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

Case Nos. 1151/3/3/10  
1168/3/3/10  
1169/3/3/10

Victoria House,  
Bloomsbury Place,  
London WC1A 2EB

14 April 2011

Before:

MARCUS SMITH QC  
(Chairman)

PETER CLAYTON  
PROFESSOR PAUL STONEMAN

Sitting as a Tribunal in England and Wales

BETWEEN:

**BRITISH TELECOMMUNICATIONS PLC**  
**EVERYTHING EVERYWHERE LIMITED**

Appellants

– v –

**OFFICE OF COMMUNICATIONS**

Respondent

**EVERYTHING EVERYWHERE LIMITED**  
**VODAFONE LIMITED**  
**TELEFONICA O2 UK LIMITED**  
**HUTCHISON 3G UK LIMITED**

Interveners (Case 1151)

**BRITISH TELECOMMUNICATIONS PLC**  
**EVERYTHING EVERYWHERE LIMITED**  
**VODAFONE LIMITED**  
**TELEFONICA O2 UK LIMITED**  
**HUTCHISON 3G UK LIMITED**  
**OPAL TELECOM LTD**  
**CABLE & WIRELESS UK**

Interveners  
(Cases 1168 and 1169)

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**HEARING DAY EIGHT**

## APPEARANCES

Mr. Graham Read QC, Miss Sarah Lee and Mr. Richard Eshwege (instructed by BT Legal) appeared for the Appellant.

Miss Kassie Smith and Mr. Philip Woolfe (instructed by Regulatory Counsel, Everything Everywhere Limited) appeared for Everything Everywhere Limited

Mr. Javan Herberg QC and Mr. Mark Vinall (instructed by the Office of Communications) appeared for the Respondent.

Mr. Tim Ward QC (instructed by Herbert Smith LLP) appeared for the Intervener Vodafone Limited.

Mr. Robert O'Donoghue (instructed by Telefónica O2 Limited) appeared for the Intervener Telefónica O2 Limited.

The Intervener Cable & Wireless UK was represented by internal counsel.

The Intervener Hutchison 3G UK Limited was represented by internal counsel.

The Opal Telecom Ltd did not attend and was not represented.

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1 THE CHAIRMAN: Mr. O'Donoghue?

2 Professor IAN DOBBS, Recalled

3 Cross-examined by Mr. O'DONOGHUE, Continued

4 Q Good morning, Professor Dobbs.

5 A Good morning.

6 Q Professor Dobbs, I hope not to take more than an hour of your time, but it is a two way  
7 process so I am, to some extent, in your hands. Professor Dobbs, I presume you are aware  
8 that, as a general matter, Ofcom must resolve disputes within four months?

9 A Yes.

10 Q That is a statutory requirement.

11 A Yes, I am, yes.

12 Q In fact, the critical decision making period is much shorter. Can I ask you to turn to volume  
13 C2, the core bundle, and go to Mr. Buckley's witness statement at tab 25, p.3. Just under  
14 para.9 you will see a time line. Have you got that?

15 A Yes, I have that.

16 Q You will see at from week 1 Ofcom publishes scope and then initial analysis, week two, and  
17 then between weeks eight and 11 Ofcom must prepare and publish a draft determination. So  
18 essentially by week 11 it must have nailed its colours to the mast absent a supplementary  
19 consultation. You will see that the actual period for decision making in a substantive sense  
20 is relatively short, within the four months.

21 A Yes, I see that.

22 Q I want to very briefly retrace a bit of the archaeology on your side, because you were  
23 retained, as I understand it, on January 18<sup>th</sup> 2010?

24 A That's correct.

25 Q You had ten days to do Dobbs 1.

26 A Yes. I think I was first informed in early January. I was actually on holiday for two weeks,  
27 so it was a very short period of time.

28 Q In Dobbs 1 you simply looked at a small function, you did not look a small function, you  
29 did not look at the steps within the NCCN at that time?

