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**IN THE COMPETITION**  
**APPEAL TRIBUNAL**

Case No: 1403/7/7/21

Salisbury Square House  
8 Salisbury Square  
London EC4Y 8AP

Tuesday 11<sup>th</sup> February 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**

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**A P P E A R A N 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, 11 February 2025

(10.32 am)

PROFESSOR ANDREW SWEETING (continued)

Cross-examination by MR HOSKINS (continued

THE CHAIRMAN: Mr Hoskins.

MR HOSKINS: Good morning, Professor Sweeting.

A. Good morning.

Q. Yesterday afternoon we saw that the DMA regulation treated payment systems as a product that is distinct from core platform services. Do you remember that?

A. Sorry, I remember we were having that discussion, I cannot remember exactly the language.

Q. Do you want to see it again? Do you want us to go back?

A. Sure.

Q. Okay, can we have {AB1/6/11}. If you would like to re-read recital 43.

(Pause)

A. Okay.

Q. So we saw yesterday that the DMA regulation treats payment systems as a product that is distinct from core platform services, and the same is true of the South Korean regulation, is it not, because in South Korea the regulation has removed Apple's monopoly over payment services, but has left Apple's monopoly over distribution intact, so again that distinction is drawn,

1 is it not?

2 A. Yes, although I am not sure exactly of the language that  
3 is used in South Korea.

4 Q. The same basic distinction has been made in the  
5 Netherlands in relation to dating apps, hasn't it?

6 A. Yes, as I understand it.

7 Q. Can we go to the Joint Expert Statement {C4/2/45}. It  
8 is proposition 52 I would like to look at. It says:

9 "The existence of the Multiplatform Rule and Reader  
10 Rule, which apply to iOS In-App Aftermarket Services but  
11 not iOS App Distribution Services, demonstrates the  
12 existence of a separate demand for iOS In-App  
13 Aftermarket Services and iOS App Distribution Services."

14 Can we go back a page, thank you for that.

15 We see that Dr Singer agrees with that proposition  
16 but he goes on to say:

17 "Professor Sweeting does not seem to recognise that  
18 the Multiplatform Rule and the Reader Rule only apply to  
19 Relevant In-App Purchases and Relevant Subscription  
20 Purchases respectively, and do not apply to relevant app  
21 purchases. The fact that Apple is designing different  
22 policies for facilitating different types of Relevant  
23 Purchases suggests that there is separate demand.  
24 Otherwise, Apple would simply impose a blanket policy on  
25 all Relevant Purchases."

1           If we can go back a page, you disagree with that  
2           proposition, and I would just ask you to remind yourself  
3           of what you say in your comments there please.

4       A.   Yes.

5           (Pause)

6           Okay, I am at the bottom of the page.

7           (Pause)

8           Okay.

9       Q.   So if we can go back a page please.  So you begin your  
10          comments by saying:

11               "While the Multiplatform Rule and the Reader Rule do  
12               not allow iOS App Developers to offer alternatives to  
13               relevant app purchases outside of the App Store that can  
14               be subsequently installed on an iOS Device ..."

15               So I take it from that that you do recognise that  
16               the Multiplatform Rule and the Reader Rule apply to  
17               in-app and subscription purchases but do not apply to  
18               relevant app purchases?

19       A.   That is my understanding.

20       Q.   If we go over the page to the final sentence {C4/2/46},  
21          you say there:

22               "Apple's policies may reflect any other  
23               considerations, such as how to best ensure security and  
24               privacy on the iOS ecosystem."

25               But you do not cite any factual evidence to support

1           that suggestion there, do you?

2           A. So in my first report, in section 7, I have kind of an  
3           extensive discussion of -- you know, at a high level,  
4           the possible role that the Distribution Requirements and  
5           the Payment Requirements play in potentially increasing  
6           security and privacy, and then obviously I also talk  
7           about that in the section that is focused on objective  
8           justifications.

9           There is another factor which one could also include  
10          in this discussion, which is the fact that Apple's  
11          In-App Payment service system is not only providing  
12          services to developers, but it is also providing  
13          services to customers, and that those -- some of those  
14          services may not be fully available if an alternative  
15          payment service provider, such as the skinny providers  
16          that Dr Singer was talking about, is used.

17          Q. So let us focus on the distinction that the  
18          Multiplatform Rule and the Reader Rule make between  
19          in-app and subscription purchases on the one hand and  
20          relevant app purchases on the other and let us look at  
21          the evidence that does exist in relation to that.

22          If we can go to Mr Schiller's statement, that is  
23          {B2/5/55}. I would invite you to read paragraphs 201  
24          and 202.

25          (Pause)

1       A. Yes, okay.

2       Q. Then page 57, please {B2/5/57}, and again I would invite  
3       you to read paragraph 205.

4       A. Okay. So is this actually the immediate following page  
5       or was there --

6       Q. No, there are some paragraphs in-between, but I have  
7       taken you to the paragraphs that are relevant to the  
8       Reader Rule and the paragraphs that are relevant to the  
9       Multiplatform Rule.

10      A. Okay.

11               (Pause)

12               Okay.

13      Q. There is no suggestion in Mr Schiller's evidence that  
14      the reason that Apple introduced the reader and  
15      multi-platform rules had anything to do with security  
16      and privacy issues, is there?

17      A. No, no, I would understand that to be the case.

18      Q. Can we go to page 56 of Mr Schiller's statement, please  
19      {B2/5/56}, and can you please read paragraph 204.

20               (Pause)

21      A. Okay.

22      Q. So under the Video Partner Program, Apple offers  
23      distinct commercial terms for certain in-app  
24      subscription services, does it not?

25      A. Yes, that is my understanding.

1 Q. Again, the program makes a distinction between initial  
2 app downloads, which are subject to its standard  
3 commission terms, and certain in-app subscription  
4 purchases which may benefit from these special reduced  
5 commission terms, correct?

6 A. Yes. I think it is worth remembering that, you know,  
7 from the perspective of a developer who wants to engage  
8 in transactions with consumers for many types of  
9 content, you know, one could imagine that doing a paid  
10 download or doing a free download followed by an in-app  
11 purchase are very close substitutes. You know,  
12 I think -- you know, that is broadly true, but that  
13 actually speaks directly to the question of whether we  
14 should think of those different types of monetisation  
15 strategies as actually being in separate markets, which,  
16 as I discussed in the hot-tub, is kind of  
17 a pre-condition of them as being viewed as separate  
18 products.

19 Q. There is no suggestion in Mr Schiller's evidence that  
20 Apple acted in this way for any other reason than  
21 because it was in its commercial interest to do so, is  
22 there?

23 A. Yes, I mean I would agree with something Dr Singer said,  
24 which is, you know, firms act in their -- you know, in  
25 their commercial interests. Apple has made choices

1 reflecting its perception of, you know, demand,  
2 competitive conditions, and so on, when it is --  
3 you know, in the -- you know, the views of developers  
4 who are its customers when it has introduced some of  
5 these changes.

6 Q. I would like to move on to another condition relating to  
7 tying, which is the somewhat dramatically titled  
8 coercion condition. Can we go to the Joint Expert  
9 Statement, please {C4/2/47}. It is proposition 55  
10 I would like to look at.

11 You say in your comments:

12 "I note that --"

13 A. Can I just actually read it first?

14 Q. I was going to read it out, if that is okay?

15 A. I was going to read the proposition first.

16 (Pause)

17 Q. Okay?

18 A. Okay, I have read the proposition if you want to  
19 read ...

20 Q. That is right, and you say in your comments:

21 "I note that an iOS app developer can obtain iOS App  
22 Distribution Services for free (other than the annual  
23 Developer Fee) if it does not monetise through  
24 a relevant app purchase. Since iOS App Developers do  
25 not need to purchase In-App Aftermarket services in

1           order to obtain iOS App Distribution Services, an iOS  
2           app developer can receive iOS App Distribution Services  
3           and not pay Apple any commissions at all if it monetises  
4           its app through purchases of physical products and  
5           services, non-iOS transactions, or apps with in-app  
6           advertising."

7           Now, remember here that Apple's App Store is the  
8           tying product and Apple's IAP is the tied product, yes?

9       A. Yes. I must admit when I have read different things  
10       I have always been slightly unclear whether I should  
11       think of the tying product as being specifically  
12       a distribution service, or whether it is the App Store  
13       defined in a slightly broader way, but yes, I understand  
14       the claim is that the App Store is the tying product.

15      Q. Can we go to page 29 of the Joint Expert Statement  
16       please {C4/2/29}, proposition 25. Could you read the  
17       proposition and the comments there, please. We have  
18       seen this before.

19               (Pause)

20      A. Yes, okay.

21      Q. So all developers, regardless of whether they wish to  
22       offer in-app purchases and subscriptions, must agree to  
23       distribute their iOS Apps by means of Apple's App Store,  
24       yes?

25      A. Yes, if they develop an iOS app.

1 Q. Can we go to page 47 of the statement please,  
2 proposition 54 {C4/2/47}. Again, if you want to read  
3 the proposition and note that you agree with it.

4 (Pause)

5 A. Okay.

6 Q. So you agree with the proposition that:

7 "Apple conditions iOS App Developers' access to the  
8 App Store on the requirement that the developer  
9 exclusively use Apple's ... IAP to consummate Relevant  
10 In-App Purchases."

11 So that means that all iOS developers who want to  
12 use the App Store must agree to use Apple's IAP if they  
13 wish to offer in-app purchases or subscriptions, does it  
14 not?

15 A. Within the app, yes, that is correct.

16 Q. If we go back to Mr Schiller's statement {B2/4/49}, at  
17 paragraph 171 Mr Schiller there explains that:

18 "There are five business models by which developers  
19 may monetise their apps on the App Store."

20 He lists them out: free, freemium, subscription,  
21 paid and paymium, do you see that?

22 A. Yes. I am actually not quite remembering what paymium  
23 means, but ...

24 Q. Then if we look at paragraph 172, he explains -- well,  
25 you read it to yourself.

1       A.   Okay.

2               (Pause)

3       Sure.

4       Q.   So the freemium, subscription and paymium models are the

5            only ones which permit in-app or subscription purchases

6            after the initial download of the app, correct?

7       A.   Actually can you ask the question again?

8       Q.   Sure.  The freemium, subscription and paymium models are

9            the only ones which permit in-app or subscription

10          purchases after the initial download of the app?

11       A.   Yes.  I mean, subject to my caveat that I am not sure

12          exactly what -- (overspeaking) --

13       Q.   Let us go over the page.  He tells us what paymium is,

14          I do not want to leave you guessing.  Sorry, to the

15          bottom of that page and over to the next page {B2/5/51},

16          and you see paragraph 180 explains the paymium model.

17       A.   Oh, I see.  So it is developers who do both, it is both

18          for the paid app and -- (overspeaking) --

19       Q.   So my point is if you want to permit in-app or

20          subscription purchases after the initial download of the

21          app, you have to adopt the freemium model, the

22          subscription model or the paymium model.  Those are the

23          three models that let you do that, yes?

24       A.   So if you want to be offering subscriptions within the

25          app, then that is correct, within the iOS app, that is

1 correct.

2 Q. Also in-app purchases?

3 A. Yes, if you want to offer in-app, yes, that is correct.

4 Q. Under each of the freemium, subscription and paymium

5 models, the developer must agree to distribute its iOS

6 Apps only through the App Store?

7 A. Yes.

8 Q. The App Store is the tying product, yes?

9 A. Yes.

10 Q. Go to page 108 -- no, sorry, let us go --

11 A. Could I --

12 Q. Of course, you carry on?

13 A. I just wanted to kind of relate this back to our

14 discussion obviously of the Reader Rule and the

15 Multiplatform Rule, so it is worthwhile remembering that

16 under those rules there may be a lot of developer to

17 consumer transactions where the developer -- you know,

18 they are using the App Store but they are actually

19 getting that service for free, right, and that is the

20 relevant sense in which there is not coercion to be

21 using the in-app payment service to monetise, you are

22 actually getting the tying good for free.

23 Q. Can we go to your first report, that is {C3/3/108}. Can

24 you read to yourself, please, paragraph 233.

25 A. Okay.

1 (Pause)

2 Okay.

3 (Pause)

4 Okay.

5 Q. So you see in the second line at the top of that page,  
6 you say {C3/3/109}:

7 "... the Payment Requirements are requirements to  
8 not use an alternative payment processor for Relevant  
9 Purchases."

10 If we could do a split screen with that page and  
11 {C4/2/48}, please.

12 A. It is probably worth noting that obviously when I wrote  
13 my first report, kind of the role of IAP in paid  
14 downloads had not yet been clarified.

15 Q. I want to look at proposition 56. The proposition is:

16 "A requirement that a customer must not buy the tied  
17 product from other firms is a tie, regardless of whether  
18 the customer actually purchases the tied product from  
19 the tying firm."

20 You agree with that proposition --

21 A. Let me just read that again.

22 Q. -- and you explain that it is known as a negative tie.

23 (Pause)

24 A. Yes, so there is this concept in economics that a few  
25 people refer to of a negative tie, so that was what

1 I was trying to explain.

2 Q. So if we look at the previous page that we looked at, so  
3 the left of the split screen {C3/3/109}, you say there:

4 "... the Payment Requirements are requirements to  
5 not use an alternative payment processor for Relevant  
6 Purchases."

7 That is a negative tie within your own definition,  
8 is it not?

9 A. Right, so if you want to offer in-app -- in iOS app  
10 purchases, then you are not able to use an alternative  
11 payment services provider, given that what we are  
12 talking about has been generalised from payment  
13 processors to payment services providers, yes.

14 Q. But if, as you define it, a negative tie is:

15 "A requirement that a customer must not buy the tied  
16 product from other firms ... regardless of whether the  
17 customer actually purchases the tied product from the  
18 tying firm."

19 Also, if, as you explain:

20 "... the Payment Requirements are requirements to  
21 not use an alternative payment processor for Relevant  
22 Purchases."

23 Then you have described a negative tie in your first  
24 report, have you not?

25 A. But the key question is whether we are talking about

1 anti-competitive tying or anti-competitive negative  
2 tying. That obviously depends on the -- you know, the  
3 four criteria, including coercion. The fact that one  
4 can put a label on something to call it a negative tie  
5 does not mean it is an anti-competitive negative tie.

6 Q. So if the other three conditions are satisfied, you  
7 accept that the coercion condition is satisfied?

8 A. No, I mean, what I am saying in 56 is not saying  
9 coercion -- you know, is not directly speaking to the  
10 coercion test, it is literally just saying this --  
11 (overspeaking) --

12 Q. Look at the topic, Professor Sweeting, before you dig  
13 the hole deeper. Look at the topic for proposition 56.

14 A. It is "Coercion", yes, I see that.

15 Q. Then you might want to carry on.

16 A. I mean, I guess I am not saying here that just because  
17 you can describe something as a negative tie implies  
18 that there is coercion, right, so -- and for the same  
19 reason that was explained before, there are plenty of  
20 ways that people are able to monetise -- sorry,  
21 developers are able to monetise their apps, not using  
22 either IAP, or obviously the option which has been ruled  
23 out, which would be an alternative payment services  
24 provider, and therefore they are not coerced in that  
25 sense, right?

1           So even if you want -- you know, even if we said in  
2           any setting some relationship is a negative tie, that is  
3           not saying that there is coercion. So I would regard  
4           coercion as being a separate test to just calling the  
5           nature of the contractual relationship a tie.

6       Q. Proposition 56 is:

7           "A requirement that a customer must not buy the tied  
8           product from other firms is a tie ..."

9           You agree with that, and you agree with it under the  
10          topic of coercion.

11          Would you like to move on or do you have something  
12          else to add?

13       A. I mean, I am just going to make the same distinction  
14       that I have made already, which is, you know, the  
15       coercion test applies to whether something is an  
16       anti-competitive tie, or an anti-competitive negative  
17       tie, not whether you are calling it a tie or not.

18       Q. I am going to move on to a different broad topic which  
19       is the counterfactuals and the overcharge.

20       A. Sure.

21       Q. I want to start with just asking some very simple  
22       questions. Imagine you have a market with a monopoly  
23       supplier, a number of competitors enter the market. All  
24       else being equal, what will happen to the former  
25       monopolist's market share?

1       A. So assuming we have agreed a market definition, so that  
2       we are happy to say someone is a monopolist in the  
3       absolute sense, in a -- (overspeaking) --

4       Q. That is the premise of the question. I am not asking  
5       you about app stores or distribution --

6       A. No, no, I understand.

7       Q. -- it is entirely generalised.

8       A. Okay. So obviously if some customers choose to buy from  
9       the new entrant suppliers, then market share will -- the  
10      monopolist's market share will fall from 100%.

11      Q. What will happen to the prices charged by the former  
12      monopolist in that scenario?

13      A. That depends on the setting, so if --

14      Q. It depends on, sorry?

15      A. Sorry, I mean that would depend on additional  
16      assumptions. Obviously I am happy to talk about those.

17      Q. Well, at a very high level, you have got the market of  
18      the monopoly supplier, a number of competitors enter the  
19      market. In this scenario we are talking about the  
20      former monopolist's market share decreasing. What is  
21      likely to happen to the prices charged by the former  
22      monopolist if it is faced with competition for the first  
23      time?

24      A. Well, so I think it is useful to think therefore about  
25      kind of alternative situations, right? So alternative

1 situation number 1 might be that the former monopolist  
2 was already charging a competitive price. In that case,  
3 we might well expect nothing to happen to the price.

4 Q. What if it had not been charging a competitive price?

5 A. So I was going to go on to alternative scenarios.

6 Alternative scenario number 2 might be that the --  
7 let us just hold all costs fixed in these  
8 counterfactuals -- you know, that if the monopolist is  
9 selling a single product and its demand becomes more  
10 elastic as a result of entry, the profit maximising  
11 price would fall.

12 On the other hand, you know, there can be  
13 situations, for example, where firms are differentiated,  
14 where what happens is actually the entrants serve, say,  
15 a more price-elastic set of consumers, and the former  
16 monopolist may actually set a higher price than it did  
17 before.

18 You could also imagine situations obviously where  
19 the monopolist is actually a multi-product firm that is  
20 selling other products. In that case, that would have  
21 to be factored into the pricing decision.

22 Q. All else being equal, does increased competition in  
23 a market usually improve quality or cause it to reduce?

24 A. That very much depends on the situation. The setting  
25 where we are talking about, it depends on obviously the

1 cost of producing quality, it depends on consumers'  
2 responsiveness to quality. Often what will happen is  
3 you may get a situation where some firms provide high  
4 quality, some firms provide lower quality, and obviously  
5 consumers' ability to evaluate quality can also be  
6 important.

7 Q. I want to move on to look at the market share in the  
8 distribution counterfactual. Can we go to the Joint  
9 Expert Statement {C4/2/66}, proposition 92. The  
10 proposition is:

11 "In the Primary Counterfactual or the App  
12 Distribution Counterfactual, a plausible counterfactual  
13 market share for Apple in Dr Singer's iOS App  
14 Distribution Market is between 50 and 90%."

15 If we can go to the page before, we see you agree  
16 with the proposition and you say:

17 "I determined that in these counterfactuals, Apple's  
18 share would be at least 50% and potentially as high as  
19 90% in Dr Singer's iOS App Distribution Market. See  
20 Sweeting first report paragraph 353."

21 So you accept that in these counterfactuals, it is  
22 plausible that Apple would lose between 10 and 50% of  
23 its market share, and why do you say that?

24 A. So I recall that -- the context in which I explain this  
25 in my first report was I laid out my counterfactual

1       which involves the disintermediation of prices. That is  
2       obviously consistent with Apple having no  
3       anti-competitive incentive to exclude. That holds this  
4       principle that what Apple will do will set a competitive  
5       distribution price for -- given we are talking about ...

6             The competitive price for its distribution service,  
7       if we are looking at the distribution counterfactual,  
8       holds regardless of what is going to happen to Apple's  
9       market share in the counterfactual. So what I did,  
10      having done that, you know, that conclusion about prices  
11      holds. I then talked about what might happen to market  
12      shares. You know, on the first level you obviously  
13      think about what are the key economic factors, and  
14      obviously here it is a bit unclear, and indeed it has  
15      become kind of less clear over time, I think, exactly  
16      what counterfactual we are talking about, for example  
17      when the timing of the removal of the distribution  
18      restrictions would have occurred, which geography it  
19      would have occurred in, and so on.

20            But what I said is that network effects, for  
21      example -- you know, the role of network effects, the  
22      fact that Apple is the device maker, would tend to lead  
23      to Apple being in an advantageous position, where it was  
24      likely to be the market leader in this space.

25            Now, obviously then the question is what does that

1 mean in terms of shares, right? It has an advantage,  
2 what is the leader's share likely to be? So I first  
3 talked about Google -- the Android market, and Google  
4 Play being the obvious comparison. Based on that,  
5 you know, it seemed that -- you know, even though it is  
6 not an exact match to the removal of the Distribution  
7 Requirements, it seems like it is likely to be the  
8 closest, most obvious comparison. I understand that  
9 Google Play's share in the UK is around 90%, so that is  
10 why I highlighted the 90% figure.

11 I understood from Mr Holt's report that there is  
12 some resistance, suggesting that maybe on -- legal  
13 considerations mean that Google Play is not a relevant  
14 comparison. So I therefore looked around for an  
15 alternative. I looked at PC games. I recognised that  
16 Apple has a number of advantages, you know, particularly  
17 being the device maker, being pre-installed, and not  
18 being an environment where direct downloads are likely  
19 to play such a significant role, and on that basis,  
20 you know, our most conservative estimate of Steam's  
21 market share for PC games, taking into account direct  
22 downloads into the denominator, is around 39%. On the  
23 basis that Apple would be in a significantly stronger  
24 position than Steam, that led me to a 50% number.

25 But I do actually want to pick up on one thing you

1           mentioned in your question, because I think actually it  
2           is directly relevant for making a distinction between  
3           the levels of shares in the PC games market and what we  
4           are thinking about in the counterfactual, and that is  
5           this idea of share loss.

6           So Dr Singer, when he was giving it -- when  
7           Dr Singer was giving evidence -- said that what I was  
8           doing was -- or suggested that I agreed that the share  
9           loss that Apple would face as a result of attackers  
10          coming into the distribution market was likely to be --  
11          could be up to 50%. So that is certainly not the lesson  
12          which we should draw, or which I think the Tribunal,  
13          rather, should draw, from the PC games market.

14          So in the PC games market, direct downloads have --  
15          and indeed direct physical distribution have always been  
16          important, okay? So that is the reason why Steam's  
17          share of PC games revenues overall are low, right, and  
18          they have always been low.

19          If we do a -- you know, if we do a comparison  
20          between Steam and other PC games transactions platforms,  
21          such as the Epic Games Store or the Microsoft Store or  
22          GOG, what we see is a very different pattern, okay? So  
23          Steam has ten times the revenues, according to the  
24          numbers that I cite in my report, than the Epic Games  
25          Store --

1 Q. I am going to stop you. Is this one of the responses  
2 that you were thinking up last week while you were  
3 sitting in the room? Because it is not really an answer  
4 to the question.

5 A. Okay, I am -- I am trying to be helpful.

6 Q. No, I understand. But equally, I am afraid there is  
7 a framework in which I ask the questions and --

8 A. That is absolutely fine.

9 Q. That is the way we have to develop the evidence.

10 A. That is fine.

11 Q. I am sorry to interrupt you but we need to get on.

12 Can we go to your first report {C3/3/168},  
13 paragraph 353. As you have just explained, the position  
14 that you adopt in the Joint Expert Statement in agreeing  
15 with the market share of between 50 to 90% in the  
16 counterfactual is based on the two benchmarks of  
17 Google Play and Steam, yes?

18 A. Yes, yes.

19 Q. So let us look at those two benchmarks. Let us begin  
20 with Google. If we go to page 163 of your first report  
21 {C3/3/163}, and you say there, paragraph 345:

22 "In order to estimate how many iOS app transactions  
23 would stay on the App Store in the counterfactual,  
24 I consider potentially comparable app transaction  
25 platforms for other types of devices. For instance, in

1 the counterfactual, the App Store could look similar to  
2 Google Play in terms of the number of consumers and  
3 developers who transact on the first party platform  
4 versus other platforms for apps of a particular  
5 operating system. Currently, over 90% of all app  
6 downloads on Android devices in the UK occur through  
7 Google Play, even though consumers can download Android  
8 apps through platforms other than Google Play as well as  
9 directly from developers' websites."

10 You will see you have a footnote 450, and if we can  
11 look at footnote 450 you will see you refer to the  
12 Competition and Markets Authority's "Mobile ecosystems:  
13 Market study final report", and you refer to  
14 paragraph 4.35 of that report, yes?

