their fixed and mobile networks, including mobile phones. At the bottom of that first paragraph you see that the data is coming from monitoring of more than 200 million devices.

If you could skip on please to page 7. This is the focus on malware in mobile networks. I would ask the Tribunal to go to the left-hand column, bottom of the page, first bullet:

"Over the last few years a significant improvement had been seen in the security of official mobile app stores. However, third party app stores are still rife with Trojanised applications."

Then if you go to page 8, infections by device, reading the left-hand column:

"Figure 3 provides a breakdown of infections by device type in" -- it's actually 2019 and 2020 -- "Among smartphones Android devices are the most commonly targeted by malware. Android devices were responsible for 26.64% of all infections and only" -- I am skipping ahead -- "1.72% for iPhones. [Compared] with 2019 the share occupied by [Android] had decreased reflecting the shifting interest of malicious actors towards [internet of things] devices […] In the smartphone sector the main venue for distributing malware is represented by Trojanised applications. The user is tricked by phishing, advertising or other social engineering into downloading and installing the application. The security of official app stores, such as Google play has increased […] However the fact that Android applications can be downloaded from just about anywhere still represents a huge problem." -- Why is that -- "As users are free to download apps from third party app stores, where many of the applications while functional are Trojanised. IPhone applications on the other hand are for the most part limited to one source, the Apple Store."

Over the page on figure 3, the two charts show very graphically the difference between Apple's

offering and that of Android. Dr Kent says there are about twice as many Android devices as iOS devices, it is unfair to compare absolute numbers. But the data shows, as you can see, Android devices are not just twice as likely to be infected by iOS. Depending on the year, it could be 15 times more likely or even 50 times more likely.

Those are my submissions by way of factual background on security, safety and privacy. I was going to move on to market definition and dominance.

Sorry, by reference to the inadvertent figure disclosed, I need an order restricting the use of that figure, because it is not enough simply to take it off the transcript. I think because it is actually highly sensitive confidential information, the Tribunal will have to make an order restricting the use of the figure that I have inadvertently disclosed.

THE CHAIRMAN: Do you mean restrict any use by anybody?

MR KENNELLY: By anybody, yes.

THE CHAIRMAN: Can I do that, make an order against the world? That seems like quite an ambitious proposition.

MR KENNELLY: You can for the purposes of an inadvertent disclosure. Because this is livestreamed so anyone

has potentially seen it, so you can for these purposes do that. It has been done before, I think it has been ...

THE CHAIRMAN: There is a difficulty, isn't there? Because, I mean, if we have got no idea who these people are, you are asking me to make a blanket order in relation to anybody who might be on the livestream without knowing who they are, without any other ability to bring it to their attention, how are you going to notify it?

MR KENNELLY: In some circumstances, the Tribunal has to, for example, the warning that you gave in relation to contempt if someone films the proceedings, it is impossible to be sure what is actually happening but it is important.

THE CHAIRMAN: I think we know that that is a problem. I am not sure we want to add to the set of problems we have got that are difficult to enforce.

MR KENNELLY: Indeed, but if I may say so, the public interest in preserving this confidentiality is acute because of its --

MR BISHOP: Mr Kennelly, it was one percentage statistic totally unsurprising in its magnitude. In a survey in one country, one sale out of 150 or 200 sales, for God's sake.

THE CHAIRMAN: I think Mr Bishop means there is a proportionality point here. I am not sure that the point of order you make is proportional to what has happened here.

MR KENNELLY: The problem is -- I entirely understand, but the principle, the principle is very, very important because there is no dispute about the sensitivity of information and the Tribunal has an order treating it as confidential and that order cannot just be a thing writ in water. Where there has been an inadvertent disclosure, we must make sure that the thing which the Tribunal seeks to protect is genuinely protected, which is why I invite you --

THE CHAIRMAN: I am not sure that is quite how it works. It is the other way around, is it not? We made the order but it is you that has read it in open court, Mr Kennelly. That is not the purpose of the order, that is not to protect your client against that. I am afraid I am going to need some persuading if you want me to make an order. I do think there is a proportionality point. No one has seen it. It was something you said and of course we are probably drawing more attention to it now, but unless people heard it and wrote it down they are unlikely to have

remembered it.

MR KENNELLY: I am obliged. I will return to that tomorrow. I may have to seek a more limited order. I will leave that for now in view of the time.