30 A No.

31 Q Then if you wind forward to Dobbs 3, there you had time to look at the actual wholesale  
32 tariff structure in more detail. Can I ask you to please get out Dobbs 3. It is in tab 3 of C1.  
33 We see in para.9, the first line, you describe that you had a complex discussion with the BT  
34 engineers, and so on. Then if we go forward to para.34, you will see at the end:

1 “I have chosen not to build the effect into the analysis presented in Annex 2  
2 primarily because, whilst the direction of the qualitative effect is clear, it is  
3 difficult to be sure of its quantitative magnitude.”

4 This report, I think, Professor Dobbs, was dated April 2<sup>nd</sup>.

5 A Correct.

6 Q You see that in the index.

7 A Yes.

8 Q This is roughly ten or 11 weeks after you had first been engaged. The point I want to put to  
9 you is that it is difficult, in fairness, to be critical of Ofcom’s conclusions as to uncertainty  
10 or magnitude when in roughly the same period that they would take for their effective  
11 decision making you, yourself, had reached substantially the same conclusion, that it is  
12 difficult to be sure of the quantitative magnitude. Does it not seem to you to criticise  
13 Ofcom for reaching essentially the same conclusion in essentially the same period of time?

14 A Yes, I agree.

15 MR. READ: Sir, so we are clear, this is criticising the 080 determination where Ofcom found the  
16 likely incentive would be increase the price, not that it was likely to decrease the price but  
17 the magnitude was uncertain. It is certainly not dealing with the conclusion in the 0845  
18 determination.

19 THE CHAIRMAN: I understand, Mr. Read, and just to throw in my own two penny-worth, it  
20 seemed to me to that all the experts were critiquing, as it were, the outcome of the reason  
21 without in any way making points about Ofcom’s process in terms of how they reached  
22 their conclusion in the four month period. I certainly do not understand Professor Dobbs to  
23 be saying that his conclusions in his reports could or could not have been achieved by  
24 Ofcom in four months. I am not particularly sure that that is a matter for this expert, but do  
25 pursue it if you want to.

26 MR. O'DONOGHUE: Professor Dobbs, what I am saying is, given the effective 11 week period  
27 for decision making, do you accept that the level of sophistication set out in your report may  
28 not be, in practice, achievable under that time constraint?

29 A Well, to give you the time line of my own work, I would say that, having completed the first  
30 two reports, nothing much then happened until we received the documents from Ofcom, and  
31 it was only in looking at those that I felt that I could say something more because something  
32 more was needed to be said. In the 080 disputes, Ofcom’s original position was that prices  
33 would be incentivised to rise. My first two reports were to call that presumption into  
34 question, and then when the final determination came through it seemed as though I ought

1 to make some further comments and try to make it clearer, and the principal aim of the  
2 Dobbs 3 report is to provide a relatively simple way of understanding how the wholesale  
3 price function influences the profitability of the mobile network operators and to make clear  
4 the idea that they are incentivised to move to the right hand position on the step, and in  
5 particular the lower steps.

6 Q Would it be fair to say that Dobbs 3 was incomplete in the sense that it needed Dobbs 4 to  
7 complete the inelastic side of the equation?

8 A I would say the history of my responses has been rather reactive in the sense that I presented  
9 a simple model in Dobbs 1 and Dobbs 2 which as these models attracted criticism I sought  
10 to look at the force of those criticisms, and we have had a dialectical process in which we  
11 have endeavoured to look at – I have endeavoured to look at – more and more issues that  
12 have been raised to see whether they are in fact material or not and that is how the process  
13 has worked.

14 Q Can I move on to a slightly different topic and I think you may have been alerted to this  
15 when Professor Stoneman intervened a couple of days ago, and it is essentially the issue of  
16 coverage. As your client has testified BT's market share is about 25 per cent of the  
17 termination market so there is certainly 5 per cent of own universe which is outside BT's  
18 control. I want to take this very carefully and I want you to listen very carefully to the  
19 questions I am asking, I think this is very, very important. So when you started out on this  
20 exercise, because these were innovative charges BT was in effect a pioneer, at that point BT  
21 was the only terminating provider with a ladder charging system?