15 A. Yes, yes, I see that reference.

16 Q. So let us go to that paragraph. That is at {AB6/25/92}.  
17 Sorry, can we go to page 139 {AB6/25/139}. Thank you.

18 So this is a conclusory section in the CMA's report  
19 and you see at paragraph 4.207, CMA says:

20 "We have found that both Apple and Google have  
21 substantial and entrenched market power in native app  
22 distribution."

23 Then at 4.208, they say:

24 "Overall, we have found that the constraint from  
25 within each mobile ecosystem is limited ..."

1 I would invite you to read the four bullet points  
2 please.

3 (Pause)

4 A. Okay.

5 Q. Then at paragraph 4.209, the CMA says:

6 "We have also found that Apple and Google place  
7 a limited competitive constraint on each other in  
8 relation to native app distribution."

9 If we go over the page {AB6/25/140}, and if you  
10 could please read to yourself the bullet at the top of  
11 the next page:

12 "We have also found that Apple and Google face  
13 a limited competitive constraint from alternative  
14 devices."

15 (Pause)

16 A. Okay.

17 Q. Then paragraph 4.210, the CMA says:

18 "Finally, we have found that Apple's and Google's  
19 substantial and entrenched market power in native app  
20 distribution is reflected in the commission rate they  
21 charge app developers for digital purchases which is set  
22 above the competitive level."

23 You might like to read to the end of that paragraph.

24 (Pause)

25 The point I want to put to you is this: the fact

1           that Google Play has substantial and entrenched market  
2           power clearly makes it inappropriate to rely on  
3           Google Play as an appropriate benchmark in a competitive  
4           counterfactual, does it not?

5       A.   So I would not necessarily draw that conclusion.

6           You know, what I am thinking about as the competitive  
7           counterfactual is what I have referred to many times as  
8           disintermediation of Apple's commissions and fees.  
9           Apple's price for distribution services would be  
10          competitive, there would be monetisation of the tools  
11          and technology and ecosystem value, even for people  
12          choosing alternative distribution stores. You know, on  
13          that basis I conclude that Apple's -- the commission for  
14          a developer using all of Apple's services would be  
15          around 30%, and I regard kind of Google Play as an  
16          imperfect comparator for thinking about the removal of  
17          the Distribution Requirements but I would still view it  
18          as being a useful comparator for the counterfactual that  
19          I have in mind.

20       Q.   Can we please go to {AB6/16/1}. This is the European  
21           Commission's 2018 Google Android Decision. Are you  
22           aware of this decision?

23       A.   I am, but I will admit to not being fully aware of all  
24           the details within it.

25       Q.   Can we go to page 129, please {AB6/16/129}, and it is

1           recital 590 at the top of the page where the Commission  
2           says:

3                 "For the purpose of this decision, the Commission  
4           concludes that Google holds a dominant position in the  
5           worldwide market (excluding China) for Android app  
6           stores since 2011."

7                 Now, the fact that Apple has been found to be  
8           dominant in the worldwide market for Android app stores,  
9           save for China --

10          A.   Google.  You said Apple.

11          Q.   I am sorry.  The fact that Google has been found to be  
12               dominant in the worldwide market for Android app stores  
13               is, again, highly relevant to its suitability or,  
14               rather, unsuitability as a benchmark in our case, is it  
15               not?

16          A.   That was one of the arguments that Mr Holt was using,  
17               which is why I also considered other comparisons.  As  
18               I just explained, in a disintermediation counterfactual,  
19               when one is taking account of the full value of the  
20               ecosystem, I am not sure one would draw the same  
21               conclusion.  But I have not opined on market definition  
22               or dominance, so obviously my ability to speak to some  
23               of these questions is not as strong as Professor Hitt's  
24               would have been.

25          THE CHAIRMAN:  Mr Hoskins, sorry to interrupt.

1           Professor Sweeting, you have used the expression  
2           "disintermediation counterfactual" a number of times.  
3           I just want to make sure I understand what you mean.  
4           Would you mind explaining what you mean by that?

5       A.   So what I am envisaging, a little bit like the schematic  
6           which you handed to Dr Singer at the end of last week,  
7           you know, what Apple will be doing will be introducing  
8           a schedule, obviously depending on the exact  
9           counterfactual we are talking about, of -- containing  
10          commissions and fees, some of which will be -- you know,  
11          there will be options for a developer who wants to  
12          purchase all of its services, you know, distribution,  
13          payment services, as well as the tools and technology  
14          and everything else from Apple, but there would also be,  
15          you know, commissions and fees of some type for  
16          developers who want to choose alternatives, say, to the  
17          distribution through the App Store. So they would be  
18          paying some fees or commissions, and obviously it is  
19          hard to know exactly what the combination would be, to  
20          Apple in recognition of the value of the services it is  
21          getting from Apple.

22          Of course they would also be paying for distribution  
23          services, or payment services from other providers in  
24          that counterfactual, and obviously what would be  
25          relevant for their choices are the total amounts they

1 would be paid to get everything through Apple or through  
2 alternatives.

3 So one could look at what they have done in -- what  
4 Apple has done in the Netherlands or South Korea as  
5 examples of disintermediation for the Payment  
6 Requirements. One can potentially look at the DMA  
7 for -- to see another much more complicated form of  
8 disintermediation, which is involving kind of  
9 distribution as well, and maybe highlighting that not  
10 everything is going to be commissions, there could also  
11 be fees.

12 Dr Singer and I did agree that the Netherlands and  
13 South Korea were relevant examples to look at, to think  
14 about what Apple might do in terms of the kinds of  
15 schemes that it would offer.

16 THE CHAIRMAN: The way you have been referring to that in  
17 the questions that counsel is asking you about Google,  
18 is it because -- I think you said somewhere the  
19 commission for all developers -- sorry, the commission  
20 for developers using all of Apple's services would be  
21 around 30%. Are you simply making the point that with  
22 the disintermediation it is likely to be around about  
23 30%, therefore that makes it equivalent to Google? Is  
24 that what you are saying?

25 A. So, you know, specifically my analysis of what I would

1 expect to happen to Apple's commissions is not relying  
2 on the Google Play example.

3 THE CHAIRMAN: No, I understand that. But I think the  
4 question is coming the other way, is it not, which is  
5 Mr Hoskins is asking you whether it is reasonable to  
6 rely on Google as a benchmark in the counterfactual,  
7 given that there is a suggestion from the document he  
8 has put to you that it is operating in a non-competitive  
9 environment and therefore not necessarily charging  
10 a competitive price, and I understood you to be saying  
11 something about why that was not the case, which was  
12 related to Apple's pricing. That is the bit I am not  
13 getting.

14 A. Sure. Sorry, I was not very clear in what I was trying  
15 to say. So clearly then the Tribunal will take a legal  
16 judgment about whether Google Play is a relevant  
17 comparison, and obviously I have no perspective really  
18 on that judgment. All I was trying to say was, you  
19 know, the way that I am thinking about the question is  
20 that when there is disintermediation, Apple's price for  
21 distribution services, Apple will have the incentive to  
22 set an implied -- you know, an implied competitive price  
23 for the App Store distribution service, and that some of  
24 these documents which counsel has showed to me are  
25 really about dominance specifically in the distribution

1 service, whereas the perspective that I am taking is  
2 a kind of more general one about the value that Apple's  
3 App Store is providing, and that one could imagine  
4 a competitive distribution price with the  
5 monetisation -- with monetisation partly coming through  
6 other fees and commissions.

7 But I realise that Google does not do that, so my  
8 point may not have been made at the most relevant place  
9 for the --

10 THE CHAIRMAN: I think that was the bit I was struggling  
11 with. Because I think that would suggest that the  
12 Google Play Store was even less of a useful comparator,  
13 would it not, if you are saying that you might end up  
14 with very different charging structures, and you are  
15 acknowledging that the commission might not properly  
16 represent proper value for the services being provided.

17 I think that is where Mr Hoskins is going -- and  
18 I do not want to intrude any further, Mr Hoskins -- but  
19 I just want to make sure you are clear what Mr Hoskins  
20 is asking you about, and I just had the feeling you were  
21 drifting off into something else.

22 A. No, and that is a very useful intervention, Mr Chairman.  
23 I might actually, though, flip the point around and say  
24 that, you know, in fact, as I understand it, you know,  
25 Google Play actually has not necessarily

1           disintermediated in quite the same way, but despite the  
2           fact that developers could potentially avoid the 30%  
3           commission completely if they go through -- you know, if  
4           they do direct downloads, for example, to Android  
5           phones, Google has maintained its very high market  
6           share.

7       THE CHAIRMAN:   Yes.

8       A.   Right?  So from that point of view, the economics might  
9           suggest that Google Play is actually telling us that the  
10          substitution to the kind of low-price, you know, make  
11          your own kind of option, is really not -- is really very  
12          unattractive and, despite its existence, Google has  
13          maintained a very high share.

14               If Apple's distribution price was set competitively,  
15               as I suggest, that would tend to mean that Apple's  
16               market share would be even higher than Google's.

17       THE CHAIRMAN:  Yes.  Well, I think -- I think I am going to  
18          hand back to Mr Hoskins, but I think just to be clear,  
19          so you are clear, I think Mr Hoskins is saying to you  
20          that that view of Google and the reasons why it still  
21          maintains that market share is, on the documents he is  
22          putting to you, because it is enforcing, if you like, an  
23          anti-competitive dominant position, notwithstanding the  
24          ability for people to go elsewhere.  I think that is the  
25          point that is being put to you.

1           So I just want you to be clear that that -- I think  
2           I understand your point about what Apple might do, but  
3           I do not really think that is answering the point  
4           Mr Hoskins is putting to you.

5           Mr Hoskins, sorry for the interruption.

6       MR HOSKINS: No, absolutely fine. We will, you will not be  
7       surprised to hear, be coming back to the new charges  
8       issues, so we will certainly be coming to that.

9           So of the two benchmarks you have put forward for  
10          market share, we have looked at Google and we are now  
11          going to look at Steam. If we go to your first report  
12          {C3/3/164} at paragraph 347, you say:

13          "Nevertheless, even if it were accurate that Google  
14          has engaged in anti-competitive conduct, I can consider  
15          other benchmarks to determine the App Store's likely  
16          share of iOS app transactions in the counterfactual.  
17          Another possible benchmark to consider is Steam and  
18          other platforms for PC digital game app  
19          transactions....."

20          If we go, please, to page 167 {C3/3/167}, at  
21          paragraph 352, three lines down you say:

22          "Therefore, I approximate that Steam accounts for  
23          39% of the PC game revenue worldwide. This  
24          approximation is uncertain, however, since it does not  
25          include in-game purchases. Furthermore, in my view, for

1 the reasons I discussed above in paragraph 348, Steam's  
2 share is likely an underestimate of what Apple would  
3 have in the counterfactual. Given this, it is not  
4 unreasonable that at least 50% of iOS app transactions  
5 by revenue would occur through the App Store in the  
6 counterfactual."

7 So in a sense you are using a Steam-plus  
8 counterfactual, because you have calculated the market  
9 share at 39%, but then you explain that you think it is  
10 appropriate to actually take 50% on the basis of Steam,  
11 yes?

12 A. Yes. But I repeat, I would still regard probably the  
13 sort of 11% increase as being a very conservative  
14 assessment of the likely difference, but correct, yes.

15 Q. Then if we go over the page to page 168 {C3/3/168}, you  
16 have got your conclusion, paragraph 353:

17 "Based on the two benchmarks of Google Play and  
18 Steam, I conclude that in a counterfactual without the  
19 Distribution Requirements, at least 50% of iOS app  
20 transactions by revenue, and potentially as high as 90%  
21 of iOS app transactions by revenue, would still occur  
22 through the App Store."

23 But if Google is put to one side, say the Tribunal  
24 finds that it is not an appropriate comparator, you do  
25 not refer to any other specific comparators other than

1           Steam-plus in your reports to support a higher figure,  
2           do you?

3       A. No, no, so that is correct in my first report.

4       Q. It is correct in all your reports.

5       A. Yes. I would also -- as an estimate of Steam's market  
6           share, you know, I am providing the 39% as a very --  
7           you know, as a conservative estimate. In particular it  
8           is very conservative because it includes all of the  
9           direct downloads.

10      Q. Can we go to Dr Singer's third report {C2/15/12} at  
11          paragraph 21 --

12      A. Sorry, which report was this?

13      Q. Third Singer.

14      A. Okay.

15      Q. You see in the third line:

16                "According to the US District Court in Epic Games v  
17                Apple: 'the incumbent Steam store charged a 30%  
18                commission for decades before Epic Games' store entered  
19                with a 12% commission. Immediately prior to Epic's  
20                entry, Steam lowered its commission to 20% and its  
21                average commission rate declined to 10.7%."

22                Then if we go to the joint statement {C4/2/67},  
23                proposition 93, if you want to read the proposition.

24                (Pause)

25                You see that Dr Singer agrees with that proposition

1 and says:

2 "Following the entry of Epic into the PC games  
3 market, Steam's effective commission rate fell to 10.7%.  
4 This counterfactual market share, and resulting  
5 commission, are consistent with my own modeling of  
6 Apple's counterfactual share and commission."

7 You --

8 A. Sorry, I have now lost this.

9 THE CHAIRMAN: I think the problem is that it is over the  
10 page.

11 A. Actually can I just finish reading this page and --  
12 I had not -- thank you.

13 MR HOSKINS: It is the entry at the bottom of Dr Singer. We  
14 do not need to read all of it. It is simply the  
15 "Following the entry" part.

16 THE CHAIRMAN: If you just say when you are ready to turn  
17 the page, Professor Sweeting.

18 A. Okay.

19 (Pause)

20 Okay.

21 Q. Then if we go back to the previous page, and I would  
22 like to pick up your comments at the bottom of that page  
23 where you say:

24 "I note that while Dr Singer cites an order from  
25 Epic v Apple in the US, he has not provided any

1        calculations or analysis to support the opinion that  
2        Steam's effective commission rate fell to 10.7%  
3        following Steam's change in its commission rate tiers.  
4        Such a statement seems implausible on its face  
5        considering Steam's lowest stated commission rate fell  
6        to 20%, and Dr Singer does not attempt to explain how  
7        the effective commission rate could be lower than  
8        Steam's lowest commission rate tier."

9            If we go to the Epic v Apple judgment, that is  
10        {AB5/7/98}. You will see the heading "Increased  
11        consumer app prices", and can you please read the  
12        paragraph that begins:

13            "In the context of gaming ..."

14            I will point out that Dr Evans was Epic's expert.  
15        That is who is referred to in this paragraph.

16            (Pause)

17        A. Okay, so I read -- I actually do not understand the last  
18        sentence, this thing about --

19        Q. Do not worry, I am not interested in the last sentence  
20        so we do not have to trouble with that.

21            Now, the fact that the US court was in a position to  
22        make the findings about Epic's average commission  
23        rate --

24        A. Steam.

25        Q. Steam, I am so sorry, Steam's average commission rate,

1 indicates that evidence concerning Steam's commission  
2 rates must have been available in the Epic v Apple  
3 proceedings, does it not?

4 A. I mean, I assume there was some evidence. I obviously  
5 have no idea what evidence that was.

6 Q. Well, that is my next question, because Apple was  
7 a party to these proceedings. Did you ask Apple if you  
8 could have access to that data for the purposes of your  
9 report? Did you ask the question?

10 A. Sorry, so you are asking me could I have -- did I ask  
11 Apple for the evidence on Steam's commission from the  
12 Apple v Epic proceedings? No, I did not.

13 Q. Without access to that data, you are not in a position  
14 to give evidence on the effective commission rate for  
15 Steam after 2018, are you?

16 A. No, and I am also not in a position to know what its  
17 average commission rate was before 2017, or 2018.

18 Q. I would like to move on to the competitive  
19 counterfactual in the In-App Aftermarket, so we are now  
20 looking at in-app purchases and subscription purchases.  
21 Can we go to the Joint Expert Statement {C4/2/83}. Can  
22 we look at proposition 120.

23 The proposition is:

24 "In the Primary Counterfactual, Apple's market share  
25 in the iOS In-App Aftermarket would be influenced by its

1 market share in the iOS App Distribution Market."

2 You agree with that proposition, and would you like  
3 to read what you say in the comments, please.

4 (Pause)

5 A. Yes, so this is premised partly on an assumption that  
6 IAP is only available through the App Store, right. You  
7 would not be able to use IAP on alternative app  
8 distribution platforms.

9 Q. So your proposition here, the one you agree with, is  
10 that a reduction in Apple's market share in the iOS App  
11 Distribution Market would lead to a lower market share  
12 for Apple in the iOS app aftermarket. That is what this  
13 proposition is about, is it not?

14 A. Yes, right. So as I explained, I am assuming that apps  
15 that would be distributed through an alternative iOS  
16 distribution platform would be using the payment  
17 services options that are offered through that  
18 alternative platform, so that while obviously the share  
19 of -- you know, who knows what types of apps would be  
20 distributed through the alternative platforms, whether  
21 they would use in-app services, but the logic would be  
22 if you lose share in distribution, there will be some  
23 loss of share in in-app payment --

24 Q. If we go to proposition 121, the proposition is:

25 "In the Primary Counterfactual, a plausible

1 counterfactual market share (as measured by revenues)  
2 for Apple in Dr Singer's iOS In-App Aftermarket is  
3 between 50 and 90%."

4 You agree with that proposition, yes?

5 A. Yes, based on how I had thought about the distribution  
6 thing, and assuming that roughly the market shares would  
7 align.

8 Q. You say in the comments you discuss this in more detail  
9 in your answer to proposition 92, and you refer  
10 specifically to paragraph 353 of your first report. We  
11 have already looked at those references, and those  
12 references relate back to your reliance on Google and  
13 Steam to estimate what market share Apple would have in  
14 a competitive market, do they not? It is simply  
15 a cross-reference to Google and Steam?

16 A. So I obviously cannot remember the exact numbers, but  
17 yes. So I think it is referring to my analysis of the  
18 distribution counterfactual and there I talk about  
19 Google and Steam.

20 Q. If we go to page 75 of this joint statement,  
21 proposition 105 is:

22 "In the Primary Counterfactual and the Payment  
23 System Counterfactual --"

24 A. Sorry, which one?

25 Q. 105:

1            "In the Primary Counterfactual and the Payment  
2            System Counterfactual, multiple iOS payment systems  
3            could facilitate Relevant In-App Purchases and relevant  
4            subscription purchases."

5            You agree with that proposition, do you not?

6            A. Yes.

7            Q. All else being equal, the more competitors Apple would  
8            have faced in the Primary Counterfactual, the smaller  
9            its market share would be likely to have been, would it  
10           not?

11           A. I would not quite necessarily draw that connection.

12           I mean, in my first report I discuss the possibility  
13           that even if -- I regard it as unlikely, but you could  
14           imagine the --

15           Q. Sorry, you regard what as unlikely, just to be clear?

16           A. I am going to explain, sorry. So I do briefly mention  
17           the Chinese Android market as being an example of what  
18           the non-app store part of the market would look like.  
19           So in the Chinese Android market we see lots of  
20           providers with very high prices and apparently -- high  
21           commissions and apparently low quality, so in that case  
22           I would expect Apple to have a higher share than maybe  
23           an example -- than an alternative where maybe there is  
24           one or two actually higher quality alternatives. So  
25           I would not necessarily make the connection just between

1 the number of alternatives and the market share, but  
2 I agree with the broad point you make.

3 Q. In your reports you make the point that the Chinese poor  
4 quality counterfactual is not likely to be the one that  
5 applies here?

6 A. Yes, I do.

7 Q. So I want to look next at the payment systems  
8 counterfactual. Just so we are all in the same place,  
9 that is a world in which Apple retains a monopoly over  
10 iOS app distribution but has to permit competition from  
11 alternative payment facilitators. Do you remember that  
12 definition?

13 A. For are in-app transactions.

14 Q. So if we go to page 78 of this joint statement  
15 {C4/2/78}, proposition 111 is:

16 "In the Payment System Counterfactual, a plausible  
17 counterfactual market share for Apple in the Dr Singer's  
18 iOS In-App Aftermarket is between 30 and 60%."

19 You disagree with that, and you say:

20 "I would expect that nearly all iOS App Developers  
21 would continue to use Apple's ASPS/IAP for iOS In-App  
22 Aftermarket Services."

23 Is that still your position?

24 A. Yes, where only the Payment System Restrictions are  
25 removed, yes.

1 Q. Can we go back to your first report {C3/3/126},  
2 paragraph 277, and you will see the heading above  
3 paragraph 276 says "Likely Scenarios Absent the Payment  
4 Requirements". Then I would invite you to read  
5 paragraph 277, please.

6 A. I am just going to read 276 first.

7 (Pause)

8 Okay.

9 Q. So you accept --

10 A. Can I just read --

11 Q. I am so sorry, it was just an "Okay" to turn over.

12 Okay, sorry.

13 THE CHAIRMAN: Yes, so we need to go to the next page,  
14 please.

15 A. Yes, so we can go to the next page but hold on a second.

16 {C3/3/127}

17 (Pause)

18 Okay.

19 Q. So here in this paragraph you accept that in the payment  
20 systems counterfactual there would be many potential  
21 competitors to Apple, yes?

22 A. Yes, so specifically in the context of the first report,  
23 this was really very much focused on payment processing  
24 as being kind of the product we were talking about. So  
25 in that context, I was thinking about large payment

1 processing providers who I was thinking it would be  
2 quite easy for them to enter, obviously without knowing  
3 exactly kind of their costs of entry.

4 Obviously things have slightly shifted in terms of  
5 a focus more towards, you know, payment services  
6 provider with a bigger set of products and maybe higher  
7 entry costs, and obviously, you know, the evidence of  
8 Mr Owens has actually made me probably more sceptical  
9 that those firms might find it profitable to enter,  
10 particularly in a UK-only counterfactual, than I was  
11 when I wrote this report.

12 Q. But you have not, in any of your later reports, tried to  
13 draw any distinction to suggest, on a broader concept of  
14 payment service providers, that many people would not  
15 seek to enter the market. You have not actually made  
16 that point in writing anywhere, have you?

17 A. No, I do not believe that they have, and I was --  
18 you know, I was actually surprised when I heard some of  
19 Mr Owens' testimony.

20 Q. Well, let us look at some of this evidence. Do you  
21 agree that there is a material appetite amongst  
22 developers to be able to use payment facilitators other  
23 than Apple's IAP?

24 A. Well, I think we have to look at empirical evidence to  
25 understand why they may be expressing that interest, so,

1 as I think we discussed in the hot-tub --

2 Q. Sorry, but the premise of that is you accept there is  
3 a material appetite but you want to look at the  
4 motivation. Do you accept the premise of the question?

5 A. Well, it depends what we are trying -- you know, I would  
6 accept that if using an alternative payment services  
7 provider would allow a developer to avoid a 30%  
8 commission, then there could well be significant demand  
9 for that.

10 Q. Okay, can we -- (overspeaking) --

11 A. -- competitive price, I am not sure.

12 Q. Can we go to the Spotify decision. That is {AB6/45/12}.  
13 It is recital 12. Are you aware that in 2019, Spotify  
14 made a formal complaint to the European Commission about  
15 being required to use Apple's in-app purchase mechanism?

16 A. So I am aware that Spotify made a number of complaints  
17 in relation to various parts of the Payment  
18 Requirements, so yes. Obviously I am not super-familiar  
19 with exactly what they said, but I have read the  
20 Commission's decision.

21 Q. Well, you see in (i) that one of the complaints related  
22 specifically that Apple required that:

23 "... developers that offer paid digital content or  
24 subscriptions ... in their iOS Apps to make use of  
25 Apple's in-app purchase mechanism ('IAP') ..."

1 A. Yes.

2 Q. If we can go to the claim form please, that is  
3 {A1/1/22}, paragraph 69. Are you aware that in 2020,  
4 Epic Games sought to use an alternative to Apple's IAP  
5 and was suspended from the App Store as a result?

6 A. Yes, I am.

7 Q. Are you aware that Apple excludes small developers from  
8 the App Store for seeking to use alternatives to Apple's  
9 IAP?

10 A. Yes, yes.

11 Q. Presumably if developers like Spotify, Epic Games and  
12 small developers were happy with Apple's IAP and  
13 commission rates, then they would be less inclined to  
14 try and circumvent them or complain about them, would  
15 they not?

16 A. I mean or -- any developer would prefer to pay a lower  
17 commission rate, all else equal.

18 Q. If they thought that the rates were fair, then they  
19 would be less inclined to complain about them? I do not  
20 go into a shop and, if I am buying a Mars Bar, have an  
21 argument because it is costing me a pound if I am quite  
22 happy to pay a pound for a Mars Bar?

23 A. But you would be happy if the Mars Bar was 50p, right?

24 Q. I would, but I do not go into the shop and say "Make me  
25 happy, give me a Mars Bar for 50p".

A. If you were doing millions or billions of dollars of commerce in Mars Bars, you might well make that objection.

Q. Can we go to Mr Owens' statement, {B1/1/1}.

THE CHAIRMAN: Mr Hoskins ...

