IN THE COMPETITION APPEAL TRIBUNAL

Case No: 1524-1525/1/12/22

Salisbury Square House
8 Salisbury Square
London EC4Y 8AP

Monday 6th November – Friday 1st December 2023

Before:

The Honourable Mr Justice Marcus Smith
Eamonn Doran
Professor Michael Waterson

(Sitting as a Tribunal in England and Wales)

BETWEEN:

Appellants

Pfizer Inc. and Pfizer Limited & Flynn Pharma Limited and Flynn Pharma (Holdings) Limited

V

Respondent

Competition & Markets Authority

A P P E A R AN C E S

Mark Brealey KC, Robert O'Donoghue KC & Tim Johnston (Instructed by Clifford Chance LLP) on behalf of Pfizer

Jemima Stratford KC, Tom Pascoe & Alastair Richardson (Instructed by Macfarlanes LLP) on behalf of Flynn

Josh Holmes KC, David Bailey, Jennifer MacLeod, Julianne Kerr Morrison & Conor McCarthy
On Behalf of the Competition & Markets Authority

Monday, 20 November 2023

(10.00 am)

THE PRESIDENT: Good morning. The hot-tub will continue, but Professor Waterson will lead it.

Concurrent expert evidence of DR MAJUMDAR, DR DE CONINCK, MR WILLIAMS, MS WEBSTER & MR HARMAN

PROFESSOR WATERSON: Right, so again, as with the previous hot-tub, we are going to be talking not always directly about this particular case but I will have a series of questions which are associated with this case in some way or another, but I do not want to -- they will not all be directly on this case.

So to start off, then, let us consider a drug for which, for a small number of patients, there is no substitute. Assume further that the maximum annual willingness to pay for such a drug by the health service is £12,000 a year.

So what will the demand curve look like for that drug? I will start with Mr Harman.

MR HARMAN: So if I can clarify, I guess, is this drug essential?

PROFESSOR WATERSON: Yes.

MR HARMAN: It is essential, and there is no substitute? Without further information I would say that it is broadly inelastic.

PROFESSOR WATERSON: Yes, I think it will be broadly inelastic, yes, but ...

MR HARMAN: So, yes, I mean, this would seem to me to be a situation where there are no substitutes, there is no prospect of competition emerging, assuming --

PROFESSOR WATERSON: Not at the moment, no.

MR HARMAN: No. Assuming that not only is it a maximum willingness to pay, but actually, the ability to pay is also there, then I would say that the demand curve is inelastic.

PROFESSOR WATERSON: Sorry, I did not ...?

MR HARMAN: Is inelastic, vertical.

PROFESSOR WATERSON: Ms Webster?

MS WEBSTER: Yes, I would agree with that.

PROFESSOR WATERSON: Dr De Coninck?

DR DE CONINCK: Yes, I think if the idea that this drug is really life-saving and essential, it will be bought at this price, and the quantity will not vary, hence it is inelastic, yes.

PROFESSOR WATERSON: Any dissent from... no?

DR MAJUMDAR: Not from me. Sir, can I just check, I think you said £12,000 per year was the maximum willingness to pay for the buyer, was that, just to check I --

PROFESSOR WATERSON: Yes, for the drug.

DR MAJUMDAR: For the drug?

PROFESSOR WATERSON: Yes.

DR MAJUMDAR: Thank you. So in that case, yes, I would expect there to be a vertical demand curve as well in that scenario.

PROFESSOR WATERSON: Right, yes, so we are all agreed on that?

MR WILLIAMS: Can I just say there is a real world example right now in the health service with a drug called Orkambi and it is part of a triple therapy by Vertex, you may have read about it, in cystic fibrosis, where they are proposing to charge £160,000 per year, and the NHS said we cannot afford it, so they are not expecting to make any sales until that is resolved.

PROFESSOR WATERSON: Yes. I am coming on to that sort of case, but at the moment we will stick with this example.

So then moving along the line again, Ms Webster, what price will a profit-maximising monopolist charge assuming no further regulation?

MS WEBSTER: I would expect the monopolist to charge the maximum willingness to pay of 12,000.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: Not necessarily, but, you know, it could be close to that, but I think if we look at real case examples of the high prices to drugs, by drugs that are

patented and face competition, they of course are not going to charge more than the maximum willingness to pay, but they may, for some reason, still as a monopolist decide to charge less, not because it would affect the quantity when you have inelastic demand, but because of other potential costs of charging high prices.

I think that is one of the elements that was raised, for example, for Sovaldi pricing by Gilead some years ago, and the idea was: well, even a monopolist takes into account constraints on its -- on how it is perceived and its reputation, on a number of costs in addition that may mean that, you know, the firm may decide to price at a level that is under the absolute willingness to pay, even if it does not have competition.

PROFESSOR WATERSON: So in practice it might be less than that, but if it is purely profit-maximising, you are saying it will charge that?

DR DE CONINCK: Unless there are other costs that are posed there.

PROFESSOR WATERSON: Yes, yes, yes. Yes.

So?

DR MAJUMDAR: Yes, so just again to be clear, I think you mentioned that at this particular stage of the example

there is no regulation. If there were regulation, I can imagine the scenario where a monopolist would not necessarily price up to full maximum willingness to pay, for example, because it was benchmarking against other regulated prices. However, in this particular scenario, I would expect the monopolist, assuming it knew, had the full information and therefore knew maximum willingness to pay I would expect its monopoly price to be the maximum willingness to pay.

PROFESSOR WATERSON: Right, okay. Thank you. Good.

So now, just to keep most of the assumptions of the example but now assume that each year some of -- a few new patients are diagnosed, say 4% new patients are diagnosed, and some of the patients die, not through anything to do with this drug but simply they have come to the end of their life for some other reason. So some of them will be placed on this drug, and others on an alternative drug with the choice being made randomly. I am emphasising randomly here. Does this affect the pricing decision?

Dr De Coninck?

DR DE CONINCK: Yes, so that means that the quantity of patients that the drug would cover is not fixed, so you have new patients which can either be given a drug or not given a drug, and depending on the -- I mean, the

question is what do you mean exactly by randomly and how they can be allocated.

PROFESSOR WATERSON: What I mean is that they are first prescribed in hospital and some consultants prefer one for their patients, others prefer another.

DR DE CONINCK: All right, so --

PROFESSOR WATERSON: But that is purely random.

DR DE CONINCK: Okay. If there is -- the question is, is there an impact on the price that is chosen on those patients, if I understand correctly what you are saying, is now it is completely random, then there is no link between the volume and the price which is different from whether for these new patients the price that is chosen could have an impact.

PROFESSOR WATERSON: Right. Yes, I am afraid that many of the questions will not interest you, but that is fine.

MR WILLIAMS: They interest me, sir, but I will not waste time answering them.

PROFESSOR WATERSON: No, no, fine.

DR MAJUMDAR: Yes, as Dr De Coninck says, I think we have a situation here where, as you say, some patients are dying, there are potentially other patients coming to the market, but because they are allocated randomly, volume is not sensitive to price and, therefore, you would still price at the maximum willingness to pay as

a monopolist.

PROFESSOR WATERSON: Right, thanks.

Mr Harman?

MR HARMAN: Yes, I agree with what has been said, with one addition.

To the extent that it is not random, to the extent that there is a price consideration which is maybe where you are going anyway --

PROFESSOR WATERSON: Yes, I will be going there, yes.

MR HARMAN: -- you know, it seems to me that you would not change your price for the reasons given, and to the extent that you thought there was an issue, then it may be better to retain your prices anyway and only price to the captive market, and lessen the level of competition on the non-captive market, but I am probably getting ahead of myself.

PROFESSOR WATERSON: That may be so, yes.

MS WEBSTER: I have nothing to add to what has been said in relation to that question.

PROFESSOR WATERSON: Good. Okay, well we are proceeding well.

Now, let us assume -- and again, these examples are not meant to be accurate but they are simply examples to gain a general understanding and so far I think people have been pretty much aligned.

Let us now assume that all drugs are in a similar situation, not just this drug, but all drugs in a similar situation.

Now, if they were all -- and they also, let us assume just to make it simple, they all have a -- the cut-off, if you like, for drugs is £12,000 a year, so the NHS will pay in principle up to £12,000 a year for each of these drugs. However, if the NHS did pay up to that price for all the drugs, then the drug's budget would be completely broken. That is they would only be able to fund 50% of that. So some extremely difficult decisions about priorities would then need to be made.

So in what sense, if any, is the current price of this drug, assuming it is priced at £12,000, excessive -- (a) excessive and (b) unfair in itself?

Is that scenario clear to people?

Dr Majumdar?

DR MAJUMDAR: Thank you, sir. May I just check? I think you are saying that there are many drugs, and on an individual basis the Department of Health would be willing to pay 12,000 for each individual drug, but if it paid 12,000 for every single one of them it would in essence double its budget.

PROFESSOR WATERSON: Yes.

DR MAJUMDAR: So then your question is does that make

a price of a -- a monopoly price of £12,000 for one individual drug unfair.

PROFESSOR WATERSON: Yes, or -- well, first of all, excessive and secondly, unfair.

DR MAJUMDAR: Okay, and when you say excessive you mean in the sense of limb 1 excessive?

PROFESSOR WATERSON: Yes, exactly.

DR MAJUMDAR: I think it would depend what the cost of producing that drug would be.

PROFESSOR WATERSON: Right.

DR MAJUMDAR: So we cannot answer that question at the moment on the basis of the information. I think it would also depend on the value that the drug delivers because at the moment we understand that the price -- sorry, the willingness to pay is £12,000 for all drugs, but it may be that some drugs actually deliver greater value than others in which case, if this is a particularly valuable drug, that £12,000 might be entirely justified. So at this stage I am afraid I cannot give you an answer to that question.

PROFESSOR WATERSON: No, that is fair enough. When you say about the value of the drug, perhaps you could be a bit more precise about what you mean there.

DR MAJUMDAR: About value of the drug? Okay, so we are talking here about a pharmaceutical, and this

pharmaceutical will presumably, when taken by the patient, deliver some benefit in terms of life improvement, be that controlling a seizure or whatever it is depending on the drug. That is something that is valuable and it can be quantified in monetary terms.

PROFESSOR WATERSON: Quantified in monetary terms how?

DR MAJUMDAR: Well, one way of doing it would be to look at QALYs, which is the way I understand that the -- that NICE look at things, and I am not an expert in health economics, so I could not --

PROFESSOR WATERSON: We are seeing some later in the process.

DR MAJUMDAR: Right, so I could not comment in detail on that, so I do not know precisely how they are calculated, but that certainly would be one way of assessing value of a particular drug.

PROFESSOR WATERSON: Okay, thanks.

So Dr Majumdar has mentioned the cost of the drug, the value of the drug and possibly how one measures that in terms of QALYs.

Looking at the same scenario, Mr Harman, how would you answer?

MR HARMAN: I think that to assess the excess, as in limb 1, then I think that it is necessary to be able to compare that to a benchmark and a reasonable benchmark would be

cost plus, so I think that is very much the first step. The question as to whether the price is then unfair, you know, is then coming into the second limb.

I think what is important when thinking about the second limb is to ask the question what price would you expect to emerge under normal and sufficiently effective competition, ie whether any differentiation that is captured currently in the price of drug, if the market was competitive, would be at that level, and to the extent that there was competition and prices would fall, then that may be an input into assessing whether the 12,000 is unfair once it has been assessed that there is an excess.

PROFESSOR WATERSON: Thank you, good.

Ms Webster?

MS WEBSTER: Yes, I would agree with what has been said by Mr Harman. It is important to have comparators in relation to the excessive limb, and that is where cost plus comes in, and then in relation to unfairness looking at the degree to which -- looking at the price that would result were there to have been sufficiently effective competition and judging the price against that benchmark price.

I think that would also enable Dr Majumdar's point about value to be taken into account so one can imagine

that, say there is a certain amount of value that comes from this drug, if competition is working sufficiently effectively and patients have -- and the NHS has choice, then that value will be revealed by the preferences that the customer expresses over the different options for that product under competitive conditions.

PROFESSOR WATERSON: Right, thank you.

Dr De Coninck?

DR DE CONINCK: I mean, here we really, I think, are likely -- I mean, of course, we do not have the cost or the cost plus information, but assuming we are more in the unfairness part of the discussion, it seems that the issue is that there is limited budget for the NHS, so I think that if we want to know whether, for that particular -- it has to be -- you know, if it is fixed and it is shared in a way. I mean, it is a bit strange to be in a situation where the willingness to pay is independently -- when you take the sum of the independent willingness to pay you have more than the budget, so is that really the willingness to pay? But I mean, in the end I think there are trade-offs that have to be made if you have different drugs, so is it fair, then you have a fixed budget, you see how much you pay for that drug compared to other drugs, and you will have to get a sense of the benefits of those different

drugs, I think, comparatively.

PROFESSOR WATERSON: Thank you.

Anyone else on this point?

DR MAJUMDAR: Just to say going back to value, I think we need to -- I do not fully agree with what Ms Webster is saying there. I think we need to -- value is separate from competition. Value is essentially just the -- here you can measure it in pecuniary terms. It is essentially the value to the patient for sake of argument for the improvement in the patient's life as a result of taking the drug, and that in and of itself is not something that is determined by competition, that is just some external feature of how well and how effective the drug is.

PROFESSOR WATERSON: Right, thanks.

Coming back to, then, Ms Webster, would you agree with that?

MS WEBSTER: I take the point that there is a certain amount of value, and then that is also reflected by the fact that there is a high willingness to pay for this product, and I suppose I come to, well, what is it reasonable to pay for that value when one is trying to work out whether prices are unfair or not, and the benchmark I am using is to say I think that one would reasonably expect to pay an amount for that value that

would arise through -- as the outcome of competition working well, and if competition is working well, then the prices that will be revealed will reflect the value of the drug.

So I think it does not need to be separated in the way that Dr Majumdar suggests.

PROFESSOR WATERSON: So I think there is a distinction in what you mean by value from what Dr Majumdar means by value. Dr Majumdar is focusing on something which admittedly he does not know about -- I do not mean that pejoratively, I am just saying that you put it down to QALYs, but you are not an expert in that area, and that is fair enough, you are not asked to be an expert in that area, whereas you, I think, Ms Webster, are saying its value is represented by, I guess, a workably competitive situation, if we can define such, without at the moment thinking about what is meant by workably competitive.

MS WEBSTER: Yes.

PROFESSOR WATERSON: Perhaps something we discussed last week anyway, so there is some divergence there between you.

DR MAJUMDAR: Sorry, sir, can I just comment on that point? If we move away from pharmaceuticals to any other product where I can speak more -- perhaps a bit more

confidently about value. I mean, if we were just taking a widget for sake of argument to pick a neutral product, then essentially what we have is we have a concept of value, a concept of maximum willingness to pay and we have a concept of price, and the difference between the two will be consumer surplus and essentially what I am saying is that that maximum willingness to pay is not determined by competition. Yes, a price may be determined by competition, but I just want to sort of make clear, if you like, this value is -- you know, it is a separate demand side feature.

PROFESSOR WATERSON: Yes, so in the widget example you are assuming some elasticity in demand, are you? That is that some people are willing to pay a very high price. As the price falls more people are willing to pay that price?

DR MAJUMDAR: I mean not necessarily. It depends on the nature of the widget. It could be -- it is possible you have a downward sloping demand curve in that sense, it could be a widget that for some reason there is one buyer that has a sort of box-shape demand curve that is vertical up to a maximum willingness to pay. That is also possible.

PROFESSOR WATERSON: Right, okay, and there is that sole buyer in that case?

DR MAJUMDAR: In principle, yes.

PROFESSOR WATERSON: Right, but in general, more generally, I mean, moving away from the drugs example as you did, more generally if people -- different people had different willingnesses to pay then presumably the demand curve would be somewhat elastic, and the person -- there would only be one person who would be willing to pay the very highest price?

DR MAJUMDAR: Yes, in general, if you like, your standard textbook demand curve would be downward sloping as you say, sir, with the highest point intersecting the price axis and demand sloping downwards as willingness to pay differs across customers, for example.

PROFESSOR WATERSON: Yes, right. So I think -- sorry, do you want to come back, Ms Webster?

MS WEBSTER: If I may.

PROFESSOR WATERSON: Yes, certainly.

MS WEBSTER: So I agree with the way that Dr Majumdar has characterised it. That is absolutely right, there is a certain -- in the way that he has described it, there will be a certain intrinsic value of the product to consumers. In a competitive market, workably competitive, the price will be at the sort of lower level that Dr Majumdar indicated, and in effect, that value is captured by consumer surplus in that situation.

In a situation where there is not the -- competition is not working well and there is not the outside option, what we are then saying is -- sorry, this is my interpretation of what Dr Majumdar is saying -- is if one wants to quantify the value, one does not need to be tied to the price that customers could expect to pay for that value, were competition working well. There is some logic to saying that a price could be above that. This seems to come back to the question of whether one is looking at the distribution of producer and consumer surplus and where to draw the line in terms of what is appropriate, and I suppose in my sense because we are looking at a test which is about the ability of the company to have earned benefits that would not have been available in a competitive market, that is what brings me back to let us think about putting a price on value which is the price that would be paid were competition working well.

PROFESSOR WATERSON: Right, thank you.

DR MAJUMDAR: I think I am making a much more simple point which is namely that consumer surplus is the difference between willingness to pay and price, and the willingness to pay is determined separately from competition. I think the point is really quite as simple as that.

PROFESSOR WATERSON: Okay, good.

DR DE CONINCK: I mentioned that last week too, but I think the price that you would observe in a reasonably competitive market is a lower bound on the value. I mean, I think it is quite extreme to say that the price that you would observe there would be the value, I think, because there is a higher willingness to pay of course may depend on the exact distribution of customers and willingness to pay, but to say that the value is just equal to the price and you consider that all the consumer surplus that comes out of that is not part of the value I think is quite extreme.

PROFESSOR WATERSON: On this point, I think Dr Majumdar has drawn a very useful distinction which is that -- you can say whether you have drawn this distinction or not -- which is a difference between the market for widgets where different people have different willingnesses to pay, and the market for this -- or let us call it market for this pharmaceutical product where there is essentially a single buyer and the decision for the single buyer as to whether to buy this thing or not, and that decision at the moment is not reflected in price.

Do you agree with that?

DR MAJUMDAR: Yes, I think if we are thinking about capsules, drugs, then actually thinking about an

individual sophisticated single buyer like the Department of Health does make sense, sir, yes.

PROFESSOR WATERSON: Anyone else? No?

MS WEBSTER: I suppose the question which I would have is what is not clear to me is where it leads, in a sense. One can observe that if there is a single buyer with a very large willingness to pay then there is not a -- one cannot observe in that situation: this is the price that would have existed in a competitive situation. We are hypothesising a market where there is not competition, if I have understood you correctly, and so one therefore is searching for where a price should lie that reflects the value.

So I think I come back to what I was saying previously, is I think one needs to hypothesise a situation where there would be more effective competition and, therefore, what can we tell about the level of value that people attach in the presence of that competitive constraint, and that would be informative then.

I do not disagree with Dr Majumdar that sort of there would be considerably more value that is held by the NHS and patients for this product, and that is a sort of external view of value, and then the question is sort of what is it reasonable to pay for that?

PROFESSOR WATERSON: Right, thank you. So yes, I think we have established that the market, if we call it a market for pharmaceuticals, is somewhat different from the market more generally, or what we think of as a market more generally.

Now, you may or may not have had in mind already my next question, and you may have been speaking about the situation as if we were talking about the next question, but I will just raise it.

Remember previously all the companies were charging this maximum willingness to pay price. Now let us assume that the drug is unique in engaging in this practice, in other words, other drugs the NHS would be willing to pay up to £12,000, but for this drug it is charging £12,000, other drugs are not.

Would that affect your answer to the previous question? I have forgotten who is first here. It may be Ms Webster.

MS WEBSTER: I am happy to go.

So I think that does not change my answer in the sense that I would still want to do the two comparator exercises that I spoke about previously, so for the drug in question how does the price that it charged compare to the cost that it incurs in bringing that product to the NHS, and then secondly, how does that price compare

to the price that I would expect to result were there competition over the supply of that product.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: I think if, I understand correctly the setting and the assumptions now, my understanding is that if there is something unique about the drug it does matter. I mean, under this set-up, we have a fixed budget, we have willingness to pay of 12,000, but somehow there are trade-offs that have to be made, and the NHS cannot pay the hypothesised willingness to pay for all the products. So somehow one has to make trade-offs, and if this is a drug that is practically unique it strikes me as not -- at least it strikes me as defensible to say that, you know, this drug should be in the trade-off allowed to have -- to capture more of the limited budget that is available.

PROFESSOR WATERSON: Right, thank you.

Dr Majumdar?

DR MAJUMDAR: Thank you, sir. I think that not really much of my answer changes in the sense that I would still want to understand the value, and it may be greater given, for example, what Dr De Coninck says about uniqueness and value. For sake of argument, if it was valued at £30,000, then that would be a lot of consumer

surplus compared to the 12 that was being charged. So I think in essence my answer stays the same: we would need to understand the various parameters, one of which would need to be the value of the product.

PROFESSOR WATERSON: In what sense might it be valued at £30,000?

DR MAJUMDAR: I mean, again, I think this goes back to the earlier discussion that we were having. I mean, if -- let us say there is an agreed way of valuing a pharmaceutical and putting a monetary value on it. Then that mechanism, be it a QALY or some other mechanism employed, that would give you a -- in my example, £30,000, in which case that would be material compared to the 12,000 and would be a lot of consumer surplus generated.

PROFESSOR WATERSON: Right, but then there may be other drugs which are valued more highly which are charging lower prices.

DR MAJUMDAR: There may be, but that would not necessarily -- but it would still be the case that this particular unique drug was generating a very large amount of consumer surplus, and so the fact that another drug was priced less than that and generating greater value does not in and of itself mean that this particular price of 12,000, bearing in mind the amount

of surplus it is generating, is an unfair price.

PROFESSOR WATERSON: Right.

Mr Harman?

MR HARMAN: I do not think that my answer changes particularly given the assumptions that you have put forward, but, you know, it occurs to me in this budget-constrained example, and touching on value, you know, I would suspect the -- and you will tell me if I am wrong because it is your assumptions -- but the overall budget for the NHS across all drugs tells you something about the aggregate willingness to pay across all drugs, which is quite important, right, because obviously if they valued the drugs more than the budget, then you might say can that be the case, because if you truly valued them at these maximum willingnesses to pay across everything then you would expect the budget to increase to be able to pay for all of the drugs, but because there is a constraint, obviously there is then a difficult question for the NHS to say which of those drugs does it actually value more.

That may take you back into a world, into the real world, where you have things like the PPRS that says: well, we are budget-constrained, and, therefore, across all drugs, there is going to be certain limits on our willingness to pay in aggregate. So it is an

interesting line of thinking, but I think that the budget is also constraining overall willingness to pay, and then there is a difficult question as to how you then allocate that across all of the drugs, and at the moment, the fact pattern is not sufficient for us to be able to say how one would do that because difficult choices would have to be made.

PROFESSOR WATERSON: Right, thank you.

Ms Webster?

MS WEBSTER: Nothing further to add.

PROFESSOR WATERSON: Dr De Coninck?

DR DE CONINCK: Okay, maybe I am advancing myself a little bit here, but we are of course talking about what is unfair and if you have a limited budget and you think: oh, some drugs have captured a lot of that, others do not, is that unfair, I think, you know, it is a fair question, but there is also a question about why we are looking at unfairness here and we are looking at it because we are thinking about whether there is an abuse of competition law, and a lot of the questions that we are touching upon here to me seems that they are a little bit related to whether -- you know, you have difficult situations and you would want to bring in regulation rather than is there really an abuse of competition, at least when we are talking about

unfairness here, I think it is good to keep that in mind.

PROFESSOR WATERSON: So are you saying there is a clash between competition law and the way that drugs might be allocated?