THE CHAIRMAN: It would be helpful I think -- I am not aware of anybody having made an order of that sort in these circumstances and it would be helpful if you could find an instance of that but I still think there is a proportionality point. I am not sure that the risk your client faces as a result of what has happened is one that justifies making the sort of order you invite. So that is the hurdle you have got to climb.

MR KENNELLY: That is very clear. Obviously, for the purpose of the transcript, I think that is a different issue.

THE CHAIRMAN: The transcript is easily done. We can certainly -- I assume there is no objection to that on the other side of the court. So we can certainly manage that.

MR KENNELLY: I am obliged. So in the time available may I open on market definition and dominance.

THE CHAIRMAN: I think it is worth making a start, yes.

MR KENNELLY: Subject to the Tribunal, I will deal with these questions together. I will address them

together because the overall question being market definition and dominance, is the same, and it is whether in setting the commission for paid downloads and IAP, Apple is subject to competitive constraints. That is whether Apple is able to set its commission independently of its customers and competitors to recall the legal test.

We say Apple is subject to significant constraints. In device markets and from the other ways in which developers can transact with end users. When I speak of device markets, I am not referring to any formal market definition in the evidence I am using it as a shorthand for the strong competition that exists between Apple, Google, Samsung and others for the sale of mobile devices. There is no allegation, as Ms Demetriou said, that Apple is dominant in any market relating to the sale of mobile devices.

I will outline our case and take the Tribunal to some pointers in the evidence before addressing Dr Kent's skeleton. I will also address you briefly on the *CMA*'s position which we saw in their very recent skeleton argument.

There is no dispute about the fact that there are many substitution possibilities open to end

users and developers in both device and transaction markets. As regards devices, there is no dispute about the fact that consumers upgrade their devices fairly frequently. You can see that from the fact that Apple sells millions of devices every year in the UK and so does Samsung. Obviously, if a consumer decides to switch from an iOS Device to Android device, Apple loses both the device sale and also all of the commission that Apple would have earned from their annual spend on the App Store. Similarly, there is no dispute that developers can and do transact with end users on other platforms.

I will get on to the detail of that shortly. As regards transactions, a developer can transact with iOS users on another platform in a way that allows the iOS user to consume what they have purchased on their iOS device. If the user transacts in that way Apple receives no commission on that transaction, even though the consumer is consuming what they have bought on their iOS Device.

Those are not the only substitution possibilities that concern Apple. There are many more. Consumers may switch their gaming spending from iOS to another type of platform altogether, like PCs or consoles, or developers can switch from

monetizing through IAP to in-app advertising. We will see all of that explored further in the evidence.

The point that I want to make clear at this stage is that these substitution possibilities definitely exist. The question is whether they are strong enough to be included in the market and to mean that Apple cannot act independently of its competitors and customers. It is a question of degree.

We then ask how does the Tribunal answer that question? Now from the perspective of device market constraints, we have an approach in the case law and that is the *EFIM* test which you were taken to by my learned friend Mr Hoskins. I will just take it up very briefly and to show there is no dispute about it I will show you Mr Hoskins and his team's skeleton argument, {A1/4/20}, paragraph 55. The four cumulative decisions. The first is:

"Customers can make an informed choice, including life-cycle pricing, between the various manufacturers in the primary market" -- over the page -- "customers are likely to make such an informed choice accordingly;

In case of an apparent policy of exploitation

... a sufficient number of customers would adapt their purchasing behaviour at the level of the primary market" -- and -- "customers adaptation of their purchasing behaviour would take place within a reasonable time."

That is actually a very similar type of question that we always ask in a market definition exercise. If Apple worsened conditions on the App Store for developers and consumers, would switching in the device market make that unprofitable?

THE CHAIRMAN: Sorry to interrupt you. I just want to make sure I am clear about what you are saying here. You are accepting this is a test for the aftermarket. Is that right?

MR KENNELLY: Yes.

THE CHAIRMAN: You accept, I think, that there is an aftermarket in this case?

MR KENNELLY: No.

THE CHAIRMAN: You do not accept that?

MR KENNELLY: No, we are saying that this is a test that helps you work out if device markets -- it is a useful experiment for just testing the extent to which competition in a primary market, which is a device market for these purposes, constrains behaviour in an aftermarket, which on this approach

would be the app store, but we do not accept the primary market/aftermarket split which Dr Kent has outlined.

THE CHAIRMAN: So unless I have got this wrong, I think what you mean in relation to this is that you are trying to determine whether there is a separate aftermarket from the primary market for purposes of market definition.

MR KENNELLY: Yes, indeed.

THE CHAIRMAN: Your case is that it is not, is that the position?