MR HOSKINS: I am sorry, is it time?

THE CHAIRMAN: I am just thinking about the time, if it is a convenient point. We can keep going a bit longer if you want to.

MR HOSKINS: No, that is fine. We can stop there.

THE CHAIRMAN: We will take ten minutes then.

(11.48 am)

(Short Break)

(11.58 am)

THE CHAIRMAN: Yes, Mr Hoskins.

MR HOSKINS: We were looking at evidence of the appetite amongst developers to be able to use payment facilitators other than Apple, and I would like to take you next to Mr Owens' statement {B1/1/1}. You referred to this a number of times so you have obviously read it.

I would like to start at page 6, paragraph 17 {B1/1/6}. Mr Owens explains:

"Paddle has received many requests over the years from iOS App Developers to use Paddle's solution."

So this is more evidence, is it not, that there is

1 demand from iOS App Developers to be able to use payment  
2 systems for in-app purchases other than IAP, is it not?

3 A. Yes, but as I have explained, you have to put it in the  
4 context of their motivation for asking.

5 Q. Well, we have talked about the Mars Bar, so let us move  
6 on.

7 Can we go to {D1/630/1}. This is an internal Apple  
8 email dated 12 December 2018. Have you seen this email  
9 before?

10 A. I have not.

11 Q. So you will see the subject is "FYI - Lyft and Uber  
12 update". If you look about halfway down the text, you  
13 will see on 12 December 2018 at 10.42 am  
14 Lindsey Blumenthal wrote --

15 A. Can you actually tell me who these people are?

16 Q. I cannot tell you. I can only tell you they are  
17 internal Apple people, which we can tell from their  
18 internal email addresses, but I cannot tell you what  
19 positions they actually had.

20 So Lindsey Blumenthal wrote:

21 "Hi Matt.

22 "Trystan confirmed that IAP was optional for the  
23 membership subscriptions, so I communicated this message  
24 to Lyft today. Lyft launched the \$300/month 'all  
25 access' model without IAP, and is currently testing the

1           \$5-10/month subscription."

2           Mr Fischer replied:

3           "Thanks. Unfortunately, IAP being 'optional' means  
4           that no one will ever use it."

5           So we see here an internal Apple document  
6           recognising that IAP is not necessarily the holy grail,  
7           do we not?

8       A. So I am understanding that this specific email is in the  
9       context of firms providing, you know, physical goods or  
10      services, and that is kind of outside the setting in  
11      which we are talking about IAP.

12     Q. Fischer was head of the App Store, I am told,  
13       Matt Fischer.

14     A. Okay.

15     Q. Can we go back to the CMA's mobile ecosystems final  
16       report {AB3/33/12}. Sorry, that is my mispronunciation  
17       {AB6/33/12}. Thank you.

18     A. Is this from a -- oh, it is CMA.

19     Q. So this is the CMA mobile ecosystems market study final  
20       report, yes, the one we have looked at before. You are  
21       aware of it?

22     A. Yes, I am aware of it. I was just confirming.

23     Q. I can show you the title page if --

24     A. No, no, that is fine.

25     Q. So this is in Appendix H of the report, and I would like

1           you please to read paragraphs 39 to 41 first of all.

2           (Pause)

3       A.   I have read 39.   Did you want me to read 40?

4       Q.   To 41 please.

5       A.   Okay.

6           (Pause)

7           Okay, we can go to 41.

8           (Pause)

9           Okay, I have read it.

10       Q.   Then over the page, please {AB6/33/14}, and if you could  
11       read paragraphs 44 and 45.

12       (Pause)

13       A.   Sorry, in 45, when it says "its service", does that  
14       mean -- oh, from one billing provider, that means an  
15       alternative payment services provider, is that right?

16       Okay.

17       Q.   Had you read those paragraphs before?

18       A.   I have looked through all the -- you know, I have looked  
19       through the vast majority of the mobile ecosystems  
20       report.   I cannot specifically recall these paragraphs,  
21       but --

22       Q.   You do not take account of these paragraphs in your  
23       report.   You do not cite them and address them, do you?

24       A.   So I do not believe that I specifically cite these  
25       paragraphs.   However, it does not particularly change my

1 opinion.

2 Q. Well, it may not change your view, but the point I am  
3 going to put to you is this: given the overwhelming  
4 evidence that we have looked at that there is demand  
5 from developers to use alternative payment solutions,  
6 your suggestion that nearly all developers would  
7 continue to use Apple's payment services in the Payment  
8 System Counterfactual is not credible, is it?

9 A. So I would disagree with that. So specifically in the  
10 interpretation of these paragraphs, you know, obviously  
11 there are references to several developers a number of  
12 times. You know, it is not obvious to me how to  
13 interpret such a reference. You know, I do not know how  
14 many developers were asked, I do not know exactly which  
15 questions they were asked.

16 You know, obviously, you know, these developers are  
17 raising issues that they may have preferred kind of IAP  
18 to work in slightly different ways, such as offering  
19 slightly more flexibility of price tiers, even though  
20 I understand the number of price tiers is large, but  
21 this is not an evaluation of whether, when IAP is priced  
22 competitively, as it would be in my disintermediated  
23 counterfactual, and they are comparing with  
24 alternatives, what they would actually choose.

25 Of course there is -- I think it is worth bearing in

1 mind that obviously IAP is also providing value to  
2 consumers as well as to developers.

3 Q. It is not just the CMA's evidence we have looked at, we  
4 have looked at the Spotify decision, we have looked at  
5 the fact that Epic Games sought to use an alternative to  
6 IAP, we talked about small developers seeking to use  
7 alternatives to IAP, we looked at Mr Owens' statement,  
8 we looked at the internal Apple email about Lyft and  
9 Uber.

10 The evidence is overwhelming that there is demand  
11 for use of alternative services, and that is, remember,  
12 in the actual world where distribution is Apple's  
13 monopoly, and we are looking at the payment systems  
14 counterfactual. So the idea that, given this amount of  
15 demand in the actual world, you would not find a great  
16 demand in the payments counterfactual just does not run,  
17 does it?

18 A. So, you know, specifically in my reports I, you know,  
19 mention the lack of evidence of significant useful  
20 alternative payment providers in the Netherlands and  
21 South Korea, and the different Epic perspective, which  
22 is obviously the ability of developers to opt out of  
23 using the Epic Games Store's payment system, and also  
24 their ability to do so on the Microsoft Store, and very  
25 recently the Samsung store, where we do not see

1           significant substitution even when developers would  
2           appear to be able to avoid the quite substantial  
3           commission by doing so.

4       Q.   If we go back to the Joint Expert Statement {C4/2/78},  
5           proposition 111.  So we have already seen this:

6                 "In the Payment System Counterfactual, a plausible  
7           counterfactual market share for Apple in Dr Singer's iOS  
8           In-App Aftermarket is between 30 and 60%."

9                 As we have already seen, you disagree with that.

10      A.   Yes.

11      Q.   You say:

12                 "I would expect that nearly all iOS App Developers  
13           would continue to use Apple's ASPS/IAP for iOS In-App  
14           Aftermarket Services."

15                 Then you continue by saying:

16                 "Dr Singer's opinion that this ignores iOS App  
17           Developers' incentive to maximise profits is based on  
18           the incorrect assumption that alternative providers  
19           would be able to offer the same benefits to consumers  
20           and developers in terms of privacy and security for  
21           a lower fee."

22                 If we can go back, please, to your first report,  
23           paragraph 277, {C3/3/126}.  We saw this a little while  
24           ago.  If you would like to just remind yourself what it  
25           says, 277.

1 (Pause)

2 A. 277, okay.

3 Q. If you want to flick it over the page, please  
4 {C3/3/127}.

5 (Pause)

6 Then go back to the previous page, please  
7 {C3/3/126}.

8 So you see that you suggest at the beginning of that  
9 paragraph that in the payment systems counterfactual,  
10 Apple would ensure that third-party payment facilitators  
11 met minimum security standards, and it is on that basis,  
12 you say, that multiple iOS payment systems could  
13 facilitate Relevant In-App Purchases and subscription  
14 purchases, is it not?

15 A. So, you know, I am noting, as you just said, that Apple  
16 is likely to want to enforce a minimum standard for  
17 in-app purchases happening kind of facilitated by the  
18 App Store, and that it was my understanding that, for  
19 example, in the Netherlands there are -- and also in  
20 the UK, that there are a number of firms who might meet  
21 these requirements.

22 Q. In such a scenario where Apple did ensure that  
23 third-party payment processors met minimum security  
24 requirements, one would expect to have those alternative  
25 providers competing in relation to both price and

1           quality, would you not?

2           A. Yes, so if a number of alternative providers do enter  
3           this specific kind of iOS space, I would expect them to  
4           try to compete on price, and in particular developed --  
5           developer focus services, given that the developers  
6           would be the people making the choice.

7           Q. So some of these alternative providers would be likely  
8           to offer lower prices than Apple, even if the benefits  
9           they are offering are not the same as those offered by  
10          Apple?

11          A. So, you know, my -- in my counterfactual Apple charges  
12          a competitive price, implied price, for its payment  
13          service. You know, I would expect that to be able to  
14          get significant demand a rival provider would be  
15          offering, you know, a lower quality adjusted price than  
16          Apple, you know, so insofar as that, I would agree.

17                 Now, I would also come back to the point that of  
18          course if a payment service provider really is able to  
19          provide greater value for developers, then, you know,  
20          without any negative externalities on the rest of the  
21          system, Apple does not of course have an incentive to  
22          exclude them.

23          Q. So developers will weigh up the price and quality  
24          offering of each alternative provider when deciding who  
25          to use, will they not?

1 A. Yes, I would expect them to take both price and quality  
2 into account.

3 Q. Given that in this scenario, Apple will ensure that  
4 minimum security requirements are met, some developers  
5 will prefer to accept a lower price?

6 A. If lower prices are available --

7 Q. Well, remember --

8 A. -- and the quality is really the same rate. So here  
9 I am saying there are -- you know, Apple would do its  
10 best to ensure a minimum quality level. I am not saying  
11 that that would necessarily -- you know, they would be  
12 able to ensure a quality level equivalent to their own  
13 service.

14 Q. But it does not have to be equivalent, does it, because  
15 it is for the developers to choose, as you have just  
16 accepted, the price/quality offering?

17 A. Yes. Sorry, I would absolutely agree with that, and  
18 I would recognise that lower quality can also have  
19 negative externalities on customers as well as the  
20 ecosystem overall.

21 Q. Where one has multiple alternative providers, all  
22 competing on the basis of price and quality, that is  
23 likely to lead to a material reduction in Apple's market  
24 share, is it not?

25 A. If Apple is setting a competitive price for its

1 integrated product, it is, you know, the experience of  
2 what we see --

3 Q. Professor Sweeting, I am sorry to interrupt, but  
4 remember I am asking you about the counterfactual.

5 A. Yes, I know.

6 Q. So we are in a world now where we have succeeded on  
7 market definition, we have succeeded on dominance, so  
8 you do not have the get-out that Apple is charging  
9 competitive prices.

10 A. In my counterfactual, Apple charges a -- is expected to  
11 charge a competitive price for its payment service, so  
12 that is not claiming -- you know, I am recognising that  
13 we are at the stage where we are in a counterfactual  
14 world, but in my counterfactual the implied price --  
15 when they disintermediate or when they come up with this  
16 price schedule, the applied price for using Apple's  
17 payment service is competitive.

18 There I think the empirical evidence we see from  
19 other countries, the Epic Games Store, is going to  
20 indicate that while some developers may choose an  
21 alternative, and I will certainly allow you that, that  
22 not that many would do so.

23 Q. Well, let us move on to Apple's charges and let us begin  
24 with the annual Developer Fee. Can we go to the Joint  
25 Expert Statement {C4/2/59}, proposition 78.

1           The proposition is:

2           "In any of the Three Counterfactuals, Apple would  
3           have an incentive to change its annual Developer Fee."

4           Both you and Dr Singer disagree with that  
5           proposition, and you say:

6           "It is not clear what is intended by 'change' in  
7           this proposition."

8           Then you say:

9           "While it is possible that Apple could increase its  
10          annual Developer Fee in the Three Counterfactuals,  
11          I view this as unlikely as Apple would generally not  
12          want to discourage new, smaller iOS App Developers from  
13          developing or maintaining iOS Apps."

14          So your position is that in the counterfactual,  
15          Apple would not be likely to increase its annual  
16          Developer Fee, is it not?

17        A. So to be clear, this is a statement that it -- I would  
18        not expect it to make a dramatic change. I am not  
19        making a precise comment that £79 would be exactly the  
20        number. For the reason I explain, Apple's strategy  
21        seems -- currently seems to be consistent with  
22        encouraging a large number of small developers to try  
23        and develop apps, and I am assuming, or I am presuming,  
24        that Apple would still have that incentive in the  
25        counterfactual.

1           Of course, if Apple was very restricted in -- for  
2           example, by regulation in the nature of other fees that  
3           it could charge, then the annual Developer Fee might  
4           well change.

5       Q.   Can we go to page 75 of the joint statement, please  
6           {C4/2/75}, and proposition 104.

7           The proposition is:

8           "In either the Primary Counterfactual or the App  
9           Distribution Counterfactual, developers would pay less  
10          in total in the counterfactual than the actual world to  
11          distribute their apps."

12          You disagree with that proposition. Can I ask you  
13          to remind yourself what you say in your comments,  
14          please.

15       A.   Sure.

16          (Pause)

17          Okay.

18       Q.   Okay, now assume for the purposes of my next questions  
19           that the Tribunal rejects Professor Hitt's opinion that  
20           Apple charges competitive commission rates in the actual  
21           world; put that to one side.

22       A.   Okay.

23       Q.   Looking at the commission rates, could I --

24       A.   We are also assuming Dr Singer's markets and --

25       Q.   Absolutely.

1 A. Okay.

2 Q. In a counterfactual world in which Apple had 50% of the  
3 market, and competitors had the remaining 50% of the  
4 market, are you suggesting that Apple would still have  
5 been able to charge the same rate of commission as in  
6 the actual world?

7 A. So in my disintermediated counterfactual, Apple will be  
8 charging through some form of commissions or fees to  
9 monetise the value it is providing to developers who  
10 choose an alternative distribution platform, and it  
11 would also be setting a competitive price for its  
12 distribution service.

13 So let us just assume, for the sake of argument,  
14 that all of what they are monetising is through  
15 commissions, then, you know, I would expect it --  
16 you know, it could well be the case that the total  
17 commissions paid to Apple by developers who choose to  
18 buy everything through Apple could be around 30%, and if  
19 a developer chooses to use an alternative distribution  
20 platform then their costs in total could also be around,  
21 you know, 30%; potentially they could be more than 30%,  
22 you know, and that is without thinking about quality  
23 adjustment.

24 Q. You adopt that position, do you, in the scenario I have  
25 put to you, which is Apple having 50% of the market and

1 competitors having the remaining 50% of the market?

2 A. For -- of the distribution market.

3 Q. You maintain that that is the position that you would

4 expect would happen in a 50/50 market like that?

5 A. That is what I would expect to happen for any

6 configuration of market shares.

7 Q. Can we go to your second report {C3/7/58}. Looking at

8 the top of the page, so this is paragraph 122, and

9 I want to pick it up --

10 A. Sorry, this is my second report?

11 Q. This is your second report.

12 A. Okay.

13 Q. I am picking it up three lines down, where you say:

14 "I would expect that in the counterfactual, other

15 firms that operate as iOS app transaction platforms or

16 alternative payment systems would similarly

17 differentiate themselves and set a range of commission

18 rates, even if they have a small share of the alleged

19 'markets'."

20 So you would expect there to be price competition in

21 the counterfactuals, would you not?

22 A. I would expect that alternative providers of either type

23 of service would be competing on price. They would also

24 be competing on other dimensions as well.

25 Q. The existence of that price competition would restrict

1 or prevent Apple from maintaining the same rate of  
2 commission that it has been doing in the actual world?

3 A. Well, as I have explained, you know, in my  
4 counterfactual, independent of the arrangement of market  
5 shares, and also ignoring how the arrangement of market  
6 shares might affect ecosystem quality, Apple would want  
7 to set the implied price of its distribution service as  
8 a competitive offer.

9 Q. So as a competitive offer, it means it would have to be  
10 respecting and having regard to the competing prices of  
11 the other providers?

12 A. As well as its own costs.

13 Q. I am sorry?

14 A. As well as its own costs.

15 Q. Absolutely, and that may mean that Apple cannot charge  
16 as much as it would otherwise have wished to charge in  
17 the competitive counterfactual?

18 A. And as I have explained, it also has -- you know, in the  
19 situation where these alternative --

20 Q. Sorry, was that a yes, before you go on? You said  
21 "And".

22 A. Okay, could you actually just repeat the question and  
23 I will tell you whether it is yes but or no but.

24 Q. That may mean that Apple cannot charge as much as it  
25 would otherwise have wished to charge in the competitive

1           counterfactual?

2           A. Not necessarily.

3           Q. What else would you like to say?

4           A. So Apple, if -- it is also going to be -- in my  
5           counterfactual it will also be monetising, you know, the  
6           value of everything in the ecosystem, partly through the  
7           fees and commissions it will be charging for its tools  
8           and technology, including to developers who use other  
9           distribution services. If those other distribution  
10          services are providing a great deal of value, right,  
11          they come up with new and innovative ways to distribute  
12          and matchmake and things like that, then, you know, of  
13          course when those distribution platforms make sales,  
14          Apple will also be benefiting, and that would affect of  
15          course how Apple is thinking about its own distribution  
16          services.

17          Q. So let us look at these charges for tools and  
18          technology. If we go to the Joint Expert Statement  
19          {C4/2/75} at proposition 104, and if we look at your  
20          comments, you suggest that:

21                 "... Apple would charge iOS App Developers who  
22          choose to use an alternative iOS App Transaction  
23          Platform or use an alternative iOS App Payment System an  
24          additional fee or commission to reflect the value of  
25          Apple's Proprietary Technology and Services."

1 Do you see that in your comments?

2 A. Yes, I see that.

3 Q. If we go to your second report {C3/7/43},  
4 paragraph 87 --

5 A. That is the one at the top, okay. Can I actually just  
6 read from the start of the paragraph?

7 Q. I was going to pick it up six or seven lines down, where  
8 you say:

9 "If Apple were prevented from having the  
10 Distribution Requirements and/or Payment  
11 Requirements - requirements that have been in place  
12 since the launch of the App Store - I would not expect  
13 from an economic perspective that Apple would only  
14 choose to charge a commission on Relevant Purchases  
15 through the App Store. Instead, as I discussed in the  
16 Sweeting first report, I would expect that Apple would  
17 change its monetisation strategy to also implement other  
18 fees, such as fees for developers that transact on other  
19 iOS app transaction platforms or use alternative iOS  
20 payment systems, in recognition of the value Apple  
21 provides to iOS developers."

22 So you are making a distinction there between the  
23 commission and other fees. Do you see that?

24 A. When I talk about "other fees", that could include fees  
25 that are charged in the form of commissions. They could

1           also be in the form of fees that are charged on a per  
2           unit basis.

3       Q.   You have a footnote 148 in support of what you say  
4           there.   Can we look at footnote 148.

5           You see that footnote 148 relies on two sources to  
6           support this suggestion: section 10.1 of your first  
7           report, and paragraph 199 of Mr Schiller's witness  
8           statement.   Do you see that?

9       A.   Yes.

10      Q.   So let us look at section 10.1 of your first report.  
11           Can we go to {C3/3/121}, paragraph 266.   You say:

12           "Hence, while the developer may pay lower prices for  
13           'distribution' and 'payment processing' compared to the  
14           commission it would pay when transacting through the  
15           App Store, the developer would be receiving  
16           significantly reduced services and value."

17           So here you are accepting that in the  
18           counterfactual, a developer may pay lower prices for  
19           distribution and payment processing, are you not?

20      A.   So I am -- to be clear, paragraph 266 is not ruling out  
21           the possibility of the other fees or commissions.   This  
22           is saying that, you know, one could imagine that, as  
23           I have explained, Apple will be setting a competitive  
24           price for its distribution or payment services.   Other  
25           providers will of course compete on price, some of them

1           may provide somewhat less, but some developers may  
2           choose them.

3           Now, of course, to work out the total cost to  
4           developers, which will be what is front of mind for  
5           those developers, you also have to add in the other fees  
6           and commissions.

7       Q.   The other source you rely on in footnote 148 of your  
8           first report, as we have seen, is paragraph 199 of  
9           Mr Schiller's witness statement. That is at {B2/5/54}.  
10          Can I invite you to read paragraphs 198 to 199, please.

11       A.   Which paragraph did I say?

12       Q.   198 -- 199 is the one you cite in your report, and I am  
13           asking you to read 198 and 199.

14       A.   Sure.

15           (Pause)

16           Okay.

17       Q.   So you will see from the first sentence of paragraph 198  
18           that these paragraphs relate to internal discussions  
19           about Apple's charging structure prior to the launch of  
20           the App Store. Do you see that?

21       A.   Yes.

22       Q.   Mr Schiller does not provide any evidence about what  
23           charging structure Apple would be likely to adopt in any  
24           counterfactual market in which Apple faced competition  
25           for iOS App Distribution or Aftermarket Services, does

1 he?

2 A. So obviously, you know, the Distribution Requirements  
3 were in place from the launch of the App Store, and most  
4 of 198 and 199 are obviously therefore predicated on  
5 them being in place, which means that disintermediation  
6 is not a relevant factor. Obviously though, you know,  
7 in the last paragraph of 199 he is saying at a broad  
8 level: if Apple had been externally constrained in what  
9 it was able to do, they would have thought about  
10 monetisation in other ways, and that is consistent with  
11 the point that I am making in whichever paragraph of my  
12 report you cite.

13 Q. So that is the bit of paragraph 199 that you say  
14 supports your analysis of the disintermediation?

15 A. So, you know, this is obviously speaking at a higher  
16 level that says if Apple -- or any firm indeed -- is  
17 constrained, that they would have changed their  
18 monetisation strategies in response, whereas Mr --

19 Q. I think my question --

20 A. I am understanding that part of the issue here could be  
21 one could have imagined that Apple would only charge  
22 developers who acquire kind of all of their --

23 Q. I am not asking you to speculate. At the moment I am  
24 simply asking about what is in Mr Schiller's  
25 statement --

1 A. Sure.

2 Q. -- and which part of Mr Schiller's statement you  
3 specifically rely upon for your disintermediation  
4 theory.

5 A. So here it is the:

6 "... we would have explored other ways ..."

7 Q. That is it? That is the bit you rely upon in your  
8 report?

9 A. Yes.

10 Q. If we go to paragraph 198, four lines up from the  
11 bottom, Mr Schiller says:

12 "... Apple has not historically been in the business  
13 of selling access to or licences for its technology and  
14 services."

15 Do you see that?

16 A. Yes, so this is particularly in regard to the flat fee.  
17 Of course, they did end up adopting in part a flat fee.

18 Q. Well, we will come to that. But what he says is -- in  
19 the context, he explains:

20 "A flat fee was particularly unattractive ..."

21 The reason it was unattractive is because:

22 "... Apple has not historically been in the business  
23 of selling access to or licences for its technology and  
24 services."

25 That statement of Apple's historic position

1           contradicts your suggestion that, in a competitive  
2           counterfactual, Apple would charge developers an  
3           additional fee to reflect the value of its Proprietary  
4           Technology and Services, does it not?

5       A. I do not think it does. So in particular, you know, my  
6       approach to this is to think of -- think through the  
7       problem as a matter of economics, and also to think  
8       through the problem as the natural competitive  
9       alternative to, for example, removing a tie, where what  
10      an economist would always think about is whether it is  
11      going to charge a price for the tying product and  
12      a separate price for the tied product. It is not going  
13      to give the tying product away for free.

14     Q. I would like to ask you some questions about the  
15     payments aftermarket. Can we go to the joint statement  
16     {C4/2/78}, proposition 112, and the proposition is:

17           "The fees charged by Paddle are a reasonable  
18     benchmark for the commission rate Apple would charge for  
19     iOS In-App Aftermarket Services in the Primary  
20     Counterfactual and Payment System Counterfactual."

21           Dr Singer agrees with that proposition. He says:

22           "Paddle provides a very similar suite of iOS In-App  
23     Aftermarket Services presently offered by Apple's ASPs  
24     (as well as additional In-App Aftermarket services not  
25     presently offered by Apple) and charges a 5-10%

1           commission rate."

2           But you disagree with the proposition, and you will  
3           see that the reason you give is that:

4           "Paddle does not provide all of the same services as  
5           Apple's IAP. For instance, Paddle does not provide  
6           family sharing or parental controls."