DR DE CONINCK: I think competition law cannot solve any problem in the world and some are better addressed with regulation.

PROFESSOR WATERSON: I hope we could all agree on that.

But on this issue of aggregate willingness to pay which Mr Harman brought up, is that a reasonable view of the world, that the government, not necessarily any particular government, but the government in some sense has made a decision about what the aggregate drugs bill will be and that represents in some way an aggregate willingness to pay for pharmaceutical products? Do you agree with that, Dr De Coninck?

DR DE CONINCK: I mean, yes, there are indeed budgets that affect the willingness to pay.

PROFESSOR WATERSON: Right, yes, certainly.

MR WILLIAMS: I think there is a difference between value and affordability, and we have been talking a little bit about affordability, what the government is prepared to pay in aggregate.

Just to give you a little bit of comfort: the

government does have mechanisms to control the overall size of the branded drugs budget, and even if individual drugs exceed their budget, there is a clawback mechanism from the industry as a whole, so actually, your company that is making this 12,000 drug that would double the budget is actually not what the Department of Health ultimately will pay. It will recover the excess from the industry as a whole.

PROFESSOR WATERSON: Right, in the case of a patented drug?

MR WILLIAMS: A branded drug.

PROFESSOR WATERSON: A branded drug?

MR WILLIAMS: Yes, not in the case of a generic. Equally NHS England have something called their affordability mechanism which is: we can afford this much, oh, you have spent that much, you now need to give us a price discount.

PROFESSOR WATERSON: Right, thank you, that is useful.

Dr Majumdar?

DR MAJUMDAR: I think there are two concepts. The first is if we go back to this point about the Department of Health being the sophisticated single purchaser that purchases on behalf of patients, then, yes, if the Department of Health is constrained by a certain amount that the government has said is the maximum it can spend then, yes, that by definition is its maximum willingness

to pay. However, there is a distinction between that and the ultimate value that a patient may receive from consuming a drug, and this is the problem, as I am sure you know very well, with healthcare where you have someone separate paying for the drug versus the person that consumes it. So I just think it is helpful to put those two different concepts out there.

PROFESSOR WATERSON: Right, thank you.

Anyone want to come back at all or have we exhausted this topic?

MR HARMAN: I was just going to add that any demand curve also reflects ability to pay at the end of the day, and I think that is just consistent with the point that I would make in terms of the aggregate budget being informative. Yes, there is always going to be some people who can pay more and are willing to pay more, but in the real world people are unable to pay for things that they demand and, therefore, they do not consume, if they are budget-constrained, so that is obviously going to be a relevant factor.

DR MAJUMDAR: Sorry, if I may, apologies for interrupting, apologies. To go back to the point that I was making, even if the Department of Health has a certain cap on how much it can spend, it can still be the case that the value generated to the patient is far in excess of the

amount that is spent. So that is just -- if I wasn't clear first time around, just to make it clearer this time around, sir.

PROFESSOR WATERSON: Okay.

MS WEBSTER: May I add my final thoughts?

PROFESSOR WATERSON: Yes.

MS WEBSTER: So your question, whether the aggregate willingness to pay is of relevance for understanding whether a price is abusive or not. I think I would separate my answer into two.

I think there is what we can tell using economics as our framework and those are the two tests, the comparison against cost plus, the comparison against the price that would result in a competitive market and neither of those would necessarily be affected by the aggregate willingness to pay.

Where I think there is that overall budget constraint, then that might become of relevance to then the policy considerations which is the extent to which a price above either comparators or cost plus is one that is going to be considered abusive or not.

PROFESSOR WATERSON: Right, so now so far we have had this drug being the only drug that is in this particular area, except for one question where we slightly deviated from that, but now let us assume that the drug is

a generic, so it is prescribed generically, and after some time maybe an alternative generic formulation arrives in competition.

Now, if we think about the pricing of the other generic, the alternative generic, the second into the market, how would we expect that drug to price? I think we are on to Dr De Coninck.

DR DE CONINCK: Well, you have a second competitor entering on the market, so that competitor will obviously take into account the price that is charged by the others in the market because it is a market fact, but how will it, you know, price compared to that one? I think we can see a range of different outcomes in different markets, so I do not think there is generally a rule that tells you exactly, you know, how it will price, but certainly you bring more competition to the market and that is obviously a good thing for the market.

PROFESSOR WATERSON: Right, so will it price above, below, equal?

DR DE CONINCK: You could have, in theory, everything that is possible, right, depending on the assumptions that you make on how comparable the drugs are, but if they are exactly the same and perceived as such by consumers you would clearly add additional price pressure to the market by adding this second competitor in the market,

so below.

PROFESSOR WATERSON: So are you now saying that the second one would price below the first one, because otherwise it would not be applying price pressure to the market?

DR DE CONINCK: Well, I am not saying that is the only thing you can observe, but I think that is typically what you would expect, at least that this new entrant is going to try to gain shares, and the best way to do that is to price lower, yes.

PROFESSOR WATERSON: Right, thank you.

Yes, Mr Williams?

MR WILLIAMS: Between 10% and 15% below the first.

PROFESSOR WATERSON: Right, that is in practice what you say happens?

MR WILLIAMS: In practice, yes.

PROFESSOR WATERSON: Thank you.

DR MAJUMDAR: I would expect the second generic to price below the first generic. How far below I think is going to depend on a variety of factors, so I could not give you a further answer on that without knowing costs and so on.

PROFESSOR WATERSON: Thank you.

Mr Harman?

MR HARMAN: Yes, I mean, I agree that I think the prices would fall. The CMA makes reference in the Decision,

the remittal decision, a survey or report performed by Oxera that shows that competition in the generic space, obviously not always, but that there tends to be falling prices over time. Those prices could be as -- they could fall by up to 80% over a period. I think it very much depends on the nature of competition entering into the market, how many enter, the size of the market, the costs of entry into the marketplace, will all have impacts on that price profile, and then obviously at some point in time you may then see entry and exit and prices changing even around a competitive equilibrium.

But I would expect, if there was no differentiation between these two drugs, there would be strong competitive prices -- pressures to price towards, more towards cost plus.

PROFESSOR WATERSON: Thanks.

Ms Webster?

MS WEBSTER: I would also expect the second generic entrant to price at a discount in order to win sales. I think that would be the first round, if you like, and then the question to what then happens on pricing will be determined by how the originator, the original generic supplier, chooses to respond to that competitive pressure. Does it cede market share or does it seek to hold on to market share, and that will determine, then,

how prices then continue to develop in the market, whether they somehow stabilise with a notion of the market being shared in terms of quantity between them, or whether actually there is continued price competition that takes prices lower and lower.

As Mr Harman has mentioned, I think the Oxera study has pointed to a situation where more suppliers in the market would tend to -- sorry, the number of generic entrants that come in would then tend to destabilise any extent to which the market is shared and prices would fall more quickly.

PROFESSOR WATERSON: Right, thank you. I will come back to another aspect of this, but let us now assume that, without discussing the mechanism for the moment, that pharmacists are incentivised to substitute this alternative because it is cheaper for them to buy. However, patients and GPs are unhappy about this. What is likely to happen in this situation? Does that influence the situation at all?

Dr Majumdar?

DR MAJUMDAR: Just to check I am clear, so pharmacists are incentivised to switch but patients and GPs prefer the first generic?

PROFESSOR WATERSON: Yes.

DR MAJUMDAR: So this will depend then on the prescribing

patterns. If I understand correctly we are talking about two generics which means that if a GP has no choice but to have an open prescription, that, as I understand the process, would mean a pharmacist could choose whichever generic it wished to prescribe, and so the pharmacist may, given it is incentivised to do so, provide the cheaper one.

I am unaware the extent to which, in your example, a GP or a patient is able to say, well, actually, no, it is this particular generic that the patient wants to prevent that happening. I am also unaware the extent to which a patient can say to the pharmacist: I strongly prefer this one, can you prescribe me that one? So those are the possible outcomes.

PROFESSOR WATERSON: Right, thank you, that is useful.

Anyone want to come back on that?

Mr Harman?

MR HARMAN: I am not sure that I have something more to add on the question, I think it very much depends on the extent to which consumers and doctors are able to influence the pharmacies. If the issue is around price, as I understand it, then one might expect that there would be a demand shift towards the pharmacy-preferred generic which then may lead to a response from the originator generic, and then you may have systems,

a dynamic system of where the pharmacy switches from one generic to the next, if it is only on the basis of price, that is their preference.

PROFESSOR WATERSON: Right.

Ms Webster?

MS WEBSTER: I think I would agree with the way in which Dr Majumdar describes it. So the pharmacies have the incentive to switch, as you describe, and then if patients and GPs are unhappy with that, then that depends on the framework within which they can exercise that or make that preference known and then what happens, but that is sort of outside of my area of knowledge.

PROFESSOR WATERSON: Nothing to add? No.

In practice, there is another stage in this: wholesalers who buy the drugs from the manufacturers and sell to pharmacists. Will wholesalers -- or will adding in that stage, if you like, into the framework, will that change matters at all or not, would you say?

DR MAJUMDAR: So we are still in a world where the pharmacists are incentivised to go for the cheaper generic?

PROFESSOR WATERSON: Yes, I am exploring more why the pharmacists are incentivised to go for the cheaper one, yes.

DR MAJUMDAR: Well, if they are incentivised to go for the cheaper ones presumably that is because they benefit from the lower price. I do not know if there is a reimbursement mechanism in your example as well, but that might be one reason, for example, for a given reimbursement, then the lower the price, the greater the value -- the amount, left to the pharmacist, so your question is does introducing wholesalers into that equation matter. Well, they will need to recover their costs and a reasonable margin, but beyond that, it is not obvious that actually introducing that extra level makes a lot of difference.

PROFESSOR WATERSON: Right, thank you.

Mr Harman?

MR HARMAN: I do not have anything to add.

PROFESSOR WATERSON: Ms Webster?

MS WEBSTER: I do not think it would make a difference.

PROFESSOR WATERSON: Dr De Coninck, no?

I think -- I do not know whether you would agree with me, but let me explain how I see things happening. That is that, in a sense, the wholesalers and the pharmacists are playing a sort of game, if you like, with the system. That is they spot a gap between the drug tariff price and what they can buy the product for, so then eventually the drug tariff price will fall, and

so there is then further pressure, presumably, on behalf of the wholesalers to see whether someone is willing to supply more cheaply than that, and so on.

Is that how you see the market? You were nodding, Ms Webster, so ...

MS WEBSTER: In the way that I have understood the operation of the drug tariff, I think that the description that you provide makes sense to me.

PROFESSOR WATERSON: Right, thank you.

Anyone else?

Yes, certainly, Mr Williams?

MR WILLIAMS: Obviously there are three categories of the drug tariff. Category C does not reflect underlying average selling prices from wholesalers or from manufacturers. Category A does reflect list prices of the two major wholesalers, and two of the major generic companies, and category M does reflect ASPs. So in general you would expect that if ASPs in the market were going down, you would expect category A and category M prices in the drug tariff to go down as well.

PROFESSOR WATERSON: Right, okay. And category C, remind me?

MR WILLIAMS: Category C is products where generics are generally not available. Lots of branded generics might be, but there may not be any pure generic generics in

category C.

PROFESSOR WATERSON: This is a somewhat subtle difference, but --

MR WILLIAMS: It is and it makes it even more complicated when a generic generic with a company name is still a generic generic in the title.

PROFESSOR WATERSON: Thank you.

You may be able to help me understand this more. There are these three categories, C, A and M. To what extent would generics be in which one or other of them?

MR WILLIAMS: It is an interesting question and there is no hard and fast rule. Let us deal with category C, that is probably the easiest. That is where there probably are not any generic generics.

PROFESSOR WATERSON: Right.

MR WILLIAMS: Branded generics, yes, originator brands, yes, but no generic generics.

Category M has to meet certain criteria. They tend to be what I would call the large prescription volume generics. There are over 600 of those, sort of -- it is typically commodity generics where most pharmacists will be dispensing quite a lot of packs, and, therefore, there is not just a volume criteria in terms of number of prescriptions per year, but there is also an NHS spend criteria, and you would then perhaps go into

Category M for that reason.

Category A is the rest, there will be generics generally available, it does not mean from more than one supplier, but there is no shortage of them, and they have to be available from two -- the two major wholesalers or one of the major wholesalers and two of the generic companies, Teva and Actavis.

So there are broad definitions, but you can always spot products that are in the wrong category and say: why are they there? You can ask the Department of Health and they will decline to tell you why they are there other than they have their reasons.

PROFESSOR WATERSON: Right. So in the category M essentially what you are saying is that wholesalers, because there are at least two wholesalers, that the wholesalers will provide competitive pressure on the drugs manufacturers?

MR WILLIAMS: That is in relation to category A.

PROFESSOR WATERSON: Oh category A, sorry.

MR WILLIAMS: Yes, but equally in category M there is pressure on wholesalers obviously because once you have a fixed reimbursement price whether it is an A, C or an M, the pharmacist is incentivised to buy at the most economic price because the gap, little or big, the pharmacist keeps, and clearly the wholesaler, many of

which are vertically integrated with pharmacies, has an incentive to buy as cheaply as possible, because then he can offer his pharmacy customers a good price which enables them to make a profit. So there is definitely downward pressure from pharmacy and from wholesaler on manufacturer.

PROFESSOR WATERSON: Right, thanks very much. Anyone want to come back on any of that?

No, that is very useful. Good.

Now, we are going to move to a different topic which is my diagram, this one you will remember. {XO/16}.

This one is not meant to capture a pharmaceutical market. This is because the demand curve which is the outer curve clearly has a slope and so different people are willing to pay different prices, and there are many buyers by assumption represented on that demand curve.

Now, there are two vertical stages here: stage A sells to stage B who sells to consumers. So if we think about -- and just for simplicity, stage B does not face any additional costs. We could put those in but it would complicate the diagram unnecessarily. Stage B does not face any additional costs, so stage B is simply trying to make its profit as a monopolist from the gap between the price that it buys and the price that it charges in the market.

So stage B is whatever price stage A sets, stage B will consider that to be its marginal cost, and, therefore, since -- and then it will set marginal revenue equal to that marginal cost, and, therefore, as far as stage A, the upstream stage, is concerned, the demand curve that faces it is the marginal revenue curve of stage B because that answers the question at what price, how much would you be willing to sell.

So stage A is also a monopolist, and so stage A sets the curve marginal to that equal to its marginal cost, and so the upshot is that the quantity that goes through to the final market is what I have represented as qB in the figure. The final price is PB. The downstream monopolist, B, makes its profit from qB times the gap between PB and PA, and the upstream monopolist makes its profit from the gap between PA and C multiplied by qB. So that is a situation of two successive monopolies.

Now, thinking about this, the first question that comes to mind is, is this situation optimal from these firms' point of view. Where have we got to? I think it is probably Dr Majumdar.

DR MAJUMDAR: Sir, from these firms' point of view, it is not optimal. They would prefer to behave jointly because that would lower -- that would lower the price increase output and increase their joint profit.

PROFESSOR WATERSON: Right, thanks.

Are others agreed on that point?

DR DE CONINCK: Yes.

PROFESSOR WATERSON: Good. Okay, so how in practice would they action that? I mean, let us assume that they are not allowed, and have not been -- and are not going to be accused of colluding. How would they action that in practice?

DR MAJUMDAR: To me again?

PROFESSOR WATERSON: Yes.

DR MAJUMDAR: Okay. Well, they could do that in different ways. They could have an agreement that a certain amount would be supplied by A to B equal to qJ, for example, that would be one way of doing it. They could have a situation where A, the upstream firm, supplies at marginal cost and then takes a fixed fee, so they can have a two-part tariff. There are different ways the economic literature deals with this. I mean, I would emphasise I think you said right at the beginning of this example this is very different from the capsules case that we have before us.

PROFESSOR WATERSON: Yes.

DR MAJUMDAR: Yes.

PROFESSOR WATERSON: Can others think of ways in which this might be actioned in practice?

MS WEBSTER: I am not sure whether this is ruled out by your assumption they are not allowed to collude. If they were to come together to be a vertically integrated company then this issue would clearly go away, that would be one way to action it.

PROFESSOR WATERSON: Yes, they could agree to merge?

MS WEBSTER: Exactly.

PROFESSOR WATERSON: Yes, and that would certainly be one possibility.

Dr De Coninck, do you have any other suggestions of how they might?

DR DE CONINCK: You could think of different ways to structure the agreements that limit the price that company A charges to company B, at least at the marginal level.

PROFESSOR WATERSON: Right, okay. Actually, my favourite example of this I should say is quite an old paper by Paul Joskow, who as you know has worked a lot in the electricity industry, and it is obviously an old paper because he discusses mine mouth electricity plants and the various ways in which those have dealt with this problem, which is a problem for, I think you would agree, for both firms, yes?

Dr De Coninck?

DR DE CONINCK: Sorry, I did not quite understand.

PROFESSOR WATERSON: This is a problem for both firms, the fact that quantity is pushed back so much that they are making less money than they could.

DR DE CONINCK: Absolutely.

PROFESSOR WATERSON: Good. We can see that in the diagram because we can see that the upper box, PB minus PA times qB is smaller than the box PA down to C to the right or page A down to C to the right of the gap between qJ and qB, and, therefore, there would be more total surplus for them if they were able to make some arrangement. Also, incidentally, consumers would be better off. I think we can see from the diagram.

Now let us think about this in the context of the demand curve that we were talking about for a pharmaceutical product and think about whether -- so remember that demand curve was vertical up to the point of £12,000 in the example. So there is not an elasticity in the demand curve, the final demand curve, that we see here. How would that affect the analysis?

Mr Harman, I think we are probably back to.

MR HARMAN: Is the price still constrained at the willingness to pay at --

PROFESSOR WATERSON: Yes.

MR HARMAN: I think that it is complex. I think that the upstream company is potentially obviously incentivised

to maximise its profits first because there is no change in demand in doing so, so long as it leaves the wholesaler, the downstream company here sufficient profits to remain in business. So my assumption is that it increases potentially the market power of the first company in the chain.

PROFESSOR WATERSON: Right, okay. Why the first company? Why not the second company?

MR HARMAN: Well, assuming that -- well, I would say the first because I am selling my product, I know that there is inelastic demand and therefore a rational company downstream from me, as long as it can make a profit, should pay my higher input price so long as they are then able to make a profit on their activities themselves.

PROFESSOR WATERSON: Right, okay. So the transfer price, if we can call it that, would be undetermined ex ante, is that right?

MR HARMAN: I think at the margin what you might say is if it was able to determine the costs, and obviously it knows the demand curve, it can construct what it thinks the price that the company is willing to pay, almost like a retail minus type of situation where you know the price is 12,000, you could estimate the costs of the company using comparables, understanding what

a reasonable return is, in effect, developing a cost plus for that entity, and then you could price up to that point such that your input price plus that cost plus is equal to the 12,000.

PROFESSOR WATERSON: Right, thanks. So supposing that that firm, the downstream firm, is the only potential seller of this product, you know, for some reason the upstream firm is not able to sell it directly to the NHS, so it has to sell it to that second firm. How would that change matters if at all?

MR HARMAN: Well, I think that if you have a situation where there is both buyer and seller power of negotiation will come into it, and I think that on that basis the outcome would not be at the highest transfer price, it would be at some point below, but I think that it would depend on the strength of the two companies.

PROFESSOR WATERSON: Right, thank you.

Ms Webster, you are nodding again?

MS WEBSTER: Yes, I would agree with the way that Mr Harman has described it.

PROFESSOR WATERSON: Thank you. In both aspects, both in the case where, by assumption, the downstream firm has little market power and in the alternative case where the downstream firm has some bargaining power?

MS WEBSTER: Yes, that is right. So where the downstream

market is competitive, then it would be necessary for the upstream firm to leave sufficient margin that it becomes attractive for the downstream operator to take on the contract to do the downstream distribution.

PROFESSOR WATERSON: In the case where the downstream firm is also the only seller?

MS WEBSTER: Then it would become a bilateral negotiation where the outcome would be determined by the relative bargaining strengths.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: Just trying to get back to the initial question, the way I understood it, and maybe you can help me on that, but I think you were wondering about inelastic demand and how this affects this graph. I think the fundamental inefficiency that comes from double marginalisation is driven by the reduction in output that it brings, and, therefore, if you have demand that is inelastic and you do not observe this reduction in output that would limit this -- you do not have this output effect and efficiency that comes with it.

PROFESSOR WATERSON: All right, thank you.

Dr Majumdar?

DR MAJUMDAR: Thank you. So, again, I think the original

question then is what happens to this type of scenario in an NHS purchasing drugs world --

PROFESSOR WATERSON: Yes.

DR MAJUMDAR: -- with vertical demand. In that scenario we firstly have no output restriction, so there is no double marginalisation that occurs, the output is determined by where demand is, so there is no output reduction. In terms of where the final price is, that will depend on factors like regulation. So to give a real life example, double marginalisation predicts that the price is not just at the monopoly price, but actually it is above the monopoly price, so in capsules I estimate the monopoly price to be about £46, and Flynn's price was about £18, so we are not even at the monopoly level there, there is a very, very large gap between the monopoly price and the actual price.

What does that mean? It means that there are other factors that may be going on in a market, in an NHS market such as benchmarking and a decision to come in with a price that is below willingness to pay because it is benchmarked against, for example, another drug tariff, tablets, for example.

So there are --

PROFESSOR WATERSON: I have not brought tablets into the picture.

DR MAJUMDAR: Understood, but I am making the point that there are -- because now we are talking about a world of the NHS and vertical demand. There are other factors that may come into play that determine where the final choice is made by the downstream firm as to where the price is set. That is the point that I am making.

PROFESSOR WATERSON: Right.

DR MAJUMDAR: I mean, in principle, another reason why one moves away from this diagram is that this diagram assumes that firms just set a single price, and what we know in the pharmaceutical industry, or rather here in terms of the -- well, yes, let us talk about pharma more generally, is that distributers negotiate typically on a customer by customer basis, and so that would -- so you would not necessarily have a single price, but if you have customer by customer negotiations that would be another factor that would lead to greater output, for example.

PROFESSOR WATERSON: You raise a point there that we have been assuming, just for simplicity, that the NHS is a single buyer, but in practice, it is not a single buyer.

DR MAJUMDAR: I think it depends on whereabouts we are talking in terms of the supply chain. So the NHS is a single buyer when it comes to determining where the

drug tariff reimbursement price is, so that is key point. Then what we say is above that, there is still some surplus for the NHS. Below that, that is the amount that is in play for pharmacies, for wholesalers, for distributers, manufacturers. So below that drug tariff level there is scope for these customer by customer negotiations, indeed, those are precisely in my opinion what led to the sharp price falls in tablets, for example.

So, yes, there is scope for customer by customer negotiation in these markets when we look at that level of the supply chain, distributer to pharmacy.

PROFESSOR WATERSON: Thank you.

Just taking you further, I think Mr Harman pointed out that if there is some bargaining power at both the upstream and the downstream stage in this market, then we cannot determine ex ante where the transfer price would be, but it would reflect the relative bargaining strengths of those two players.

DR MAJUMDAR: Here we are talking about the upstream monopolist in your example and the downstream, so supplier A and supplier B and how they, for a given output determined by vertical demand, and for a given surplus, ie the difference between the price and cost multiplied by that demand, how they allocate that. Yes,

so I think what economics says is that where that division ends up is going to -- in a bargaining model at least -- depend on the relative bargaining strengths of each firm.

PROFESSOR WATERSON: Right, thank you. Does anyone want to come back on that point or have we exhausted that?

Now, I am going to make a further nuance on this example. After five or ten minutes it will probably be time to have a break but I am just wanting to carry on with the example for the moment.

As far as the final seller is concerned, I have said that it was also a monopolist. However, I am going to change that assumption. I am going to say that a partial substitute for the final product is available from the same supplier, that is A in this example, from the same supplier through a back door route to pharmacies. What would you expect to happen in that case? I think we are probably at Ms Webster.