22 A That's correct and I think that my view of the economic problem at that stage was one in  
23 which the callers make calls through the mobile network operators, these come through to  
24 BT as a TCP and therefore the ladder pricing affects those and therefore there is an  
25 incentive to reduce prices. As I understand it from Professor Stoneman's intervention  
26 yesterday, and a few days before as well, there is a question – can I just say my answer will  
27 take some time because it is quite complex. Can I give a full exposition?

28 Q If I may, I would rather take it in stages.

29 THE CHAIRMAN: It may be better, I do not want to close you out from answering, but I think  
30 counsel has a series of propositions to put to you and it might be better if you answer those  
31 and then, by all means, at the end of that say what you have not said already.

32 A Can I just complete the answer to that preliminary question then? So in this particular case  
33 what the assumption is that it is possible for the MNOs to adjust 08X prices and  
34 differentiate those prices by TCP. In other words, they can change the prices to BT

1 independently of other TCPs. Now, that may not be a good assumption, but if we go with  
2 that assumption ----

3 Q If I could stop you there, we have heard evidence from Mr. Stone from Vodafone that he  
4 would not price discriminate because his customers would be upset with the complexity?

5 A That was the next stage I wanted to discuss.

6 Q You are making an assumption which, on the evidence we have heard is entirely  
7 inappropriate?

8 A May I just carry on with this discussion? We have that case where I have just made one  
9 assumption and it is certainly possible for mobile network operators to make this kind of  
10 differentiation because they have done so on some cases, for example, with the DWP cases,  
11 and the selected variation in prices. I am not saying that Mr. Stone is incorrect in what he  
12 says, I am saying perhaps that is a potential – let us take the case where it is true that the  
13 08X prices cannot be differentiated by TCP. In that case, the impact of one TCP applying  
14 ladder pricing and only having a limited market share, it creates an incentive for the MNOs  
15 to increase prices. The direction of the incentive remains the same. What it does alter is the  
16 extent to which the prices are incentivised to the full. For example, if we were focusing on  
17 the 0845/0870 case where we have 12.5p and 17.5p and I have argued that there are good  
18 reasons to believe that 12.5p is more focal than 17.5p I think the consequence of the dilution  
19 effect is that it increases the chance that the price fall will only be to 17.5 rather than to  
20 12.5.

21 Q Well ----

22 A Let me just finish off. The incentives are always towards price reduction.

23 Q Let us be very clear, this is not modelled within your existing evidence, you were doing this  
24 on the hoof?

25 A As I said, the general approach that I have taken, starting with the original model was to  
26 react to criticisms of that model and to adjust the model according to how people felt that  
27 there may be real world considerations that need to be taken into account. This particular  
28 real world observation was never raised within the period we have discussed; I think it is an  
29 important one, and I have some further observations to make about it because one of the  
30 things you can say about one TCP choosing to ladder price is that it creates very great  
31 incentives for the other TCPs to follow suit.

32 Q But you are not suggesting they are colluding?

33 A No, I am not, I am saying that in competition if somebody undercuts you in some way you  
34 need to think whether you want to react to that.

1 THE CHAIRMAN: If I could just intervene for my own clarity, I think the proposition that  
2 counsel has put to you first – and I may be completely wrong about this – was that  
3 originally whereas BT had a system for imposing ladder charges that was at the outset  
4 something that was unique to BT and something which other TCPs could not replicate, and  
5 I think your answer to that question is “yes”, is that right?

6 A They could not replicate, no, I did not consider replication.

7 MR. O'DONOGHUE: Sir, there was a finding to that effect.

8 A It is not explicitly modelled.

9 Q Professor Dobbs, to be clear, this is stylised, but assuming I am an MNO, my mix of calls is  
10 90 per cent Cable & Wireless, 10 per cent BT. I cannot price discriminate, that is  
11 Vodafone's evidence, surely my input costs in that situation are radically different to a  
12 world in which it is the other way around? In the real world that must affect the level of  
13 retail pricing?