7           You refer to your second report. Do you see that?

8       A. Yes, I do. I would also add to this, and I recognise  
9           I did not say this, that of course when one is thinking  
10          about a competitive price, costs, marginal costs, are  
11          also relevant. So one could also imagine that Apple's  
12          costs and Paddle's costs may not be the same.

13       Q. Now, I am sorry to state the obvious, but you are an  
14          expert economist, you are not an expert in the services  
15          provided by payment facilitators such as Paddle, are  
16          you?

17       A. No. You know, obviously I have read some of the  
18          evidence that has been produced in this case, but  
19          I would not claim expertise in evaluating a payment  
20          service.

21       Q. Can we go back to Mr Owens' statement {B1/1/1}, and can  
22          we pick it up at page 2, please {B1/1/2}, paragraph 5.  
23          You will have seen that Mr Owens explains that Paddle is  
24          a well-established business operating on a worldwide  
25          basis. You have seen that?

1       A.  Yes.

2       Q.  Paddle has achieved that status without offering family  
3       sharing or parental controls, has it not?

4       A.  Yes, and that may partly reflect the fact that --  
5       you know, certainly in most of these settings Paddle's  
6       customers are the developers, whereas IAP within the  
7       App Store is providing services to both developers and  
8       to app store users, consumers.

9       Q.  Can we go to page 6, please {B1/1/6}, and can you read  
10      paragraph 16, please.

11               (Pause)

12      A.  Okay.

13      Q.  So you see at the end of that paragraph, he says:  
14              "Across all of our customers and transactions, the  
15      average effective commission Paddle charges is in the  
16      range of 6% to 7%."

17              You have not challenged that statement in your  
18      evidence, have you?

19      A.  No, of course I am not in a position -- I would not be  
20      in a position to do so.

21      Q.  Page 7, please {B1/1/7}.  Could I ask you to remind  
22      yourself what Mr Owens says in paragraphs 20 and 21.

23               (Pause)

24      A.  Okay.

25      Q.  So you see that Paddle offers some features that Apple

1           does not offer, yes?

2           A. Yes, I understand that is Mr Owens' evidence.

3           Q. If it is relevant to your analysis that Apple offers  
4           some features that Paddle does not, it must also be true  
5           that it is relevant that Paddle offers some features  
6           that Apple does not?

7           A. Yes, I would agree with that if you are thinking about  
8           developers' choices. One obviously needs to --  
9           you know, to predict a developer's choice, one needs to  
10          think about the full range of features offered,  
11          certainly.

12          Q. But you have not taken account of that in your reports,  
13          have you? You have looked at what Apple offers that  
14          Paddle does not, but you have not taken account of the  
15          fact that Paddle offers some things that Apple does not?

16          A. To be clear, for my conclusions about Apple's pricing in  
17          the counterfactual, you know, the specific range of  
18          services offered by alternative payment services  
19          providers is not relevant. Obviously when I wrote my  
20          first report I was particularly focusing on payment  
21          processing, so there I referred to numbers from -- that  
22          are relevant for the Netherlands and South Korea.

23                 Obviously the debate moved on. When you are  
24          thinking about choices in payment services more broadly,  
25          what Paddle offers would be relevant, but what I would

1 notice is that Paddle -- there has not been sufficient  
2 demand for Paddle's services on, for example, the Epic  
3 Games Store where I assume Paddle would also enjoy some  
4 similar advantages over Epic's payment system for  
5 a significant number of developers to choose Paddle.

6 Q. If Apple and Paddle competed with each other for the  
7 provision of iOS Aftermarket Services, developers would  
8 take into account such things as the range of services  
9 offered by each of them and the prices charged, would  
10 they not?

11 A. They would, and their choices could also create some  
12 externalities on consumers as well.

13 Q. A developer might well decide that the combination of  
14 services and prices offered by Paddle was more  
15 attractive to it than Apple's offering?

16 A. Some developers could choose that, for sure.

17 Q. So even if a developer thought that Apple offered more  
18 features than Paddle, it might choose Paddle on the  
19 basis of price?

20 A. That is possible if Paddle's price is lower than the  
21 effective price of Apple's services.

22 Q. I would like to move on to look at what has happened in  
23 some of the other jurisdictions. Can we go to the joint  
24 statement at {C4/2/54}, proposition 70. The proposition  
25 is:

1 "Apple's changes to its App Store policies in  
2 response to legal decisions or regulations in other  
3 jurisdictions such as the Netherlands, South Korea, US  
4 and EU, are not synonymous with or identical to the  
5 removal of the App Distribution Restrictions or the  
6 Payment System Restrictions in the counterfactual  
7 without the App Distribution Restrictions or the Payment  
8 System Restrictions."

9 You agree with that proposition --

10 A. Yes.

11 Q. -- and you refer, by way of example, to paragraph 269 of  
12 your first report, yes?

13 A. Yes, and we then had the following proposition that also  
14 discussed other jurisdictions.

15 Q. Well, we can see that. Let us go over the page  
16 {C4/2/55}.

17 A. I believe it was the next one.

18 Q. You are right. Proposition 71. If you want to refresh  
19 your memory, have a look at that.

20 A. Yes.

21 (Pause)

22 Yes, that is right.

23 Q. Think particularly about the payment counterfactual. If  
24 we go to your first report at {C3/3/130}, paragraph 288,  
25 you explain the position in some of the other

1           jurisdictions, and in the Netherlands, before the entry  
2           into force of the DMA, and in Korea and in the US,  
3           Apple's monopoly over iOS app distribution was left  
4           untouched, was it not?

5       A.   That is my understanding.

6       Q.   So what has occurred in those countries is therefore  
7           very different from the Primary Counterfactual in which  
8           Apple's distribution and payment restrictions would not  
9           exist?

10      A.   What we are observing in these examples is a simpler  
11          form of disintermediation, because Apple is only  
12          allowing developers to use alternative in-app payment  
13          services providers, but the principle that what we are  
14          seeing is disintermediation could potentially therefore  
15          apply to other counterfactuals.

16      Q.   But insofar as one sees what you call disintermediation  
17          happening, it is in a world in which Apple retains  
18          a monopoly over distribution.

19      A.   These examples, Apple is the only distribution provider.  
20          Of course, you know, Apple's tools and technology -- as  
21          they are now being labelled -- would remain necessary  
22          for developers to produce iOS Apps, at least in my  
23          understanding, in the -- either the distribution  
24          counterfactual or the Primary Counterfactual.

25      Q.   Can we go to page 132 of this report {C3/3/132}, and in

1 the bullet there you will see you deal with the position  
2 in the US and you say:

3 "Following a court order, Apple has recently allowed  
4 developers in the US to include a link within an app so  
5 that a consumer can make a transaction through the  
6 developer's website. This is not the same as removing  
7 the payment restrictions ..."

8 Can you explain why that is not the same as removing  
9 the payment restrictions?

10 A. So my interpretation of the payment restrictions is that  
11 they are significantly broader, and in particular, if  
12 they were removed, I am understanding that a developer  
13 would not only be able to do kind of what is put here,  
14 but may potentially be able to use an alternative  
15 payment services provider for an actual in-app  
16 transaction rather than a website transaction.

17 Q. So in the US, there is no possibility to use an  
18 alternative payment processor on in-app purchases, is  
19 there?

20 A. That is my understanding of the specific court order we  
21 are talking about.

22 Q. Then if we go to page 130 {C3/3/130}, in this bullet you  
23 deal with the position in the Netherlands and you say:

24 "Developers of dating apps in the Netherlands can  
25 choose alternative payment processors for in-app

1 purchases with an iOS app, or to offer a link within an  
2 iOS app so a consumer can make a transaction through the  
3 developer's website."

4 The remedy in the Netherlands is limited to dating  
5 apps, is it not?

6 A. That is my understanding, yes.

7 Q. Our payments counterfactuals would include all apps?

8 A. Yes. I meant -- yes, that is correct.

9 Q. Developing a new system, a new payment system to  
10 facilitate payments for just iOS dating apps would be  
11 less commercially attractive than developing a system  
12 that could be used for all apps. Do you agree with  
13 that?

14 A. Yes, I would agree with the scale point. It is  
15 obviously the case that -- my imperfect understanding is  
16 that dating app transactions would often be quite large  
17 relative to a lot of kind of other more micro  
18 transactions, and I think that may also affect the cost  
19 of providing service. So there could -- there could be  
20 things on two sides, but, yes, the scale point I would  
21 agree with.

22 Q. Therefore, the competitive pressure on Apple in the  
23 Netherlands is therefore likely to be less than would be  
24 the case in our payment counterfactual which deals with  
25 all apps?

1       A. I mean, once again it may depend on the -- you know, how  
2       the preferences of dating service provider developers  
3       compare with the preferences of other types of  
4       developers. Professor Hitt has obviously provided  
5       evidence that things can differ across app categories.  
6       So a number of things can be relevant, but, you know,  
7       the scale point I recognise.

8       Q. If we go to the second bullet on page 131 -- sorry, it  
9       is the first bullet on page 131 {C3/3/131}, you say --  
10      you refer to the position in South Korea. How familiar  
11      are you with the position in South Korea? How closely  
12      have you looked at it?

13      A. I have read some things about it but I am not going to  
14      claim to be super familiar with all of the details.

15      Q. Are you aware that in South Korea it is not possible to  
16      offer users a choice between Apple's IAP and an  
17      alternative payment service provider within the app, it  
18      is only possible to offer one or the other?

19      A. Sorry, I -- are you saying -- sorry, to understand your  
20      point, a developer could not offer two payment  
21      alternatives to consumers ...

22      Q. Within the app.

23      A. So that was actually not a feature that I had thought  
24      about in the context of the South Korean example, but  
25      I -- if you say so, I will accept it.

1 Q. Are you aware that it is not possible to offer a link  
2 within an iOS app so that a consumer can make  
3 a transaction through the developer's website in  
4 South Korea?

5 A. That is consistent with my understanding.

6 Q. Thinking about the Primary Counterfactual, it is only  
7 the EU's Digital Markets Act that covers both  
8 distribution and payment facilitation, is it not, in  
9 terms of the other jurisdictions we have seen?

10 A. I believe that is true.

11 Q. Can we go to your first report -- sorry, did you want to  
12 say something else? No. Can we go to your first report  
13 {C3/3/122}, paragraph 269, and if you can remind  
14 yourself what you said in 269.

15 (Pause)

16 A. Okay.

17 Q. Now, given what you say, particularly in the final  
18 sentence, reliance on the situation in the EU after the  
19 adoption of the Digital Markets Act to determine the  
20 appropriate counterfactual in our case must be  
21 questionable at best.

22 A. My reading is that the -- Apple's behaviour under the  
23 DMA is consistent with the kind of disintermediation  
24 that an economist would expect, but clearly the exact  
25 form of disintermediation is reflecting a lot of things

1           that are in the DMA which would be different to the  
2           counterfactuals we are talking about.

3       Q.   You cannot say whether Apple would have adopted  
4           something equivalent to the core technology fee in our  
5           counterfactuals, can you?

6       A.   So I would expect Apple to be monetising the value that  
7           it is providing to developers through some type of  
8           commission or fee. The fact that we have this specific  
9           form, its application to free apps, for example, or  
10          advertising funded apps, that may reflect specific  
11          DMA -- sorry, DMA-specific considerations.

12      Q.   Are you aware that the European Commission has opened  
13          a formal investigation into whether Apple's new fee  
14          structure is lawful under the DMA?

15      A.   I am aware of that, yes.

16      Q.   Can we go to {D1/1827/1}, please. This is a European  
17          Commission press release of 24 June 2024. Can you read,  
18          please, the section that is headed "Preliminary findings  
19          on Apple's steering rules for the App Store", just down  
20          to the next heading please.

21               (Pause)

22      A.   Actually could I just ask a question? When it says  
23          "three sets of business terms" what is referring to  
24          business terms under the DMA, not necessarily business  
25          terms in the UK, for example.

1 Q. This is the sets of business terms which were relevant  
2 to the EU, is my understanding. That is why the press  
3 release relates to them.

4 A. Okay, sure.

5 (Pause)

6 Okay, I have read the three bullets.

7 Q. So these concerns raised by the Commission raise further  
8 doubt on whether Apple could or would have adopted  
9 something equivalent to the core technology fee in our  
10 counterfactuals, do they not?

11 A. So obviously they are raising concerns about  
12 particularly steering issues as pertain to Apple's  
13 business, but I do not necessarily see this as saying  
14 that disintermediation per se is an issue.

15 Q. What about the third bullet? That is about the level of  
16 the charge, not just about steering.

17 A. Yes, so this is obviously specifically referring to --  
18 you know, I am not quite sure what it means. It says  
19 they "go beyond what is strictly necessary". That would  
20 appear to me to recognise some ability of Apple to  
21 monetise these transactions that are happening  
22 elsewhere, but obviously it is raising a concern either  
23 about the level or the exact structure.

24 MR HOSKINS: Sir, I just ask the Tribunal to note that the  
25 Commission has until 25 March 2025 to adopt

1 a non-compliance decision, so unless you are very speedy  
2 in writing your judgment -- maybe there is an incentive  
3 there -- this may be coming back to haunt you at a later  
4 date.

5 Can we go next, please, to {D1/1693.1/1}.

6 Are you aware, Professor Sweeting, that Apple's  
7 proposed terms to comply with the DMA have deterred  
8 entry by third parties into the EU. Is that something  
9 you are aware of?

10 A. When you say third parties, who do you mean?

11 Q. Third-party payment processors who wish to compete with  
12 Apple.

13 A. So I am not aware of something meaning necessarily the  
14 economic meaning of entry deterrence. I understood from  
15 Mr Owens that Paddle has not entered the EU.

16 Q. That is what we are about to look at. This is  
17 a statement that was published on Paddle's website on  
18 20 February 2024. You can see the date in the black  
19 section at the top left.

20 A. Okay.

21 Q. Can I ask you just to read the text on page 1, beginning  
22 with "At the end of January", that is January 2024.

23 (Pause)

24 A. Okay.

25 Q. Then over the page on --

1 A. Sorry, was I supposed to read the second --

2 Q. Yes, if you just read the text on page 1, please.

3 A. Okay. Sorry, I just read the first sentence.

4 (Pause)

5 Okay, I can go over the page.

6 Q. Then over the page on page 2 {D1/1693.1/2}, Paddle say:

7 "At Paddle, although we are pleased to see some  
8 progress in this space we do not believe these changes  
9 are in the spirit of the DMA and are unlikely to result  
10 in the fair play field we were hoping for.

11 Unfortunately, the fee structure and the added friction  
12 to the buyer purchasing experience (due in part to  
13 Apple's 'disclosure sheet') will likely discourage many  
14 developers from moving away from Apple's IAP solution.

15 "Due to this, Paddle will not yet create an iOS SDK  
16 to power in-app payments within App Store distributed  
17 applications. We will be awaiting more flexibility and  
18 attractive pricing from Apple to provide a better  
19 opportunity and incentive for developers. Hopefully,  
20 this comes with other countries introducing similar  
21 regulations, like the UK and Japan."

22 So it is clear from this, is it not, that the terms  
23 that Apple has put forward under the DMA are deterring  
24 Paddle from entering the market at this stage?

25 MS DEMETRIOU: Excuse me, I have to interrupt, because if

1           that question is going to be put, then I think that  
2           Professor Sweeting needs to be shown Mr Owens' own  
3           evidence, which was contrary to this, where he said that  
4           the commercial reason for not entering the EU market was  
5           not this at all, but the fact that developers would have  
6           to create different versions of their apps, and there  
7           was a discussion.

8           So this was not -- we have not been able to  
9           cross-examine Mr Owens on this because it was not part  
10          of his evidence, but if Mr Hoskins wants to pursue it  
11          with Professor Sweeting, I think Mr Owens' -- in  
12          fairness to Professor Sweeting, his evidence needs to be  
13          shown to him too, so he has the full picture.

14       THE CHAIRMAN: Well, Mr Hoskins?

15       MR HOSKINS: Professor Sweeting has already referred to  
16          Mr Owens' evidence on this point. He has already  
17          referred to the fact he has seen it.

18          The matter in relation to Paddle I think largely  
19          came up through a question from the Chair at the end --

20       THE CHAIRMAN: Yes, that is right.

21       MR HOSKINS: -- of Mr Owens. So obviously we were not able  
22          to, on the spot, look into the position of what  
23          Apple's -- please -- what Apple's intention was in  
24          relation to entry, and in light of the question you  
25          asked and what Mr Owens said, we went away to try and

1 uncover what Paddle's position was, and this clearly  
2 states what the position is.

3 THE CHAIRMAN: Yes. Well, I think the way we might leave  
4 it, Ms Demetriou, is -- that is all clear to  
5 Professor Sweeting, I am sure he has followed that, and  
6 obviously there will be an opportunity in re-examination  
7 if you want to take Professor Sweeting there.

8 I think the question that is being put,  
9 Professor Sweeting, is for you to comment on -- or,  
10 rather, you are being asked to acknowledge that that is  
11 what is being said on the document here, and actually  
12 that is really about as far as it goes. So unless you  
13 want to say anything else about that -- I think you  
14 obviously are aware that there is some other evidence  
15 that you may or may not be asked about in  
16 re-examination. You do not need to comment on that now  
17 unless you want to, but if you want to, you are welcome  
18 to.

19 I think the key point is that Mr Hoskins has asked  
20 you to confirm that you have read what it says there,  
21 and I think we have all read that, so there is not much  
22 point in having an argument about that, but if you want  
23 to say anything else about it, you are welcome to.

24 A. I mean, obviously Paddle is going to take a commercial  
25 decision that reflects both, you know, demand and its

1           own costs, and I think that covers, you know, both sides  
2           of the argument.

3       MR HOSKINS: Thank you, sir.

4           I see the time so perhaps we should stop. I should  
5           say this document actually provides a very good summary  
6           of the DMA terms. It is not the easiest to break into  
7           what the terms are. Obviously it is Paddle's, so you  
8           read it with a pinch of salt, but if you are interested  
9           in what the DMA terms are, this is quite a good source  
10          for a summary to find your way into it.

11       THE CHAIRMAN: Yes, thank you.

12          Just two things before we rise. The first one is  
13          just a sense of how you are going, no pressure, but just  
14          to get a sense of --

15       MR HOSKINS: We are going fine. We are on track. Because  
16          I understand Professor Hitt is due from 2 o'clock  
17          tomorrow, so we are working on that basis, and we are on  
18          track for that.

19       THE CHAIRMAN: Very good. The thing is we have a function  
20          here on Thursday afternoon and it would be quite helpful  
21          if we were able to clear the whole area -- not on here,  
22          it is going to be out there, but it would be useful if  
23          there are not people coming and going by around about  
24          4.30, or possibly quarter to 5, so it would be quite  
25          helpful if we could start a bit earlier or -- and/or

1           have a shorter short adjournment.

2           If anyone has any strong views on that, could they  
3           perhaps let us know after the break, just so we can work  
4           out what we will do, but obviously if it is not  
5           convenient to start at -- I was going to suggest we  
6           start at 10 and start again at 1.30, but if that is not  
7           going to be convenient we will look at some other way of  
8           managing it. I am just anxious not to take any time off  
9           you that you are expecting, Mr Hoskins. One way or  
10          another we will get it to you, but if we could change  
11          the sitting hours a little bit on Thursday that would be  
12          very helpful.

13       MR HOSKINS: Sure.

14       THE CHAIRMAN: Can I leave that with you? I completely  
15          understand if there are some problems, you should let us  
16          know, and we will find some other way of dealing with  
17          it. That is not suggesting that is what we are going to  
18          do, it is just suggesting one way of dealing with it.

19       MR HOSKINS: Certainly.

20       THE CHAIRMAN: We will resume again at 2 pm. Thank you.

21       (1.04 pm)

22                               (The lunch break)

23       (2.01 pm)

24       THE CHAIRMAN: Mr Hoskins, I should just start with  
25          a correction, which I suspect most of you have worked

1 out anyway, when I said Thursday.

2 MR HOSKINS: You meant a week on Thursday?

3 THE CHAIRMAN: I meant two weeks on Thursday, the 27th.

4 MR HOSKINS: I thought you were having so many parties.

5 THE CHAIRMAN: Having so many parties, no. You will have  
6 worked it out, I am sure, but my apologies for any  
7 confusion. It clearly shows I do not know what day it  
8 is.

9 MR HOSKINS: Welcome to our world.

10 THE CHAIRMAN: Amazing what happens in a seven-week trial.

11 MR HOSKINS: Indeed.

12 THE CHAIRMAN: Anyway, just so we are clear, we are talking  
13 about the 27th, the afternoon of the 27th. I think the  
14 key point is if we can be clear by 4.30. So actually  
15 I do not -- it depends how long it takes people to get  
16 out of the building as well, it is just a question of  
17 ...

18 MR HOSKINS: So you are looking for sort of half an hour to  
19 get ...

20 THE CHAIRMAN: I think if people are happy to say they need  
21 half an hour to get clear of the meetings rooms, that  
22 would be fine, and we should finish at 4. I do not mind  
23 how we do it, and we can firm it up obviously in that  
24 week, so it is just advance notice, more notice than  
25 I thought I was giving you, but that is the plan. Thank

1           you.

2       MR HOSKINS:   Sure.   Thank you.

3           Hello again, Professor Sweeting.   I wanted to ask  
4           you about quality adjustments.   If we go to your first  
5           report {C3/3/114}, you might want to remind yourself  
6           what you say in paragraphs 250 to 251.

7       A.   Sure.

8           (Pause)

9           Okay.

10      Q.   So you see that towards the top of paragraph 251 you  
11           say:

12               "... all nominal commission rates (or other fees) in  
13           the counterfactual world would need to be quality  
14           adjusted in order to compare them to nominal commission  
15           rates in the actual world.   For ease of exposition, I do  
16           not specifically account for this quality difference  
17           between the actual world and the counterfactual world in  
18           my discussion in this section ..."

19               Why did you not seek to carry out an account of the  
20           quality adjustments in your report?

21      A.   So qualitatively, you know, it is clear I think that  
22           a reduction in, you know -- a reduction in quality may  
23           be associated with a reduction in commissions, but not  
24           leave consumers or developers better off, even though  
25           the nominal commission has gone down.   At this point,

1           you know, partly because the exact counterfactual has  
2           not been specified, I could not speak to exactly how  
3           large those quality changes would be, so quantitatively  
4           I am not trying to include them.

5       Q. But doing it quantitatively, even if you knew the  
6           precise counterfactual, is pretty much an impossible  
7           exercise, is it not?

8       A. Yes, it would --

9       Q. That is why you have not done it?

10      A. It would also be difficult, but a prior step would be  
11         knowing what the exact counterfactual was.

12      Q. Sure. I want to go on and ask you some questions about  
13         Dr Singer's simulation models.

14      A. Okay.

15      Q. Can we first of all go to your first report at  
16         {C3/3/142} at paragraph 309, and this relates to the  
17         distribution of iOS Apps in the counterfactual.

18      A. In a distribution-only counterfactual or ...

19      Q. I believe this is a distribution-only counterfactual,  
20         but I think it is the same premise when you carry it  
21         through into the Primary Counterfactual, so that is why  
22         I say it is about the distribution of apps. Does that  
23         make sense?

24      A. Okay, let me read it.

25      Q. Well, I want to particularly look at -- you say:

1            "In my view, one reasonably plausible state of the  
2 world is one in which a small number (potentially two or  
3 three) of larger alternative iOS app transaction  
4 platforms exist in addition to the App Store, along with  
5 a fringe of much smaller alternative iOS app transaction  
6 platforms ... For reasons I discuss in section 10.3.4  
7 below, the App Store is likely to be the largest iOS App  
8 Transaction Platform in this scenario and would still  
9 command a large portion of revenue on iOS app  
10 transactions."

11           As we have seen, in your reports you suggest that  
12 Apple would have about 50 to 90% of the market, do you  
13 not?

14        A. That is what I say later on in this report.

15        Q. Let us look at Dr Singer's position on the distribution  
16 counterfactual, his third report, {C2/15/86}. At  
17 paragraph 169 Dr Singer says:

18           "I also broadly agree with Professor Sweeting's  
19 'likely scenarios' in this counterfactual."

20           Then he goes on to say:

21           "I further agree that it is plausible that in this  
22 counterfactual, the market would consist of 'a small  
23 number (potentially two or three) of larger alternative  
24 iOS app transaction platforms ... in addition to the  
25 App Store' in addition to 'a fringe' ....."

1           Then it is paragraph 170 over the page, please  
2           {C2/15/87}. Dr Singer says:

3           "Given the nature of two-sided platforms, I further  
4           agree with Professor Sweeting that it is less likely  
5           that the market becomes fragmented, 'similar to what is  
6           observed for Android app transaction platforms in  
7           China,' although such a possibility exists. This is  
8           why, for example, in my modelling of the counterfactuals  
9           in Singer 2, I allowed Apple to retain a 50% market  
10          share in my primary model, although I tested ranges of  
11          30 to 60%."