MS WEBSTER: Okay, so to make sure I have understood the set-up, we would have downstream firm B going to make its sale to the pharmacy, and the pharmacy would know that -- sorry, when B goes to the pharmacy, it is selling upstream product A; when it gets to the pharmacy, the pharmacy says: well actually I can get A through another route. So, therefore, what B would then

be able to charge will be constrained by the price at which the pharmacist can access A through this alternative route.

So I would need to know sort of how effective that alternative route is for A getting to the pharmacist and the price at which A can get to the pharmacist, and then that would determine what B would be able to charge.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: No, I agree with that.

PROFESSOR WATERSON: Dr Majumdar?

DR MAJUMDAR: Agree.

PROFESSOR WATERSON: Okay, so then what would you expect B in this example, what would you expect B to do? It is losing some of its market, it is being constrained on price by this backdoor route. How might it react to that?

Dr De Coninck?

DR DE CONINCK: I would expect it to reduce its price given the competition that arises from this backdoor route.

PROFESSOR WATERSON: Yes, it would reduce its price.

Anything else do you think would happen?

DR DE CONINCK: Okay, so --

PROFESSOR WATERSON: It has previously agreed the price with A.

DR DE CONINCK: Yes, indeed, so you mentioned that there is this additional competition from A. Of course -- sorry, coming from the backdoor route, so the original -- assuming the original agreement was made, you know, for the input price without taking that into account, I could assume there could be some attempt at renegotiation for the input price that is charged.

PROFESSOR WATERSON: Dr Majumdar?

DR MAJUMDAR: Yes, I agree, B could either lower its price and/or seek to negotiate a lower input price from its upstream supplier.

PROFESSOR WATERSON: Mr Harman?

MR HARMAN: Yes, I agree. Just one caveat on that: I think the ability of B to lower its price will obviously depend on the price through the back door, right, so it may actually find itself that lowering price it is unable to recover its costs, forcing it, obviously, to renegotiate. If it could not renegotiate, then my assumption is that it would exit the market if it was not earning its required return, subject to contract, you know, requirements.

MS WEBSTER: Nothing to add.

PROFESSOR WATERSON: So people are agreed on this point. Right, so I think at that stage, as I say, I think we might take a break.

THE PRESIDENT: Very good. We will rise -- it is half past -- we will rise for ten minutes and resume at 11.40.

(11.30 am)

(A short break)

(11.42 am)

PROFESSOR WATERSON: I am aware that we have not been covering at all closely the topics to inform the hearing of concurrent evidence that was sent to you, although in fact we have covered some of them, but I am now going to come back and ask about some of these topics that we have not really touched upon, and of course except for Dr Majumdar sort of slipping it in, if you like, we have not covered tablets at all.

Maybe, Ms Webster, to come to one of those questions, what does the £30 drug tariff price for tablets that was in place between October 2008 and March 2016 tell you about excessiveness and/or unfairness of Pfizer and Flynn's reselling prices?

MS WEBSTER: So perhaps if I start with my understanding of how that price was derived -- if I might start with how that price was arrived at, so my understanding is that prior to the £30 drug tariff price being set, the price -- the ASPs of tablets set by Teva had increased to a level of £51.25, and that was in 2007, and the drug

tariff price associated with that ASP was in the region of £114, and then Teva and the Department of Health met to discuss a new level for the drug tariff price, and as a result of that discussion I think over a period that led to the drug tariff price of £30 being set.

So that drug tariff price reflected that discussion between the monopoly supplier of tablets at that time, which was Teva, and the Department of Health, which was in effect a monopsony purchaser, and in my view there is no expectation that that discussion and the price that was arrived at would have necessarily been a price reflective of a competitive price.

Because of that, my view is that the drug tariff price does not help us with the question of locating whether capsule prices would have allowed Pfizer and Flynn to earn profits not available under conditions of normal and sufficiently effective competition, and the further thing to add is what we also know is that that £30 drug tariff price was considerably in excess of the actual tablet ASPs that were charged in the market by the three suppliers of tablets during period 3 which indicates to me that the £30 drug tariff price was quite considerably above a level consistent with normal and sufficiently effective competition.

I also take the view that the tablet ASPs are not

consistent with normal and sufficiently effective competition, but the drug tariff price was further above that.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: I think on the drug tariff price I have not said much at all. What I understand is it has been taken into account by Flynn factually as a reference point, and I think that is -- you know, that is one relevant factor considering when you are thinking about a company trying to determine its price taking into account that it does not necessarily at the time have all the information that we now have by looking at a number, you know, of measures, looking at other measures that could be used to determine, you know, what would be the perfect comparator.

From what I understand at the time this is one piece of information that Flynn had and had used in its process to determine the price, and in that sense I would think it is a relevant piece of information, but I am not sure I am the best placed to say too much on the drug tariff price.

PROFESSOR WATERSON: Right. So you are saying that it was Flynn who looked at this and thought there is a possibility here, and not Pfizer?

DR DE CONINCK: I am not saying -- I do not want to make comments about what Pfizer thought or did not think. I think this was something that was known, you know, including by Flynn and so was taken into account in the Decision factually.

PROFESSOR WATERSON: Thank you.

Mr Williams, perhaps you could help me on two puzzles that I see here.

MR WILLIAMS: Yes, sir. I will try.

PROFESSOR WATERSON: First of all -- which are practical ones I would say. First of all, why the drug tariff price prior to these discussions was as high as £114, and secondly, how it settled at 30 and then remained at 30 for some time?

MR WILLIAMS: They are excellent questions.

Firstly, you may remember before the break I was talking about the categories of the drug tariff, and for reasons, frankly, in retrospect best known to themselves, and I think admitted by the Department, it probably was not the right place for tablets to be, but that is as may be, they were in category M.

Now, Category M is for this large basket of generic, 600 or 700 generic drugs, and one of the purposes of category M is to deliver profit to pharmacy.

Now, a pharmacy is allowed to make, in England,

a sum of £800 million per year of procurement profit, it is called the pharmacy margin.

PROFESSOR WATERSON: Right, not just to one.

MR WILLIAMS: Yes, so it is across the whole of England. That is earned by pharmacies by selling drugs, as we were discussing before the break, where they are incentivised to buy cheaply and sell at a fixed drug tariff price.

Now, a large element of that pharmacy margin is made on category M products where the Department often takes ASPs and adds a margin to those ASPs, and that will be an explanation about why the ASP -- I have not checked the figures, but I am sure Ms Webster was correct, the £51.25 suddenly manifests itself as £114 in the drug tariff, because the delta was the margin that the Department applied.

Now, there is no consistency of margin, some products they add a lot of margin, some products they add a little, but that hopefully answers the question about why the drug tariff price of 114 compared to an ASP. The next thing to say is about coming down to 30 and why it stuck at 30.

The first thing to say is that in my experience -- and of course, whilst it is wide, I have not looked at every single drug over the course of the last

20 years -- I think this intervention the Department made on tablets was really quite unique. I have only ever seen them do it once before, and that was for a branded drug that happened to have a list price in the UK higher than America, which is a pretty perverse outcome.

So I think this is firstly extremely unusual. They did make it clear that they were intervening through the informal process of: I am your only customer, I would like to meet you to talk about price, rather than through Scheme M. Now, Scheme M, which Teva was a member of, did allow the Department to intervene. If it thought normal market mechanisms were not working, and I take that to mean competition was not working, we can intervene to fix a price that we believe does deliver value to the NHS.

After a process of negotiation, and again I just read this in the evidence, I was not involved, obviously, at the time, that price was fixed on £30, and the minutes of the -- or the recollections of the meeting, because I do not believe either side maintained contemporaneous minutes, was that that price, £30, I think the expression was, delivered value for NHS patients.

So I think that piece goes to the fairness part of

your question. So in your question about excessiveness or unfairness for Pfizer or for Flynn, I really am focusing my answer on fairness for Flynn, I am not giving any evidence in relation to excessiveness or unfairness for Pfizer because that is outside of my remit, but I think this does go to the issue of the fairness of the tablets in that it was set, exceptionally by the Department, and was an identical product in terms of, as we know, its therapeutic strength and also its efficacy, so I do think it does provide some guidance.

The other question you I think asked is in relation to it stuck around at £30 for an awful long time.

PROFESSOR WATERSON: Yes.

MR WILLIAMS: Typically I would expect to see category M prices changing, not every quarter, they are only set once a quarter, and they may stay fixed for some several quarters, but this one stayed fixed from 2008 until 2016 and I think it is in the evidence to suggest that that was basically a mistake by the Department, that they hardcoded this into their category M model, they said: it is £30, we will have no regard to ASPs, we are just going to stick it at £30 and they realised I think when the CMA spoke to them that that was a mistake and they subsequently changed them, but if I was an external

observer looking at that £30 price that was fixed for a period of, you know, eight years, I would conclude one of two things: either there was not an underlying movement in ASPs causing the price to be reduced, or that, if there was, the Department was compensating for that by allowing a higher margin over and above ASP to get to the £30. That is what I would have concluded.

PROFESSOR WATERSON: Right, okay. So it originally set it, but then as prices in the tablet market fell, it --

MR WILLIAMS: Forgot about it, effectively, yes.

PROFESSOR WATERSON: Right, thank you.

MR WILLIAMS: But of course, it was not known to either party, or maybe even Teva, that that is what had happened. All they could see is the quarterly drug tariff was £30 quarter after quarter after quarter.

PROFESSOR WATERSON: Right, okay, yes, I am just about to give you a chance. Yes.

DR MAJUMDAR: Thank you. So in that case I have three points to make in answer to the question. The first is just to very briefly recap what happened to the drug tariff price, second to explain why it is a constrained price, and then third, what the -- to explain the implications of it being a constrained price.

So firstly, what happened was in about the 12 months prior to October 2007 the drug tariff was hovering

around between £48 and £62. It then shot up to £114, and that seemed to be the trigger that caused the Department of Health to come in, intervene and have a discussion with Teva, after which the drug tariff price went down to £40 to £35 and by October 2008 was £30. So that is the sort of intervention coming in at £114.

Now, the second point is that this means to my mind -- and I understand that Ms Webster agrees with me -- that this drug tariff is a constrained price. Now, what that means is the price is below the maximum willingness to pay, it is below the monopoly price. It therefore leaves some consumer surplus above that price available to the Department of Health, it is a constrained price, it already leaves some consumer surplus to the Department of Health above that price, and we can debate just how much that is, but I think we can agree that there is at least some available above that price.

The third point, then, is why is that relevant? Well, it means there is already some surplus above it, and if we then compare the impugned price, be that Flynn's price of £18, Pfizer's of £12.55, against that £30 it means that the difference between the impugned prices is generating additional surplus either for

wholesalers or for pharmacies or for the Department of Health.

So that is, to my mind, the value of the £30. It actually helps us understand certainly a very conservative lower bound for the Department of Health willingness to pay, but it understands the sort of division of surplus, if you like, arising from Flynn's and from Pfizer's prices.

PROFESSOR WATERSON: Thank you.

Does anyone want to come back on that?

Mr Harman? No?

Yes, Mr Williams?

MR WILLIAMS: It is just worth remembering of course that the actual prices, the list prices of capsules, was 20% below the drug tariff and the ASPs were about 30%, 35%. I think 25% and 35% are the correct numbers. So in other words, if capsules price was linked to tablets and tablets were fair, then I guess one could argue that the capsule prices being less was even fairer.

PROFESSOR WATERSON: Right. As you have explained, there is essentially a big difference between capsules and tablets in that they were in different schemes. Is that correct?

MR WILLIAMS: It is true to say that tablets were in Scheme M, and capsules were not in a scheme at all,

albeit both Teva and Flynn were in the PPRS, but that applied to their branded portfolio.

PROFESSOR WATERSON: Right.

MR WILLIAMS: But of course, it was not under Scheme M that the Department intervened with Teva, it was on the "come and talk to me I am your main customer and I am unhappy".

PROFESSOR WATERSON: Yes. I understand that point, but I am just questioning whether we can make a direct comparison given the different schemes or lack of scheme that they were in.

MR WILLIAMS: Sir, are you referring to schemes or categories within the drug tariff?

PROFESSOR WATERSON: Sorry categories, yes.

MR WILLIAMS: Ah yes, yes, they were in different -- I was about to make the same mistake -- categories of the drug tariff.

PROFESSOR WATERSON: Does that matter?

MR WILLIAMS: I do not think it matters in terms of assessing comparative value. Clearly I believe that capsules were in category C and tablets were in category M.

PROFESSOR WATERSON: Right, okay, but that is just from your point of view a fact of life.

MR WILLIAMS: Yes, I do not think it goes to the issue of

value or makes the comparisons unwieldy or unworkable.

PROFESSOR WATERSON: The fact that the product -- there is this thing about branding and what is a branded product. Maybe you could remind us of the actual situation for Flynn's product.

MR WILLIAMS: Flynn's product was a generic, albeit a generic that was identifiable by a unique identifier. So a brand is a product that has an invented name, a generic is a product that does not, it just has the international nomenclature, but you are allowed to add your company name without it becoming an invented name, and this is our categories we have been talking about: a brand is clear to understand, a generic generic is clear to understand, this sort of intermediate that from a legal perspective in terms of pricing is counted as a generic, but is identifiable if a doctor wants to write the manufacturer's name on the script, then that is the product that must be dispensed.

PROFESSOR WATERSON: Does this give the producer additional freedoms or benefits in some sense?

MR WILLIAMS: If he can ensure that all prescriptions carry his brand name that would give him certain advantages over a generic generic.

PROFESSOR WATERSON: Right. It is -- identify you mean?

MR WILLIAMS: In other words, identify. The pharmacist has

no option but to dispense the uniquely identified brand -- sorry, generic. Sorry, tying me in knots as well, sir.

PROFESSOR WATERSON: Thank you.

Now, Dr Majumdar made several points there in discussing this situation. Does anyone want to come back on any of those points?

MS WEBSTER: Yes, if I may make just one point, which is Dr Majumdar describes the existence of consumer surplus above the £30 drug tariff and then similarly, therefore, makes the point one can assume that because Flynn's price was below that drug tariff price there would equally be consumer surplus above Flynn's price, and he concludes from that, I believe, that that is relevant for considering whether the price is abusive.

I think I would disagree with that in the sense that those two points that Dr Majumdar raises do not help us understand the extent to which -- and they do not answer the question whether in pricing in the way that it did to pharmacies and wholesalers Flynn was able to reap these benefits which would not have been available had competition been working well.

I think that is the point that I would like to raise in addition.

PROFESSOR WATERSON: Anyone else?

Yes, Dr Majumdar, do you want to come back?

DR MAJUMDAR: I think it is relevant because ultimately if we are interested in understanding what -- so competition seeks to deliver lower prices and lower prices deliver consumer surplus, so understanding that the consumer surplus exists and it is, on the face of it, quite large seems to me relevant, because we are never going to have perfect pieces of information on workable competition. It is a sort of map of putting together what the evidence says, and it strikes me that having evidence -- and I would say it is quite clear given that we have agreement that this drug tariff price of £30 is a constrained price, I think that is useful evidence, and it is important evidence that one would take into account when assessing the fairness of the prices.

PROFESSOR WATERSON: But you are not saying that the fact that prices for tablets, let us say, the prices for tablets that say Teva charges are below £30 to pharmacies, you are not saying that that gives the ultimate consumer surplus, because the ultimate consumer is paying the £30.

DR MAJUMDAR: What I am saying is that the -- let me repeat. I am saying that there are different levels of surplus. So above the £30, that will be surplus to the Department

of Health because the fact that £30 is a constrained price means that the Department of Health has a willingness to pay in excess of £30, so there is surplus there for the Department of Health.

The difference between, say, Pfizer's £12.55 or Flynn's £18 and the £30 is surplus in the sense that it is surplus available for those further down the supply chain, so that could be wholesalers, it could be pharmacies or it could be the Department of Health, so in that sense it is additional surplus available for those further down in the supply chain.

PROFESSOR WATERSON: Right, but if we think -- as you say, if we think about surplus to the Department of Health then the £30 is what is relevant, not those other prices?

DR MAJUMDAR: Well, the --

PROFESSOR WATERSON: Because the pharmacies need themselves to make a margin.

DR MAJUMDAR: Yes, I agree. I mean, if one is only focusing on surplus to the Department of Health, then one would look at the drug tariff which was originally 22.50 I think for Flynn and then it dropped to 18 which is again substantially below the £30 benchmark.

So if one only was looking at surplus to the Department of Health, I would agree we would need to

look at the drug tariff, so 22.50 or 18 versus 30, but I would say that if the impugned price is say a Flynn price then we are still interested in the surplus it is generating for wholesalers and pharmacies further downstream. It is not obvious to me why we would exclude them from our assessment of available surplus downstream. That would be my point.

PROFESSOR WATERSON: Right, but we know that presumably in all pharmaceutical products that there is a gap between what the manufacturer or final stage of that charges and the drug tariff. So, I mean, that is not something special to these cases, either tablets or capsules. Is that right?

DR MAJUMDAR: Yes, I would agree that there has to be room to allow the wholesaler and the pharmacy to cover their cost, and hence there will be typically a gap between the distributer price and the drug tariff price, I would agree with that.

PROFESSOR WATERSON: Right. Does anyone want to come back on that point at all?

I think you are all agreed, but tell me if not, that this £30 price is not a normal and sufficiently effective competitive price but simply a constrained price. Is that correct?

DR MAJUMDAR: Yes, my argument is not that that is

a benchmark for normal and sufficiently effective competition simply, as you say, sir, that it is a constrained price which helps us understand surplus, consumer surplus.

PROFESSOR WATERSON: Right, thank you. Good. So I think that is what I wanted to raise on tablets except that I think we have not really fully explored this comparison between tablets and capsules. One thing that has come out is the difference between the category M and category C, but I think that one might want to identify further differences between capsules and tablets. Mr Harman, let us say, do you think there are further differences that we should consider?

MR HARMAN: Actually tablets from that perspective is not something I addressed in my evidence as it was not an input into calculating the excess, so there is nothing immediate for me to chip in with.

PROFESSOR WATERSON: Right, okay.

Ms Webster?

MS WEBSTER: Yes, I have thought about this in the context of differences between the two products that might affect the price that would result if competition is working well in the supply of both tablets.

I point to one such factor in my report which is the size of the market, so the number of volumes of tablets

and capsules sold. The tablet market is significantly smaller than the market for capsules. It is about one quarter of the size.

It is possible that the smaller market for tablets would therefore mean that to the extent that there are fixed costs associated with the supply of that product, there would be a smaller volume over which to spread that fixed cost which could mean that under competitive conditions, a higher price is needed to keep the suppliers in the market.

I say that as a hypothetical because I have not considered the specifics for the tablets market in that level of detail and so in reaching the conclusions that I do in my report I do not rely on that, but I notice that that could be a factor.

PROFESSOR WATERSON: Right, thank you.

Dr De Coninck, do you want to add anything on that point?

DR DE CONINCK: Sure, yes. So I think -- so we are looking at tablet as a comparator to capsule. Obviously, you know, this is pretty close in absolute terms. Then the question is: can you find differences between the two, and certainly, you know, you can, Ms Webster mentioned one just now. The question for me is whether that would be sufficient to consider that a tablet is

not a good comparator for the purpose of this exercise.

Now, I think Ms Webster mentioned size and, you know, size can in principle be relevant. I mean, I think that is one factor that could potentially matter, but I think we need to see from what we have, from the evidence in the tablet market, whether we think that there was competition there, and if we do see that I think this provides already pretty good evidence that in a very close market that may not be perfectly the same, but we see competition and we see a margin at a certain level.

Now, we can always idealise or build an hypothetical market that would be just as close to capsules but bigger and imagine that there would be more entrants or that costs would be very different, and a lot of things are possible and we can all, you know, think of the perfect comparator, but I think in terms of being a very close comparator I think that is definitely one.

PROFESSOR WATERSON: Mr Williams, I know you have written extensively on comparators so you may want to say something on this point.

MR WILLIAMS: Thank you, sir. You have quite rightly reminded us that tablets and capsules were in different sections of the drug tariff. Category C prices at the originator list price which effectively was Flynn's

price which on a pack size adjusted was £22.50. Category M, as it happened, the £30 was very, very similar to Teva's list price which from the evidence was £29.50. So I think even though they have different letters of the alphabet they are basically equivalent to the list price.

The size of the market. I have seen differences in markets, meaning that there is a lack of comparison, but the Teva -- it was not a minute market, it was a £10 million a year market, I do not consider that small.

The other issue that does not seem to have been addressed anywhere is the fact that of the four strengths of capsules, two strengths had a fraction of the size of the tablets market, the 25 and 50, and I think the 300 was broadly the same. So that does not seem to have been adjusted for in any calculations that I have seen, but --

PROFESSOR WATERSON: That was something I was going to raise shortly.

MR WILLIAMS: Sorry if I have jumped the gun.

PROFESSOR WATERSON: No, no, no, that is fine.

MR WILLIAMS: The other thing to say is that, I mean, I struggle to find a better comparator. I know no comparators are perfect, but if I have got something

that therapeutically the only difference -- not that it is a therapeutic difference, the only difference is one is a tablet shape and one is a capsule shape, you know, and they are exactly the same API, they are exactly the same strength and, therefore, exactly the same indication, it seems to me a pretty robust comparator and one that one would dismiss at one's peril.

PROFESSOR WATERSON: Thank you.

Dr Majumdar?

DR MAJUMDAR: Thank you, sir. So I have two points. One about cost, one about value.

So in terms of cost, I agree with Ms Webster that if you have a smaller market and if you focus only on cost plus, a smaller market implies that any fixed costs are spread over fewer volumes and hence you would need, all else equal, a higher price to recover them if you focus only on cost plus.

My second point is on value. So I understand that tablets and capsules are therapeutically equivalent, I understand that they have the same active ingredient and therefore have the same benefits in terms of seizure control. Now, if that is correct, it seems to me that they are very good comparators in terms of value. It is not obvious to me, for example, why the Department of Health would say it places greater value on a tablet

patient versus a capsule patient or vice versa, given the therapeutic equivalence.

PROFESSOR WATERSON: Thank you.

Do Mr Harman or Ms Webster want to come back on that at all?

MR HARMAN: Well, I was just going to make one point, not with respect to prices, but with respect to margins, which is a question that potentially comes up later.

I mean, it is my view that, you know, one dimension of the comparator is are they the same in some kind of way, or are they a differentiated product, but when choosing comparators, one also has to have regard to differences in cost structure, which is the point that has been made, and that is well known, and that has a number of dimensions, differences between fixed and variable costs on the one hand.

As you will know from my evidence, I believe that both volume and the size of an input cost going in are distorting factors that will influence the comparability between products even if they are the same. If they have different cost structures and different volumes, those are relevant considerations when considering if it is sufficiently comparable.

PROFESSOR WATERSON: Thank you.

Ms Webster?

MS WEBSTER: Yes, just one final point, and it relates not to a difference between capsules and tablets but to a similarity, and because the nature of the drug was so similar, we have the same continuity of supply guidance that applied in relation to tablets as was the case for capsules, and I think that is one reason actually resulting from the similarity that makes tablets a difficult comparator for capsules.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: If I can jump in on this point in particular. I strongly disagree with the point that continuity of supply for tablets make them not a good comparator for capsules.

Now, I understand -- and this may be qualified, but Ms Webster says that essentially you do not have enough competition because -- oh, you do not have the sufficiently competitive condition there because you have this continuity of supply, but I think the point is you have it for capsules, so why are you looking at comparators in the first place? My view is, well, you would like to know what could be a price that is not excessive for -- in a particular market, and in this particular market, capsules, you have the continuity of supply.