MR KENNELLY: Yes, well we have, as you have seen in our expert evidence, we say that what we have here is a combination of a system market, which is what this is testing for, and dual markets, which are the transaction markets.

THE CHAIRMAN: I understand that. Put those aside for a minute. I am just focusing at the moment on the relationship with the device market. So you are saying that when -- you are accepting that this is the right test and determination.

MR KENNELLY: Yes.

THE CHAIRMAN: You say when you apply it we will reach the conclusion that there is no separate aftermarket because of the constraints that come from the device

markets?

MR KENNELLY: Yes, Exactly. The question we are asking is, because I am approaching this in two ways, one is the extent to which device markets exercise constraints and then we will look at transaction markets as well.

THE CHAIRMAN: Yes, I understand. Sorry, to interrupt you again, when you say "constraints", you mean for the purposes of market definition?

MR KENNELLY: Yes.

THE CHAIRMAN: You are dealing with market definition and dominance together and I think it is important to distinguish between a constraint that helps you decide what the market is and a constraint which helps you decide whether somebody is dominant in the market. They are different exercises, are they not?

MR KENNELLY: Well the constraints can be the same.

THE CHAIRMAN: Yes, I agree.

MR KENNELLY: So my case here is that the constraints are the same. I start by saying the constraints are sufficient to show that Dr Kent's market definition is wrong. Even if I am wrong about that, and Dr Kent's market definitions are adopted, the same constraints show that we are not dominant.

THE CHAIRMAN: I just want to make sure that we are

thinking about the same thing.

MR KENNELLY: So, of course you have got to take into account also the fact this a two-sided market, so you have got to take into account that developers might react to an increase in commission in a way that will discourage device users, because developers could monetise differently. They might decide not to launch products on the App Store. Those decisions could make the device less attractive to, the App Store less attractive to users. Of course, you know Dr Kent's case is that an increase in commission, we heard this from my learned friend Mr Ward, an increase in commission leads to an increase in developer's prices for apps paid by device users. Now here we say that end users know when they purchase a device that a large part of what they are purchasing is the ability to run apps on it. They know that on an iOS device the apps can only come from the App Store and they will have to use Apple's commerce engine. If they are upgrading from an iOS device they know exactly what the App Store is like, what apps cost, what range of apps available because they have already been using them.

Similarly, if on Android devices apps were more

available or available more cheaply or through a better mechanism, users could find that out very easily, they could find it out by looking on an Android marketplace online or through the advertising that Google and Samsung would no doubt roll out to trumpet that if it were true. You will see when the experts testify there is actually survey evidence that shows that consumers do take into account app prices when considering which device to choose.

Just to pull up very briefly some of the evidence on that. I would ask you to go to Mr Hitt's third report. It is at {C3/8/86}. He is quoting first of all, paragraph 167, second sentence:

"The 2022 Accent Survey commissioned by the *CMA* found that 10 percent of iPhone owners considered the price of digital content available on the device as important in their decision to purchase the device."

We will come back and note that those are likely to be the ones who spend the most on the App Store.

Then in terms of the rate of upgrading, this goes to the question of switching, just to point out

some highlights. If you go to page 48 of this report, this is confidential, page 48, paragraph 92(b), it begins at 48 and over the page at 49, the very last sentence of paragraph 92 (b), how often customers replace their devices. That is obviously material, the extent to which device markets exercise constraints.

THE CHAIRMAN: Just give us a minute, we have only just got this. What are we looking at?

MR KENNELLY: You are looking at the very last one, just above (c) in the indented page, that is the very end of paragraph 92(b) and it is dealing with rate of switching.

THE CHAIRMAN: That is the rate of incidence rather than the following one?

MR KENNELLY: Yes. Those are device markets. Looking at transaction markets. There are again strong indications in the transaction markets as to where the constraints may lie. I am going to address you here, if I may, on a point of terminology you may have picked up in the expert evidence. Because Professor Hitt talks about app transactions markets and Dr Singer talks about distribution and payment markets. Dr Singer, I think, is suggesting that Professor Hitt is confusing markets for the apps