12          So there is -- and I use these words advisedly --  
13          a degree of agreement --

14       A. Yes.

15       Q. -- between you and Dr Singer as to what the  
16          counterfactual would look like if the distribution  
17          restrictions were removed. The difference is that  
18          Dr Singer thinks that Apple would have about 50% of the  
19          market and you think that Apple would have about 50 to  
20          90% of the market; is that fair?

21       A. So I would make -- so yes, but I would kind of add  
22          one -- a couple of clarifications. So the first one is  
23          when I am talking about "larger" and "fringe", that is  
24          a comment based on their kind of relative size, so the  
25          relative volume of transactions. When I use the word

1 "fringe" there, that is not, for example, saying that  
2 they are not differentiated from other firms and that  
3 there is a common market price.

4 The other point that I would say in this context --  
5 you know, it was somewhat unclear to me at the time  
6 exactly what the counterfactual we had in mind is. That  
7 continues to be somewhat unclear. Obviously in a world  
8 where, for example, we are considering a UK-only  
9 arrangement, that might lead to kind of less entry by  
10 alternative app stores than, say, a more global  
11 counterfactual.

12 Q. But that does not appear in your reports, and your  
13 reports were prepared to deal with the UK that we are  
14 talking about here.

15 A. You know, I was -- so that is correct, I did not --  
16 I did not put in that qualification, that is correct.

17 Q. So when you made these reports, you believed these were  
18 appropriate opinions to express in relation to the UK  
19 counterfactual?

20 A. You know, this was a broad conceptual report. You know,  
21 my arguments about the pricing counterfactual kind of  
22 apply to all of them. Then in terms of entry, you know,  
23 I was not making the kind of distinctions between  
24 initial and delayed, or geography, but still, you know,  
25 I would expect there to be some entry by alternative app

1 stores in a UK-only counterfactual, and broadly my guess  
2 would be that one or more of them would turn out to be  
3 somewhat larger than the others, so it still holds it is  
4 probably the relative magnitude of the larger and the  
5 fringe -- sorry, the absolute size of the larger and the  
6 fringe that would be more affected.

7 Q. But your position was consistent throughout all your  
8 written reports and in the Joint Expert Statement and  
9 that is what we see here.

10 A. Yes. As I noticed -- as I noted explicitly in my first  
11 report, the counterfactual -- you know, I anticipated  
12 that more details of the counterfactual that the Class  
13 Representative was putting forward were likely to emerge  
14 over time.

15 Q. Can we go to the joint statement at {C4/2/73} and  
16 proposition 101. The proposition is:

17 "For the Rochet-Tirole model to apply, Apple must be  
18 a dominant firm in some relevant two-sided product  
19 market."

20 You will see that Dr Singer in the JS said:

21 "The model is predicated on a dominant firm with  
22 a competitive fringe."

23 Can we go to Dr Singer's fourth report, {C2/17/2}.

24 A. So could I just make one comment on that.

25 Q. Sure. I have not asked a question yet, but if you have

1 something to say.

2 A. I was just going to say I interpret Dr Singer's comment  
3 as saying that his implementation of the Rochet and  
4 Tirole model is predicated on a dominant firm with  
5 a competitive fringe, not, you know -- Rochet and Tirole  
6 consider monopoly, and they then consider symmetric  
7 duopoly, so under symmetric duopoly you would not think  
8 of a single firm as being dominant.

9 Q. Can we go to Dr Singer's fourth report, {C2/17/2}. Can  
10 you look at footnote 1, please.

11 A. So just remind me of the timing of this report? This is  
12 after --

13 Q. This is after the JES, so he is correcting his statement  
14 in the JES.

15 A. Okay. So I am looking at the footnote?

16 Q. That is right.

17 (Pause)

18 A. Okay, so I actually had not noticed this footnote  
19 before.

20 Q. So if we go back to {C4/2/73}, you say there at the  
21 bottom of the page:

22 "Moreover, while Dr Singer's application of the  
23 Rochet-Tirole model is based on a dominant firm with  
24 a competitive fringe, this is not a market structure  
25 specifically discussed in the Rochet-Tirole paper."

1           Having seen the correction, is that comment that you  
2           made no longer relevant because of the correction?

3       A. No, I believe that it is still relevant. I am happy to  
4       explain why.

5       Q. Please do.

6       A. If you would like. Okay, so -- and tell me if I am  
7       taking too long. I do not want to make it --

8       Q. I will, do not worry.

9       A. I'm telling a story. Okay, so obviously what Dr Singer  
10      is doing is -- I think this is agreed -- is calibrating  
11      a model to a monopoly world and then introducing  
12      competition, okay? So to calibrate the model to the  
13      monopoly world to find the parameters, what Dr Singer  
14      does is take the Rochet and Tirole monopoly model and  
15      then extend it to allow for the fact that developers are  
16      actually selling an app to consumers, so that in itself  
17      is not in the original Rochet and Tirole model. Then  
18      based on this extended Rochet and Tirole monopoly model,  
19      Dr Singer calibrates the parameters by assuming that the  
20      commission to sellers has been chosen optimally and --  
21      as was discussed last week -- that the commission to  
22      buyers has been chosen optimally. Okay.

23           You then have -- and I think that is agreed, that  
24           that is what he is doing when calibrating the model.

25           The question is then how is one going to introduce

1 competition. So what the calibration has done has  
2 allowed Dr Singer to identify some market demand  
3 functions. Obviously those have specific functional  
4 forms, but that is not so unreasonable in practice, but  
5 it is not telling you anything about how, if there were  
6 other iOS app transactions platforms which are  
7 differentiated -- you know, some have bigger network  
8 effects, for example, than others, they may have  
9 different characteristics -- how developers or consumers  
10 would choose between them, okay.

11 So you have the -- the economist has to take  
12 a decision about how competition and the way that  
13 developers choose is going to be introduced. So Rochet  
14 and Tirole, what they did in their original paper is to  
15 make an explicit assumption that there are two symmetric  
16 platforms that are, what an economist would say,  
17 differentiated on a Hotelling line, you know, that is  
18 one specific assumption. Then under that assumption  
19 they derive some results, not about the levels of  
20 commissions or prices to buyers, but the kind of  
21 relative structure of the price, you know how much will  
22 be charged to the sellers relative to the buyers as  
23 a function of this differentiation parameter that comes  
24 from the Hotelling formulation, okay.

25 So that is one approach. You know, that is not the

1 approach that Dr Singer adopts. You know, an  
2 alternative, of course, would have been to take the  
3 model written down for the monopoly calibration,  
4 introduce an alternative form of differentiation that  
5 would maybe allow you to think about asymmetric  
6 platforms, so how are things going to be like when the  
7 App Store is bigger than one or more alternative app  
8 stores, and derive what the equilibrium prices would  
9 look like and market shares would look like in that  
10 environment.

11 So that is also not what Dr Singer does. So I would  
12 interpret actually one of the issues raised by  
13 Mr Piccinin on Thursday --

14 Q. Can I ask because -- I thought you were going to  
15 explain --

16 A. Yes, I am.

17 Q. -- in relation to the fringe but we have not had the  
18 word "fringe" yet.

19 A. No, no, I am getting to that. All I wanted to say was,  
20 in fact, what Mr Piccinin was actually pointing out was  
21 that the way that the model has been extended has not  
22 been carried through to the model of the competition,  
23 and that is partly because that is not the approach that  
24 Dr Singer took.

25 The third thing, which is what he did, which is

1       where the fringe comes from, is to take the monopoly  
2       pricing equation and then effectively build in the  
3       change which Landes-Posner used -- he also mentioned  
4       Scherer, I am not sure whether that is true or not -- by  
5       assuming that the effect of competition is that the  
6       elasticities that appear on the denominator on the  
7       right-hand side of the pricing equation can be divided  
8       by the market share of the firm that you are looking at.  
9       So I did actually pull it out. So the table that folks  
10      were talking about last week, lines 23 and 25 is where  
11      that division by the market share happens in the  
12      counterfactual.

13             Now, that --

14      Q. Can I ask you this question before you continue: do we  
15      find this in your reports anywhere?

16      A. So I explicitly pointed to the fact that the way  
17      competition was introduced was taking the Landes-Posner  
18      approach.

19      Q. Is that your reference in JES 101 which we looked at,  
20      "Moreover, while Dr Singer's application ..." et cetera;  
21      is that where you say you pointed this out?

22      A. So -- yes, so the relevant paragraphs in my report  
23      I know are between 120 and 126.

24      Q. In which report, the first or second?

25      A. In the reply report. So 126 is where I kind of say the

1           key thing is that Dr Singer is assuming this particular  
2           equation.

3       Q. Will you give me one second, because I need to get the  
4       document open, if you do not mind.

5       A. Sure, sure.

6       Q. Which paragraphs, please?

7       A. Okay, so 126 is where I make the point about the way  
8       that -- you know, what Dr Singer is assuming is that the  
9       relationship between price and elasticity, or  
10       effectively share, is given by this particular equation.  
11       I know 120 is where I talk about the fact that the way  
12       the competition has been introduced --

13      Q. Can you just ...

14            Would you like me to get them up on the screen, sir,  
15            as we go through them?

16            Sorry, it is now up. So 120. {C3/7/56}

17      A. Yes. So I discussed the way that competition has been  
18       introduced is by assuming the Landes-Posner type of  
19       approach, and this was also what Dr Singer had footnoted  
20       on the last page of his Singer 2 where he --

21      Q. Can I just direct this conversation, if you do not mind?

22      A. Sorry, I was trying to explain.

23      Q. If we go over the page to page 57 {C3/7/57}, at  
24       paragraph 121 you say:

25            "Dr Singer does not consider whether or not the

1 market structure in his counterfactual is consistent  
2 with one dominant firm and a competitive fringe;  
3 instead, he states that he is 'agnostic to the number of  
4 competing platforms faced by Apple, as long as there is  
5 at least one rival'. However, the market shares that  
6 Dr Singer assumes Apple would have in his alleged  
7 markets in the counterfactual (between 30% and 60%) are  
8 not consistent with markets with a dominant firm and  
9 a competitive fringe."

10 Then at 122 you say:

11 "In addition, the outcomes in the counterfactual  
12 world are unlikely to be consistent with a competitive  
13 fringe. As previously discussed, the Landes-Posner  
14 model relies upon each firm in the fringe being a price  
15 taker."

16 But we started this discussion by me pointing out to  
17 you that Dr Singer has corrected an error in his  
18 comments in the JES, in which he made it clear that his  
19 model is predicated on a dominant firm and not on  
20 a dominant firm with a competitive fringe.

21 A. So what I am saying is that the trick of saying that  
22 the -- what will happen to the elasticities of the firm  
23 you are looking at by taking the market elasticity and  
24 dividing it by market shares is a -- you know, that  
25 emerges from a model where firms are undifferentiated

1           and there is a market clearing price.

2           So that is, to be clear, that is not necessarily  
3           specifically tied to the fact there is a fringe, but  
4           that is coming from the dominant -- well, no, sorry,  
5           that is coming from the same assumptions that underpin  
6           the Landes-Posner model but would not come out of  
7           thinking that rival firms are differentiated, in the way  
8           that, for example, Rochet and Tirole do.

9       MR HOSKINS: Sir, I am now in a slightly odd situation, so  
10       I am going to explain what is going to happen next,  
11       which is that a lot of the specific criticisms of the  
12       model that appear in Professor Sweeting's reports were  
13       not put at all to Dr Singer, but I am going to put the  
14       points to Professor Sweeting, so we are in a slightly  
15       odd situation. It will be a matter ultimately for the  
16       Tribunal what weight it gives to each of these points,  
17       but I just wanted to clarify I am about to ask questions  
18       about a lot of stuff that simply was not put to  
19       Dr Singer, and we can mop up the niceties of that in  
20       closing, but I just wanted you to be aware of what I am  
21       about to do and why I am doing it.

22       THE CHAIRMAN: Yes, sure.

23       MR HOSKINS: If we go, please, to the joint statement at  
24       {C4/2/57}, you will see the proposition is that:

25               "Dr Singer's models predict that Apple would charge

1 a uniform commission rate to all iOS App Developers for  
2 iOS App Distribution Services provided by the  
3 App Store."

4 You will see that Dr Singer says:

5 "The Rochet-Tirole model takes the weighted average  
6 commission rate as an input."

7 You say -- yes, it is the top of your comments:

8 "Dr Singer's models ignore important market  
9 realities. First, the models do not allow Apple to  
10 charge different commission rates for different types of  
11 App Transactions and for developers with different  
12 levels of worldwide revenues, as it also does in the  
13 actual world. Dr Singer's stylised models are not  
14 capable of explaining why, in the actual world, we  
15 observe that Apple - like many other app transaction  
16 platforms - charges multiple commission rates."

17 Now, are you aware that in this case the claim is  
18 for aggregate damages?

19 A. Yes, to the class, yes.

20 Q. Do you know what aggregate damages are?

21 A. So I understand that -- and this may be an imperfect  
22 description -- that that is the total damages over all  
23 of the members of the class for all of the transactions  
24 they have undertaken.

25 Q. There is a little bit more to it than that. It is an

1           award of damages reflecting the loss of the class as  
2           a whole, without undertaking an assessment of the amount  
3           of damages recoverable by each class member. So you  
4           understand it is not a bottom-up approach to calculating  
5           damages, yes?

6       A. Yes, and that was not the criticism that I was  
7       intending.

8       Q. Well, that is what I wanted to say to you, because in  
9       a claim for aggregate damages it does not matter that  
10       relevant simulation models cannot or are not used to  
11       predict individual class members' loss, does it, because  
12       if the models estimate the weighted average commission  
13       rate, then they can be used to calculate the aggregate  
14       damages of the class as a whole?

15      A. So obviously, as Dr Bishop said the other day --  
16      you know, the key test of the model is not does it  
17      exactly capture reality, it is whether it is useful. So  
18      to the point that one could derive kind of average harm  
19      or the total from the model, I would agree with the  
20      point you are making, Mr Hoskins.

21           The point that I am making is a little bit different  
22           to that, it is just that you want a model which captures  
23           key aspects of Apple's monetisation decisions in  
24           a realistic way. So, you know, that could involve the  
25           fact that in practice they do not charge anything to

1 free apps. It could be that, you know, they are  
2 allowing kind of the Reader Rule and the Multiplatform  
3 Rule, and the fact that we have a model that cannot  
4 explain those features may tell us that we need to think  
5 about Apple's monetisation strategies in a different way  
6 without looking, for example, at the distribution market  
7 on its own.

8 So, you know, we can obviously have a discussion  
9 about what discounts Apple might offer in the  
10 counterfactual, but it is not that specific question  
11 that I am trying to raise here.

12 Q. Did you try to create a model of the type you describe?  
13 Did you see if it was possible?

14 A. Well, I was able to arrive at conclusions about Apple's  
15 monetisation structure for Relevant Purchases in the  
16 counterfactual involving the disintermediation, which  
17 I think is the natural competitive counterfactual given  
18 the abuses that have been alleged, without having to  
19 construct a complicated mathematical model.

20 Q. So no model of the type you described.

21 A. I have a model, right. A model is what you use to go  
22 from a set of assumptions to a set of conclusions.  
23 I was able to think about the disintermediation without  
24 doing kind of a load of maths. Dr Singer decided to  
25 take a different approach when he was using the

1 simulations, and simulations and calibrations can also  
2 be useful.

3 Q. So when you talk about a model, or your model, where do  
4 we find that in your reports? What are we talking  
5 about? Is it the narrative description of the  
6 counterfactual or is there something beyond that?

7 A. It is the reasoning that firms -- you know, a firm which  
8 is providing multiple things of value to customers,  
9 that, if it is forced to sell them separately, it will  
10 have a disintermediated commission structure. That  
11 follows naturally -- (overspeaking) --

12 Q. I understand. I was asking what the model was and, as  
13 I understand it, the model is your narrative in your  
14 reports of your disintermediation concept?

15 A. The reasoning associated with disintermediation, yes.

16 Q. Thank you. That is all I wanted to know, what the model  
17 was.

18 A. Okay.

19 Q. I want to ask you about the delayed counterfactual.  
20 Under the delayed counterfactual, it is assumed that  
21 both the App Distribution Restrictions and the Payment  
22 System Restrictions are in place prior to the start of  
23 the claim period, that is 1 October 2015, and that they  
24 are only removed from that date onwards. Is that your  
25 understanding of the delayed counterfactual?

1 A. Yes, that is the delayed aspect of that counterfactual.  
2 There may be other aspects as well.

3 Q. If we go to Dr Singer's second report {C2/8/83}, at  
4 paragraph 173, Dr Singer accepts that in the delayed  
5 counterfactual it is likely that Apple would retain  
6 a larger market share than in the Primary  
7 Counterfactual, does he not?

8 A. Yes, he does.

9 Q. If we can go to the joint statement {C4/2/62},  
10 proposition 83. The proposition is:

11 "One reasonable adjustment to Dr Singer's models  
12 under the Delayed Primary Counterfactual would be to  
13 assume Apple would retain a higher counterfactual market  
14 share in the markets Dr Singer's models assume."

15 Dr Singer agrees and you disagree, and you say --  
16 you need to read down a bit to pick up the wording I am  
17 about to read {C4/2/63}:

18 "In the Delayed Primary Counterfactual, commission  
19 rates would need to adjust over time following the  
20 removal of the restrictions at the start of the relevant  
21 period before reaching a new equilibrium. This  
22 adjustment period could take a meaningful amount of time  
23 (eg years), and Apple would have a different market  
24 share at different points within the adjustment period  
25 in Dr Singer's purported markets. It is therefore

1           invalid to assume that Apple's counterfactual market  
2           share would be constant throughout the relevant period  
3           in the Delayed Primary Counterfactual."

4           So as I understand it, your point is that in the  
5           Delayed Primary Counterfactual, whilst Apple's market  
6           share might decrease, that would take place over time;  
7           is that your basic point?

8       A. Yes.

9       Q. Are you aware of a methodology that would take that  
10       point into account? Is there anything you can offer?

11      A. So I am not offering a specific methodology. One  
12       obvious possibility would be to try and look at some  
13       alternative -- you know, some comparables, although  
14       I think we have learned that there is -- a lot of  
15       reservations come with any comparable when it comes to  
16       either market share or prices.

17           Obviously one could try and do something much more  
18       structural and complicated, but that would be very hard  
19       to apply without seeing a realisation, such as the  
20       removal of the Distribution Requirements from something  
21       that looks exactly like the App Store.

22      Q. So, again, it is not something you have attempted and --

23      A. No, I have not.

24      Q. To be fair to you, it is just because it is an  
25       incredibly difficult, or would be an incredibly

1           difficult thing to do.

2           A. Yes, yes.

3           Q. I would like to talk about free apps. If you can go to  
4           page 21 of the joint statement {C4/2/21} and it is  
5           proposition 7. The proposition is:

6                     "In the Counterfactuals, Apple would charge new fees  
7           to iOS Device users who choose to transact on an  
8           alternative iOS App Transaction Platform or through an  
9           alternative iOS payment system in recognition of the  
10          Proprietary Technology and Services that Apple  
11          provides."

12                    So this is talking about new charges to users rather  
13          than developers; do you see that?

14          A. Yes.

15          Q. Both you and Dr Singer disagree with that proposition.

16          A. Actually let me just read the proposition again.

17          Q. Of course.

18                     (Pause)

19          A. Okay, so this is not specifically about free apps. This  
20          is about any kind of apps.

21          Q. No, it is about charging users.

22          A. Yes, okay, sorry. I thought you premised this when you  
23          said free apps.

24          Q. I understand. But insofar as we are then going to talk  
25          about free apps, I mean they are included, they are

1           a subset of this proposition, because we are talking  
2           about users not being charged for apps, yes?

3       A. Yes, yes, I guess you could include them.

4       Q. If you remind yourself of your comments.

5       A. Okay.

6           (Pause)

7           Yes, okay.

8       Q. So your position is that Apple's practices, in relation  
9       to fees to users, would not be affected by the removal  
10      of the restrictions, that is right?

11      A. They would be unlikely to be affected, yes.

12      Q. Then if we go to your second report {C3/7/59}, at  
13      paragraph 125. We have to be careful, there is some  
14      pink on this page which we must not say out loud, but  
15      you say:

16           "Finally, the Rochet-Tirole framework does not  
17      model, and Dr Singer does not attempt to account for,  
18      the market reality that the App Store offers  
19      a significant number of free to download apps for which  
20      developers pay USD \$0 in commission to Apple."

21           Then I will skip to the next sentence:

22           "The Rochet-Tirole model does not consider or  
23      account for products for which the platform does not  
24      charge a positive price ... Therefore, Dr Singer's model  
25      based on Rochet-Tirole is not able to adequately explain

1 Apple's current pricing in the actual world. Thus, it  
2 is unlikely that his model could predict how pricing  
3 would change in the counterfactual world."

4 Remember, we are concerned with calculating  
5 aggregated damages, and the question is this: if Apple's  
6 practices in relation to free apps would be the same in  
7 the counterfactual as the actual, then the existence of  
8 free apps does not affect the use of the Rochet-Tirole  
9 model to assess aggregate damages in the present case,  
10 does it?

11 A. So what I would -- the nature of this comment is to  
12 point out that Dr Singer, thinking about distribution as  
13 a market on its own, where Apple is maximising  
14 distribution revenues either in the actual world or the  
15 counterfactual world, is missing something for a number  
16 of reasons, including its treatment of free apps or its  
17 decision to allow the Reader Rule, or whatever. So that  
18 is just trying to put in context that treating the  
19 problem as being focused only on a distribution price  
20 could be misleading and we have to think about Apple's  
21 monetisation more broadly.

22 Now, that having been said, of course it is always  
23 true models are not explaining everything, right. So  
24 this is a criticism but, you know, it is important --  
25 you know, in the hierarchy of criticisms this is

1 a criticism, I think it highlights you need to think  
2 about the other values and incentives that Apple has,  
3 but on its own it is not a killer kind of  
4 absolute (inaudible) criticism.

5 Q. I would like to talk to you about discounts. Can we go  
6 to the joint statement at page 57, please {C4/2/57}.

7 The proposition is:

8 "Dr Singer's models predict that Apple would charge  
9 a uniform commission rate to all iOS App Developers for  
10 iOS App Distribution Services provided by the  
11 App Store."

12 If you go over the page, please {C4/2/58}, it is  
13 your final comment. You say --

14 A. Can I actually just read the previous comments?

15 Q. Why do not I tell you -- show you the bit I want you to  
16 read, and if you want to read the rest, of course you  
17 can go back and read the rest.

18 I was going to ask you about the final comment which  
19 relates specifically to discounts.

20 A. Okay.

21 Q. You say:

22 "Finally, I also note that Dr Singer's assumption  
23 that discount programs would remain identical in the  
24 counterfactual and the actual worlds has not been  
25 supported by factual or economic evidence."

1           Then if we go back to the previous page {C4/2/57},  
2           I am not going to ask you about the other ...

3       A.   Okay.   Okay.

4       Q.   If we go back over the page, please {C4/2/58}.

5           So looking at your comment on discounts, in the  
6           competitive counterfactual, or in a competitive  
7           counterfactual, large developers that had sufficient  
8           market power in relation to Apple to obtain discounts in  
9           the actual world would also have market power in the  
10          actual, the buyer power would be the same, would it not?

11       A.   So I understand that in general Apple has maintained  
12          pretty consistent pricing structures with regard to the  
13          size of the developer, you know.   So, for example,  
14          a developer of any size that produces something that  
15          meets a reader app definition is able to use the Reader  
16          Rule.

17       Q.   What do you mean when you refer to "discount programs",  
18          then, in your comments?

19       A.   So an example, for example, would be a small business  
20          program discount, so that is -- that is an example where  
21          there is a discount by the size of the developer, but  
22          that would point slightly in the opposite direction of  
23          the large ... large buyers get discounts logic that you  
24          laid out.

25       Q.   Is that all you mean by discount programs?   Do you refer

1 to anything else?

2 A. So, you know, the second year subscription discount, for  
3 example. You know, that is something which is relevant,  
4 as I understand it, for any developer that offers  
5 a subscription program, a multi-year subscription  
6 program.

7 Q. What about the video program?

8 A. Yes, that -- I mean, that could be another.

9 Q. What about the Reader Rule?

10 A. Yes, so that was an example that I just mentioned.

11 Q. What about the Multiplatform Rule?

12 A. So that -- you know, these are all examples within  
13 Apple's scheme of different types of transactions that  
14 get somewhat different treatment.