So if you would like to consider another market where actually you see some competition but you have also some of the same constraints, I think they should absolutely be taken into account. You are not looking at a perfect ideal market where you have no constraints at all. To the extent that you have constraints on the market of focus, I think it does make sense to consider also comparators that have similar constraints.

PROFESSOR WATERSON: Thank you.

Mr Williams, of course, mentioned that there are different strengths of capsules and in particular that the 25 and 50 strength capsules do not have a direct comparability with anything in the tablets market. How should we think of those two strengths in relation to the 100 strength, because whether you believe that the 100 strength is an ideal comparator or not, it is at least equivalent in terms of its effect?

MR WILLIAMS: Sir, you may remember in my teach-in that I put some numbers up in relation to capsules, and I looked at the relative cost per unit of API to see if, you know, these were in line with each other.

The 300mg was exactly pro rata priced to the 100. The two smaller strengths were premium priced on an API level, and they were both above the equivalent API of the 300 and the 100, and they were also above the API

equivalent of the tablet.

I said I found that not unusual. It goes to the issue, perhaps, that has been mentioned already of small production runs. It is very common for small doses to have a higher pro rata cost than large doses. They cost broadly the same to make other than the API content. So I think one needs to look at them: are they out of line with the sort of normal expectation that I would have of a 25 versus a 100. I would not expect it to be a quarter.

You take it to its logical conclusion. You might have some that have a very wide dosing regime of 2mg to 100. Well, the 2mg is not going to be 1/50th of the price of the 100.

PROFESSOR WATERSON: I have forgotten what it is, but that belief by some people that you keep on diluting something and it somehow --

MR WILLIAMS: Yes, dilute yourself to zero, I suspect.

PROFESSOR WATERSON: Yes. Right, so you would see that difference between the 25 and the 100, just to take that example, as -- I think you mentioned two factors. One was the relative size of the market, and the second was the presumed production difficulty in making a smaller strength available. Is that correct?

MR WILLIAMS: Yes, in other words, it is the issue of

spreading your fixed costs over a small number of boxes rather than a large number of boxes.

PROFESSOR WATERSON: So do you happen to know what the relative size of the 25 market is compared with the 100 tablet market size?

MR WILLIAMS: That does feature in one of my reports.

PROFESSOR WATERSON: Sorry, I must have forgotten it, then.

MR WILLIAMS: No, you are the same as me, sir, because I cannot remember. If you would like me to come back to you after lunch on that one I can do so, because it is in there.

PROFESSOR WATERSON: Yes, that would be very useful, yes, thank you.

So, Dr Majumdar.

DR MAJUMDAR: Thank you, sir. I may be able to answer that question, but just before I do, if I may, just one comment on the continuity of supply guidance point that Ms Webster made that I was hoping to have the chance to make.

So I do not think that that rules out the use of tablets as comparators at all. To my mind, one should not simply say: well, continuity of supply guidance applied, therefore we rule this out as a comparator. To my mind one looks at the evidence and if we see, as we do, for example, that prices fell by 61%

between January 2012 and July 2014 despite continuity of supply guidance being in place, that says to me that there is a healthy element of competition going on.

So I would not -- absolutely would not discard the comparator simply because of the existence of the guidance. I think that would be -- I would not put aside that evidence.

Now, on your second point, in my first report at footnote 24, I have some evidence there, this is {XE1/4/12}, and the 25mg was 3% of Pfizer's value and 10% of Pfizer's volume in case that helps answer your question, sir.

So I think what one should do in terms of strengths is focus on the 100mg because that was the most important strength in the market, so as we know, tablets were only 100mg, capsules were primarily 100mg and I think given that the only price that was, if you like, out of sync with the 100 was the 25mg and given that that was only 3% of value I think we can probably just safely focus on the 100 comparison.

PROFESSOR WATERSON: Right, but you would accept that the one difference between the 100 formula, format, and the 25 or indeed, the 50 format, is that there are no direct competitors for 25 -- even on your analysis of the 25 and the 50, whereas there are on your analysis for the

100?

DR MAJUMDAR: Sorry, so the question is in the capsules market were there competing doses at the 25 and 50 level. It is not something I have looked at closely, but to my knowledge there were not. I think NRIM was 100mg only, but I must confess that is not an area I looked at. Is that your question, sorry, just to be clear?

PROFESSOR WATERSON: Yes. Is that relevant, would you say, Mr Harman or Ms Webster? You may not have been instructed on this area.

MR HARMAN: No, but I would just go back to the point that, you know, volumes and cost structures matter, and they will have impacts on prices, and they do have impacts on required rates of return.

MS WEBSTER: I would add that what is the case for the 25mg and the 50mg capsules, there is not a comparator in tablets that can be used to inform the fairness of the pricing of those strengths. One still does have the analysis of cost plus, and so to the extent that the factors that Mr Williams was describing -- so you have a different cost structure in relation to those smaller markets -- that would all be picked up, is my expectation, in that analysis of cost plus. So one can assess the impact of the smaller sales volumes of those

two strengths, then compare the price relative to that cost plus which reflects that different structure, and so, you know, it is not that there is nothing to judge the excessiveness of those prices against.

PROFESSOR WATERSON: Right, thank you.

Dr De Coninck?

DR DE CONINCK: I think I would say that we are looking at a comparator with the 100mg tablets which is, you know, the most important formulation. That is where we have a comparator, so that informs the assessment and then for the smaller formats for which they will not have the same type of direct comparators we have then to look at whether the price could still be reasonable given what we know about smaller formulations and the comparison that we have made for the 100mg, but I think I would already jump a little bit if I was picking up on the comment that Mr Harman made, so I do not know if now is the right time, but Mr Harman made the comment that cost structure is important and, you know, I of course did not mention that in the previous question, but I agree that cost structure is important but I do not make the same conclusion from that statement as Mr Harman does.

So when we go to differences between tablet when we look at Flynn's price in particular then obviously cost structure is different, Flynn has a high input cost.

I also think that this is important but not at all in the same way. I think it is important because then you have to somehow control for that high input price that Flynn has to pay, and that is why, in my evidence, I have insisted on the use of margins for the comparison there.

PROFESSOR WATERSON: When we were talking earlier, to come back on this point that you have just raised, we were talking about when there are two stages you would imagine some element of bargaining about price. Is that what you have observed in the relationship between Flynn and Pfizer?

DR DE CONINCK: I mean, I think there was limited evidence that in my view would suggest that you had of course two parties to a negotiation, and I would think that in that negotiation probably Pfizer had more of the bargaining power, but nonetheless I think what is important in my view is that this price is -- the input cost is essentially taken as a given by Flynn in its pricing decisions.

PROFESSOR WATERSON: Mr Williams, you are looking up?

MR WILLIAMS: I just have those references for you, sir, if you would like them.

PROFESSOR WATERSON: Yes, please.

MR WILLIAMS: In terms of the relative -- you know, in terms

of pounds sterling terms size of the market, if one were to go to {XE2/6/8}, paragraph 29, that is the financial. So tablets market 41 million, and then if you split the capsules market, the final line of that paragraph, it shows you 12 and 24 respectively for 25 and 50; 84 million for the 100, so double the size of tablets, and 52 million for the 300.

If you want to put that into relative proportions sold, if one goes to the next page {XE2/6/9}, that table there under paragraph 33 just sets out both the percentages of the total market in the sort of middle column and the relative proportions within the capsules-only market.

PROFESSOR WATERSON: Right. Sorry, by the middle column you mean --

MR WILLIAMS: Yes, that is the 100 and 300 combined as a proportion of the total market.

PROFESSOR WATERSON: Right.

MR WILLIAMS: Of the individual strengths of capsules you can see that 72% was made up with 100 going down to as little as 6% made up of the 25s.

PROFESSOR WATERSON: Right, yes. These are percentages in terms of quantities of packs?

MR WILLIAMS: It is quantities of tablets, yes, so it is not a value base, it is a volume base.

PROFESSOR WATERSON: Thank you. That is useful.

THE PRESIDENT: Just to follow up on comparators, Mr Williams, why are not capsules inter se comparators? In other words, we see that there is a comparator role between tablets and capsules, but here we have four different dosage strengths of capsules and different prices and different volumes in the market.

Can we draw upon those differences to see, well, 25mg as a potential comparator for 50 as a potential comparator for 100 as a potential comparator for 300 and if not why not?

MR WILLIAMS: Yes, we can. I just need to try and find my teach-in because I have done that comparison, and if you remember I was talking a few minutes ago about the -- based on API strength, so I have looked at the cost per milligram for each of those, and I will just need to find the relevant reference. I think that is {XE6/5/10}. It is the table in paragraph 32. So if you just highlight the top of the screen.

So I have done that comparison based upon the list price, pence per milligram of API between the 100, 300, 50 and 25, and as I mentioned earlier, it is not linear pricing; it is linear pricing of the two larger strengths, the 100 and the 300. The 50 is more expensive per milligram and the 25 more expensive still,

and this is because it is very frequent in pharmaceutical markets that the small packs that have small volumes actually command a premium per API price. That is not an unusual phenomenon at all.

PROFESSOR WATERSON: The date of this is?

MR WILLIAMS: This was at the launch of capsules. This date, in terms of the per milligram cost is at Flynn's launch price when they first launch capsules.

PROFESSOR WATERSON: So they launched them, just to check, they launched them all at the same time?

MR WILLIAMS: Yes, as far as I am aware, sir, all four strengths were launched simultaneously, to mirror the four strengths that had previously been available as Epanutin.

PROFESSOR WATERSON: Thank you.

DR MAJUMDAR: Sorry just to be clear because we are looking at Flynn's prices the footnote that I gave you was the equivalent but for Pfizer's prices and what you will see there is that the 100, 300 and 50 are broadly similar in terms of price per milligram. It is only the 25 that is materially different and that is the one that I said is only accounting for 3% of value in the Pfizer case.

PROFESSOR WATERSON: Thank you. One other issue that these comparisons between tablets and capsules raises is an issue and I would like to ask the question more broadly

about the degree of competition that we would expect given a particular size of market and for example, I think the Oxera study may have talked about this. I do not know whether -- I think we are probably back to Mr Harman.

MR HARMAN: Again, this is not an area that I considered in my report, but I can make some observations. I mean, I think that there is a generally accepted link between the size of the market in terms of the number of competitors, there is a link between that and a number of factors.

One is the size of entry costs into that marketplace, so there may be difficulties in terms of obtaining the right authorisations, maybe there is high capital costs that had to go into manufacturing the drug, and so on and so forth.

Many of those costs will be fixed, so all other things being equal, the higher the entry costs, the less likely the number of competitors there are going to be in the marketplace.

So if you took a natural monopoly at one extreme, it would be inefficient for there to be active competition in the supply of water in the UK. There is some regulatory competition around the fringe, but we certainly would not want competing networks delivering

water to the same household because the fixed costs would be too high. So that is obviously at one limit, if those fixed costs are high, and volumes, but if fixed costs are high I think the volumes becomes less of an issue, but obviously volume matters because we do see competition in the likes of mobile networks: there is sufficient volumes for there to be competition in the supply of mobile phones.

If entry barriers, entry costs, are low and volumes are high, then you would expect there to be more competition in the marketplace, and thinking back to the *Liothyronine* case, there was very much a consideration about whether competition was likely to emerge, and those factors were the identical factors that they considered.

They considered that the entry cost into that market were high, the volumes in those markets were low, and therefore it was unlikely to attract the interest of larger pharmaceutical companies because the market was too small.

That is not to say you could not get entry if you priced so high that actually it led to inefficient entry, but I would not say that that was a process of normal and sufficiently effective competition playing out in that marketplace, it was because the prices were

extremely high.

Actually, what we saw in those markets, then, was the small volumes and the high fixed costs led to significantly higher costs per unit and, therefore, higher prices even though prices started to fall but not down to normal levels.

So I think that the answer is from one to many, you know, potentially at the limit infinite depending on size of the market and the size of the entry costs as being two of the primary inputs.

THE PRESIDENT: Anything to add, Ms Webster?

MS WEBSTER: Yes, I would agree with what Mr Harman has just set out. I suppose I am interested in the way you have constructed your question in relation to the degree of competition that might arise given the size of the market, and maybe I am taking a step too far now, but it strikes me that if one is thinking about identifying a comparator market, one might not want to be constrained to think about a market of only a certain size.

So one could imagine a market which is so small that there is only space for one firm to operate. That firm can then charge the monopoly price, and I would not think that that would be the relevant place to look for a comparator because the comparator market will deliver

a price which is not consistent with effective competition.

PROFESSOR WATERSON: Dr De Coninck.

DR DE CONINCK: Yes, so if I may just qualify this a little bit. Indeed, so the size of the market is one factor that may affect competition. The question is how does it affect competition. Well, by potentially, possibly, if you have a bigger market allowing more players to be on that market. So, you know, that is one of the channels through which one can have potentially more or less competition depending on the size of the market, but what is, I think, really important when choosing a comparator market that you would consider as being sufficiently competitive is seeing whether you do have several companies active in that market already because if that is the case, the question is: well, do you think there should be even more and that the evidence that you see of, you know, several parties competing is not sufficient, right.

So I think based on that I think, yes, size of the market is a factor to consider. If you have a small market and you do not see competition of that market obviously that would be a concern for choosing it as a comparator, but on the other hand if you have a market that is not exactly the size of your focus market but

you do see competition on that market, I would be satisfied to use that as a comparator.

PROFESSOR WATERSON: Thank you.

Mr Williams, do you want to add something on this point?

MR WILLIAMS: Just a couple of add-ons for pharmaceuticals specifically. The other constraints are sources of API, that can often be an issue that they just are not available. There is also availability of manufacturing facilities. There are far fewer people that make injectables that make solid dose formulations or indeed that make hormonal products and make solid dose formulations, so those add to the sort of fact that that is why you may not get a dozen new competitors when something comes off patent because those issues have to be -- but I agree, absolutely market size and entry cost must be factored in as well.

PROFESSOR WATERSON: Thank you.

DR MAJUMDAR: Thank you, yes, three points then. Firstly, I agree that all else equal, a larger market is more likely to allow for entry because any given fixed cost will be spread over greater volumes.

Second, I do not think that that means that where you have a relatively small market it cannot be workably competitive. I think one simply has to go and look at

the evidence which really brings me to my third point which is that although the tablets market was a smaller market, we do see that the third entrant had a very substantial impact on price, so remember that price was already reduced by 50% by the Department of Health intervention, and then there was a further 61% fall in prices.

So to my mind it is really important just to, you know, look at the evidence and that really should inform us in terms of what is workable competition versus what is not.

PROFESSOR WATERSON: So is it a puzzle that we see relatively more firms -- well, three firms at some point in the tablet market but only, I think, two in the capsules market, although the capsules market is bigger?

DR MAJUMDAR: I do not have a view on that point, sir. My focus and analysis is focused largely into the tablets market so I have not looked into the specifics of competition to the capsules market to such a degree that I could explain why that is the case, sir.

PROFESSOR WATERSON: Thank you. Anyone want to -- yes, certainly.

MR WILLIAMS: I need to check the chronology, but I am wondering whether the launch of the predecessor of these proceedings may have impacted that in that these

proceedings I think followed on -- or the first referral followed on fairly shortly after capsules had entered the market, and if there was therefore some pricing uncertainty about the future direction of capsules pricing as a result of the allegations made, that would certainly be a deterrent effect to people entering the market.

PROFESSOR WATERSON: Thank you.

Anyone want to add anything on that point?

There is a further issue here to do with competitors or lack of competitors in that, in both cases, if someone is initially placed on a particular tablet, a particular manufacturer's tablet, as I understand it, or if someone is placed on a particular manufacturer's capsule, the medical evidence or the medical view, strong view, is that that person should remain on that same capsule or tablet as it may be. Yet we see considerable competition in tablets and, just accepting Mr Williams' point that further competition might have developed in capsules but for this uncertainty, why do you think there is entry taking place in these markets? Maybe you can come in first, Mr Williams.

MR WILLIAMS: I think we heard a little bit of the evidence from the professors who spoke to us last week, and we had our Desert Island Discs reference, in that, putting

it bluntly, the advice was ignored. It clearly did not seem to create any evidence of an increased number of people having seizures, and it is very clear that patients were swapped considerably when after launch of capsules NRIM went in or out of stock. So I think it is no more complicated than the fact that it was ignored and that doctors did not specify on the FP10, the prescription form, the specific manufacturer through this unique identification, and it was, therefore, left down to pharmacists, some of which would have been of the view, knowledgeable of the evidence and the guidance and made sure that they continued to dispense the same manufacturer's product regardless of the underlying profit, that they would make maybe less, maybe more, but many of them just ignored the guidance and many GPs did too.

PROFESSOR WATERSON: So it would provide some constraint, you are saying, because some pharmacists would have taken --

MR WILLIAMS: Yes, I am sure it definitely would have applied some constraint. Of course, then you get the situation where NRIM goes out of stock, then they have no choice, but, yes, in terms of there being freely available stock, I am sure there will have been some constraint.

PROFESSOR WATERSON: Dr Majumdar?
DR MAJUMDAR: Sir, may I just remind myself of the question? Your question, was it why did we see entry in tablets but not in ...
PROFESSOR WATERSON: Well, yes, in both cases we saw some entry.
DR MAJUMDAR: Yes.
PROFESSOR WATERSON: But why is this given the clear advice?
DR MAJUMDAR: I see. Well, I think it -- I presume, I do not know, this is a factual question, but I presume it is because the pharmacies were in essence ignoring the guidance and searching for lower prices, and I think that does come out of some of the -- I do not want to opine on facts, but some of the points that are made in, for example, the remittal decision where, for example, Teva has to lower its price to Celesio or Boots by a very substantial amount because Celesio and Boots have been offered a lower price by a competitor. That presumably means they are not sticking particularly closely to the guidance.
PROFESSOR WATERSON: Right, thank you.
Anything anyone else wants to add on that point?
MR HARMAN: It is a factual point that I cannot assist on, sorry.
MS WEBSTER: I agree it is a factual point.

My reading of the evidence as summarised in the remittal decision is -- I think as Mr Williams describes it, there would have been some wholesalers and pharmacies that chose not to follow the guidance and some who did, so that, I assume, would be a relevant factor taken into account by the entrants.

What I would say in addition is when one looks at the trajectory of prices in the tablet market, one sees initially the price reductions for all three of the tablet suppliers as Dr Majumdar describes.

One then sees prices for Wockhardt and Milpharm continuing to fall while Teva's stabilise at an earlier point, and then quite a substantial differential opens up between the Teva price and the Milpharm and Wockhardt prices and during that time, Teva maintains a high share, and so when I observe that sort of pattern in the data, I think that is consistent with there being this group of pharmaceutical wholesalers who are adhering to the guidance and not seeking to switch and, therefore, sort of creating a set of captive sales for Teva that are not subject to the competitive pressure from Milpharm and Wockhardt's pricing.

PROFESSOR WATERSON: Thank you.

Dr De Coninck?

DR DE CONINCK: Just very briefly, I think the data for

tablet does suggest that there was competition, we have seen it with the entry of Milpharm, the price decrease and volumes taken. So I think I cannot opine on the why but I can certainly say that this is consistent with the guidance not being strictly enforced.

PROFESSOR WATERSON: But do you agree with Ms Webster's interpretation of the data?

DR DE CONINCK: I think I will just put it in a slightly different way in the sense that my emphasis is the continuity of supply does not seem to be an absolute restriction and constraint in any way, but of course I also am not saying that it has no effect at all on the case.

PROFESSOR WATERSON: Right, thank you.

Dr Majumdar, again?

DR MAJUMDAR: Sorry, you asked a question about interpretation and do I -- well, you asked Dr De Coninck if he agreed with Ms Webster's interpretation of the data. I am not sure I fully agree with it. Perhaps we could go to {XO/12/9}, which is where we can actually see this on a chart, and it might just be worth -- hopefully that is the right reference. It should be my teach-in slide 9, which I believe is {XO/12}.

MR BREALEY: It is {XE7/5/9}.

DR MAJUMDAR: Thank you. Essentially the white background

is period 3, and the Teva price is in blue, the Wockhardt price is in green and the Milpharm price is in grey, and we see the sharp price decline at the beginning of the period, we see the continuation of the price decline, and then the period that Ms Webster focuses on is around September 2013 to December 2014, and so I would acknowledge that at that particular point in time one could interpret the data as Milpharm and Wockhardt really putting their foot on the gas and trying to gather customers before the continuity of supply guidance comes in more forcefully. There was a version already of it in place, so one could interpret the data that way, but what is noticeable is that this period is only temporary, and then one goes past the continuity of supply guidance coming in, Teva's price peaks in February 2014, and then it drops down to below £9 while at the same time Milpharm stays more or less where it is.

So essentially what Ms Webster argues is that she focuses on this period of time when there is possibly a temporary divergence in pricing strategies, and my argument is that that is inappropriate. Over the period as a whole workable competition is taking place and workable competition allows for strategy, temporary strategy changes. So there is a sharp price fall, then

there is a more gradual fall, possibly a temporary strategy change in a few months prior to the continuity of supply guidance, but then a change again as Teva then starts to lower its price again.

So to my mind, focusing only on this three-month/four-month period of time, focusing only on the lower prices of Wockhardt and Teva is not only -- how to put it? I mean, not only is it slicing the Matterhorn very, very thinly, but it is also shaving quite a lot off the top of it as well, because one is ignoring Teva's price there. So I do not fully agree in short with the interpretation.

PROFESSOR WATERSON: She also talked about quantities. This diagram is about prices.

DR MAJUMDAR: Yes, so throughout the period I would accept that -- so with quantities, as you will remember from the prior time round, one needs to be a little bit careful looking at short periods of time because the data are quite noisy, but I would accept that throughout this period of time Teva's share was relatively stable, but to my mind the key point is the reason Teva's share was stable was because it lowered its price and, had it not lowered its price by such a large degree over this period, its share would not have been stable. That is the point.

PROFESSOR WATERSON: So are you agreeing that the guidance appears to have had some effect on them, giving Teva some advantage?

DR MAJUMDAR: I would agree that the guidance would be likely to have limited switching beyond -- relative to a situation when it was not in place, I would agree with that. Whether or not it gave Teva an advantage is less clear to me because it seems, looking at the data, that Teva's price fell very substantially during that period. So I would not agree that Teva was insulated from competition.

PROFESSOR WATERSON: Right, okay. You probably would not agree with the description of this as a Matterhorn either, which is a word you used.

DR MAJUMDAR: I do not ski very often so I may well be picking the wrong mountain.

PROFESSOR WATERSON: Right. does anyone have anything else to add on that?

Then I think that concludes what I wanted to ask in this hot-tub.

THE PRESIDENT: In that case, we have no more questions, and we will conclude or pull the plug on the hot-tub I suppose we could say.

We will rise until 2.00. Will that give the parties enough time to re-arrange the seating? Mr Holmes?

MR HOLMES: Both to re-arrange the seating and to re-arrange our cross-examination scripts in the light of what has been a very useful hot-tub, and can I express on behalf of all of the parties our gratitude to the Tribunal because we know that this imposes a burden upon you.

THE PRESIDENT: Thank you very much. We will, in that case, resume at 2.00, but if you need further time because of technical issues do let us know. 2.00.

(1.00 pm)

(The short adjournment)

(2.01 pm)

THE PRESIDENT: Dr Majumdar.

MR BREALEY: He has already been sworn.

THE PRESIDENT: Indeed.

DR ADRIAN NIZAM MAJUMDAR (recalled)

THE PRESIDENT: Dr Majumdar, do sit down. Welcome back. You have already been sworn, so you are still under oath, and I will hand you over to Mr Brealey who will have some questions for you.

MR BREALEY: Sorry?

THE PRESIDENT: Sorry, who's leading this witness?

MR HOLMES: I will be cross-examining Dr Majumdar --

THE PRESIDENT: I see, yes, of course.

MR HOLMES: -- unless there is anything to deal with in chief.

THE PRESIDENT: We have put the reports -- my error.