1 themselves, with markets for the services which
2 Apple provides. We had a taste of that from
3 Mr Hoskins in opening.
4 That is just not right. We all agree that we
5 need to focus on the services that Apple provides.
6 It makes no difference whether you call the product
7 that Apple provides a transaction for short, or you
8 call it the services that Apple provides in order to
9 allow the transaction to take place. We are talking
10 about the same thing, we are just disagreeing about
11 the possibilities or the significance of the
12 substitution possibilities. So what clues do we get
13 from the transactions in the markets? Here we say
14 you need to take a more granular look than Dr Kent's
15 analysis, and look at different types of
16 transactions. You should not lump them all
17 together, transactions of different kinds, or the
18 facilitation of transactions of different kinds, if
19 the substitution possibilities for developers and
20 end users are different.
21 I will give you an example of a game and I will
22 give you an example of a video streaming service.
23 So Clash of Clans is a very well-known and
24 successful game app developer and game. It has
25 developed a sophisticated system in which end users

can spend real world money to purchase virtual in-game currency, which in Clash of Clans is called gems. End users can use those gems whenever they want to make purchases of in-game content. So what that means is that end users can make frequent small transactions for in-game content and they only need to make a few less frequent large transactions with real money to buy the in-game currency. That real money transaction can be made on any platform. You can buy the gems on the app on iOS, on Android device or from the Clash of Clans website, on a mobile browser or on a desktop computer.

THE CHAIRMAN: That is because of the multiplatform, is that?

MR KENNELLY: Yes.

THE CHAIRMAN: So that is the reason they can do that, yes?

MR KENNELLY: That in game currency -- that is correct, sir, but also it is revealing about the substitution possibilities it opens, because the in-game currency that the end user purchases can be used on any of those platforms as well the same end user account. So the end user customer can spend his real money, he can buy those gems on whichever platform is most attractive to him or her, and they will take into

account the convenience and trustworthiness of the platform and the price that Clash of Clans is charging. That creates an opportunity for Clash of Chance. If it thinks the iOS transactions are too costly it can lower prices on other platforms, they can use online or real world advertising to encourage end users to make the real money transaction on those other platforms.

Turning from gaming to video streaming, I will give you the example of Paramount Plus, a very well-known video streaming app developer. Paramount Plus also has different options, it can sell subscriptions and benefit from the reader rule. What that means, as the Tribunal knows, is that Paramount Plus is not even obliged to allow end users to use Apple's IAP service. It wanted to, it could insist that consumers use Paramount's own website to subscribe, which they could do on their mobile browser or a desktop, and then let them use their subscription to enjoy Paramount's content on their devices, which is exactly what Netflix has done. Or Paramount could lower prices elsewhere and use its no doubt enormous advertising budget to encourage customers to subscribe online instead of on the app.

THE CHAIRMAN: Can it do that? There are still some anti-steering laws, I am never quite sure when they apply but in that situation would they be entitled effectively --

MR KENNELLY: Absolutely. The only restriction is they cannot advertise in the app itself on iOS, outside of that they can plaster the world with posters and say, "This is cheaper on our website."

THE CHAIRMAN: But not on the app?

MR KENNELLY: Not on the app itself. I will come back to the significance of that but the point is for this stage of the argument the possibilities are strong, they are different for games and video streaming but they are very strong in both cases. We can see in the market, this is why it is so useful, what developers are actually doing. Some of them have made the decision that they want to minimise or get rid of transactions entirely in iOS, like Netflix and *Spotify*, and others have made no effort to do so. They actually charge the same price for digital content on their own website as they do on iOS, even though there is nothing to stop them offering lower prices online and nothing to stop them using their advertising budgets to encourage customers to pay on the website rather than iOS.

Just taking up your point, sir, about the restriction on advertising other options on iOS itself, the analogy could be like in Selfridges, for example, Selfridges won't allow you on the Dior handbag stand to put a sign saying, "This is 10 per cent cheaper at Bicester village", or "10 per cent cheaper on our website." You can put that poster outside Selfridges, but you cannot do it on the handbag stand in the department store. The extent to which this is even really a plausible problem for major developers, and I will come back why the major developers are the ones that count, the idea that Paramount or Netflix or big gaming companies could not use their resources to steer customers through advertising outside the app, if they wanted to, is just not plausible. There are so many ways in which they could do that and we see those kinds of ads all the time. They are choosing not to because they are choosing not to deploy their resources in that way for their own reasons.

THE CHAIRMAN: Mr Kennelly, is that a convenient moment?

MR KENNELLY: Yes, I am sorry, I had not seen the time.

THE CHAIRMAN: It is an interesting point but you probably have to stop at some stage. How are you doing?

MR KENNELLY: Fine. We are okay on time.

CHAIRMAN: So we will start at 10.30 in the morning.

(4.37 pm)

(Adjourned till 10.30 tomorrow morning)

I N D E X