15 I understood, Mr Hoskins, you to be making a point  
16 in relation to the bigger developers get bigger  
17 discounts. I was just saying I did not necessarily  
18 recognise that as -- (overspeaking) --

19 Q. My point is a different one, really, which is regardless  
20 of the size of the developer, my point is that  
21 insofar as any developers do hold any bargaining power  
22 in relation to Apple, it is going to be the same in the  
23 actual as the counterfactual. Indeed, the bargaining  
24 power might increase in the counterfactual because Apple  
25 will no longer have a monopoly. So I am trying to

1       compare the relative level of buyer power, such as it is  
2       in the actual, with the counterfactual.

3       A. So I guess I will say kind of "yes but" and try to  
4       explain. So I would understand the kinds of programs we  
5       have talked about as not necessarily being a function of  
6       bargaining power, but reflecting kind of different  
7       supply and demand conditions. So, for example, if the  
8       supply of apps by smaller businesses is more sensitive  
9       to commission, then one could imagine that provides  
10      Apple with an incentive to lower the commission for  
11      small businesses in order to promote the -- increase the  
12      number of apps that are available on the iOS ecosystem.

13       So I would expect some of those supply and demand  
14      forces to remain the same in the counterfactual, so from  
15      that point of view I agree with your point. Obviously  
16      I would recognise that, for example, some other  
17      platforms, you know, Steam I guess is an example which  
18      we have talked about, you know, have over time actually  
19      gone to a different kind of discount structure where, in  
20      the Steam case, a bigger discount is given to a larger  
21      developer.

22       So one still might imagine that some discounts would  
23      exist, but who is getting them and on what terms could  
24      well change, and obviously if a -- you know, if --  
25      you know, I realise we are operating under Singer's

1 markets and Singer's dominance, but if one viewed, for  
2 example, the 15% commission that developer -- that small  
3 businesses are receiving as competitive, it is not so  
4 obvious that a 50% discount on a commission would still  
5 be given in a counterfactual.

6 Q. I would like to ask you about the fact that Dr Singer  
7 has used separate models. If we go to page 59 of the  
8 joint statement {C4/2/59}, proposition 79 is that:

9 "In any version of the Three Counterfactuals, Apple  
10 would take into consideration the commission rates it  
11 sets for iOS App Distribution Services when it sets its  
12 commission rates for iOS In-App Aftermarket Services,  
13 and vice versa."

14 You agree with that proposition.

15 If we can go on to page 60 please {C4/2/60}, you say  
16 at the top of that page:

17 "iOS App Developers can choose to monetise their iOS  
18 Apps either through relevant app purchases, Relevant  
19 In-App Purchases, and relevant subscription purchases.  
20 Therefore, Apple would take this potential substitution  
21 into account when setting commission rates. Consistent  
22 with this fact, Apple has set a common commission rate  
23 structure for all Relevant Purchases through the  
24 App Store."

25 So you say that Apple takes the relationship between

1 initial downloads and subsequent in-app purchases and  
2 subscriptions into account when setting its current  
3 commission rates. That is the point you are making  
4 there, is it not?

5 A. Yes, and I would extend that comment to also, for  
6 example, you know, cover the fact that developers will  
7 also think about substitution to in-app advertising and  
8 other forms of monetisation.

9 Q. Let us leave that aside, that is a different issue.

10 A. Yes, I am just extending --

11 Q. I am focusing on this particular point here about the  
12 relationship between the initial downloads and in-app  
13 purchases.

14 Now, both Dr Singer's simulation models use inputs  
15 based on Apple's existing prices, do they not?

16 A. Sorry, they use numbers based on --

17 Q. Well --

18 A. -- existing average commission, yes.

19 Q. So both Dr Singer's models will take account of any  
20 relationship between downloads and subsequent in-app  
21 purchases, will they not, because that is already  
22 reflected in Apple's current pricing structure?

23 A. So the way that I would think about it as an IO  
24 economist is that Apple is potentially setting two  
25 prices for -- if we -- if we just think paid download,

1 in-app, as two prices for products that are very close  
2 substitutes, that would effectively give us a pair of  
3 first order, interrelated first order pricing  
4 conditions, and because they are very close substitutes  
5 the solution is that you would want to set the same  
6 price for them, yes.

7 Q. But that is not quite the question I am asking. My  
8 point is you say there is a relationship between the  
9 initial downloads and subsequent in-app purchases in the  
10 way that Apple sets its prices, and we have agreed that  
11 Dr Singer's models use inputs based on Apple's existing  
12 prices, and I am saying that because Apple's existing  
13 pricing structure will take account of the relationship  
14 between initial downloads and subsequent in-app  
15 purchases, the models therefore do take account of the  
16 relationship you identify in your comment here.

17 A. So you would want to take into account the relationship  
18 between the pricing when you are calibrating the demand,  
19 you know, the buyer demand and the supplier demand,  
20 developer demand, functions for the actual world, and  
21 one would want to continue to recognise the  
22 interrelationship when you do the counterfactual.

23 Q. That is done by calibrating the model using Apple's  
24 existing prices.

25 A. No, because there are -- there are additional

1 cross-substitution terms in demand which you are not  
2 capturing.

3 Q. Have you attempted to make any adjustment to the models  
4 to take account of that?

5 A. No, because I think the models are fundamentally  
6 (inaudible).

7 Q. Indeed, it would be impossible to do what you have just  
8 suggested, would it not?

9 A. Not necessarily, at least in the calibration to the  
10 actual world.

11 As we have already discussed, to introduce  
12 competition in these models you need to introduce  
13 additional parameters, for example, if you take the  
14 Rochet and Tirole approach, which you simply cannot  
15 calibrate to the actual world anyway, so that is going  
16 to be a barrier to doing the exercise one wants to do,  
17 but one can certainly calibrate a set of first order  
18 conditions to match multiple pricing choices.

19 Q. But not something you have attempted?

20 A. Not in this setting, no.

21 Q. Whilst Apple can currently take account of the  
22 relationship between both markets, distribution and  
23 payments, because it has a monopoly in both, in the  
24 competitive counterfactual Apple's ability to do so  
25 would be constrained by the fact that it faced different

1 competitive forces in each of the markets, would it not?

2 A. Sorry, when you say "to do so", what do you mean?

3 Q. Well, your point is it is able, when it is setting its  
4 price, to take account of distribution and payment  
5 services, and my point is, yes, it is able to do that at  
6 the moment, because it has a monopoly in relation to  
7 both of those. In the counterfactual it is going to be  
8 facing competition for distribution services and  
9 competition for payment services and that is going to  
10 restrict Apple's ability to flex in the way that you  
11 describe in the Joint Expert Statement?

12 A. I mean, of course competitive forces will also enter the  
13 elasticities, but if we think about -- you know, when  
14 Kellogg's is setting the prices of different cereals it  
15 is competing against other cereal companies, but it is  
16 still taking into account the substitution between  
17 Corn Flakes and Raisin Bran.

18 Q. But in those circumstances, it is having to take account  
19 in competition in flexing prices?

20 A. Yes, so there is a role for competition and there is  
21 a role for substitution between its own services,  
22 correct.

23 But, you know, just to come back to one of the  
24 empirical points mentioned here, I believe it is the  
25 case that a number of the transactions platforms, which

1 Professor Hitt pointed out charge the same commission  
2 rates for in-app and paid downloads, you know, are  
3 clearly facing competition even if we have not always  
4 exactly defined the markets correctly.

5 Q. I think we are moving away from the specific point now,  
6 Professor Sweeting.

7 Can we look at joint statement 80 which is at the  
8 bottom of this page {C4/2/60}, and in particular I want  
9 to look at Dr Singer's comments on the next page  
10 {C4/2/61}, and it is the very final paragraph in his  
11 comments where he says:

12 "However, the Rochet-Tirole model can also be used  
13 to produce a single headline commission for both the iOS  
14 app distribution and In-App Aftermarket services,  
15 assuming a single commission rate for both markets.  
16 Using the model in this way implies that, with the  
17 Payment System Restrictions in place, the tied iOS  
18 In-App Aftermarket essentially becomes a part of the two  
19 sided iOS App Distribution Market. In this formulation,  
20 the commission rate in both markets is 14.5%."

21 Then he confesses:

22 "(This calculation is new to this declaration)."

23 You say in response to that -- it is your final  
24 comment in your column:

25 "I have not, however, had the opportunity to review

1           the underlying calculations or the assumptions for this  
2           new calculation."

3           Now, have you now reviewed Dr Singer's new  
4           calculation?

5       A. I have looked at them, yes, and I -- I understand what  
6       Dr Singer has done to do this is to input the average  
7       commission rates, combining both the in-app and the paid  
8       app into the Rochet and Tirole model to produce one  
9       counterfactual number.

10      Q. But you have not submitted any results or comments in  
11      relation to what has been done. Your final word that we  
12      see is in the Joint Expert Statement.

13      A. That is correct, yes.

14      Q. If you go to your second report, paragraph 132, that is  
15      at {C3/7/62}. Can you read paragraph 132 to yourself  
16      please.

17           (Pause)

18      A. Yes.

19      Q. So you say:

20           "... to properly model competition, Dr Singer would  
21      need to propose and use models in which developers  
22      maximise profits by choosing which platforms they  
23      transact on and the prices they charge on each of those  
24      platforms, given the commission rates charged by each  
25      platform and the marginal costs for transacting on each

1 platform."

2 You go on to say a further set of considerations  
3 that the model would have to take account of. Are you  
4 aware that any models of this type exist that Dr Singer  
5 could have used?

6 A. So one example would be -- it would be imperfect in this  
7 setting, but the Hotelling line differentiation model of  
8 Rochet and Tirole, where there are specific parameters  
9 that control the degree of differentiation between the  
10 platforms, would have been one approach that could have  
11 been taken. Their counterfactual commissions would have  
12 ended up as a function of some additional parameter that  
13 Dr Singer could not have calibrated from the actual  
14 world.

15 Q. Why do you say that that would be imperfect in this  
16 setting?

17 A. Because it assumes that the platforms are symmetric.  
18 That is what reduces it to a single differentiation  
19 parameter. I do not think that either Dr Singer or  
20 I believe that platforms -- the App Store would be  
21 symmetric with one other platform in the actual world.  
22 So I guess what that means is one would need to  
23 introduce additional parameters; one could not have  
24 calibrated and make a set of predictions that would  
25 depend on even more parameters you do not know.

1 Q. But you are not suggesting that this alternative model  
2 would have been a reasonable model to use in this case,  
3 are you?

4 A. So I would -- I mean, I would venture -- so it would be  
5 very hard to do this, maybe impossible, as  
6 a mathematical calibration exercise, but what I would  
7 say is the narrative that Dr Singer is talking about in  
8 terms of attackers and a very rapid share loss is  
9 actually based on opinions about differentiation and  
10 developers' choices that Dr Singer has not laid out.

11 So I think he is also trying to make assumptions  
12 about this stuff, even though that is actually not what  
13 is presented in the Rochet-Tirole model -- sorry, in his  
14 Rochet and Tirole model.

15 Q. Can we go to your second report. So yes, we are in it.  
16 Page 57 please {C3/7/57}, paragraph 122.

17 You say at the start there:

18 "In addition, the outcomes in the counterfactual  
19 world are unlikely to be consistent with a competitive  
20 fringe. As previously discussed, the Landes-Posner  
21 model relies upon each firm in the fringe being a price  
22 taker."

23 So we are here looking at Landes-Posner rather than  
24 Rochet-Tirole, and we are looking at payments rather  
25 than distribution, yes?

1       A. So I think I would have to look back. I think actually  
2       this is a paragraph which applies to both because of the  
3       way that this assumption has been imported to model  
4       competition within the distribution counterfactual, but  
5       we can have this discussion in the context of payments  
6       because it may be easier.

7       Q. Fine, so let us talk about Landes-Posner and let us talk  
8       about -- just focus on that, and I do not think we need  
9       to make the distinction between distribution and  
10      payments.

11     A. Okay.

12     Q. We have already seen that you agree with the  
13      proposition --

14     A. Could I actually read the paragraph?

15     Q. I am so sorry, yes. It is only the first part I wanted  
16      to take you to but you carry on.

17             (Pause)

18     A. Okay.

19     Q. The sentence I wanted to ask you about -- I am about to  
20      ask you questions about, is the first one which says:

21             "... the outcomes in the counterfactual world are  
22      unlikely to be consistent with a competitive fringe."

23             So let us have a look at that. We have already seen  
24      that you agree with the proposition in the Joint Expert  
25      Statement that in the Primary Counterfactual,

1 a plausible counterfactual market share as measured by  
2 revenues for Apple in Dr Singer's iOS In-App Aftermarket  
3 is between 50 and 90%. We have seen that already,  
4 do you remember, or do you want to see it again?

5 A. In the Primary Counterfactual?

6 Q. That is right.

7 A. Yes, okay. Yes, I have seen that.

8 Q. Then if we go to your first report {C3/3/126},  
9 paragraph 277. Again, we have now seen this a few  
10 times.

11 Can we do the split page? Thank you.

12 So we have seen this a few times already and I have  
13 shown you that you say:

14 "... whether Apple is allowed ..."

15 This is the top of the second page.

16 "... whether Apple is allowed to impose such  
17 requirements or not in the counterfactual, I expect that  
18 many third-party payment processors that currently  
19 provide payment processing for purchases on websites ...  
20 [et cetera] would also want to offer payment processing  
21 for iOS Apps and in-app purchases."

22 So you envisage a counterfactual for the iOS In-App  
23 Aftermarket in which Apple would have at least 50% and  
24 there would be many other third-party competitors, do  
25 you not? That is just putting together the two bits

1           that we have just seen.

2       A.   Correct, but I am not saying that those third-party  
3           competitors would be undifferentiated from each other,  
4           or undifferentiated from Apple.

5       Q.   Sorry, have you finished? I thought you were ...

6       A.   No, I --

7       Q.   That is you finished.

8       A.   That is it.

9       Q.   So if you have a market in which Apple has 50% of the  
10          market and there are many other third-party competitors,  
11          I mean, that is precisely the sort of market to which  
12          Landes-Posner could be applied, is it not?

13      A.   No, so the Landes-Posner dominant firm/competitive  
14          fringe model is assuming that customers -- that there is  
15          a single market price, that customers view the products  
16          of the dominant firm and all of the fringe firms as  
17          identical, and that is the key thing that is used to  
18          derive kind of the elasticity change for the dominant  
19          firm which I referred to before.

20           Now, when people are thinking about this, obviously  
21          it -- you know, it tends to make sense. They think of  
22          the fringe as being a set of small firms. But the  
23          existence of a set of small market share firms is not  
24          kind of sufficient for it to be the case that the  
25          product -- their products are not differentiated in the

1 eyes of customers from the product of the dominant firm,  
2 and that is important when you are trying to think about  
3 the problem of the dominant firm.

4 Q. Would you give me a second.

5 (Pause)

6 We have already discussed this. I do not want to go  
7 back over old ground, but I think we have already  
8 accepted that the entry that would occur would lead to  
9 competition on price and quality between the entrants  
10 and Apple, yes?

11 A. Correct, yes.

12 Q. Okay. I am going to ask you some questions about inputs  
13 to Dr Singer's models.

14 A. Okay.

15 Q. As we have already discussed, you rely on Steam and  
16 Google Play as appropriate benchmarks for market share,  
17 do you not?

18 A. So to be clear, I am not thinking about them as inputs  
19 into Dr Singer's model. I was thinking about them,  
20 you know, after having talked about my own pricing  
21 counterfactual. But subject to that qualification, yes,  
22 they are the people I have opined -- I have identified  
23 as potential comparisons to Apple's market share.

24 Q. Dr Singer has proposed a number of other potential  
25 benchmarks. I would like to go through them with you.

1 If we can go to the joint statement at {C4/2/69}, and it  
2 is going to take a little while but I would like to  
3 invite you to read proposition 95 and the comments  
4 please.

5 A. Okay.

6 (Pause)

7 Okay, you can --

8 Q. If we go to your third report {C2/15/83} -- sorry, this  
9 is Dr Singer's third report. At paragraph 164 what  
10 Dr Singer says is:

11 "Professor Sweeting claims that he expects Apple  
12 would retain a near 100% market share in the iOS In-App  
13 Aftermarket in the counterfactual. I do not find this  
14 realistic in light of the evidence I reviewed in  
15 Singer 2, which showed that the market share of the  
16 largest firm in digital transaction markets with no  
17 known anti-competitive behaviour was, at a maximum,  
18 60% ..."

19 That was Visa.

20 "Other benchmarks in digital services markets show  
21 that the leading firm has close to a 50% market share.  
22 For example, as of August 2024 PayPal's share of the  
23 market for online payment processing technologies  
24 worldwide is 45%, with Stripe coming in second place  
25 with 17%. In internet browsers, Google Chrome accounts

1           for nearly 50% of browsers across all platforms in  
2           the UK. In office productivity software, Google's  
3           Office Suite controlled 44% of the market for 'major  
4           office suite technologies worldwide' with Microsoft's  
5           Office 365 coming in at 30%."

6           Now, whilst these benchmarks, I readily accept,  
7           would not be sufficient on their own to estimate Apple's  
8           market share in a competitive counterfactual, they do  
9           provide some evidence for a figure of around 50% rather  
10          than 90%, do they not?

11         A. I do not think they really do. You know, for none of  
12         these cases have we properly thought about the  
13         definition of a market. Lots of these -- you know, in  
14         some of these markets there may be some degree of  
15         network effects, but we do not have kind of integration  
16         with a device as being particularly important in these  
17         examples.

18                 So it seems to me that so many factors are missing  
19                 that I would have thought it would be more -- that  
20                 I believe it is more informative, you know, to look at,  
21                 for example, you know, what has happened with Steam and  
22                 the Epic Games Store, you know, which is something that  
23                 Dr Singer has himself kind of referred to as an example  
24                 of share loss, to think about what is likely to happen,  
25                 although I realise your question was about payments and

1 not about distribution.

2 I would also note that Dr Singer's kind of leading  
3 example, the 50%, is devices, is mobile devices in that  
4 field.

5 Q. I am going to come on to the other ones, do not worry.  
6 I am just hesitating because I am not sure this section  
7 of Dr Singer's report is limited to payments, I would  
8 need to check that, but I did not want you to be under  
9 any misapprehension.

10 Let us look at another example. If we go to the  
11 joint statement {C4/2/68}. If you can remind yourself  
12 what is said in relation to proposition 94.

13 (Pause)

14 A. I have read that comment.

15 Q. Thank you. Then if we could go to --

16 A. Actually could we see the end of --

17 Q. Of course, of course.

18 A. Okay.

19 Q. Dr Singer's second report, that is {C2/8/107},  
20 paragraph 218. Perhaps you can refresh your memory on  
21 that please.

22 A. 218?

23 Q. 218.

24 (Pause)

25 A. I have read it.

1 Q. So we see that in these studies of a loss of dominance,  
2 AT&T retained a market share of 60%, Alcoa retained  
3 a market share of 35%. Again, whilst these benchmarks  
4 would not be sufficient on their own to estimate Apple's  
5 market share in a competitive counterfactual, they do  
6 provide some corroboration for a figure of around 50%  
7 rather than 90%, do they not?

8 A. So, for example, you know, Alcoa is operating in  
9 a market with minimal product differentiation, maybe  
10 actually zero product differentiation. You know, we are  
11 looking here, I understand, over quite a long period of  
12 time. You know, yes, it experienced a large share loss,  
13 but it does not really feel the economics are comparable  
14 to what we believe would hold for the App Store, or  
15 indeed similar app transaction platforms.

16 Q. You said that was in relation to Alcoa. What about  
17 AT&T?

18 A. So AT&T was operating in a situation where it was  
19 removed from the local service market. There was,  
20 I believe, mandated interconnection with other --  
21 you know, for any long distance service provider with  
22 local telephone providers. So once again, you know, it  
23 would seem that the kind of network externalities device  
24 pre-installation factors, you know, differences in  
25 quality, brand loyalty that are relevant in the

1 App Store case, it is not clear to me why we would think  
2 they would -- anything like that would be going on in  
3 the AT&T case.

4 Q. Can we go, please, to {G2/18/82}. This is the  
5 transcript of the evidence that Mr Schiller gave in the  
6 Australian proceedings. You will see at line -- just  
7 above line 20 "His Honour", and the judge asks:

8 "So do I understand from paragraph 194 that you were  
9 just looking at what others were charging to try and  
10 work out what a market bearable pricing? Is that how  
11 the 30% was derived?"

12 So what the judge --

13 A. Actually, can you remind me who this is -- who is being  
14 asked this question?

15 Q. Mr Schiller.

16 A. Oh, okay.

17 Q. So the judge is asking Mr Schiller how Apple arrived at  
18 its 30% commission rate when it first set up the  
19 App Store, and I would ask you to read Mr Schiller's  
20 answer.

21 A. So that is where it starts, with "Not just"?

22 Q. It starts with "Not just that, your Honour" that is  
23 right.

24 (Pause)

25 A. Okay.

1 Q. I fully take on board the different context of the AT&T  
2 example we looked at in Dr Singer's report and what we  
3 are looking at here, but it is the case, is it not, that  
4 Apple considered that AT&T was a suitable comparator, at  
5 least when setting its own commission rate? They are  
6 not so far removed as businesses that they do not enter  
7 into the frame.

8 A. So, you know, obviously I understand that Dr Singer's  
9 previous reference is to AT&T long distance line --  
10 fixed line provision in the 1980s. Here we are talking  
11 about AT&T mobile interacting with developers,  
12 presumably for apps that would appear on flip phones or  
13 something like that, so this would appear to be somewhat  
14 closer to the App Store comparison.

15 Obviously, you know, it is not the same, the role of  
16 the operating system was different and everything like  
17 that, but obviously I would understand what Mr Schiller  
18 is saying, is that Apple was looking around at a variety  
19 of alternatives just to get a sense of where markets are  
20 in terms of commissions being set to software developers  
21 or app developers.

22 Q. If we can go back to the joint statement {C4/2/70}, and  
23 this time it is proposition 97. Again, if you want to  
24 just refresh your memory.

25 (Pause)

1 A. Okay.

2 Q. Then if we can please --

3 A. Was there another sentence at the end?

4 (Pause)

5 Okay, I have read 97.

6 Q. Then if we go to Dr Singer's second report {C2/8/106}.

7 It is paragraph 217. You will see:

8 "My point estimate of Apple's counterfactual market  
9 share is 50%. I select 50% as Apple's counterfactual  
10 market share in the iOS App Distribution Market because  
11 it is Apple's real-world average market share of  
12 smartphone and tablets in the UK ..."

13 Sorry:

14 "... because [its] real-world average market share  
15 of smartphone and tablets in the UK is approximately 50%  
16 over the relevant period."

17 Then he explains why he considers that that is  
18 an appropriate benchmark to have reference to.

19 So again, whilst this benchmark would not be  
20 sufficient on its own to estimate Apple's market share  
21 in a competitive counterfactual, it is another piece of  
22 evidence that does tend to point to a figure of around  
23 50% rather than 90%, is it not?

24 A. So I would -- it is true in the example the market

25 shares are probably close to 50%, but to be clear, as

1 I discussed in the hot-tub, I think if we think about  
2 the economics, and we imagine that in the distribution  
3 counterfactual, even under Dr Singer's terms of how the  
4 counterfactual works, Apple was charging 15.1%  
5 commission, which I believe is its counterfactual  
6 commission.

7 We do not believe -- or I do not believe, and I have  
8 not really seen an argument that Dr Singer believes,  
9 that Apple's market share would be 50%, and -- you know,  
10 let us suppose that Dr Singer had assumed a 30 -- well,  
11 he does consider an example of 30% market share. That  
12 would imply, in his model, an even lower price for  
13 Apple, and at that lower price I do not think we believe  
14 that Apple's market share would be 30%, so it is  
15 basically these numbers are inconsistent with what we  
16 think about demand.

17 Q. You see, the problem that everyone in the room has, and  
18 the Tribunal feels it more acutely than others, is that  
19 by definition this is a very difficult exercise, and  
20 what we have here is a series of imperfect comparators.  
21 As I have said, each of them on their own would not be  
22 sufficient to put weight on to decide the case, but one  
23 has a number of different types of comparators that all  
24 point in the same direction, do we not?

25 A. Of market share comparators, you mean?

1 Q. Yes.

2 A. So I think the fundamental issue here is that one should  
3 not exogenously pick a market share and then plug it  
4 into a pricing equation to determine the price. I think  
5 one wants to think about --

6 Q. But that is a different issue, is it not? I am asking  
7 about identifying counterfactuals, rather than should  
8 one use counterfactuals, which is a different debate, is  
9 it not?