MR HOLMES: I am very grateful to the offer from my learned friend, but I will conduct the cross-examination of the witness, if I may.

Cross-examination by MR HOLMES

MR HOLMES: Dr Majumdar, good afternoon, thank you very much for joining us again.

To set the scene, can we first just agree on the scope of your evidence.

In your position paper, you mention the two limbs of the United Brands test and you explain that your evidence speaks to limb 2, namely whether or not the price is fair. That is correct, is it not?

A. Yes, that is correct.

Q. And under the topic of fairness, the specific topics you were instructed to address are set out in paragraph 12 of your first report, if we could just go there, please, it is {XE1/4/4}.

You say in paragraph 12 that you have been asked to consider a number of questions in relation to Pfizer's pricing, but that you have not been asked to consider Flynn's pricing. So on instruction, you have not considered the fairness or otherwise of the prices charged by Flynn to wholesalers and pharmacies. That is correct, is it not?

A. That is correct.

Q. There are then a series of bullets, and the first concerns whether cost plus is an appropriate measure for determining the fairness of pricing which you address in particular in your first report.

Then over page {XE1/4/5}, the next bullet identifies an important topic in your evidence, namely whether the prices charged for tablets provide a reliable measure of prices that would arise under workable competition.

There is then a bullet about the drug tariff reimbursement price and the final bullet asks whether Pfizer's ASP is unfair based, among other things, on the tablets price.

I would like to focus on your evidence relating in particular to the tablet ASPs. That covers both your assessment of competitive conditions in the supply of tablets and your comparison between tablet prices and the parties' capsule prices during the infringement period.

Again to prepare the ground, can we revisit some of your main conclusions on those topics, so beginning with the meaning of "workable competition", your evidence is that workable competition is not a term of art in economics, and indeed, does not have a specific economic meaning. Is that correct?

A. It is not a term of art. It is not something that we see in the economics textbooks, for example, so I would agree with that.
Q. Yes. Rather you consider it is a practical concept, and there is likely to be a range of prices consistent with workable competition, is that correct?
A. Yes, a practical concept informed by evidence can vary from industry to industry and yes, there will be a range of prices consistent with workable competition in my opinion.
Q. Yes, and so consistent with that it needs to be identified in an empirical way having regard to the specifics of the industry, market and time period under consideration; is that right?
A. Yes, I think workable competition, if one is looking to establish what it is, is an empirical matter, yes.
Q. Yes, and it follows that it will depend on the facts of each case and it is a matter of granular factual enquiry; is that correct?
A. Well, if we are looking -- yes, if we are looking to identify comparator prices under workable competition, that is an empirical enquiry.
Q. I am grateful. So turning to your competitive assessment of tablets supply --
THE PRESIDENT: Sorry, just pausing there, my recollection,

Dr Majumdar, is that we crystallised the meaning of "workable competition" as being competition that did not involve cartelist behaviour and did not involve dominance. That is not inconsistent with what you say in paragraph 13. Do you still maintain that definition as well?

A. I do, sir. So I would -- which is why I said -- I qualified my answer to Mr Holmes with: if we are looking to try to put numbers on it, that would be the empirical point. I think there are essentially two questions: one is conceptually what might workable competition be, and when I first wrote my report I did not have in mind the definition that you helpfully shared with me on Wednesday last week, although what I looked at was consistent with that definition because I did say, for example, I would not expect workable competition to be taking place when a firm was dominant, or rather I implied that by what I said in my report.

So conceptually I would agree with you that a helpful definition of workable competition is one where there is no dominance and no collusion, so I would agree with that. So apologies if I was unclear, but my answer to Mr Holmes was if one is then trying to put numbers around --

THE PRESIDENT: No, it does not remove the need for

empirical analysis, that is --

A. Yes.

THE PRESIDENT: I just wanted to make sure that we had not lost sight of that because --

A. No, no.

THE PRESIDENT: -- if it is not, I quite understand why you might want to rethink what workable competition means again, but I just wanted to make sure we had that in mind because that was my understanding of what you were saying, and if Mr Holmes disagrees with it, then obviously he will put it.

A. No, thank you for that clarification, sir. I am still happy with that definition.

MR HOLMES: Yes, no, I am grateful, and indeed it is consistent, I think, with a passage in your first report, if we could go, please, to {XE1/4/18} you say at paragraph 50 that:

> "At some point [following monopoly pricing] ... the forces of competition strengthen, the price will go far enough below the monopoly price to mean that it is 'workably competitive' ... there is [no] bright line... However, some characteristics of a workably competitive price can be stated.
>
> "First ... a firm may have some market power and still charge a workably competitive price."

At the end of that paragraph:

"... a market leading firm may have some degree of market power without being dominant ..."

I think it is implicit in that that you are excluding dominance from the scope of your concept of workable competition, is it not?

A. That is correct, I would exclude dominance from workable competition, yes.

Q. Yes. I think by the same token, if one looks at footnote 46 at the foot of the page, the other of the instances that the President canvassed with you in cross-examination was also anticipated in that footnote, where you note that your assumption is an absence of collusion?

A. That is right.

Q. I am grateful. So if we could turn now to your competitive assessment tablet supply, and this is still scene setting, I will come to address your evidence subsequently, but just to clarify that we understand what it is, you have identified a period of what you consider to be workable competition between tablet suppliers, and that is the period when three suppliers were active in the UK. Is that correct?

A. Yes, that is correct. Period 3 in the tablet market.

Q. Yes. You nonetheless agree with Ms Webster that there

are certain factors which are likely to have dampened the intensity of competition to some extent during that period. That is correct, is it not?

A. I -- yes, I agree that there are some factors that may have dampened the extent to which competition took place, and I say therefore one has to look at the empirical evidence to assess really the extent to which they are likely to have had an impact or not.

Q. But I think your evidence is that they are likely to have dampened the intensity of competition to some degree, is it not? Let me show you.

A. I think I qualify that with in the sense that were they not there prices may have been lower than they would otherwise be, but it would be very helpful if you could just take me to the reference, sir.

Q. Yes, of course, you do indeed. It is in your second report -- it is in several places, but if we take it from your reply report at {XE1/5/10} and look at paragraph 31 you say there:

"... the above factors [which we will come to in a moment, were discussed in your first report and that you] ... acknowledged that they are likely to have dampened the intensity of competition in the tablet market to some extent ..."

Then there is the point that you have just made:

"... (... absent those factors, competition may have been even more intense)."

A. Yes.

Q. Just to check through those factors quickly to make sure that we are agreed upon them, the first is the strategies that were employed by two of the suppliers, Teva and Wockhardt, to accommodate one another in the market. Is that correct?

A. I do not necessarily -- okay, so there is a factual matter as to the extent to which Teva and Wockhardt did that, so I have not investigated the extent to which that is factually correct. So that particular point may or -- is not what I am saying I have verified factually.

Q. Yes, but you accept to the extent that it did happen, it is likely to have dampened competition?

A. Can we just go to the explicit point, the --

Q. I am just trying to clarify your evidence. So if one looks at paragraph 30 and 31 together, we went to paragraph 31 --

A. Could we just go up higher so I can see 30, please?

Q. Yes, of course. So you see at paragraph 31 you say you discussed the above factors, those listed in paragraph 30, and acknowledged they are likely to have dampened the intensity of competition, and then the factors that you identify are, first:

"Strategies employed by Teva and Wockhardt to 'accommodate one another in the market'."

A. Right, okay, so I am saying here that Ms Webster has cited these factors and so to the extent that this is factually correct, then that may have damp -- yes, that may have dampened competition.

Q. Yes, well, is likely to have done so as you say below in the following paragraph. Yes?

A. Well, yes, except that obviously the extent to which that actually plays out in practice is then determined by the evidence and how quickly price fell. I mean, I think that is -- my fundamental point, just to be clear, is that there are a number of factors which are put forward by Ms Webster and the CMA which may have had an impact on making competition less intense than it otherwise would have been, and I say that to understand how important those factors are, to understand the extent to which they really did limit competition, the best way of -- well, the best way of understanding is actually just by looking at what happened to price.

Q. Believe me, we will come on to that. I am simply checking that I have correctly understood the factors that you identify as being likely to have dampened the intensity of competition at paragraph 31. The first is strategies to accommodate one another in the market on

the part of Teva and Wockhardt. The second is supply issues affecting two of the three suppliers in the market; is that right?

A. Yes, and again, to the extent that this is not disputed, I mean, yes, to the extent that it is factually correct, yes, I would accept --

Q. But you do consider some of those supply issues in your evidence as we will come on to discuss, you do?

A. Yes.

Q. There was regulatory guidance recommending continuity of supply which served as a barrier to switching. Is that right?

A. Yes, the continuity of supply guidance is a factor as well, yes.

Q. And it served as a barrier to switching, is that right?

A. Well, I would not call it a barrier to switching as such, I mean, that terminology is a little bit loaded. I would accept that the continuity of supply guidance would make switching less likely. Now, you may say that is the same as a barrier to switching. I think a barrier to switching is just a slightly loaded term.

Q. I see. Can we agree, then, that it increased switching costs and raised barriers to expansion?

A. It would make -- it would make switching less likely because that would be contrary to what the -- because

switching a patient from his or her existing drug to an alternative is something that the guidance says is something that should not occur or should be done with great care.

Q. Yes, and if we go to {XE1/4/22}, that is in your -- so we are now back in your first report, and look at paragraph 66 together, you agree that this was likely to have had the effect of increasing switching costs and raising barriers to expansion. That is correct, is it not?

A. The -- yes.

Q. Yes, I am grateful. The fourth point was that the market had some of the characteristics of a niche generic market, in particular, small volumes and some challenges in manufacturing the product; is that right?

A. That is my understanding.

Q. Yes.

A. Yes, the CMA describes tablets as a niche market, and one of the characteristics of niche markets, if I remember correctly, is it is relatively small and the guidance is in place.

Q. Thank you. Your view is that notwithstanding these factors, it was the point you were just making, there was workable competition in play during some or all of period 3 in view in particular of the price reductions

observed over that period; is that fair?

A. Yes, through an entirety of period 3, I consider there was workable competition, yes, that is right.

Q. To complete the picture, can we revisit the range of price benchmarks you obtained from the tablet market. So this is table 1 of your first report, which is at {XE1/4/26}. If we could enlarge the top of the page, please, so you construct a single range from £9.63 to £12.96 by reference to two time periods.

The first time period you consider is shown in the first row of the table, and it is the entirety of period 3 from the moment Milpharm launched the tablet product in September 2012 until the moment that Wockhardt finally exited in July 2014. Is that right?

A. That is correct.

Q. The second is a shorter period from January 2013 to October 2013, and that is shown in the second row of the table. Is that right?

A. That is correct.

Q. Yes, and the basis of that selection is indicated, if we go back a page on figure 3 in your first report {XE1/4/25}, and first you remove the opening four months from September to December 2012 which you describe as the erosion of duopoly price as labelled by the second vertical line; is that right?

A. That is right. Sorry, just to be clear on the question, so you are explaining how I got to the second line in the table, the January to --

Q. Exactly, yes. At the moment, as I say, this is just scene setting. I will come back to discuss the specifics of it with you.

A. Sure.

Q. But the first adjustment is to remove the period you describe as the erosion of duopoly price. Is that right?

A. That is correct.

Q. Yes, and looking at the graph, that is a period when prices were falling rapidly following entry by a third party; is that right?

A. That is correct.

Q. You describe this as a period of adjustment or transition in your evidence. Do you recall that?

A. I don't recall the precise wording. However --

Q. Would you disagree with that characterisation?

A. I would not disagree, no. I think this is essentially where these are 33% price fall over a short four-month period of time as the -- at the beginning of period 3, where the tablet market moves from that prior -- I mean, there had been a price decline prior to that, but that is where the tablet market moves from a duopoly,

slightly below a duopoly price, into this sort of new phase in January 2013, yes.

Q. Which you characterise as a triopoly, I think it is a wonderful phrase.

A. I believe I do call it triopoly, yes.

Q. Yes. Second, you also remove a period at the end running from November 2013 to July 2014, and as shown by the third vertical line in figure 3 that reflects the MHRA guidance against switching on continuity of supply grounds released in November 2013. Is that right?

A. That is correct.

Q. As we have discussed, that is on the basis that the guidance is likely to have had the effect of increasing switching costs and raising barriers to expansion?

A. Well, that is the reason I considered two time periods. I believe that I say in AM1, in my first report, I say my preferred period is the entire period, but as a check I also look at this January through to October period, and I deliberately stop it just prior to -- well, in October, because the guidance comes in in November.

Q. Yes, yes, and I think we can quibble over terminology, I am not sure -- your counsel will no doubt point you to where it is said, if it is. I am not sure you do describe this as a cross-check. I think it is part of the construction of your single price range benchmark

with the lower bound indicated by the pricing in the narrower period. Does that sound right to you?

A. I would have to check my report.

Q. Okay, I will show you in a moment.

I think you recognise that on its face the guidance would mean that any supplier would have a captive body of patients and so face very little competition, in your words akin to being a monopolist over its pre-existing customer base. That is right, is it not?

A. So the point I am making there is that with the continuity of guidance in place, if that is adhered to, then, because there are relatively few patients coming to the market, in essence, a supplier theoretically has a monopoly over its existing customer base, and I say that considering that theoretical position it is remarkable how much competition has taken place. I believe that is what I -- that is the point I am making at that paragraph.

Q. Yes, and on that basis, your view is that the period prior to the 2013 guidance therefore provided greater scope for suppliers to win volumes from each other. That is right, is it not?

A. Yes, prior to the guidance being in place in November 2013, it would seem that there was greater scope to win customers, yes.

Q. In deciding to remove the post-November 2013 period, you also took account of the fact that from January 2014 Wockhardt's volumes were depressed as it prepared to exit the market. Is that right?

A. I took that into account. I looked at the evidence and I noted that while in theory one might expect prices to go up, in the period we see on the far right of this chart, ie after the guidance and prior to the exit, in theory, we might expect prices to go up, in practice they do not. So the market-wide average selling price, which is the red dotted line, actually declines. Teva's price actually declines.

So I looked at various pieces of evidence, one of which was indeed that Milpharm -- sorry, not Milpharm, Wockhardt had lower supply volumes, but I also looked at the evidence on pricing which suggested to me that some competition was still taking place.

Q. I will come to discuss the time series with you, but I think your answer to my question was that you did -- in excluding the post-November 2013 period you took account of the fact that Wockhardt's volumes were depressed as it prepared to exit. Is that right?

A. Yes, I would have taken that into account.

Q. You did take it into account. I can show you where in the report, if that would be helpful.

A. Yes, okay.
Q. If we go to {XE1/4/21}, we see at paragraph 64 your acknowledgement, as you put it, that Wockhardt's importance declined in 2014 as its volumes tailed off, and then if we can turn on to --
A. I cannot actually see that on the --
Q. I am so sorry, forgive me. That is {XE1/4/21}, please?
THE EPE OPERATOR: I am sorry, I am having trouble with the connection.
MR HOLMES: Do not worry, it happens. It always seems to happen when I am cross-examining, but I will not take it personally. We can probably work from the hard copy if people have that to hand.
You do have a copy, I am sure the Tribunal does as well, it is {XE1/4/21}. That is very resourceful, thank you, Dr Majumdar.
It was page 21 of your first report. You say at paragraph 64 -- do you have that at the foot of the page?
A. Yes.
Q. "... I acknowledge that Wockhardt's importance declined in 2014 as its volumes tailed off."
A. Yes.
Q. If we turn on to paragraph 74 {XE1/4/24} where you explain the subperiods in period 3, how you divide it

up, you say there you now break it down into three subperiods at the top, and then that:

"... assists [your] choice of time periods for determining a range of prices consistent with workable competition."

The first is the period we discussed, the rapid price fall from September to December 2012, the transitioning period you see at the top there, and then the third bullet refers to the November 2013 to July 2014:

"This is the period after the introduction of the Guidance and before the exit of Wockhardt..."

So before the exit of Wockhardt, and:

"It is not obviously a relevant period to consider because one might expect the market-wide ASP to have risen during this period..."

We will come back to the time series, but your evidence there is, as I understand it, but tell me if I am wrong, that the period after October 2013 would not obviously be a relevant period to consider.

A. That is correct, and the reason I say that, this really goes back to the point that ex ante, if you like before you see what actually happens, you would not expect to see material additional competition with the continuity of guidance in place, which is why it is not obviously

a good comparator period after the November 2013 introduction of the guidance.

However -- and I say that, I believe, at the paragraph you referred me to earlier on which was 64 --

"However, this did not occur..."

So ie although one might expect prices to go up, I say:

"However, this did not occur. In fact both Teva's price and the market-wide ASP fell after the Guidance as is evident from Figure 2 above."

So that was my point: it is not an obvious comparator period --

Q. Yes.

A. -- but actually when you look at the evidence, it is remarkable that prices do fall, and therefore one with come to the view that competition was still taking place in that period by looking at and observing what was actually happening to prices.

Q. Yes, I understand, that is very helpful, and I will come to discuss that time -- the price trends during that period but I think your view as a matter of economic theory is that you would expect competition to be strongest in the narrower period from January 2013 to October 2013. Is that right?

A. It is. When I re-read that, I probably should have

qualified that, because obviously we have strong competition just prior to that when we had this dramatic price fall as well which is strong competition. So I think --

Q. To be fair, you only say that it should be strongest during that period; you are not commenting on the strength outside the period, but it is the period when you would expect competition to be strongest, is that right?

A. Prior to the guidance coming in I would expect competition, yes, to be stronger than after the guidance being in place, and the point that I make is that it is surprising that after the guidance is in place, price continues to fall.

Q. But I think it is the period from January 2013 to October 2013, so excluding also the transitioning period as you described it?

A. No, absolutely, and so that was the point that I was just trying to make, namely that I -- when I re-read the report and I noticed that I said this is the period of strongest competition, it sort of jarred with me a little bit in the sense that just prior to that we have very strong competition in terms of the price falling rapidly which one might also say is pretty strong competition as well. That was the point that

I am making.

Q. Thank you. If we could now return to table 1 to see the price points you have selected, at the top of your range, you have the price point of one individual supplier, Teva -- sorry, do you have that? It is at page {XE1/4/26}.

A. I have it, thank you.

Q. Perhaps if we could call it up on the screen as well. There we are.

At the top of your range, you have the price point of Teva, so one individual supplier. You then have the market-wide weighted average ASP, and can we agree that that would again be heavily weighted towards Teva given that Teva managed to retain most of the volume throughout period 3?

A. The market-wide tablet ASP is a volume-weighted average of prices, and because Teva's average volume throughout that period was approximately, I think it was about 69%, that would mean that Teva would have a greater weight, the majority weight, compared to the other tablets.

Q. Yes. You also have a weighted average ASP for the two non-Teva players shown in the third column. You regard a market-wide ASP as the best measure of the overall market price, is that correct?

A. Of the overall market price, yes, because it takes into

account all of the participants in the market.

Q. Yes. So your range is from £9.63 to £12.96. On the basis of that range, you calculate in your first report a mid-point of £11.30 for comparison purposes; is that right?

A. That is conducted as a separate sensitivity test. It is not my preferred measure, but I do calculate the mid-point, yes.

Q. Yes. You do not include within your range the most competitively priced supplier, although you have included the highest priced supplier, Teva, but can we agree the accolade for most competitive pricing would have gone to Milpharm on a weighted average basis?

A. It depends what you mean by "most competitive pricing". I mean, Milpharm -- let me just look at my chart. Milpharm would have had through most of the period a lower price.

Q. Yes.

A. So I would agree with the accolade that Milpharm tended to be the lowest price produced, but it does not necessarily mean it was the most competitive. I mean, the lowest price, yes, I would agree with that.

Q. Yes, the lowest price, that is helpful. If one added Milpharm's weighted average to match the average Teva price which is included, that will take the range down

at the bottom end to £8.81. Can you take that from me? Does that sound about right to you?

A. Sorry, so you have just taken a weighted average price of Milpharm's --

Q. Of Milpharm's price as the lowest priced player in the market.

A. I will take it from you, I would have to --

Q. Yes, of course, I understand. If we calculated a separate data point for the most competitively priced supplier based on that figure, and, you know, of course it can be tested, your mid-point calculation would move down to £10.88.

A. Sorry, so it sounds like we are slicing and dicing a sensitivity test. Would you mind just reminding me how you got there again?

Q. So I have taken the Milpharm weighted average ASP over period 3, that is £8.81, and I have calculated a mid-point between that and the Teva ASP at the top of your range which is £12.96. It is not --

A. Oh I see, you have taken the lowest priced player only and you have excluded Wockhardt and calculated the mid-point between the two ASPs?

Q. I have just added another point to your range. So you have calculated your mid-point simply as the middle price between £9.63 and £12.96, and that gives you

your £11.30. It is not weighted; it is just a division by two.

A. Okay. Just to be clear, this mid-point analysis is conducted as part of a sensitivity test.

Q. I understand, I understand. I am just testing with you if one had a lower bottom end of the range by including Milpharm just as you have included Teva, a single supplier, at the top end of the range, that would bring your mid-point calculation for the sensitivity down.

A. It would do. I mean, just also to be clear, I think I mentioned -- I am just trying to find the reference, but I am certain that I say that I only include the reference to the non-Teva prices, ie the 9.91 and 9.63 for completeness as opposed to suggesting that they are prices that I would place weight on.

Q. I understand, so you include the Teva price and you include the market average ASP?

A. Yes.

Q. But your preference would be to exclude completely the prices -- you would not give any weight, any independent weight, to the prices for the two generic entrants during period 3, is that right?

A. So I -- the reason I presented them, as I say in my report, was because the CMA in its remittal decision focused, if I remember correctly, on one particular

month, and the lowest price generic in that month, and I say in this report that is in my opinion a selective thing to do because, for two reasons: (a) it is only one month and competition takes place over a long period of time, and, two, because focusing on only one month is dangerous with these type of data because there is a lot of volatility and noise in them. Then I go on to say for completeness if we are looking at non-Teva prices then I will calculate the non-Teva weighted average selling price which is essentially what the £9.91 and £9.63 are here shown in this table.

Q. That is helpful. If we could go back a page to page {XE1/4/25} to look at figure 3. So I think what you are saying is that your evidence then would be that you would -- if you were starting with a clean sheet, you would only consider the Teva ASP and the market-wide ASP, and the much lower prices that obtained for the two generic entrants, Milpharm and Wockhardt, you would not give any further consideration or weight to; is that right?

A. Well, if we are looking for a range, then what we are interested in, really, is the top of the range, because by implication prices below that range are within the range, so they are less relevant.

I think there is -- so that is the --

Q. So you are going even further, are you not? You are saying really that the only relevant figure for the purposes of your comparison is the Teva average selling price, is that right?

A. No, I am not saying that. I am saying if you want to understand the top of the range, the -- let me take a step back. Firstly, go back to the conceptual point, which was the one I was discussing with the President earlier on, conceptually, if workable competition is a price where there is no dominance, then one could look at this completely differently and actually say: well, what sort of would be a price that is just on the cusp of dominance which I suspect would be a lot higher, around £26, so one could tackle the problem that way. That would give you a cusp of dominance price of about £26 or above.

What we are doing here is we are saying within the tablet market, if one is looking to establish a range of prices consistent with competition, and it is not saying that the range that you find is the top of the range, it is simply saying what do the data say for a range of prices consistent with competition, then the top of the range would be the weighted average price for Teva. That is --

Q. That is the figure that you compare with your adjusted

ASP for Pfizer, is that right?

A. Correct.

Q. Just to make that good, that is shown on page {XE1/4/26} at paragraph 79. So you say there that Pfizer's adjusted ASP is slightly above the top of the range, that is the Teva ASP, but you say it is close enough to be consistent with workable competition, is that right?

A. Yes, I do. There is a 32p difference, and I say because, as I have just explained, that this £12.96 is not the top of the range of workable competition, it is just the top of the range that comes out from my estimates that that 32p is well within the margin of error for me to conclude that the £13.28 adjusted Pfizer price is consistent with workable competition.

Q. Just to check how you calculated that adjustment, what you have done is to take Pfizer's weighted average price for the 100mg strength averaged across the whole infringement period. That is right, is it not?

A. Yes, Pfizer's price averaged across the whole of the relevant period, yes, which is £12.55, yes.

Q. Yes, and you have chosen the 100mg -- the price for 100mg strength because that is the same as the tablet strength?

A. Correct.

Q. That is £37.56 in capsule prices. That is right, is it

not? I can show you if you like.

A. I am happy to take 12.55 and multiply by three.

Q. This is just for exposition purposes. What you have done is you have divided £37.56 by 3 to reflect the different pack sizes to give you your figure of £12.52, is that right?

A. Yes, that is right. So the capsules are sold in -- well, the 100mg capsules are sold in packs of 84.

Q. Yes.

A. Tablets are sold in packs of 28, ie a third of the size, therefore, we need to take a capsule price and divide by three to make it comparable with the tablet price, hence we get to the 12.55 by the division you mentioned.

Q. 12.52, I think, yes. Oh no, I am so sorry, 12.55, you are quite right, forgive me.

You accept that a further adjustment is then needed because the Pfizer price is upstream of the tablets price: Pfizer was selling on to Flynn, who then supplied the product to pharmacies and wholesalers, but the tablet suppliers were at Flynn's level of the market, also selling to pharmacies and wholesalers. Can we agree about that?

A. Yes. So the CMA says that Flynn's level -- the distribution level of the supply chain is the level that needs to be compared with the tablet price which is why

I take the Pfizer price and adjust it for a sufficient amount to cover distribution costs to allow for a like for like comparison.

Q. You say the CMA says that, but just to be clear, you do not dissent from that, do you? You agree that --

A. I agree that a like for like comparison with tablet prices is to be made at the distributer level which is why I adjust Pfizer's price to bring it up to the distributer level. That is what I was explaining during my teach-in, sir, when I increased by 76 and then ran some sensitivities of £1.76 and then the full adjustment up to Flynn's price, sir.

Q. The 76p is basically taking the CMA's calculation of Flynn's cost plus and dividing it by three?

A. In essence, yes, it is the 76p comes from the CMA's cost plus estimate, so one takes cost plus for Flynn, excludes the Pfizer supply price, and then everything else is cost plus a reasonable margin then divide by three because we are moving from 84 to 28 pack sizes.

Q. To be clear, that is not only excluding Pfizer's upstream price, it is also excluding the vast majority of Flynn's actual capsule margin, is it not?

A. No, it just takes the CMA cost plus measure --

Q. Yes.

A. -- so it does not include the actual margin that Flynn

obtained above the CMA cost plus measure, it just is purely the CMA cost plus measure.

Q. Yes, exactly. There is obviously an actual selling price at the same level as the tablet suppliers, and that is the price at which Flynn sold Pfizer's capsules, would you not agree?

A. Yes, Flynn had an actual selling price, yes, I agree that Flynn had an actual selling price, yes.

Q. Can I check why you have not worked on the basis of this actual downstream ASP? Is it because you want to isolate the impact of Pfizer's upstream price from Flynn's actual margin and to see whether it could produce on reasonable conditions a downstream price that is not unfair, judged by a competitive comparator? Is that a fair summary?

A. The logic of my approach is that I am aware that there were two separate abuses, the first being Pfizer charging Flynn an unfair price and then secondly, Flynn itself charging an unfair price. So I have sought to understand whether Pfizer's price was unfair.

Now, the way I do that is I -- the way I do that by comparing against the tablet market was I asked the question did Pfizer allow Flynn enough room to charge a price that was not unfair? Did Pfizer allow Flynn enough room to charge a price that was not unfair? If

so, I say Pfizer's price was not unfair because Pfizer was not forcing Flynn to charge an unfair price. So that is the logic of my approach of starting with Pfizer's price, and then adjusting up by a margin.

I hope that is clear.

Q. It is very clear, and just to make sure that I have understood what you are saying is you want to isolate the causal effect of Pfizer's pricing from Flynn's pricing by seeing whether it would have been possible to accommodate a distributer margin and arrive at prices that are fair by reference to your competitive benchmark comparator, is that right?

A. In essence, yes, it is about isolating the impact of the Flynn margin, yes.

Q. Yes. Now, can we agree that if you took actual average selling prices for capsules during the relevant period at the same level of the market and undertook the same comparison that you have performed in paragraph 79 of your main report, you would find a much larger divergence from the top of your benchmark range?

A. This is what I presented in my teach-in. I believe it was my penultimate slide. So the more in terms of margin you add to Pfizer's price, the further away you get from £12.96. I would agree with that, but the point that I was making in my teach-in was nonetheless even if

you go up to Flynn's price of £18 there is still considerable room between that £18 and a conservative estimate of Department of Health willingness to pay which I said was £30, so my point was, yes, there is room above -- sorry, yes there is a difference between Flynn's price and the £12.96, but that price is still low relative to the Department of Health's willingness to pay.

Q. But Dr Majumdar, you are there springing to a different comparison based on a different aspect of your analysis. Just looking at paragraph 79 of your report for a moment at {XE1/4/26}. You are not here comparing your adjusted ASP with a higher monopoly price or a price that the Department of Health would be willing to pay for tablets, are you?

A. Not in this part. I do that in part 3, which is just the next page, yes.

Q. Yes, so you are comparing here with your competitive benchmark. That is correct, is it not?

A. So section 2 of my first report is a comparison with my estimate for the range of prices consistent with workable competition.

Q. Yes, I am grateful, and that is a separate and stand-alone analysis as you describe it from your comparison with constrained and unconstrained monopoly

prices. Indeed, it is the primary analyses and the comparison with constrained and unconstrained monopoly prices is presented as a sensitivity or cross-check. That is right, is it not?

A. The -- so the -- you mean section 3 --

Q. Yes.

A. -- where I do a cross-check with the range -- sorry, with the estimate of the Department of Health's willingness to pay. Yes, I present that as a separate piece of analysis.

Q. And as a cross-check under the assumption that the price is --

A. And as a cross-check of my conclusion that Pfizer's price was not unfair, yes, I do.

Q. I am grateful. So if I may, it is against the comparison with your competitive benchmark range that I would like to discuss at this point. So if you will humour me, can we just consider the comparison between Flynn's actual ASP during the relevant period and your competitive benchmark, the price is consistent with normal and sufficiently effective competition, and not consider for the moment your constrained and unconstrained monopoly prices.

For the purposes of that comparison, can we keep {XE1/4/26} on one side of the screen and display

{XA1/1/104} on other side of the screen.

If we could just go down on the left-hand side so that we can see the table. Great.

So you see table 2.5 on the right side shows the downstream price produced by Flynn's and Pfizer's arrangement, and that is the Flynn ASP, and the relevant line is the 100mg line, as we have discussed, and if we look at Flynn's ASPs across the relevant period, that is the second column, you see that they are £54.40 on average. Do you see that?

A. I do.

Q. If we divide that by 3, we get a figure of £18.13. Does that sound right to you?

A. £18.13, yes, that sounds correct.

Q. That is over £5 above the very top of your benchmark range based only on the Teva ASP. That is correct, is it not?

A. That is correct, yes.

Q. Taking the lower end of your benchmark, the actual downstream ASP is not far off double, £18.13 compares with £9.63; is that right?

A. Yes, if you double £9.63, you get £19 something which is --

Q. So not far off double.

Now, in terms of the actual capsule pack price in

pounds, shillings and pence, if we work from the very top of your range it is more than £15 above the top end of your benchmark, is it not?

A. Sorry, how did you get to £15?

Q. So you have £54.40 and the top of your range is £12.96 which one with need to multiply by three. The point I am making is that there is a £15 differential in terms of the capsule price, more than £15 between the top end of your benchmark and the Flynn ASP, the actual selling price.

A. I see, so if you are scaling up £12.96 by three and then taking 54.40 less three times 12.96 the difference is around £15.

Q. And that is more than Flynn's entire margin above its cost plus.

A. Sorry, I do not -- where is Flynn's cost plus figure?

Q. You do not get that from here, but it is -- I can perhaps return to that.

A. I do not know, I have not looked at Flynn's margin.

Q. I understand. Now, can we turn, then, to the competitive conditions in the tablet market?

Now, can we start by considering the whole of the relevant time series data that is available to us, and for that it might be helpful to have a figure from the CMA's skeleton argument open in front of us. It is at

{XL/3/19}. If we could have that only that, please, and if we could enlarge the bottom figure on the page. We can see here the four distinct periods considered in the Decision. You see the evolution of tablet prices across time which does look a little bit more like a Matterhorn.

Starting at the left-hand side in period 1, can we agree that during this period, Teva was a monopolist in the supply of tablets prior to Wockhardt's entry in October 2009?

A. Yes, in period 1, Teva was the only tablet supplier so far as I understand it, yes.

Q. Yes. Then between April 2005 at the start of Scheme M and October 2007, Teva increased its price per pack of tablets very substantially. Does that match with your understanding?

A. Yes.

Q. In fact, this graph understates the extent of the price increase. In fact prices went from £2.67 in 2005 to £51.25 in October 2007, so that is a price rise of over 1,800%, is it not?

A. I cannot do the 1,800% in my head, but I would agree that the price went up to £51.25 for Teva in October 2007.

Q. I am grateful. You do not suggest that there was any

competitive constraint on Teva's pricing during that period?

A. Not at that time, no.

Q. Yes. Can we go, please, to a contemporaneous Teva document just to see what light that sheds on conditions during the period. It is at {XG/27/19}.

This is a slide in an internal presentation of Teva's in November 2007. You see that the slide sets out "Product News" and the fourth product listed in the slide is phenytoin, and if we could look at the underlying text, so the bottom text --

A. Sorry, could we make that slightly larger? Thanks.

Q. Quite. That would be helpful for all:

"Phenytoin ... is the star in our generic portfolio and as we are the only supplier in the market we have been able to maintain high prices. We estimate to make an additional margin of £19.6m vs the initial WP. Sales are [expected] to have gone up from an initial estimate of £5.8m to £25.4m by the year end."

So can we agree that Teva recognised that its ability to maintain high prices during this period reflected its status as the only supplier in the market?

A. That seems likely.

Q. Yes, and the price increase, worth around £20 million -- that is to say the difference between 5.8 million and

25.4 million -- led to an additional margin of £19.6 million, so it appears from this as though there was no cost change underlying the price increases, just pure additional profit. Would you agree?

A. I cannot tell on the basis of this information what caused the price increase -- sorry, let me rephrase that. There is no cost information here, but I would agree that it is unlikely that costs increased from £2.96 to £51.25.

Q. Yes, well, we have additional margin, do we not, and we have an increase in the value of sales from 5.8 million to 25.4 million. The additional margin looks very close to the increase in the value of sales, does it not?

A. I see what you mean, yes.

Q. Yes. Now, in October 2007 we can agree, I think, that there was a meeting between Teva and the Department of Health; is that right?

A. October 2007, yes.

Q. Now, I am not going to discuss what view the Department of Health took of the reasonableness of the resulting price for tablets or for capsules because, as you rightly say in your first report, that is not really a matter for you as an expert, but can we agree that the effect of the meeting was that the drug tariff was progressively reduced until it reached £30 one year

later?

A. Yes.

Q. Now, while we are at this point in the sequence of events there are two quick points to pick up regarding that meeting.

First, your understanding of the meeting was that the Department of Health was able to exert a degree of bargaining power in relation to price, the source of which seems to be attributable at least in part to its powers under Scheme M to require cost information and in exceptional cases to fix the price. Have I got that right?

A. I discuss that in my report. I -- yes, I say that the Department of Health had some strength as a buyer, yes. The precise details will be here in my report.

Q. Just to help you, if we go to paragraph 92 of your first report at {XE1/4/29} and enlarge the bottom of the page, you explain there that you think that there was a material degree of negotiating power, and in the middle of the paragraph you say that:

"... the source of the bargaining power seems to be the [Department of Health's] powers under Scheme M and its powers of persuasion as a monopsony purchaser. Even if the DH did not use the powers formally at the time, the ability to use them would have endowed it with

bargaining power because Teva would have been aware of these powers ..."

So it is bargaining under the shadow of regulation; is that right?

A. Yes.

Q. Yes. Now, this leads you to the view that the NHS's willingness to pay for capsules may be greater than for tablets because capsules were outside of Scheme M, and the Department of Health therefore did not have the same powers to intervene as it did in relation to tablets, thereby reducing its bargaining strength in the capsule market. Is that right?

A. I say that as a possibility, but that is not the basis on which I proceed, though.

Q. But you recognise that possibility, you note that it is a fact that tablets -- sorry, that capsules were outside Scheme M and you note also that the Department of Health therefore did not have the same powers to intervene as it did in relation to tablets?

A. Yes, I agree that my understanding is that capsules were outside the Scheme M and, therefore, that the Department of Health did not have Scheme M powers with respect to capsules.

Q. Yes, I am grateful. So the second point is one of factual clarification on a point relevant to both of

your reports, just to avoid any risk of the Tribunal mistaking the position.

Could we go, please, in your main report, to {XE1/4/38}. If we could look at the end of the first bullet point, complete bullet point, on the page, so second paragraph, that is it, you see there that you are discussing the meeting, and you say in the final three lines:

"Evidence on file suggests that the [Department of Health] subsequently told the CMA it was 'likely' to have 'just asked' for a lower price -- a process which the [Department of Health] indicated to be 'not unusual'."

Do you see that?

A. Yes.

Q. Can we next go to your reply report, {XE1/5/23} and look at paragraph 70, second bullet, and there you repeat the same point:

"Evidence on [the] file suggests that the [Department of Health] told the CMA it was 'likely' to have 'just asked' for a lower price -- a process which the [Department of Health] indicated to be 'not unusual'."

If you could look, please, at the accompanying footnote 79 at the foot of the page, you say that this

is clear from a document, it is a meeting note between the CMA and the Department. The Opus reference for the transcript is {XG/383/7}, but we do not need to go there. You then set out the quote, and if we could just look at the underlined text it says:

"... it was unlikely that there had been a negotiation as such. It was likely that the official in question just asked Teva whether there was something it was able to do about the price of tablets. Such conversations with regard to generics are not usual."

Do you see that?

A. Yes.

Q. In view of the text set out here in the footnote, which is correct, do you accept that the position is the opposite of that which is set out in the main body of your two reports. The Department did not say that meetings like the one with Teva were not unusual; the position is the opposite: it said that such meetings were not usual?

A. I see, so -- that meetings were not -- well this is a factual point.

Q. I am just correcting a factual error in your report to avoid any risk of confusion or misunderstanding.

A. Okay, so let me just be clear on this. So essentially -- so what you are saying is that the quote

in footnote 79 is correct?

Q. Yes.

A. "Such conversations with regard to generics are not usual."

Well, if that is correct -- if that is the correct statement, then my text should say it is not usual as opposed to not unusual.

Q. Yes. So in fact, the text in the footnote matches with Mr Williams' industry evidence this morning, does it not, that the Department of Health meeting with Teva was almost unique?

A. I remember Mr Williams making the point that it was unusual to have an intervention to bring the price down to such a degree, yes.

Q. Now, with that correction made, can we now return to the time series data for tablets in the CMA's skeleton argument at {XL/3/19}.

Just enlarging the foot of the page where we have got to, I think, is the drop a little way back down in 2008. So we have discussed the Department of Health meeting leading to the drug tariff being reduced to £30, and can we agree that Teva's ASP then fell to around £25 or £26?

A. From October 2008?

Q. Yes.

A. Yes, Teva's ASP was about -- yes, £25 or £26 -- £26 I think, yes.
Q. And whilst there is some noise in the data, the price remained around that level until the start of period 2 in late 2009?
A. Yes, that sounds right.
Q. And that was a price that was still 870% higher than it had been in 2005 before Teva began pushing the price up, as we have seen very profitably. Would you agree?
A. Again, I will not be able to do that maths in my head, but I would agree that the price stayed at around £26 from October 2008 onwards.
Q. Can we agree that that is many multiples?
A. Yes, we can agree that it is many multiples of the original starting price, whichever that was, £2, £3.
Q. During this period, again, there were no competitive constraints on Teva to erode the high prices achieved under monopoly any further; would you agree?
A. Sorry, during which period? I mean, I would say there was clearly, in my opinion, there was a constraining process of the Department of Health's intervention to very substantially lower the price.
Q. There was no competition from rival suppliers that conditioned the price --
A. There were no alternative suppliers in the market at the

time, no, that is correct.

Q. I am grateful. So Teva was at this time still a monopolist?

A. Yes.

Q. Yes. So as regards market conditions prior to entry in 2009, can we agree that tablet prices remained affected by the earlier significant price increases before 2007?

A. Well, yes, I suspect they were likely to be affected, but nonetheless they were constrained by the intervention by the Department of Health.

Q. But the DT price agreed with the Department of Health has brought the price down somewhat, but it is still far above where it was, is it not?

A. I would agree that the price has been brought down to a level higher than it was, yes. I would agree with that.

Q. So next Wockhardt enters in October 2009, and the market was then a two-player market for the next three years until September 2012. That is right, is it not?

A. It was, yes, a two-player market until September 2012, that is correct, yes.

Q. And that is the period 2 in the Decision?

A. Yes.

Q. And can we agree that the prices for most of period 2 are broadly stable at around £25 or £26?

A. The average selling price to the end of 2011 is £26 both for Wockhardt and for Teva. There is some noise in the data series which you can see here on the chart, but I would agree that the average selling price for both Teva and Wockhardt, up until the end of December 2011, was £26, but then there was a 14% decline for Teva from January 2012 to August 2012.

Q. Yes, I will come to that. These prices are still many multiples of Teva's original ASP of £2.67 in 2005, is that not right?

A. Yes.

Q. And it is therefore right to say that Teva's earlier price increases have not been competed away in this period, have they?

A. Correct, the -- correct, yes.

Q. Yes. Now, as regards period 2, you do not contend that there was workable competition in this period, do you?

A. Period 2, that depends on one -- I do not, no. I mean, I do not contend that period 2 was a period of workable competition, correct.

Q. You do note the price fall in the last eight months, so to look at period 2 in a little more detail can we just go to the Decision to figure 6.4 at {XA1/1/325}. If we can just enlarge the figure, you are referring, I think, to the period from around January 2012 or February 2012,

is that right?

A. Yes, January 2012 is when the 14 -- is the start of the 14% price fall for Teva, yes.

Q. So the reduction you have in mind is from around £25 to £21.90 for Teva and a rather higher figure for Wockhardt; is that right?

A. That is ...

Q. So it is fair to say that even in a two-player market, imperfect though competition is, some element of price competition can and here did emerge; is that fair?

A. Even in a two-player market, some element of price competition can and did emerge, yes -- yes, there is price competition here, in particular from January 2012 onwards.

Q. But can we agree that with prices at £21.90, the earlier price increases from the Teva monopoly period have not been eroded by that interaction, not even close?

A. Well, if -- I mean, if the question is, is the price still above £2.60, the answer is, yes, the price is still above £2.60, yes.

Q. Yes. Now if we could go back again to the figure in the CMA's skeleton argument at {XL/3/19} to see what happens next, bottom of the page, please, the figure, we see that in September 2012, Milpharm launches its tablet product, and there is then the rapid and pronounced fall

in price through to the end of 2013 -- sorry, the end of 2012, rather. It then slows in the early part of 2013, and would you agree that a substantial differential then opens up between Teva on the one hand and Wockhardt and Milpharm on the other?

A. So I would agree for the first four months of period 3 the prices fall sharply by about 33%, all three of them fall sharply together. I would agree that in the subsequent period there is a price -- a continued price decline for Wockhardt and Milpharm. It is hard to tell from this chart, but this would have been round about August, September, so the prices continue to fall for them, whereas Teva's price stabilises and goes up somewhat peaking in February 2014, which is what I was talking about just prior to the lunch break, and then Teva's price comes back down again and reconnects, if you like, with the -- the differential sort of re-establishes itself, ie the smaller differential re-establishes itself by the end of the period.

Q. Well, there is a substantial differential as compared with Milpharm's prices for the entirety of the period, would you not agree, after that initial fall?

A. Sorry, the question is there is a substantial differential between Teva's price and Milpharm's price?

Q. Yes.

A. Yes, for most of the period after the initial fall, there is, but that narrows towards the later part of the -- of period 3.
Q. Wockhardt's -- so Milpharm's price is down between £6 and £8 or thereabouts from mid-2013. Would you agree?
A. Sorry, Milpharm's was down --
Q. The grey line?
A. The grey line. I mean, it is hard to tell precisely from this chart, but it was -- it looks as if it is in the sort of £6 to £8 range from this chart. I mean, I would need --
Q. And Wockhardt's is down at those levels as well before its prices rise, but on what we know are very low sales volumes. Is that fair?
A. Well, there is a period of time when that takes place, yes, so here we are looking at sort of from September to -- yes, there is a period of time when Wockhardt's prices are down at that level, yes, a temporary period, but, yes, there is a period of time when that occurs, yes.
Q. I am grateful. Now, we will come back to discuss period 3 in detail, but can I first ask you to just cast an eye to the right to see what happens in period 4 after Wockhardt exits.

Can we agree that Teva's prices initially rise preserving a -- or creating or reintroducing perhaps is the most accurate way of putting it, a premium over Milpharm?

A. Well, to the extent that that occurs, that looks like it is not occurring until -- it is hard to tell from this chart, because it is sort of squeezed up together, but it does not look like that is occurring until August 2015. Prior to that the prices look like they are moving quite closely together.

Q. So after about a year, a substantial divergence between the prices returns; is that fair?

A. It looks that way, yes.

Q. Over the period from the second half of 2015 onwards, Teva's prices decline, as do Milpharm's; is that fair?

A. Sorry, from 2017 onwards?

Q. From 2015 onwards.

A. Apologies. Yes, then, both prices do decline, yes.

Q. Yes. By the end of the time series for which data is available the prices have converged at around £5.50?

A. Yes, that looks like it.

Q. Just to see the continuity of the trend, if we could go, please, in the Decision to {XA1/1/344} which shows the annual ASPs for each of Teva and Milpharm during this period, so you see that, if we could just enlarge table

6.10, you see for Teva in 2015 a drop to £13.53; in 2016 another drop, £12.62, then down to £10.95, £8.63, £7.86, £7.22 and then £5.87.

Then for Milpharm you see a similar downward progression but with Teva continuing to charge a premium from £10.59 in 2015 to £6.86 in 2021. Then to complete the picture if we turn back a page to {XA1/1/343} we can see where the progression leads to at 6.401:

"By December 2021 (the latest data the CMA holds) Teva and Milpharm's ASPs have both fallen to £5.58."

Now, you agree that this is a price level well below your benchmark price range for period 3?

A. I would agree with that. I mean, I would also note that the first CMA statement of objections came out just prior to September 2015 and the first CMA decision was just after September 2016, so I suspect these prices are rather contaminated by those decisions and statements of objections.

Q. I would like to consider that with you, but can we first of all just agree that the benchmark price range from period 3 is -- well, the prices that emerged at the end of period 3 are well under half of the top of your benchmark range against which you compare your Pfizer-adjusted ASP, are they not?

A. Sorry, the prices for who exactly? So the end of

period 3, Teva's price would be around --

Q. Well, they have converged, haven't they, at £5.58, and that is well under half the top of your benchmark range for period 3?

A. Okay, so your question is the prices -- sorry, can we just see the chart again? I think your question is the price at the end of 2019 is -- thank you --

Q. The end of 2021.

A. The end of 2021, yes, that price is lower than the £12.96.

Q. It is very substantially lower, is it not?

A. Yes, it is, yes, I agree that it is lower.

Q. In fact, it is well under half. Take the Teva price: it is well under half the top of your benchmark range, is it not?