10 A. I think we both -- we all agree there needs to be some  
11 kind of counterfactual, right. If one wants to go  
12 through the exercise which Dr Singer has set himself of  
13 identifying without reference to the prices that Apple  
14 is going to set what Apple's counterfactual market share  
15 would be, then I agree that finding the right comparator  
16 is very difficult.

17 MR HOSKINS: Sir, is that a good moment? I am almost done  
18 but Mr Kennedy has some questions as well.

19 THE CHAIRMAN: Yes, of course. We will take a ten-minute  
20 break now.

21 (3.20 pm)

22 (Short Break)

23 (3.32 pm)

24 MR HOSKINS: I wanted to ask you next about marginal costs,  
25 Professor Sweeting. Can we go to Dr Singer's second

1 report, {C2/8/108}, and can you remind yourself what  
2 Dr Singer says in paragraph 221, please.

3 (Pause)

4 A. Okay.

5 Q. So Dr Singer has had to use a proxy for marginal costs  
6 because Apple does not carry out financial reporting  
7 specific to the App Store, is that correct?

8 A. Yes, and more specifically here is this discussion in  
9 relation to the distribution model.

10 Q. So let us see what you say in your second report  
11 {C3/7/74}, and if you would like to remind yourself what  
12 you say in paragraph 159.

13 (Pause)

14 A. Correct.

15 Q. You do not suggest any method for calculating marginal  
16 costs in your reports, do you?

17 A. No, I do not, and I do not necessarily have the  
18 expertise to ...

19 Q. You have not suggested any proxy for calculating  
20 marginal costs?

21 A. Not -- not a simple proxy that I could identify, no.

22 Q. So Mr Singer's evidence, based on Mr Dudney's analysis,  
23 is the best available evidence we have on this issue, is  
24 it not?

25 A. Yes, but here I am identifying that there is

1 a conceptual flaw from going from some kind of measure  
2 of an average cost to thinking about the appropriate  
3 incremental cost.

4 Q. Can we go to Dr Singer's second report {C2/8/112}. So  
5 here we are back in the Landes-Posner model, we are back  
6 in the In-App Aftermarket, and if we can look at  
7 paragraph 227 of Dr Singer's report, he explains,  
8 amongst other things there, that the Landes-Posner model  
9 requires an additional input, and that is the supply  
10 elasticity of Apple's counterfactual competitors,  
11 correct?

12 A. Yes, in paragraph 227, yes.

13 Q. That is right. If we can go to page 115, please, of  
14 this report {C2/8/115}, can you remind yourself what  
15 Dr Singer says at paragraph 237.

16 (Pause)

17 A. Yes, so the one comment that I -- the only comment  
18 I would add is that really the supply -- elasticity is  
19 the elasticity to the market price, which in the  
20 Landes-Posner model is the same as the dominant firm's  
21 price, and the dominant firm is actually thought of as  
22 setting quantity, not price.

23 Q. It is correct, is it not, that as Apple has no  
24 real-world competitors in the markets, because remember  
25 we are in a world where the markets are as we suggest,

1 and Apple is dominant in those markets. So in the  
2 actual, as Apple has no real-world competitors, this  
3 value must be assumed for the counterfactual, it cannot  
4 be -- it is not a calibration exercise, it has to be  
5 assumed or benchmarks used?

6 A. So specifically the appearance of the supply elasticity  
7 is a, you know, term, is a specific function of  
8 Dr Singer assuming this whole homogenous product,  
9 dominant firm/competitive fringe framework. However,  
10 more generally one would obviously want to think about  
11 what are the entry costs of potential rivals relative to  
12 the size of the market to figure out who would enter,  
13 and then one would need to understand their costs to  
14 understand how competitive they would be. But yes, if  
15 one wants to assume this model, one is going to have to  
16 assume something about the supply elasticity.

17 Q. As Dr Singer explains, economic literature has  
18 calculated competitor supply elasticity in relation to  
19 Alcoa and AT&T. That is correct, is it not?

20 A. Yes, so specifically there are academic papers that have  
21 modelled Alcoa through the dominant firm/competitive  
22 fringe homogenous product model and estimated this exact  
23 parameter in that context.

24 Q. The analysis in relation to Alcoa recognised the  
25 substantial capital requirements for primary aluminium

1 producers and noted particularly the extraordinarily  
2 high cost of entry at an efficient scale, and presumably  
3 you would not disagree with that observation about the  
4 aluminium industry?

5 A. I am not an expert on aluminium but I believe that it is  
6 likely true the capital costs are very large.

7 Q. Therefore we see that Dr Singer has used AT&T's  
8 approximate estimated supply elasticity as a benchmark.  
9 That is what he has done, is it not?

10 A. Yes. I mean I would also -- I am also not an expert on  
11 the entry requirements of a firm to provide a  
12 long-distance fixed-line telecommunications service in  
13 the US in the 1980s. The point is that both of those  
14 comparisons do not map well into thinking about app  
15 stores, or specifically payment services I guess we are  
16 talking about.

17 Q. But again we are in a world where the Tribunal has to do  
18 its best on the evidence available, and this is the  
19 evidence available.

20 A. If the Tribunal decided that they wanted to use  
21 Dr Singer's model to determine the counterfactual price,  
22 and my advice would be that that is not the right  
23 approach to take, then this is the type of parameter  
24 that the Tribunal would have to pick an appropriate  
25 value.

1 Q. Let us see what you say about it in your second report,  
2 that is {C3/7/76}, at paragraph 163. Again, why do you  
3 not read that to yourself.

4 (Pause)

5 A. Yes, okay.

6 Q. So you see that in the final sentence you essentially  
7 make two criticisms. You say:

8 " ... Dr Singer has not assessed the potential fixed  
9 costs associated with the entry of new providers in the  
10 'iOS In-App Aftermarket' ..."

11 That is number 1, and number 2:

12 "... nor has he assessed the economies of scale that  
13 are common to two sided platforms."

14 So let us look at the first criticism you make,  
15 which is that Dr Singer has not assessed the potential  
16 fixed costs associated with the entry of new providers  
17 in the iOS In-App Aftermarket. Now, in order to carry  
18 out such an analysis, the relevant data would need to be  
19 available from such competitors; that is obvious, is it  
20 not?

21 A. One would have to estimate or come up with proxies for  
22 those costs. I mean, obviously one can look at other  
23 examples of platforms where developers have been able to  
24 use alternative in-app payment services providers to get  
25 a sense of the scale of entry, and obviously Mr Owens'

1 testimony could also feed into that.

2 Q. But that data is not available to us, is it, and we do  
3 not have evidence of --

4 A. As a -- so I have not seen a number associated with  
5 a sum cost of entry, for example.

6 Q. The second criticism you make is that Dr Singer has not  
7 assessed the economies of scale that are common to two  
8 sided platforms, and you have got footnote 274 in  
9 relation to that. If we could see that footnote,  
10 please. You refer to a paper by Evans and Schmalensee,  
11 and you quote from it. You say:

12 "For many two sided platforms there would appear to  
13 be significant fixed costs of providing the platform.  
14 This should lead to scale economies over some range of  
15 output ..."

16 Et cetera. But we are not considering here the  
17 general costs of providing the platform, are we? We are  
18 considering the provision of payment facilitation  
19 services to developers who use the platform.

20 A. So I would agree with you that the cost side of two  
21 sided platforms is not necessarily relevant for this  
22 specific discussion of the Landes-Posner In-App  
23 Aftermarket counterfactual. Obviously you do have the  
24 issue that you need to secure kind of acceptance by both  
25 developers, but also to some extent acceptance by

1 consumers, and obviously there is therefore an element  
2 of the two sided nature coming back into it, and that  
3 may be difficult to do, but I have not assessed that  
4 particular problem.

5 MR HOSKINS: Professor Sweeting, the good news is I have no  
6 further questions for you and I just want to thank you  
7 for your patience. It is appreciated. The bad news is  
8 that Mr Kennedy does have some more questions for you  
9 and I am sorry about that.

10 Cross-examination by MR KENNEDY

11 MR KENNEDY: It is just going to take a moment to rearrange  
12 our various boxes, Professor Sweeting, so enjoy the  
13 break.

14 (Pause)

15 Good afternoon, Professor Sweeting. I am going to  
16 be asking you some questions now about objective  
17 justification.

18 A. Okay.

19 Q. So some more patience required, I am afraid.

20 I am going to focus on the economic issues connected  
21 with the alleged benefits rather than the factual issues  
22 as to what the benefits are and whether or not the  
23 restrictions are necessary. I have explored the factual  
24 issues at some length with Apple's factual witnesses and  
25 with Professor Rubin.

1           On a couple of occasions we are going to look at  
2           material that is confidential to Apple. I will let you  
3           know what that material is and I will hopefully not read  
4           it out and you should do likewise.

5       A. Okay. Is it going to be in pink?

6       Q. It is going to be in pink, yes.

7       A. Okay.

8       Q. Now, starting with some questions about competition in  
9           the counterfactual, and really building on the  
10          discussion you had with Mr Hoskins, if we assume that  
11          Dr Singer is correct about market definition, so holding  
12          that assumption constant, and think about  
13          a counterfactual world --

14      A. And dominance?

15      Q. And dominance, but in a counterfactual world in which  
16          there is entry, so other undertakings -- sorry,  
17          undertakings other than Apple provide both iOS App  
18          Distribution Services and iOS In-App Aftermarket  
19          Services, you would expect that Apple and those other  
20          undertakings would compete on a number of parameters,  
21          yes?

22      A. Yes, yes.

23      Q. Those parameters would include security and privacy,  
24          yes?

25      A. They could include that, yes, as well as price and

1           other --

2       Q. As well as price and quality and other things, but just  
3       focusing for our discussion on security and privacy, and  
4       there is likely to be differentiation between those  
5       undertakings across the security and privacy parameters,  
6       yes?

7       A. Yes, so the -- you know, the security and privacy and  
8       also quality and the other attributes is obviously going  
9       to reflect some combination of ability and incentives,  
10      and also reflections of who is actually taking the  
11      decision, so, for example, developers may not fully  
12      internalise the effects of their choice, for example, of  
13      a payment --

14      Q. But focusing now --

15      A. -- service provider on consumers.

16      Q. But we are focusing now on the undertakings and their  
17      decisions about how to compete with each other?

18      A. Yes, yes. But the choice of the developers will affect  
19      demand which will then affect the decisions of the  
20      undertakings.

21      Q. Focusing on differentiation, one undertaking may charge  
22      more and be more secure, and another may charge less and  
23      be less secure, yes? That is a possible outcome in  
24      a competitive --

25      A. That is possible, I would agree with you.

1 Q. iiOS Device users and iOS App Developers will choose  
2 between those undertakings according to what they value,  
3 yes?

4 A. They will choose according to all of the attributes that  
5 they value, price and quality in a number of dimensions.  
6 What they may not do is -- or what they would not be  
7 expected to do is to internalise some of the  
8 externalities they have on -- their choices may have on  
9 other users and developers.

10 Q. So one user may prefer to spend more and receive greater  
11 security and another may prefer to spend less and take  
12 greater security risks, yes?

13 A. That is possible.

14 Q. A possible outcome.

15 A. Yes.

16 Q. For the user that prefers to spend less and take  
17 a greater security risk, their revealed preference is  
18 that they value the pounds and pence savings more than  
19 they value the increased security risk, yes?

20 A. If obviously -- this conversation is assuming that they  
21 can fully evaluate obviously all of the --  
22 (overspeaking) --

23 Q. I have discussed that with Professor Rubin and with  
24 other people, but just --

25 A. No, I am just stating that as an assumption. But of

1 course, once again, as I said, they may be interacting,  
2 but their choices may have consequences for other  
3 developers and consumers and they would not be expected  
4 to internalise those effects.

5 Q. I want to turn now to the extent to which users value  
6 privacy and security in the context of their decisions  
7 about buying smartphones, okay?

8 A. Okay.

9 Q. If we go to your first report at paragraph 138, that is  
10 {C3/3/63}, and right at the bottom of the page you will  
11 see a sentence that begins "Surveys performed on", do  
12 you see that? It goes over, "Apple's behalf".

13 A. Okay.

14 Q. Given that the latter part of that is marked  
15 confidential, could I just ask you to read that to  
16 yourself, please.

17 (Pause)

18 A. Okay.

19 Q. Then we are going to look at the document you cite in  
20 the footnote. If we go to {D1/1294}. This is the  
21 "iPhone Buyer FY22-Q2 Global Report". Do you recall  
22 this document?

23 A. Yes, I do. There is a series of other reports from  
24 other quarters.

25 Q. We are going to go through them, do not worry. We pick

1           it up at slide 41. Now, this is one of the confidential  
2           slides, so we are just going to discuss it without  
3           reading anything out. This is the slide that you are  
4           referring to in your footnote, is that correct?

5       A. Yes, I believe it is.

6       Q. Is it possible to get the clearer version? Thank you  
7           very much. There we go. If we just zoom in on the  
8           table.

9       A. Okay, that is better.

10      Q. You are relying on the fact that the third row refers to  
11          the issues that we are discussing, if I can put it that  
12          way.

13      A. Yes.

14      Q. If we can go over the page we see another table, again  
15          all confidential, so we will be careful, but if we look  
16          at the "UK" column and if we look at the third row,  
17          there is a number there that I am not going to read out,  
18          but I ask you to read it to yourself and --

19      A. I have, yes.

20      Q. -- remember it. We are going to compare that number to  
21          some other numbers in due course.

22      A. Okay, yes.

23      Q. This survey is a survey of iPhone buyers or people who  
24          had a say in the purchase decision for an iPhone, yes?

25      A. Yes, yes. Specifically this table is for a flagship

1 iPhone, but yes.

2 Q. Sorry, I did not quite catch that. This table is ...

3 A. Specifically for a flagship.

4 Q. Yes. But it does not consider -- the report as a whole

5 does not consider anyone who did not buy an iPhone; it

6 is limited to iPhone buyers, correct?

7 A. I believe that is true. There are some tables that

8 discuss people who considered another brand of iPhone --

9 of phone.

10 Q. Let us go to {D1/773}. This is the same category of

11 report but for an earlier period. We see that on the

12 first page -- sorry, {D1/733}. I think I gave you a bad

13 reference. So this is "iPhone Buyer Survey FY19-Q3", so

14 it is from 2019.

15 A. Okay.

16 Q. If we go to page 12, please {D1/733/12}, we will see

17 a similar table, and this time it is not confidential so

18 we can read it out. We see that 62% of UK respondents

19 said that security and privacy of information was

20 important to them, yes?

21 A. Yes.

22 Q. Then if we just flip back to page 10 {D1/733/10}, and

23 again not confidential this time. In your report you

24 contrast that 62% figure, again using the "UK" column,

25 with the high quality camera figure of 40% and with the

1           physical appearance and design figure of 27%, yes?

2       A.   Yes.  I cannot remember the specific reference but

3           I will accept that.

4       Q.   The point you are making is that security is relatively

5           more important than features such as those features that

6           we looked at?

7       A.   Yes.

8       Q.   Let us now go to the Accent survey.  It is {D1/1287/1}.

9           I hope you have seen this before?

10      A.   Yes, I have, and I reference it.

11      Q.   You reference it, yes.  Let us pick it up at page 22

12           {D1/1287/22} and have a look at figure 5.  Figure 5 is

13           "What factors were important in your decision to

14           buy/choose your current smartphone?"  This survey was

15           not limited to people who bought iPhones, correct?

16      A.   Correct.

17      Q.   About halfway down we see "Security and privacy", and

18           for iOS, which is dark blue, we see 29%, and for Android

19           in lighter blue we see 22%, yes?

20      A.   Yes.

21      Q.   The iOS number is considerably lower than the numbers we

22           saw in the two Apple reports that we just looked at,

23           yes?

24      A.   Yes, and I believe that these numbers -- the Apple

25           number here is a number that I cited in my -- there is

1 a number connected with the topics we are talking about  
2 from this report which I cite.

3 Q. Absolutely, yes. You cite three things, we are going to  
4 go through them.

5 A. Okay, yes.

6 Q. So it is the iPhone number -- the iPhone buyer report,  
7 then the Accent survey, and then the -- I am going to  
8 mispronounce it, but Tinuiti survey is the final thing  
9 that you refer to. So we are going to take them in  
10 order and then we are going to look at some other  
11 things, okay? But the point I am putting to you is the  
12 number given in the Accent survey is considerably lower  
13 than the number we see in the iPhone buyer surveys, yes?

14 A. Yes, and the questions I am understanding to be asked  
15 are somewhat different in the two surveys.

16 Q. If we compare the figures for security and privacy to  
17 figures for, say, brand at the top, we see "Brand", 66%  
18 for iOS and 45% for Android, yes?

19 A. That is correct, yes.

20 Q. There was a considerably -- and the figures for brand  
21 are considerably higher than the figures for security  
22 and privacy, yes?

23 A. Yes, they are, which may reflect the questions that have  
24 been asked.

25 Q. Likewise, if we compare the figures for privacy and

1 security to the figures for camera, for camera we see  
2 43% for iOS and 50% for Android, yes?

3 A. Correct.

4 Q. I said you cited a third survey in your report,  
5 paragraph 149 of your first report, by Tinuiti, but that  
6 was a survey of US customers only, is that correct?

7 A. That may well be true. I -- you would have to show me  
8 the specific reference to it.

9 Q. I think that the Tinuiti survey is not actually in the  
10 bundle.

11 A. Okay.

12 Q. But take it from me that it was US only, which is why we  
13 are not going to look at it any further.

14 A. Okay, that is fine.

15 Q. Turning now to the Kantar Comtech surveys. Go to  
16 {D1/1158}. This one is confi, so we need to be careful  
17 not to read anything out when we come to the specific  
18 slides.

19 This report is based on surveys -- we can see this  
20 from the first page:

21 "The information contained in this report is  
22 primarily sourced from third-party resources."

23 Yes?

24 A. Yes.

25 Q. My understanding is that the third-party resources is

1           the third-party market research from Kantar, yes?

2       A. Yes, I -- I mean it is third-party resources. I do not  
3       know who the source is.

4       Q. This report was listed in annex B to appendix B to your  
5       second report, but we understand from Apple's solicitors  
6       that it was not in fact provided to you at the time you  
7       prepared your second report.

8       A. That is correct, yes.

9       Q. But have you now -- you have seen it before this moment?

10      A. I have. I have now reviewed -- once again, there is  
11      a number of surveys from different quarters and I have  
12      reviewed them.

13      Q. Again, this survey is not limited to iOS Device owners,  
14      it is --

15      A. That is correct.

16      Q. -- smartphone owners in general, yes? Let us pick it up  
17      on slide 22, so {D1/1158/22}, and this is confidential  
18      so we will do it by reference to the row.

19      A. Okay.

20      Q. So using -- "GB" itself is confidential, but using the  
21      "GB" column, if we start with -- well, let us look at  
22      the heading, "Overall reasons for purchasing smartphone.  
23      Among smartphones purchased for personal use in CQ3'20."  
24              Focusing on the "GB" column, we see that smartphone  
25      brand/model was the top reason for the purchasing

1           decision, yes? The percentage is not --

2       A. Of the ones that are listed, yes.

3       Q. The ones that are listed, yes.

4           If we go to the next slide, again all confidential

5       so we will just -- again focusing on the "GB" column

6       {D1/1158/23}, what we see is that battery life is the

7       highest scoring feature, yes?

8       A. Yes, I think so, yes.

9       Q. Quality of camera, which is the first row, is the second

10      highest?

11      A. Yes.

12      Q. Then we see that, it is about five or six lines up from

13      the bottom, "Security/data protection" is the second

14      lowest feature, yes?

15      A. Yes, okay, yes.

16      Q. The only other feature that is lower is the compendious

17      "Other", final row?

18      A. In this table, yes.

19      Q. I will not read out the percentage that we see in this

20      document for security/data protection, but it is

21      considerably lower than the figure that we saw in the

22      Accent survey, yes?

23      A. Yes. Just to put it in context, my understanding is

24      this is a survey which is asking: for the specific model

25      you purchased, what was the most important ... It

1           allowed you to list what were the most important  
2           characteristics of that model.

3       Q.   Security and data protection was the second lowest?

4       A.   From that question, yes.

5       Q.   Let us go to {D1/1122}, again confi. It is another  
6           version of the Kantar Comtech global report, this time  
7           Q2-21. Again, conveniently the page numbers tend to be  
8           consistent, we can pick it up on 22 {D1/1122/22}.

9           Again, looking at the "GB" column we see, consistent  
10          with the previous version, that smartphone brand/model  
11          is the highest scoring reason on that question, yes?

12      A.   Correct, for GB.

13      Q.   Then over the page, 23 {D1/1122/23}, again focusing on  
14          the "GB" column -- it is slightly hard to read but  
15          hopefully you can see it, we see that battery life is  
16          the highest scoring feature, yes?

17      A.   Yes, followed by quality of the camera --  
18          (overspeaking) --

19      Q.   Followed by quality of the camera, and we see that  
20          security and data protection is the second lowest, yes?

21      A.   Yes.

22      Q.   Only ability to customise/personalise is lower than  
23          security/data protection, yes?

24      A.   Yes.

25      Q.   It is just next to battery life.

- 1 A. Yes.
- 2 Q. Again I will not read the percentage for security and  
3 data protection, but it is the same percentage as we saw  
4 in the first Kantar Comtech document, correct?
- 5 A. I cannot remember if it is identical, but it is very  
6 close.
- 7 Q. Okay, very close, and again considerably lower than the  
8 figure that was given in both the Apple iPhone buyer  
9 surveys and in the Accent survey, yes?
- 10 A. Yes.
- 11 Q. You list seven Kantar Comtech surveys in annex B to  
12 appendix B in your second report.
- 13 A. Yes, in the -- yes, I reviewed a number of these surveys  
14 in the last week, yes.
- 15 Q. There are seven in total. We do not have time to look  
16 at them all, but take it from me that the figures that  
17 we have seen in the two documents I have shown you are  
18 broadly consistent across all seven, okay?
- 19 A. I would agree with that.
- 20 Q. What I am going to put to you is what the Accent survey  
21 and the Kantar Comtech survey show is that security and  
22 privacy are in fact not a particularly important  
23 parameter of competition in the smartphone device  
24 market?
- 25 A. So I would disagree with that comment or that proposal.

1       So the Apple survey that we looked at, which was the  
2       first one we looked at, what that is based on is asking  
3       consumers a specific question where for different  
4       characteristics you have to rank the importance of those  
5       characteristics on, I think, a 1 to 5 scale, so a Likert  
6       scale, and that is asking users specifically how  
7       important is security and privacy to you, and on that  
8       basis it turns out that relative to these other  
9       characteristics, privacy and security in those surveys  
10      ranks highly.

11       These other surveys, you know, they are saying "You  
12      just bought -- you have recently purchased this model,  
13      what was important about that model?" Now, you know,  
14      there are a number of reasons obviously why different  
15      ways of asking questions get different answers, but  
16      obviously if you thought about, for example, someone who  
17      is switching from an iPhone 12 to an iPhone 15,  
18      you know, the security and privacy of the operating  
19      system and the ecosystem is going to be the same, and  
20      when you take your new iPhone out the box, you might  
21      well think, well, it is the bigger screen or the better  
22      battery life which I am really excited about, you know.

23       So that would be one interpretation, and obviously  
24      that is an interpretation, of why these kind of  
25      questions that are asking "list the most important

1 features" are giving a somewhat different picture.

2 Q. If we just look at the question that was asked, staying  
3 on page 22 of this document, you see the question:

4 "What was the main reason for choosing this  
5 particular brand and model?"

6 So it was not limited to -- (overspeaking) --

7 A. Sure. That is fair, sorry. Yes, I should not have  
8 implied that was -- (overspeaking) --

9 Q. I think at the start of your answer, you said that the  
10 Apple buyer survey asked consumers a question --

11 A. It was recent purchases, to be fair.

12 Q. It is recent purchases of the iPhone. It is not the  
13 smartphone population as a whole?

14 A. Yes, sorry, sorry. I was not trying to imply that  
15 was --

16 Q. I think you have accepted that the range of figures that  
17 we have seen from the iPhone buyer survey to the Kantar  
18 Comtech survey is a significant range. We will not  
19 discuss what the relative --

20 A. The numbers are very different.

21 Q. Very, very different.

22 A. Yes, I would agree with that.

23 Q. What I would suggest to you is that changes in the  
24 security and privacy of iOS Devices would therefore be  
25 unlikely to affect consumers' decisions about whether to

1 purchase an iOS Device or an Android Device?

2 A. I would not agree with that. You know, I -- one could  
3 imagine that if iOS suffered a series of security and  
4 privacy problems, that this would concern consumers when  
5 they were making choices. It would also obviously  
6 potentially damage the brand perception overall, and  
7 that that would have implications for device choices and  
8 obviously also the willingness to transact on the  
9 App Store platform.