A. The Teva price -- well, my benchmark, half of £13 is £7.50 and £5.87 is less than £7.50 -- £6.50, sorry.

Q. And both Teva and Milpharm are able and willing to continue trading at prices much below your benchmark range; you would agree with that?

A. Yes, so Teva and Milpharm are able to continue trading at these prices, yes, I agree with that.

Q. So prices have unwound, albeit slowly, given the two-player situation and perhaps the constraints from continuity of supply to levels much closer to the prices

before Teva massively inflated them in 2005 to 2007 under conditions of monopoly; is that fair?

A. Prices have come down, yes, during this period, I agree with that.

Q. It is clearly not right to say that the downward trajectory ended in your period 3, is it?

A. Well, I would dispute that because I think we do have an issue, as I said before, about the CMA statement of objections which I suspect would have impacted Teva and that came out in September 2015, so arguably if we look at -- arguably, the entirety of this table is contaminated.

MR HOLMES: Let us turn to consider that. I am conscious of the time, sir, and I do not want to -- I can -- this is a short topic, but I do not equally want to put any strain on the shorthand writer. Would you like to take a break now, or --

THE PRESIDENT: I think now would be a convenient moment, Mr Holmes, but before we rise, there is just one answer of Dr Majumdar's that I would like to explore with him because it affects my understanding of his evidence.

I wonder if we could go in today's transcript back to the passage at [138] {Day9LH1/138:19}.

You see -- do you see that, Dr Majumdar? You are being asked by counsel that he is:

"Question: ... Not going to discuss what view the Department of Health took of the reasonableness of the resulting price for tablets or for capsules because, as you rightly say [and let us put rightly in quotes, as you 'rightly' say] in your first report, that is not really a matter for you as an expert ..."

Now, just pausing there, do you agree that that is not a matter for you as an expert?

A. Well, I think, as an expert economist, I can say that in that position, sir, with a -- in essence, a monopoly supplier and a monopoly buyer, economics does have something to say and that in that scenario the outcome of the intervention would presumably be one where the Department of Health would secure a price for itself that at least left itself some consumer surplus if you like, ie it would seem odd to me it would intervene to secure a price that it then did not want to pay, and that would be fitting with a sort of bargaining framework in economics.

THE PRESIDENT: Yes, so what you are saying is that on the very specific facts of this case, monopoly seller, monopoly buyer, monopsony, the meeting of those two uncompetitive scenarios results, because they are equally uncompetitive on each side, results in an outcome that is consistent with workable and effective

competition, is that what you are saying?

A. No, I am not -- so what I am saying is that in a scenario where two parties, let us say a monopolist and a monopsonist have roughly equal bargaining power then, if you like, the bargaining pie available to them will probably be split roughly equally, which would mean that the buyer will come out of that negotiation having secured for itself some surplus, but it will not necessarily mean that we will get a price that is consistent with workable competition, it will just be a balanced outcome assuming they have both similar bargaining positions.

Is that clear, sir?

THE PRESIDENT: Well, not really, and let me explain why.

You are using the outcome of the -- well, let us call it negotiation, but the discussions between Teva and the Department of Health with regard to sodium phenytoin tablets where one gets a drug tariff of £30. You are using that price as an input into the workings that you do in order to say that in fact the prices charged in relation to capsules were the outcome of workable competition. Would that be a fair way of capturing your reasoning process?

A. Yes, it is an input because that £30 informs me of, firstly, because I believe that that £30 will be below

the monopoly price, that informs me that the monopoly price is above £30, which informs me that when I then go on to look at prices during period 3, they are already very considerably below that monopoly price level.

So the fact that there has been a -- as you say, let us call it a negotiation, so both I and Ms Webster agree that this £30 is a constrained price, that suggests that the monopoly price is above that price, so that is a useful input for me to sort of in some senses gauge where even lower prices are, so a £13 price is already £17 below £30 which is already below --

THE PRESIDENT: Do not give me too much detail, let us stick to what we are deriving from this £30.

So of course I understand that a monopolist, not faced by a monopsony buyer might be able to charge more.

A. Yes.

THE PRESIDENT: And that would be a monopoly price, but we do not know how high that would be. We have some idea from the market, but we do not know. You are looking at the control that has been exerted by the Department of Health to say that this price of £30, the drug tariff price, indicates something.

Now, of course I accept the price could be higher, but do you not have to say a little bit more about what this price is than simply it is lower than the price

a monopolist could charge?

A. Well, I think it -- I think it is a constrained price, and so it will be --

THE PRESIDENT: I accept that. We can agree on that, but you are taking this price and you are then feeding it into your analysis as to what is the outcome of workable competition.

A. Yes.

THE PRESIDENT: So what you have is a price which is most definitely not the outcome of workable competition, a negotiation between a monopolist and a monopsonist, and you are inputting it. Now, either it is an extremely unreliable input or you must be getting something more out of the interchange between Teva and the Department of Health than simply it is lower than it could be. I mean, really, at the moment, all you are saying is it could have been so much worse, but you are saying more than that, I think.

A. I am saying more than that, yes.

So in my first report, I estimated that the monopoly price would be around about £46, and the reason I got there is because there was fluctuation of the drug tariff price between £48 and £62, ie always above 48 and it was only when it shot up to £114 that triggered the intervention.

So I as an economist looking at that see a period of 12 months where the Department of Health says: I am willing to pay more than £48, then I am not willing to pay £114, so that seemed to be the trigger event which suggested to me, as I mentioned in my first report, that the maximum willingness to pay was around £48.

I then see the price come down to £30 and conclude that from that that this is a material reduction to a level substantially below the monopoly price, £18 below my estimate of the monopoly price, and that is what I explain in AM1. I would also expect this to be a material reduction below the monopoly price because of the bargaining power that the Department of Health would have had as a monopsony buyer, but I do not go so far as to say: but it had the upper hand in the bargains because Teva was also a monopolist itself, so I sort of see that as a balanced negotiation for want of a better expression. So I see that £30 as materially below the monopoly price which I estimated to be about £46, I think, £46, £48 in my first report.

So that is generating a lot of, if you like, consumer surplus already.

So for me it is a valuable input for that reason. I think even if one disputes that particular point, even if one said: well, actually, £30 itself is the sort of

monopoly price, the maximum willingness to pay which I would dispute because I think it is materially higher than that, that then still provides useful information because it essentially says that prices materially below £30 will be generating surplus, ie the difference between the price and £30.

So it would be a very conservative estimate of the Department of Health's maximum willingness to pay.

THE PRESIDENT: I mean, let us suppose we had a negotiation like this one, Department of Health monopsony buyer, but they have decided for reason of their own to go against a non-monopoly seller, so you have actually got Teva in competition with reams of other people, and the Department of Health just says: well, look, we want this price, and if you do not agree to it, we are just going to go somewhere else.

What would you draw by way of inference from that outcome? Would you say that the price was below the price that would be produced by workable and effective competition?

A. So just to make sure I am clear on the example, we have an example where the Department of Health approaches Teva and says: I want the price to be X, in the context of the Department of Health having many alternatives to Teva?

THE PRESIDENT: In the context of Teva not being a monopolist, that is the key assumption that I am changing.

A. That would give the Department of Health a greater degree of bargaining power, which means that the price that the Department of Health would get would -- I would expect it to be a lower price than were Teva a monopolist, but whether or not one would call that a price consistent with workable competition I think would depend just how much choice the Department of Health had. So it may be if it had two or three alternatives, that would be sufficient. I mean, one would need some more information.

THE PRESIDENT: Well, no, I mean, what I am putting to you is let us say the Department of Health just picks on someone who is already in a competitive market and says: we want a price that is 3p.

A. Right.

THE PRESIDENT: We are going to screw you, basically. Now, you would say that is not the outcome of workable competition. You have an abuse on the other side of the equation by the Department of Health in this instance.

A. I see, yes.

THE PRESIDENT: You see that?

A. Yes, I see that, yes.

THE PRESIDENT: Right. So you would say that that would not be a sensible input to use if you were trying to derive in a related market what was the outcome of workable competition?

A. In that particular example, yes.

THE PRESIDENT: Right. So clearly in your reasoning the fact that Teva is a monopolist is a relevant factor?

A. Yes, the fact that Teva is a monopolist in its dealings with the Department of Health, yes, that is relevant, yes.

THE PRESIDENT: So what you have is, if you like, the irresistible force meeting the immoveable object.

A. Yes, sir.

THE PRESIDENT: Is what you are saying the fact that there is equal but not competitive power, there is effectively super dominance on both sides, is the effect of that to produce an outcome which you use as a proxy for the outcome of workable competition, which is why you take it into your workings in order to work out whether the prices in the capsule market are in fact workably competitive prices?

A. I do not use the £30 as an estimate for workable competition.

THE PRESIDENT: So what do you use it for?

A. I use the £30 as a way of firstly, understanding the

sort of price that would emerge were there monopoly. So what we have just discussed is that here is a scenario where Teva as a monopolist is facing a very powerful buyer. So in that world, if Teva's price is 30, that is a lot lower, or is likely to be a lot lower than were it to face a weak buyer that could not constrain it. Hence the monopoly price will be above £30.

THE PRESIDENT: Right. The maximum monopoly price?

A. Yes, the maximum willingness to pay I would estimate to be about £46, £48.

THE PRESIDENT: So are you saying that this is still a monopoly price, just lower than the maximum that a monopolist could charge?

A. It is a very constrained monopoly -- it is a monopoly price in the sense that it was determined when Teva was a monopolist, but I would not call it a monopoly price because it is a constrained price by the buyer power of the Department of Health.

THE PRESIDENT: Yes. So my question -- clearly you are saying something about the £30 in your evidence, and that is entirely fine; it is a question of what you are saying, and I suppose if one is attaching a label to this, is the label that this is a monopoly price just not as bad as it might have been because of the Department of Health's power or it is something else?

What is your description of the outcome of the negotiation between the Department of Health and Teva in this instance?

A. So my description is that this is a very conservative estimate of the maximum willingness to pay for the Department of Health. So that will in some senses be your -- because the -- because it is a constrained price.

So one can infer from the fact that the Department of Health intervened to generate this price, in my opinion, that it was gaining some value above that price, and so this is a conservative estimate of its maximum willingness to pay, and I think that is a useful input for two reasons.

The first reason is because that is important context for when I then go and look at prices in period 3, because if this £30 is at a level that is below the monopoly price, well, when I see prices of £13 I am much more confident that they are consistent with workable competition because they are so far below my conservative estimate of the monopoly price. So that is the first way that I use the £30, as a contextualiser to put the £12.96 into context.

Then the second way that I use it, which is the way I was presenting it during the teach-in, is to say:

well, look, if this is a conservative estimate of the Department of Health's willingness to pay, and we want to understand consumer surplus available beyond -- for those buyers downstream of Flynn or downstream of Pfizer with its adjusted price, then the difference between, say, Flynn's price and that £30 is essentially what is available for wholesalers to cover their cost, for pharmacies to cover their costs, with some left over for the Department of Health.

So it is a way of understanding additional surplus, you can call it consumer surplus if you like, additional consumer surplus for those further downstream from the distributer level.

So those are the two different ways that I am using this price to inform my assessment.

THE PRESIDENT: Thank you very much, Dr Majumdar. It may be that Mr Holmes has some questions arising out of that, but we will save those for after the break.

We will resume in 10 minutes' time.

(3.39 pm)

(A short break)

(3.53 pm)

THE PRESIDENT: Mr Holmes.

MR HOLMES: Thank you, sir. I was going to return, Dr Majumdar, to a point that you raised with me, and

that is your reason for disregarding period 4.

Now, this is canvassed in annex C of your first report. Could we go to that, please? It is at {XE1/4/49}.

Do you see that the title is:

"Assessment of tablet ASPs in later periods."

You explain that you do not assess Pfizer's ASP against Teva's price in the period after July 2014, and you give two reasons:

"First, Wockhardt exited the market in July 2014, which marked the end of the period of three player supply."

But just pausing there, we agreed when discussing the final part of period 2, which was also a two-player period, that there can be price falls, price competition with two players in the market; is that a fair observation?

A. There can be. I think the context around the January price decline, so this is January 2012 to August 2012 where Teva's price fell by 14%, my understanding is that it is partly influenced by the anticipation of Milpharm coming in, and now this is something that the CMA itself identifies in its remittal decision, I think it is about paragraph 6.354, or something like that, but I think that one has to understand that 14% price decline at the

end of period 2 partly in light of anticipation of Milpharm's entry, or the continuity of supply guidance, I cannot remember which, but it is at 6.354, I think there is anticipation of that future event, so therefore Teva was seeking to gain volumes in anticipation either of entry or the continuity of supply guidance.

Q. I see, so you think that the period in the run-up to Milpharm's entry may already be affected by the expectation of Milpharm entering and that might explain the price falls at the end of period 2, is that your point?

A. It is a possible explanation for the 14% price fall. It is a factual point. I do not have the full details, but that is a possible explanation.

Q. But you would not exclude that prices might fall in a two-player setting as well?

A. I would not exclude that, no.

Q. Secondly, you suggest that Teva appears to have reduced its pricing soon after the CMA's first statement of objections being issued to Pfizer in August 2015, and at the foot of the page you say that:

"It can be presumed that Teva was aware of the CMA's investigation into Pfizer's pricing after this point [given the] press release ... [in] August 2015."

And:

"Due to the risk that tablet prices were influenced by the CMA's investigation, I do not consider them reliable for benchmarking purposes."

In support of that presumption or inference you rely on the correlation between the timing of the first CMA statement of objections and the fall in Teva's price shown in figure 6; is that right?

A. That is correct.

Q. You can see that from the second vertical line, "First CMA SO", and then you see prices declining after that point, but you are not aware of any actual evidence from Teva to show that its pricing decisions were influenced by the CMA's investigation?

A. No, I am not.

Q. So this is just supposition on your part?

A. It is.

Q. Can we keep in mind the August 2015 date which you have marked in figure 6 and then go back to the figure in the CMA skeleton argument at {XL/3/19}.

The point I want to -- so it is the bottom half of the screen, please, if we could enlarge that. The point I want to put to you is that the Teva line is not really consistent with a sudden decision to price low, is it?

So on the contrary, you see that Teva raises its prices after Wockhardt exits and then trims them and

then raises them again, then trims them, and so on.

Now, if Teva were pricing in the shadow of the investigation, would you not expect them to cut price decisively and then maintain the lower pricing?

A. Not necessarily. I think it is hard to predict just how a firm would, in light of the CMA statement of objections, change its price. So my understanding is that Teva was providing evidence to the CMA, so presumably was aware that this was going on.

As I say, I notice that it looks as if it is more or less straight after the statement of objections coming out Teva's price falls. As I say, it is not obvious to me that Teva would necessarily just drop its price to a lower amount. One does not know how firms would react to -- I think it is hard to predict how a firm would react to the knowledge that the CMA was investigating in terms of whether it would just allow its price to decline gradually versus drop it immediately. That --

Q. But it bumps up and down which suggests there were other factors affecting its pricing, do you not think?

A. Oh, I think that is noise in the series. I think we have seen -- I mean, we can see this in front -- I do not know if you still have this chart in front of you now. There is lots of spikes in the series, and that is quite normal, so I would not read too much into the

bumping up and down.

Q. But there also seems to be quite a close correlation in the bumps between the Teva and the Milpharm lines with Milpharm going first and Teva then reacting or responding; would you not agree?

A. No, I would not agree. I do not think you can read that into this pricing series. There is too much noise in these series for us to be able to read in -- read that into it.

Q. But the data certainly do not fit with your explanation of a sudden and pronounced regulatory price cut which is then maintained, do they?

A. Well, not a sudden and pronounced price cut, no, but it is noticeable that as soon as the CMA statement of objections is announced, Teva's price falls, so --

PROFESSOR WATERSON: Could I just ask, Teva's price falls, you say, because they were influenced by the CMA investigation?

A. I cannot say it is because.

PROFESSOR WATERSON: No, but this is your supposition?

A. Yes, sir.

PROFESSOR WATERSON: So then why would that happen? Are they nervous about their price?

A. The point is that I think that in a world where -- I mean, prices were increasing up to that point, and so

the question is why did they suddenly stop increasing and start to come down again, and one possible explanation is because of the CMA statement of objections. I am not going any further than saying that. I notice that prices were going up and I notice that the peak is just prior to the statement of objections coming out and I say that a possible cause then for these lower prices is a -- is that the knowledge of the CMA investigation influenced prices. I am saying no more than that, but that seems to me a reason why those prices could be contaminated.

PROFESSOR WATERSON: Thank you.

MR HOLMES: But it seems a little extreme, would you not agree, Dr Majumdar, to discount the after-period completely based on a supposition as to one possible explanation?

A. I would not say it is extreme. I mean, I would agree that I have focused on period 3 for my assessment of workable competition. I would place less weight on events after period 3 for the reasons I say here.

Q. But you have placed no weight on it at all, have you?

A. In my analysis, no, I have not, I have not placed weight on this period, no.

Q. If one takes the period 4 data into account, they show that the levelling off at the end of period 3 is merely

a temporary plateau on a longer run downward trend, do they not?

A. Well, not necessarily. We do not -- what we see during period 3 is we see a sharp price fall, we see the exit by Wockhardt at the end of period 3 and then we see prices go up for 12 months, potentially because there are only two suppliers instead of three, and then after prices going up quite consistently for what looks like 12 months, they suddenly start to go down again.

So I do not think we can necessarily -- I do not think we can say this is an extension of a trend, no. There seems to be something going on that turns an upward price trend into a downward price trend, but we do not know what that is, and I suggested that one reason might be the CMA investigation.

Q. I showed you the annualised price trend in the table; do you recall that?

A. I do.

Q. In each year, prices drop for both Teva and for Milpharm.

A. Yes, I mean, we can see that here post the peak.

Q. So prices continue to decline on a year-on-year basis to levels which are under half the top of your benchmark range based on period 3. That is right, is it not?

A. Prices after 2015 did decline, yes, I agree with that.

Q. At the very least, what the period 4 data show is that both Teva and Milpharm were able to continue supplying tablets at prices far below your period 3 benchmark range, would you agree?

A. I would agree with that, yes.

Q. Can we focus now on period 3, the three-player period, and we have discussed the first part of period 3, September to December 2012, when you describe a period of unwinding of the previous duopoly pricing. Can we agree that the prices are falling from levels which are coloured by the lack of previous competition during that period?

A. We can agree that in period 2 up until December 2011 the prices for Teva and for Wockhardt were, if you like, bumping around £26 at a constrained level, because they had been constrained by the prior intervention by the Department of Health.

After that point, we can agree that there is an intensification of price competition, so from January 2012 onwards, and what that price competition does is it erodes, if you like, the duopoly pricing that occurred prior to that point, ie in period 2 up until the end of December 2011. So, yes, then there is a period of price erosion.

Q. Prices during this period are very clearly a staging

point on a journey as previous monopoly and duopoly prices unwind; would you agree?

A. Well, I agree that the sharp price falls at the beginning of period 3 were moving us to, if you like, from a duopoly to a triopoly position. I am not sure I would go beyond that in stages and journeys and what have you, but I would agree that sharp price fall took the tablet market into a triopoly position.

Q. And including the prices during that unwinding period would distort the benchmark by including price levels that are not yet the outcome of normal and sufficiently effective competition?

A. Well, I think it depends on your view of workable competition. So I would say that workable competition starts at the beginning of period 3, so we see that eight-month period where the price competition starts to warm up, for want of a better expression, then we go into period 3, we have this sharp price fall which strikes me as competition taking place, and so I think it is not -- well, I think it is reasonable to include them.

Now, I did sensitivity test this point in my first report. So the reason that I presented two lines in table 1, if you like, two rows in table 1, is the first row is looking at the period as a whole, which gives you

the £12.96 for Teva, and then the second row is where I say, well, let us sensitivity test -- let us exclude the first four months of period 3 because if we are transitioning from duopoly to triopoly let us see what happens if we exclude that period, and let us exclude the period after the continuity of supply guidance, and what we see is that actually there is not much difference, the difference is only about 40p. So that sensitivity testing suggested to me that there was not really much of a distortion that I would need to worry about, so ie I think it is fine to include the first four months and then when I sensitivity test the impact of including those first four months, the difference is about 40p which reaffirmed my view that I was not doing anything, if you like, untoward, for want of a better expression.

Q. But once you have removed the distortion, as you put it, its the lower of those two lines that one should place more weight upon?

A. Well, I am not saying that you should place more weight on the lower line, what I am saying is that I have sensitivity tested or -- yes, sensitivity tested the approach of looking at the period as a whole to looking at a narrower period, and it does not make much difference, 40p being the -- yes, 40p being the

difference that it makes.

Q. Can we consider the significance that you attribute to continuity of supply when you analyse this period? Just to check that we are agreed about what that means, you are referring here to guidance that patients should be maintained on a particular manufacturer's product; is that right?

A. That is my understanding.

Q. As you explained in response to a question from the President, you are aware that there was guidance to that effect in place since 2004?

A. Yes, my understanding is that there was guidance to that effect. I am not aware of whether that was a more forceful guidance, but I am aware that there was guidance to that effect in place.

Q. So it was not introduced for the first time with MHRA guidance in November 2013?

A. Not to my knowledge, no, no.

Q. Now, as you explained earlier, if prescribers and dispensers stuck strictly to a particular manufacturer's product, there would be no switching away at all from that manufacturer's product for those patients who were stabilised upon it. That is right, is it not?

A. Yes, if -- yes, if patients only ever stick to the product they are already on, then by definition there

will be no switching.

Q. Yes. Would you agree that to the extent that the guidance did play a role, it would confer a particular advantage on the incumbent producer, Teva?

A. It would -- yes, in the sense that if there is no switching from Teva, then Teva as the incumbent is -- well, it is less likely to lose its customers, so in that sense there is an advantage to any incumbent in the market at the time has the benefit of the guidance saying that if you stick -- if the guidance is adhered to, then there will be no switching away of customers from the supplier.

Q. So just to break that down, as we have discussed, Teva was for many years a monopolist in the supply of tablets, and all of the existing patients who began treatment during that period will have been stabilised on tablets manufactured by Teva. That is right, is it not?

A. I would think so, yes.

Q. You accept, I think, that phenytoin was by the time of the relevant period very rarely prescribed to new patients due to its status as a third line anti-epileptic drug. That is correct, is it not?

A. That is my understanding.

Q. Yes. To see the role played by continuity of supply,

can we please consider a document at {XH/144} together.

So starting at page {XH/144/1} you see this is the note of a call between the CMA and Wockhardt on 17 November 2020. Is that large enough for you to be able to read it?

A. I would be grateful if it could be enlarged a little bit more, please.

Q. Yes, I am similarly struggling, I am afraid. None of us are getting any younger. You see that the Wockhardt attendees included DG, national sales manager at Wockhardt. Do you see that? It is the first bullet under Wockhardt?

A. Yes.

Q. Just to check, have you seen this document before?

A. Not to my knowledge.

Q. Okay, that is helpful. So I will give you time to review it carefully, but turning to page {XH/144/2}, could we enlarge paragraphs 8 to 10, please. You see the heading:

"Continuity of supply."

And then:

"DG [the national sales manager] said with phenytoin there are ethical considerations. Due to the nature of the therapeutic area, patients should not switch from one product to another. So even if Aurobindo [that is

Milpharm] began to challenge Wockhardt's prices and Wockhardt's Tablets were priced higher, patients should stay with the original formulation that they are on.

"DG said that companies like Phoenix may want to stay with a particular manufacturer's presentation and then a new entrant manufacturer would need to go elsewhere to seek market share."

"DG explained that big wholesalers are likely to be more 'ethical' and take account of the guidance and therapeutic area of Tablets. As such, Milpharm was more likely to challenge for the short-line wholesalers who mainly serve the independent pharmacies. Short-line wholesalers are more sensitive to price as independent pharmacies are more likely to switch based on price."

Now, Wockhardt's experience as described here would tend to confirm your view that continuity of supply guidance would raise barriers to expansion in relation to some customers; would you agree?

A. I would agree that, yes, for some customers, yes.

Q. The suggestion here is that big wholesalers were more likely to take account of guidance and not supply their pharmacies with products from a new and different source, is that right?

A. If that is what it --

THE PRESIDENT: Mr Holmes, I think we probably need to

proceed on the basis that this document says what it says, and, Dr Majumdar, you obviously cannot have a view one way or the other, so proceed on the basis that what is said here represents DG's views and is representative of the market as it stood, and it will be for us to decide whether that is in fact the case.

What counsel put to you is the consequences of that assumption on your expert economic analysis of what is going on in the market, so do not worry about this being right or wrong, you have no skin in that particular game, but do worry about the implications of these statements on your analysis of the market.

I hope that helps.

A. That is a very helpful clarification, thank you, sir.

THE PRESIDENT: Mr Holmes.

MR HOLMES: In the same vein, and again, looking for your economic views of what this evidence shows, can we also consider another document relating to the perspective of the other new entrant, Milpharm. That is at {XG/462}.

Can you see at page {XG/462/1} this is a note of a called between the CMA, this time with Milpharm, if we can enlarge the top of the page, please, on 25 February 2021, and for the context you see that one of the attendees was Stephen White, and at paragraph 2 you see that he worked at Milpharm from June 2010

until January 2021 as a national account manager.

If we then turn on to page {XG/462/2} to see what is said of relevance. You will see that there is again a discussion in the middle of the page, if we could enlarge paragraphs 12 to 14, of the "Impact of NICE and MHRA guidance."

A CMA attendee asks:

"... how widespread switching resistance to switching due to the NICE guidance was."

In response:

"SW explained that this was his experience with ... customers. He noted [a] conversation with a buyer at the Co-op, he was told that Co-op would not switch no matter what the commercial offering, not even if the product was offered at £1, because the superintendent pharmacist would not agree. SW explained that this was not necessarily the same for all customers and that some will follow guidance more rigidly and others will be more tempted on price."

So again, would you agree that this shows that in relation to some potential customers, continuity of supply guidance would act as a barrier to expansion for the newer entrant suppliers?

A. On this basis, yes, I would agree that the guidance would be a barrier to expansion.

Q. Indeed, the ethically inclined customers, described here, would be uncontestable at any price from this note, they would not buy even at a pound. That is what the perception of Milpharm as a market entrant was at the time. Do you agree?

A. Well, that appears to be what is said here. I mean, I would say that will not be the same -- I would not expect that, and I understand it did not apply for all customers. I am looking at footnote 58, for example, of my first report where it is Teva's internal monthly September 2012 statement which states that:

"Phenytoin now has third competitor, Aurobindo ... who are being very aggressive on price in order to gain business before the [Department of Health] advise[d] that patients do not switch their medication. In order to keep our Boots business we have reduced their price from --"

I am not sure I am allowed to say the number so:

"In order to keep our Boots business we have reduced their price from [X to Y]."

So it seems to me that there were other customers. Even if maybe they -- that were using this as a negotiation tactic to secure lower prices. So it would seem that there are customers that are nonetheless using the availability of other suppliers to negotiate

lower prices.

Q. But insofar as there were pharmacy customers who would not switch at any price, as is suggested in the note, those customers were uncontestable. Would you agree?

A. Well, by definition, if they would not switch at any price, then they would be uncontestable. They may bluff, they may pretend they would switch in order to get a lower price and use that as a negotiation tactic, but by definition, as you put it, there is no scope to supply them if you are not already supplying them.

Q. Now can we consider the impact of continuity of supply on the evolution of prices and volumes during period 3.

If we could please display two pages from the Decision alongside one another. They are {XA1/1/330} and {XA1/1/331}. If we could start with the volumes on the right-hand side, Teva is the blue and if we could look at the period from quarter 3 2012 through to quarter 2 2014, that is period 3, would you agree?

A. Yes, so -- yes, Q4 2012 to Q2 2014, yes.

Q. Yes. Now, would you agree that during this period, Teva has the lion's share of the volumes sold?

A. Yes, the majority I would agree with that point.

Q. Would you agree also that its volumes in absolute terms look very stable over that period?

A. In absolute terms, yes, I would. There is a dip in

Q1 2014, but, yes, prior to that, they look pretty stable.

Q. If we look across at figure 6.5, as we have discussed after the initial drop, Teva is able to price at a substantial premium over Wockhardt and Milpharm. That is right, is it not?

A. Well, I think there are two things, I suspect there are two things going on here. So the drop in price for Wockhardt and Milpharm could well be -- and this is a factual point that of course the Tribunal will test, but could be them seeking to gain volumes in advance of the guidance, if you like, formally coming into place. Now, that would be a reason for them to lower prices more aggressively at that particular point in time, and it may be that Teva felt that the guidance would protect it and so it is possible that at the same time you have Teva slightly taking its foot off the gas and the other two putting their foot on the gas, but the point that I made earlier on is that is a short-lived period of time and then after February 2014 it looks like on the chart Teva's price then comes down and Milpharm's price comes up, it looks like the pricing strategy then switches, so it is a temporary pricing strategy prior to the continuity of supply guidance that then switches back to the old strategy that one sees prior to that

point.

That is, I think, how I would interpret the grey and the blue lines that we see on the left-hand side.

Q. But just to recap, we agreed, I think, that continuity of supply guidance was in place for the entirety of this period?

A. Yes, as I understand it the guidance was in place, but my understanding is that the fact that we have the MHRA guidance coming out in November 2013 somehow dialled it up a notch. Again, it is a factual point that I am sure the Tribunal will explore, but if you look at some of the statements it appears that this is a sort of hardening of the -- this is potentially a sort of firming up of the guidance or at least that was perceived as a risk that the guidance would be adhered to more strictly afterward.

Q. Is not a plausible explanation of the data we have seen here the stable volumes for Teva and the price differential which emerges, that the market has bifurcated to some degree with Wockhardt and Milpharm chasing the price sensitive or contestable pharmacies and Teva in part serving the pharmacies with ethical concerns about switching?

A. It is a possible explanation, yes. I mean, I think that is a possible explanation, but the point, as I said

before, is this is quite a temporary divergence, so what I see is there is close -- you know, there is a sharp price fall, these price series, the blue, the yellow, the grey, Wockhardt, Teva, Milpharm, they are moving in a very similar way, and then there is a temporary divergence and then they start moving in the same way again.

So it is possible, but it is also possible that it was just a temporary change in strategy and there was a reversion to the old strategy where the prices moved very closely together.

Q. But the combination of high stable volumes for Teva, despite a significant price premium, and the continuity of supply guidance in the market suggests that Teva is to a material extent insulated from competition.

A. Well, I do not agree with that because Teva lowered its price by such a large amount I think I find it hard to come to a view that it was insulated from competition. If it was so insulated, it really should have left its price where it was, but it did not, it lowered its price by 14% in the run-up to period 3 and then by a further 50% plus during period 3, 61% over that period. So, no, I do not think Teva was insulated from competition.

Q. But just to be clear the prices here, as you say, the ASPs, they reflect a combination of all of the

individual price negotiations with customers in the market. I think that was a point that you helpfully clarified this morning. That is right, is it not?

A. Yes, the ASPs are indeed a weighted average across customers as I understand them, that is right.

Q. Those are individually negotiated, and they are opaque, are they not, is that right, they are not transparent to others in the market?

A. As I understand it they are individually negotiated and the final price would be private information, although you do see in the CMA's Decision there are references to, for example, Teva having a rough idea where Milpharm's price to Boots, for example, would be and hence lowering its price substantially to meet what it perceives to be the offer that Milpharm was making. So there is some notion of where prices might be, even if it is not 100% clear.

Q. If you look at the period in which prices for Teva fall, that coincides with the increase in price from Wockhardt as it radically reduces its volumes. Do you agree?

A. Sorry, what period of time are we?

Q. We are looking now from the start of 2014, do you see at that point, this is the point when Wockhardt's volumes drop substantially, is it not?

A. Wockhardt's volumes do drop in 2014, I agree with that,

yes.

Q. So is this not plausibly explained by Teva picking up volumes from Wockhardt among contestable pharmacies?

A. Sorry, you say is this not explained; is not what explained?

Q. The reduction that you see in Teva's ASP, could it not reflect Teva competing for contestable pharmacies as Wockhardt exits the market?

A. It could do, yes, that is possible.

Q. It could do that while still maintaining high prices for its uncontestable share of the market, could it not?

A. That is possible. I mean, we would have to look at the granular data to test it.

Q. Insofar as --

A. Actually, sorry, may I comment on -- it is possible, but then thinking about it, if the contestable volumes are relatively few, that will not bring down the price, so this must have occurred over quite a substantial share of Teva's volumes for it to be a large enough impact to bring down the price by such a degree, so that suggests to me that it was doing more than just competing for contestable volumes and probably offering its larger customers a better deal as well. That is what I would infer from such a large fall in the average selling price.

Q. So pulling the threads together, insofar as weight is to be afforded to price levels achieved in period 3, it is the period after the unwinding of the duopoly price which should be afforded more weight, that is to say the second line in your table 1. Do you agree?

A. No, I do not agree with that. I mean, as I said before, I think that workable competition was occurring throughout the period. If the Tribunal were to want to exclude that particular period, either as a sensitivity or because that was their preference, then they would look at the second row of table 1 in my first report. However, that would not be my preferred approach. My preferred approach would be to include the entirety of period 3 as being consistent with workable competition.

Q. Within the range that you present, the market-wide ASPs give a better measure of the market-wide prices generated during the relevant period than a top-end estimate based on only one supplier?

A. Well, it does depend what you are trying to understand. So if you want a market-wide average then the market-wide average selling price is a better measure because by definition it is a weighted average of all of the prices in the market. So the market-wide ASP is a better measure of the market-wide price. However, if you are, for example, wanting to understand the range of

prices consistent with workable competition, then what I say is because Teva, in my opinion, was constrained by Milpharm and by Wockhardt throughout the entirety of the period, it was subject to workable competition, and, therefore, its price is a relevant price to consider as one consistent with workable competition. So I think it is a relevant price to include. I would not -- as simple as that, I think it is an important price to include.

Q. It is not only a price that you include; it is the only price that you compare against your adjusted ASP, is it not?

A. No, that is not correct. I -- in section 2 of my first report, it is the only price that I compare, but, as you were mentioning to me earlier on, I then do some sensitivity analyses where I consider other prices which I compare as sensitivity tests against the Pfizer adjusted price.

Q. So given -- well, if the Tribunal were to conclude that Teva's status was insulated from competition in view of its high volumes and prices, reflecting the protection afforded to it by continuity of supply, the central focus should be on the non-Teva ASP; would you agree?

A. No, because if the issue is that Teva was to some degree -- yes, if the issue is Teva was to some degree

insulated from competition because on your hypothesis there were some customers for which Teva had, if you like, guaranteed demand, then what I would want to do is to go into the data, assess the extent to which that applies, then I would still find it useful to understand the price that Teva was charging for the customers whose demand did not seem to be captive to Teva.

So I would not simply discount Teva's price, I would want to understand more from the data to see if this captive demand is a valid hypothesis.

Q. All of the price points in table 1, to construct your benchmark range, need to be treated with some caution given the significant further falls in price that have been observed over the course of period 3 and in subsequent periods.

A. So I would not agree with that either. I mean, again, it really -- in some senses, it depends on your definition of workable competition because if by "workable competition" you are looking for the lowest price that we can see in a market, then, yes, look at what happened after the end of period 3, but actually if you are trying to understand workable competition in a different way, ie a way where there is a market where there is no dominance and there is a market where there is no collusion, the fact that we observe lower prices

at a point in time does not rule out that the higher prices earlier on were inconsistent with workable competition.

We can have -- if the range of prices consistent with workable competition is broad enough, then you can have fluctuation within that range, you can have higher prices, lower prices. So the fact that a lower price is observed does not mean that the ones that I am looking at in period 3 cannot be consistent with workable competition.

Q. There are quite a lot of double negatives in that, but would you accept that prices following a period of monopoly when prices have gone very high might still be contaminated by the effects of that monopoly pricing subsequently after competitive entry?

A. Okay, so conceptually, yes, that is possible, and I address that in my position paper where I acknowledge the tablet price went up to -- well, the tablet price went up to I think it was £51.25 or something, in October 2007, and that is a contamination, but then there is the decontamination event which is when the Department of Health intervenes and the price drops from £51.25 to £26, so that is in one -- well, in the space of 12 months, removing a very substantial part of the prior higher price.

Then, as I explained in my teach-in, there is a period of time when prices stay at 26 and then we have a further reduction in prices, if you like, a further decontamination, just prior to period 3, and then we have the price declines in period 3.

So I accept the concept that you can have decontamination -- sorry, I accept the concept that you can have contamination from prior higher prices -- a bit of a tongue twister, prior higher prices -- but in my opinion the decontamination events that I have mentioned allow me to conclude that period 3 was consistent with workable competition.

Q. The substantial subsequent price reductions do not give you pause for thought that the decontamination might not have concluded by September 2012?

A. Well, I do not consider that Teva was dominant during period 3, and so I consider the prices we observed during period 3 to be consistent with workable competition, so, yes, I accept that you can have lower prices because there are a range of prices consistent with workable competition, and so the, let us call them period 4 prices, the ones after period 3, yes, they are lower, but it does not mean that the ones during period 3 were not consistent with workable competition.

Q. Looking at the output of the process of competition that

you have considered over the course of period 3, by the end of that period, Teva's ASP stood at £9.82 in July 2014. That is right, is it not?

A. In July 2014, £9.82, that sounds right, yes.

Q. Yes, I took it from your report, so I am sure it is. I know you are very careful about these things.

A. Spot on then.

Q. The market-wide ASP was £9.65 at the end of period 3.

A. Yes.

Q. And in period 4, as we know, the prices fell to £5.50 without provoking any exit. It is all correct, is it not, as a matter of fact?

A. That sounds -- I will take that -- I will proceed on the basis that those are correct figures.

Q. Those data points are all at or below the bottom end of your benchmark range, are they not?

A. Yes, they are.

Q. Yes. Now, can we return now to the comparisons that you draw based on --

A. Sorry, sorry, just a point -- sorry, your question was all of those are -- they are all below the £12.96?

Q. No, no, no, my question was they are at or below the bottom end of your benchmark range. So if we go back to your report, first report, figure -- table 1.

A. Right, so you are benchmarking against £9.63, you mean?

Q. Yes, so the benchmark range was from the non-Teva ASP during January 2013 to October 2013 of £9.63 running up to the Teva ASP in the whole of period 3 of £12.96. That is your benchmark range, is it not?
A. Yes.
Q. The three figures that I just put to you are all at or below the bottom of your benchmark range. Teva's price as the output of this process of competition in period 3 --
A. Yes.
Q. -- the average selling price at the end of period 3, and then the figure lower still at the end of period 4 of £5.50?
A. Yes, I agree that 9.82, 9.65, are close to 9.63 and I agree that 5.50 is lower than 9.63, yes.
Q. All at the bottom end of your range, I am grateful.
Now, so just to conclude, if I may, can we now return to the comparisons that you draw based on tablet prices. Now, we have already discussed that Flynn's actual prices are a long way above the very top of your range.
Now, again, just to state the obvious, judged by the low end of your range, they would obviously be further still above the benchmark, would you not agree?
A. If you use the bottom of my range as your benchmark for

workable competition, it is correct that Flynn's price would be more above it than if you use the top of my range, yes, I agree with that.

Q. Looking at Pfizer's average selling prices without adjustment, can we agree that they average 37.56?

A. Yes, which divided by three is the 12.52 or 12.55.

Q. Yes, it is a constant test of mental arithmetic, is it not?

A. It is late in the afternoon to divide by 3.

Q. Yes, 12.52, exactly. And this 12.52 is also substantially above the low end of your range?

A. £12.52 is above £9.63, I agree with that.

Q. So if we thought the low end of your range was more informative than the upper end of your range, we would have to conclude that they are not consistent with a price under conditions of normal and sufficiently effective competition?

A. Well, except that, as I mentioned earlier on, what we are doing with this analysis is we are not -- this analysis is not guaranteed to find the top of the range. It essentially says that within period 3 we have workable competition, and so these are prices consistent with workable competition. It does not mean that the price range presented here is giving you a maximum level of that competition. So you would have to first

conclude that £9.63 was your absolute top of the range and workable competition could not get you any higher than that, and then you would have to draw the inferences that you are drawing.

Q. What you have done to Pfizer's average sell prices at the upstream level of the market is add a margin adjustment of -- I think it is 70p, is it not?

A. 76p.

Q. 76p. Now, that is based on the cost plus, as we discussed, but as Mr Harman alluded to in the hot-tub, the CMA's Decision does not require Flynn to price at cost plus. Do you accept that?

A. I have not looked closely at the CMA's findings on Flynn, but I am happy to proceed on the basis that, for the sake of the discussion, that that is correct.

Q. Yes. If you took just, say, 25% of Flynn's actual margin above cost plus, you would end up with a figure that was materially above even the top of your range. Would you agree?

A. Sorry, if we took a ...?

Q. So if you did not assume that Flynn was pricing at cost plus but that it was pricing above its cost plus and you gave it some portion of its margin, you would end up with a figure that was more materially above the top of your range?

A. You would. I gave an example in the teach-in of what would happen if you allowed -- if you added an extra pound on to the Pfizer's adjusted price, so, for example, that would then take you from £13.26 to £14.26 and that would, yes, increase the distance by £1.

Q. Now, we have heard that Dr De Coninck argues on behalf of Flynn that its downstream margin was fair for the industry as a percentage mark-up; are you aware of that evidence?

A. I -- yes, yes, I am.

Q. If Flynn is right about the fairness of its margin, Pfizer's upstream pricing can be said to have caused the downstream prices to rise to unfair levels judged by your tablet benchmark; would you not agree?

A. No, I would not agree with that because what -- your interpretation would be that as soon as the adjusted price, whether adjusted by 76p or whether adjusted by Flynn's entire mark-up, ie to get to Flynn's price, your interpretation is as soon as you get above £12.96 the price is unfair, but that is not what I am saying.

What I am saying is that my £12.96 is a useful indicator. I also go on to say, and I say it in several places in section 3 of my report and in later -- of my first report and in later reports as well, that even if Pfizer's adjusted price or Flynn's price is above

that £12.96, if it is close to it, and if it is a long, long way away from the monopoly price, then it is close to the workably competitive price and it is far from the monopoly price and, therefore, generating a lot of consumer surplus, and that, for me, would say that it is not unfair. For me, it is only when the prices start getting to an area where they are really not leaving much consumer surplus for the buyer that they start becoming -- looking like they might be unfair.

Q. I can understand the comparison with a competitive benchmark, but I have to say I struggle with your subsequent comparison with monopoly prices and with constrained monopoly prices. I think you accept that the monopoly price is plainly not a good benchmark for fairness, do you not?

A. I accept that pricing at the monopoly level is not a fair price. The point that I am making -- and this is similar to the point that the President and I were discussing just before the break --

Q. Yes, that did not help me, I have to admit. I will have to read it carefully.

A. Understanding where maximum willingness to pay is is very helpful because the distance between maximum willingness to pay and the price paid is consumer surplus. It is as simple as that, and you can measure

maximum willingness to pay on a very conservative basis by taking it as £30, and that is very conservative because that is a constrained price which means the willingness to pay is greater than that, or you can take my estimate of £46 in AM1, my first report, in which case the amount of consumer surplus above Flynn's price and above Pfizer's price is very considerably more.

So those are the -- so it is really quite a straightforward point.

Q. Well, let us take it in stages.

I think you would also accept that a price below the maximum that a customer is willing to pay a monopoly seller is not by that token necessarily to be regarded as a fair price either; is that right?

A. Sorry, say it again, sorry.

Q. The fact that a price is below the maximum that a customer is willing to pay a monopoly seller is not necessarily to be regarded as a fair price?

A. I agree with that, yes.

Q. Maximum willingness to pay for an essential drug could be very high indeed, could it not? It means essentially that the Department of Health would rather pay this amount than not obtain the product and provide patients with a necessary treatment?

A. Yes, it could be.

Q. If patients risk suffering severe adverse consequences absent the drug, there is an ethical imperative to continue prescribing and dispensing and paying for it, would you not agree?

A. Yes, that seems likely. That said, we are talking about here a sophisticated monopsony buyer with the ability to intervene when it considers the prices are too high, which is exactly what the Department of Health did, and so for me that is valuable information on the willingness to pay for the Department of Health.

So, as I mentioned before, it did not intervene at £48, it did intervene at £114, which suggests that willingness to pay could be £48. I appreciate that there is some uncertainty around that, so you can take £30 as a value that is plainly, I would argue, an amount that the Department of Health was willing to pay on the basis that it negotiated that price and then paid it for seven or more -- well, more than seven years.

So that is to my mind valuable information.

Q. Your analysis only goes to show the stratospherically high levels that maximum willingness to pay would result in, does it not? Your conservative estimate is £48 on the basis that that was the level that Teva's selling price stood at when the Department of Health decided to meet with Teva in 2007; is that right?

A. That is what the data indicate, yes, the data indicate that --

Q. The actual price paid by the Department of Health was the drug reimbursement price, and that was much higher still when the meeting was called. It stood at £114; is that right?

A. Yes, but that is not the value that I am suggesting to be maximum willingness to pay. So I have not picked the highest point, I have not picked the £114. I picked the much lower level of 48.

Q. You have done, but you accept that the monopoly price is really somewhere between 48 and 114 on your analysis, do you not?

A. Well, that is what the data would suggest, but again, as I said before, that is not the -- I did not pick that higher price. I conservatively picked the lower one of 48 so as not to -- well, so as to be conservative.

Q. The fact that there is a price high above a firm's actual price that the customer might accept in extremis is uninformative of the relationship between the dominant firm's actual price and any price that would prevail under conditions of normal and sufficiently effective competition. That is right, is it not?

A. So here -- so with the £48 and with the £30, we are not trying to measure workable competition, we are trying to

gauge the amount of surplus available. These are two different exercises.

Q. A price does not have to be closer to the monopoly level than to a competitive benchmark before it ceases to bear a reasonable relationship with economic value?

A. Well, that is a legal question, I think.

Q. But is it not the linchpin of your analysis?

A. No. I say that where a price is close to the price consistent with workable competition and far from the monopoly price then I consider that price is likely to be -- not likely to be unfair, ie likely to be consistent -- I do not want to use "lawful", that is the wrong word, but not unfair. Okay, so let me say that again.

I say that when a price is close to the price consistent with workable competition and far from the monopoly price then it is in the right part of the spectrum to be not unfair. So I am not setting out a test that says we define the spectrum and we split it in the middle and we say, "Are you in the bottom half or are you in the top half?", but I am saying that, when you are in the bottom half and in particular when you are very close to that workably competitive price and a long way from maximum willingness to pay, that is just the sort of place on the spectrum where I would say

a price is not unfair.

MR HOLMES: Thank you very much, Dr Majumdar. I do not have any further questions for this witness.

THE PRESIDENT: Well, thank you very much, Mr Holmes.

Dr Majumdar, I am not going to require Mr Brealey to re-examine you this evening. I may have one or two questions arising out of that last exchange, but I think it has been a long day, and we will do it tomorrow morning. I think we are starting at 10.00 am again.

You will know this, but I will say it anyway, doctor: please do not talk to anyone about your evidence, and I hope you will not be too long in the witness box tomorrow morning, but I hope equally that the obligation not to talk about the case is a relief rather than a burden.

We will resume tomorrow at 10.00 am. Thank you very much.

(4.55 pm)

(The hearing adjourned until 10.00 am on Tuesday, 21 November 2023)