10 Q. I want to turn now, Professor Sweeting, to the  
11 quantification exercise that you carry out in respect of  
12 the benefits, so this is in your first report at  
13 paragraph 405, and that is {C3/3/189}. Now,  
14 unfortunately for me, we are going to have to get into  
15 the quantification exercise in some detail shortly, but  
16 what I want to do is start by clarifying the scope of  
17 the exercise that you have carried out, so we will come  
18 on to the specific numbers shortly.

19 A. Sure.

20 Q. Now, you understand that as a matter of law, it is  
21 necessary for Apple to show that the benefits that arise  
22 specifically from the restrictions -- so the App  
23 Distribution Restrictions, the Payment System  
24 Restrictions -- outweigh the harm that is caused by that  
25 conduct, yes?

1 A. I understand that will be the exercise for the Tribunal.

2 Q. That is the exercise. If we just pick it up at 405, you  
3 say:

4 "... there is considerable uncertainty in  
5 calculating the benefits to consumers and developers on  
6 the iOS ecosystem due to Apple's Distribution  
7 Requirements and Payment Requirements. Additionally,  
8 I can only make these calculations for the subset of  
9 benefits for which I was able to identify data.  
10 Nevertheless, as I discussed in section 7.2 above,  
11 I have attempted to estimate the monetary value  
12 associated with several aspects of Apple's features and  
13 policies."

14 Do you see that, yes?

15 A. Yes, I see that.

16 Q. Then in (a) through (e) you go on to provide specific  
17 estimates of specific features, yes?

18 A. Yes, of some potential harms avoided due to privacy and  
19 security policies -- (overspeaking) --

20 Q. We are going to come back to that. I just want to look  
21 quickly at the first sentence of 406, so that is at  
22 {C3/3/193}. You say "These estimates", and I think that  
23 is a reference back to the estimates in 405(a) through  
24 (e), yes?

25 A. Yes.

1 Q. If you want to flip back and forth, by all means. I do  
2 not want to take you out of turn. Just take your time  
3 to familiarise yourself --

4 A. Yes, can I just --

5 Q. Of course. Take as long as you need.

6 (Pause)

7 A. Yes, okay, fine, okay.

8 Q. So "These estimates" is a reference back to those five  
9 estimates, yes?

10 A. Yes. To be clear, these are not estimates of the  
11 causal -- incremental causal effect of the restrictions;  
12 these are estimates of the value that users may attach  
13 to specific features. Then one would have to quantify,  
14 depending on the counterfactual that is being chosen --  
15 (overspeaking) --

16 Q. We are going to explore what you say about the  
17 counterfactual and incremental benefits. That is  
18 precisely the nature of this scoping exercise that  
19 I want to carry out. So you are -- unsurprisingly you  
20 are ahead of me, but if it is okay, we are just going to  
21 work through it --

22 A. Sure, that is fine.

23 Q. -- to help orientate the Tribunal and make sure that  
24 I have understood your evidence correctly, so that when  
25 we come to the actual --

1 A. Questions.

2 Q. -- values or estimates, whichever your preferred word  
3 is, we are on the same basis.

4 A. No, that is fine. That is fine.

5 Q. So 406:

6 "These estimates provide per-user estimates of the  
7 value of, or costs avoided from, a range of different  
8 features, all of which are (as discussed in section 11.3  
9 above) are facilitated by Apple's Distribution  
10 Requirements and/or Payment Requirements."

11 Yes?

12 A. Yes.

13 Q. We saw that in paragraph 405, what you said is that you  
14 attempted to estimate the monetary value associated with  
15 several aspects of Apple's features and policies.

16 Do you recall that?

17 A. Yes, I recall language close to that.

18 Q. Then the language that we see at 406 is that the  
19 estimates are of features that were facilitated by  
20 Apple's Distribution Requirements and/or payment system  
21 requirements, yes?

22 A. Yes. For example, the Ask to Buy feature is facilitated  
23 by the Payment Requirements.

24 Q. Just so we are all clear, it is your evidence that the  
25 estimates you provide in paragraph 405 are estimates of

1           benefits attributable specifically to the App  
2           Distribution Restrictions or the Payment System  
3           Restrictions?

4       A.   So to clarify -- so the answer is yes, but just to  
5           re-emphasise, this is not saying what the incremental  
6           loss of those benefits would be in the counterfactual.

7       Q.   Yes.   So this is stage 1 of your analysis.

8       A.   Yes.

9       Q.   You say that you look at the actual, you try and look at  
10          what the value provided by the restrictions is in the  
11          actual, you then carry out the counterfactual analysis  
12          to work out what the increment is, and you ought to  
13          value the increment, is what you say in paragraph 405,  
14          is that correct?

15      A.   Yes, to calculate the increment, one has to take a stand  
16          on the counterfactual and rely on the evidence of --  
17          you know, particularly for like the threat of malware or  
18          the threat of fraud, obviously from the securities and  
19          payments experts about what the incremental loss would  
20          be.

21      Q.   That is exactly what I want to just try and understand.  
22          If we just look at paragraph 405(a) {C3/3/190}, taking  
23          this as an example, and if we look at the footnote, what  
24          we see is that you cite to an Apple Newsroom article,  
25          and that is where you take this 1.5 billion figure from,

1           yes?

2           A. Yes, that is correct.

3           Q. In section 7 of your first report and 11 of your first  
4           report, you have a general discussion of the factual and  
5           expert evidence on security and privacy, so Mr Federighi  
6           or Professor Rubin.

7           A. Yes, amongst the economic principles.

8           Q. Yes, absolutely. But in terms of the factual bases for  
9           what the benefits are and whether or not they are  
10          necessary, you have a general discussion in those  
11          sections of your report. So you point to  
12          Professor Rubin's evidence on fraud detection for  
13          example --

14          A. The Apple -- you know, Federighi --

15          Q. Federighi's evidence on, you know, whatever it may be.

16          A. Yes.

17          Q. But what we do not see here in sub-paragraph (a) is any  
18          statement to the effect that you understand from Mr or  
19          Professor So-and-So's evidence that one benefit arising  
20          specifically from the App Distribution Restrictions and  
21          the payment restrictions is the detection of fraud  
22          associated with stolen credit cards, for example?

23          A. So I am drawing from my understanding that the in-app  
24          payment -- some of the services connected with the  
25          in-app payment system are doing fraud detection of

1 a number of kinds when transactions happen, and that  
2 would also be true obviously for paid downloads.

3 Q. I am not disputing that you are drawing on your  
4 understanding of that factual evidence and that expert  
5 evidence.

6 A. Yes.

7 Q. But I think your answer to the question sort of  
8 pinpointed the problem that I face and that the Tribunal  
9 face, and just to read it back, you said:

10 "Answer: ... I am drawing from my understanding that  
11 the in-app payment -- some of the services connected  
12 with the in-app payment system are doing fraud detection  
13 of a number of kinds when transactions happen, and that  
14 would also be true obviously for paid downloads."

15 The difficulty I face is that you do not tie back  
16 the category of harm avoided, to use your terminology,  
17 back to any specific piece of factual evidence or expert  
18 evidence.

19 A. So I understood from reading the Rubin and the Lee  
20 reports that both of those experts, while obviously they  
21 are reaching different opinions about the  
22 counterfactual, agreed that, amongst other things, Apple  
23 is doing fraud detection when there are in-app payments.

24 Q. Let us take sub-(c) just as an example of this issue.

25 So sub-(c) reads:

1 "Value of ecosystem security ..."

2 Yes? That appears to be the category of harm  
3 avoided that you are dealing with here, yes?

4 A. Yes, very broadly, although I then relate it more  
5 specifically to antivirus and malware questions.

6 Q. You do go on to relate it to malware, but again what we  
7 do not see is any specific citation to any specific  
8 discussion of malware by any of Apple's factual  
9 witnesses or by Professor Rubin, correct?

10 A. So once again, from my reading of both Professor Lee and  
11 Dr Rubin is that they both acknowledge that malware is  
12 an issue on mobile devices of all kinds. That is also  
13 consistent with the Nokia reports and the UK  
14 cybersecurity strategy and RiskIQ and other documents  
15 that have discussed the prevalence of malware, and that  
16 Apple has adopted strategies designed to combat malware.

17 So while this is certainly not an exhaustive  
18 examination of everything that goes into ecosystem  
19 security, which is another reason why this calculation  
20 may be conservative, and not understanding that to think  
21 of malware as something that is bad for users on  
22 a mobile ecosystem is a controversial statement.

23 Q. It is not that it is controversial. You are absolutely  
24 right that -- I think it is actually Dr Lee and  
25 Professor Rubin, I do not know how much people care

1           about the difference.

2       A.   Sorry, I apologise for that.

3       Q.   They do discuss that malware is a problem across

4           different kinds of devices, on Macs, on iOS, on Android,

5           and you are absolutely correct that Apple employs

6           different security measures to combat malware, so

7           I think you know that some of those measures are built

8           into the hardware and the software. So take sandboxing,

9           for example. That helps to contain an app's behaviour

10          within a specific part of the system, yes?

11       A.   Yes.

12       Q.   But that is distinct from and independent of the

13          restrictions that we are dealing with, yes?

14       A.   Yes. I understand from ... Dr Rubin?

15       Q.   Professor Rubin.

16       A.   Professor Rubin, that -- so he talks about the defence

17          in depth element of security and, you know, the

18          on-device practices may complement kind of off-device

19          App Review practices.

20       Q.   Yes, so we have on-device, we have App Review which is

21          also independent from the restrictions, and we have the

22          restrictions.

23       A.   So I am not -- so I would understand that Apple's

24          ability to conduct App Review on all iOS Apps is

25          potentially a consequence of the restrictions, but

1 I understand various counterfactuals have considered why  
2 that is not --

3 Q. Mr Federighi accepted from me in cross-examination that  
4 Apple could and would conduct full App Review of all iOS  
5 Apps distributed in the United Kingdom regardless of the  
6 ultimate source of distribution, so App Store or  
7 a third-party store, in the counterfactual. So App  
8 Review is not dependent on the existence of the App  
9 Distribution Restrictions.

10 A. So I would -- so I can assume that if you would like me  
11 to assume that.

12 Q. I am not asking you to say whether it is correct or not.  
13 Obviously you are not in a position to do so.

14 A. Exactly.

15 Q. But let us assume that is correct, that means that App  
16 Review is a different strand of malware protection from  
17 the App Distribution Restrictions, yes?

18 A. So that would -- specifically you are envisaging  
19 a counterfactual where Apple is going to provide  
20 additional services for developers, or app store --  
21 alternative app stores who are going outside of the  
22 Apple ecosystem. So that may eliminate some of the  
23 security and privacy concerns, if they are able to do  
24 App Review in a full-blown way and make sure only app  
25 updates that have been reviewed are kind of available.

1 But of course those are additional services and values  
2 that Apple would then be providing for competitors.

3 Q. I am not asking you about whether they would be  
4 additional, I am not asking about whether there would be  
5 any costs associated with that; I am just trying to  
6 separate out the different strands that contribute to  
7 iOS security and I am trying to understand what you have  
8 valued in your report. My understanding is that you  
9 have not sought to discriminate between these different  
10 strands. You have taken from the evidence, the factual  
11 evidence, the expert evidence, that malware is  
12 a problem --

13 A. Yes.

14 Q. -- and that -- and this is not meant to be an overly  
15 stylistic representation of your evidence, so push back  
16 if I am getting it wrong.

17 A. Okay.

18 Q. But as I understood your answer, malware is a problem in  
19 the actual. It may be more of a problem in the  
20 counterfactual. One way in which that problem might be  
21 mitigated is by purchasing a third-party antivirus  
22 software and how much that would cost.

23 A. So, you know, the evidence, including Dr Lee's evidence,  
24 identified the ability to install antivirus software as  
25 one way in which Android users were able to combat the

1 threat of malware.

2 Now, what I have done, and I think this was  
3 a reasonable thing to do, was to therefore say "Well,  
4 how much would that antivirus software cost?" Now,  
5 I did not attribute -- you know, I did not say everyone  
6 is going to do that. So another way in which I was  
7 conservative was to say that actually Apple users, even  
8 though their malware protection may have gone down in  
9 the counterfactual, would only buy it in proportion to  
10 the number of Android users who buy it, so that gave me  
11 a yearly number, which is significantly lower than the  
12 -- (overspeaking) --

13 Q. Yes, that is the 0.76 number. We are going to come on  
14 to that number specifically and how you got there.

15 A. Okay.

16 Q. But we are sort of at an anterior stage, which is did  
17 you attempt to isolate the increased malware risk  
18 associated specifically with the removal of the  
19 restrictions, of which the Class Representative  
20 complains, and go on to try and value that?

21 A. No, specifically because that requires the very clear  
22 definition of exactly what the counterfactual is and  
23 what Apple will be doing in the counterfactual, and  
24 potentially also what Apple's market share would be in  
25 the counterfactual, and then a set of technical

1 expertise, which is expertise that I am not purporting  
2 to have.

3 Q. But you have not attempted to carry out the  
4 counterfactual exercise at all -- we are going to come  
5 on to this, but you have not even tried to do it on  
6 a rough and ready basis by making assumptions, for  
7 example, about Apple's counterfactual market share, even  
8 though you proffer opinions on counterfactual market  
9 share elsewhere, the 50 to 90, correct?

10 A. Correct. So the point I make is that the fact-finders  
11 would only need to attribute a relatively small  
12 proportion of this value to the restrictions to find  
13 that it more than offsets the harm. Of course, the  
14 actual value that would be lost depends on things that  
15 are both outside my expertise and outside the definition  
16 of the counterfactual that I was -- you know, the range  
17 of counterfactuals that I was thinking about in my first  
18 report was wide. It still appears quite wide at this  
19 point.

20 Q. What I am going to put to you, Professor Sweeting, is  
21 that because you have not attempted to isolate the  
22 increased malware risk associated specifically with the  
23 removal of the restrictions which the Class  
24 Representative complains of, is that the estimates that  
25 you provide in paragraph 405 are not estimates of any

1           benefits specifically attributable to the restrictions?

2       A.   So I would not necessarily agree with that.   So if  
3           one -- you know, just taking sub-point (c).   If one  
4           believed that the difference in the distribution rules  
5           between the iOS platform and the Android platform were  
6           the cause of the differences in malware, and the reason  
7           why Android -- a proportion of Android users buy  
8           antivirus software for their devices, then this would  
9           seem actually still a conservative estimate of the  
10          monetary effects.

11       Q.   Okay.   We have discussed this point but let us just run  
12           through it quickly.   This is the question of isolating  
13           the incremental benefits in the counterfactual, and  
14           I just want to have a quick look at what was said in the  
15           Joint Expert Statement and then come on to the point  
16           that you make about the Tribunal only having to accept  
17           that degradation in the counterfactual is a fraction, so  
18           let us move on to that.

19           If we pick it up in your first report,  
20           paragraph 404, which is where you describe -- sorry,  
21           this is {C3/3/189}, and this is your description of how  
22           one in principle ought to go about identifying the  
23           incremental benefit.   I ask you to read that to yourself  
24           quickly.

25           (Pause)

- 1       A. I have read 404.
- 2       Q. So what we see is we need to know the value the  
3       consumers receive in the actual, yes?
- 4       A. Yes.
- 5       Q. The value that consumers would receive -- and consumers  
6       here are members of the Class for our purposes, yes?
- 7       A. Yes, and one might also recognise that there is going to  
8       be an effect on developers which may entail additional  
9       effects on members of the Class.
- 10      Q. We will come on to developers close to the end. So  
11      value in the actual; value received in the  
12      counterfactual, yes?
- 13      A. Yes.
- 14      Q. That depends in turn on how much more likely -- this is  
15      just the malware example -- how much more likely apps  
16      with malware would get through whatever security  
17      mechanisms are in place in the counterfactual?
- 18      A. Yes.
- 19      Q. The cost to consumers of such malware and how many, and  
20      let us just read in "Class members", would download apps  
21      outside of the App Store in the counterfactual, yes?
- 22      A. Yes, although of course Class members who used the  
23      App Store may be affected by the behaviour of non-Class  
24      members outside the App Store.
- 25      Q. If we just turn up the Joint Expert Statement, just to

1           have a look at what Dr Singer says about what in fact  
2           you did do. Because I think you accept that that is  
3           the -- that is what one ought to do in trying to --

4       A. Ideally. That is ideally.

5       Q. Ideally. So let us pick it up {C4/2/87}. It is  
6           proposition 132, and the proposition is that:

7                 "The incremental benefits of the App Distribution  
8           Restrictions have been quantified."

9           Then we see Dr Singer's response first. He says:

10                "Disagree. Professor Sweeting attempts to calculate  
11           the total value of security, privacy and fraud  
12           prevention. This is not the same as calculating the  
13           marginal benefits of the restrictions. There is zero  
14           reason to think that security, privacy and fraud  
15           prevention would go to zero in the counterfactual."

16           So that is Dr Singer's view. When Dr Singer says  
17           "go to zero", he means that there is no reason to assume  
18           that in the counterfactual neither Apple nor any  
19           relevant third-party would be completely unable to take  
20           effective security measures in whatever relevant respect  
21           we are talking about, yes?

22       A. Yes, yes. I mean, that is what he has in mind.

23           Obviously the set of things that I have identified is  
24           already a quite conservative threat of the aspects of  
25           security and privacy that could be valued, and I am

1           attributing kind of no value to those in my calculation,  
2           but what you have just said is the sense in which  
3           Dr Singer meant --

4       Q.   When you say "conservative", are you referring back to  
5           your evidence in paragraph 403 of your first report  
6           where you identify certain things that you have not been  
7           able to quantify?

8       A.   Yes, for example.

9       Q.   So it is reduced administrative burden from Apple,  
10          automatically deducting the commission --

11      A.   That is -- (overspeaking) --

12      Q.   -- Family Sharing, et cetera, yes?

13      A.   They are examples, yes.

14      Q.   If we just look at what your response is to Dr Singer's  
15          statement, you say:

16                "I am not claiming that the value of these benefits  
17                would be zero in the counterfactual. I showed that the  
18                benefits from the App Distribution Restrictions are  
19                substantial and thus the difference between the benefits  
20                in the actual world with the App Distribution  
21                Restrictions and the benefits in the counterfactual  
22                world (ie the incremental benefit) would only have to be  
23                a fraction of the total benefit in the actual world to  
24                outweigh the harms claimed by the CR's experts."

25                Yes?

- 1       A. That is what I say, yes.
- 2       Q. As I understand it, what you are saying is that even if  
3       security and privacy were degraded by only a small  
4       amount in the counterfactual, because your estimates in  
5       405 are so large the benefits would still outweigh the  
6       harms. Is that fair?
- 7       A. That is the way that I am thinking about the problem,  
8       yes. I mean, relative to the Holt calculation of harms  
9       per class member, yes.
- 10      Q. Not limited, I do not think, just to Mr Holt's  
11      calculations. In your second report, you update it and  
12      you say --
- 13      A. Yes, in the first report I was talking about Holt.
- 14      Q. Yes, and in your second report you say:  
15              "My opinion has not changed, even though ..."
- 16      A. That is correct.
- 17      Q. Just so we are on the same page --
- 18      A. Yes.
- 19      Q. -- I want to make sure that we are. I just want to be  
20      clear about this, and I am sorry if we are slightly  
21      retreading ground, but you have not sought to identify  
22      and value the difference between the benefits in the  
23      actual world and the benefits in the counterfactual  
24      world?
- 25      A. I have not quantified the proportion of privacy and

1 security benefits that would be lost.

2 Q. Dr Singer is therefore correct, is he not, that the  
3 estimates -- so 405(a) through (e) -- do assume that the  
4 aspects of security, privacy and fraud prevention that  
5 you consider there would go to zero in the  
6 counterfactual?

7 A. No, because I am not claiming -- I am just saying I have  
8 the value of these security and privacy attributes.  
9 I understand that the Tribunal will have to make  
10 a judgment about the proportion of them that will be  
11 lost. All I am saying is that the proportion would have  
12 to be very small for the per Class member harm estimates  
13 not to be outweighed.

14 Q. But your evidence does not help the Tribunal with that  
15 exercise, because you have not sought to quantify at all  
16 the proportion that would be lost.

17 A. You know, so I would view some of my estimates, such as  
18 the virus, antivirus software one, as already  
19 incorporating a little bit of a sense of the adjustment,  
20 because I am looking at how many Android users actually  
21 purchase virus software, so that is something which is  
22 getting a little bit closer to the ideal calculation.  
23 But at a high level, I absolutely agree that I am not  
24 providing that proportion of --

25 Q. So taking fraud prevention, there is 1.5 billion, and

1           what you do not do is you do not say that 750 million  
2           would still be caught by some combination of Apple and  
3           a third-party in the counterfactual, therefore it is 750  
4           divided by whatever it is. That is not an exercise that  
5           you have tried to carry out at all?

6           A. No, and just to be clear, I have also not ventured as to  
7           whether people would attempt more fraud in the  
8           counterfactual world, so one can imagine the numbers  
9           going in either direction.

10          Q. Because you have not sought to identify and value the  
11          difference between the benefits in the actual world and  
12          the benefits in the counterfactual world, again the  
13          estimates that you provide are not estimates of any  
14          benefits attributable to the restrictions, are they?

15          A. Effectively my framework -- there is a parameter,  
16          a proportionality parameter which the Tribunal would  
17          have to assess in order to do the weighing.

18          Q. Final question on the framework, just to ensure that  
19          I understand correctly and so does the Tribunal: you  
20          only rely on the figures set out in paragraph 405(a)  
21          through (e) of your first report for the purposes of  
22          formally estimating the benefits that flow from the  
23          restrictions, subject to the conversation we have just  
24          had?

25          A. I actually do not quite understand the -- are you asking

1           me if I make another use of them?

2           Q.   No.  You refer to various figures elsewhere, so, for  
3           example, if we turn up first Sweeting paragraph 137, so  
4           it is {C3/3/62}, and so for example here you say:

5                   "Cybercrime, which can occur due to the mishandling  
6           of personal data, costs UK consumers and businesses  
7           billions of pounds each year."

8                   Elsewhere there are various other figures and my  
9           question is simply in reaching the conclusion that the  
10          benefits outweigh the harms, you are only relying on the  
11          specific estimates that you provide at paragraph 405(a)  
12          through (e)?

13          A.   Yes, and that is another sense in which my numbers are  
14          explicitly conservative.

15          MR KENNEDY:  Sir, that might be a convenient time.

16          THE CHAIRMAN:  Yes.

17          MR KENNEDY:  We have got to get into the detail of the  
18          figures tomorrow.  I estimate I will be about an hour,  
19          thereabouts, in the morning and then --

20          THE CHAIRMAN:  Right, okay, and then you are finished?

21          MR KENNEDY:  Then we are finished, sir.

22          THE CHAIRMAN:  Yes, so then Professor -- that is a bit  
23          earlier than you expected, is it?

24          MS DEMETRIOU:  Just a suggestion, because Professor Hitt is  
25          not available until 2 because he is actually landing

1 mid-morning, so he is not --

2 THE CHAIRMAN: Yes, we guessed he might not be in the  
3 country from the order of the witnesses.

4 MS DEMETRIOU: I do not want to put Mr Kennedy under undue  
5 pressure, but if he is going to be about an hour, might  
6 we have a slightly later start, rather than all waiting  
7 around in-between?

8 THE CHAIRMAN: Well, if you are comfortable, Mr Kennedy.  
9 I do not want to put you under pressure, and I do not  
10 want to find that we suddenly get into a muddle, but  
11 if -- and I know it does not always just depend on you,  
12 so in a way we are in your hands. Do you want to start  
13 a little bit later?

14 MR KENNEDY: Well, we are about halfway through the notes,  
15 sir, but I think we are about to slow down given that  
16 I've got to do some mathematics, not to the same extent  
17 as Mr Piccinin, everyone will be pleased to hear. It is  
18 normally just dividing by two, which is still quite  
19 challenging for me on my feet, sir, but if we started  
20 at -- why do we not start at 11, sir, and then I do not  
21 think we will run into any difficulties.

22 THE CHAIRMAN: Yes. I think what we want to avoid is having  
23 a big gap in the middle of the day because it is just  
24 very unproductive for everybody, is it not, while we  
25 just sit here and wait. Let us do that. So we will

1           resume at 11 and that is in the hope, the fervent hope,  
2           that you will be done by 1.

3       MR KENNEDY: I am sure I will, sir. I can always speed up.

4       THE CHAIRMAN: Good, okay. Thank you very much. 11 o'clock  
5           tomorrow morning.

6       (4.38 pm)

7           (The hearing adjourned until 11.00 am on Wednesday,  
8                               12 February 2025)

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22

23

24

25

INDEX

PROFESSOR ANDREW SWEETING (continued) .....1

    Cross-examination by MR HOSKINS (continued) .....1

    Cross-examination by MR KENNEDY .....143

1

2