14 A Well I think I refer you to my first answer which is that the direction of the incentive  
15 remains the same. The extent to which one predicts that the prices are incentivised to fall  
16 may be affected by the dilution effect, but the incentive is still the same. That is because  
17 the, let us say, the other TCPs just maintain the pricing structure that they had pre NCCN.  
18 The key point is that the MNOs have already priced in order to profit maximise by  
19 assumption in the model and therefore, when you have an incentive on some part of the  
20 business to reduce prices, the fact that there's another part of the business which is, in a  
21 sense creating — when you pull this one down it's going to pull the pricing of the rest just  
22 slightly out of, away from profit maximising. But the key point is (I'm struggling to explain  
23 this because it's a mathematical point).

24 Q Indeed.

25 A It is that the profit function is fairly flat around the optimum price, and therefore there  
26 remains an incentive overall to reduce price. So, that is not affected.

27 Q I understand. Well, let us stick to the facts. I think you have accepted from the chairman  
28 that at a time when BT was a unique ladder pricing TCP, your modelling does not consider  
29 the effects of price discrimination between TCPs. I think you accepted that.

30 A In a sense it presumes it, because it assumes that if there is a single TCP and, sorry, when  
31 we're focusing on a single TCP with less than 100 per cent market share, and we are  
32 looking at the incentive to reduce prices, then we are thinking of that as it is possible for the  
33 MNOs to change those prices which are passing, the traffic that was passing through that  
34 TCP, and not change the prices that are passing through the other TCP. When you say

1 these prices have to be the same across the board, then we have what's called a "dilution  
2 effect". But the key point is — and I can see that I'm having some difficulty in explaining  
3 it clearly — but I think that most economists will understand the way that I'm explaining it,  
4 it is that there remains an incentive.

5 The other point I would make is that the ladder pricing by one TCP creates incentives for  
6 the others to follow suit and then, as we seem to be getting at the moment, when they all  
7 mimic the same kind of pricing structure of course we then have — they don't even need to  
8 have the same ladder structure. I think Professor Stoneman raised the issue of what happens  
9 if, let's say, Cable & Wireless offers one ladder, BT offers another ladder and others offer  
10 other ladders, and so on, what we can say about that is that, when the MNOs charge the  
11 same 08X price whatever the TCP, they face, in effect, a weighted average ladder. And one  
12 of the features of that ladder is it tends to look much less like a step function and much  
13 more like a continuous function. The steps are dampened. The other key point is that when  
14 all TCPs follow the same kind of structure of pricing, we get back to the situation where the  
15 original incentives are largely stored.

16 Q Indeed, Professor Dobbs, if I may, I think we have established that at the outset you simply  
17 looked at a situation in which BT was unique.

18 A That is correct.

19 Q Now, I think we know that last summer some TCPs, we are not sure how many, introduced  
20 ladder pricing systems of their own. We have not seen the schedules themselves. Again,  
21 you are assuming that they are identical and substantially the same; and I am suggesting to  
22 you that, in the real world there are a lot of uncertainties around who are the actual TCPs,  
23 what are their actual schedules, and how do they intersect at a given point in time. And,  
24 none of your modelling — but this is not a criticism — what I am saying, as a matter of  
25 fact, none of your modelling takes any account of these real world facts on the ground.

26 A What I'm suggesting is that, had this point been raised as a point of issue prior to today or  
27 yesterday, I would have responded to it in the way that I've just described and explained  
28 how, in a competitive market, you would expect that once one firm innovates with ladder  
29 pricing, other firms will be forced to follow suit. And I would refer to the document that  
30 you brought my attention to yesterday, which was by Cable & Wireless, where they clearly  
31 recognised the pressures that they would be under when they were faced by BT offering  
32 ladder pricing in the sense that it would give BT a competitive advantage in either of two  
33 ways: it would either be that the MNOs do not change their prices, in which case BT would  
34 gather revenue in and would be able to pass it through, at least some of it through to SPs,



1 and that would be attractive to the SPs. That was the point that Cable & Wireless was very  
2 concerned about in that document. The other possibility is that the prices fall and, again,  
3 there would be an incentive for SPs to look for lower prices, because that's their business.  
4 If you're an SP like, let's say the AA or whatever, you would prefer, other things equal, that  
5 people when they call you up don't have to pay so much money. So they recognise that  
6 there's, sort of, in a sense "competition for SPs", as I would describe it, and therefore they  
7 are under a competitive pressure to follow the same kind of pricing structure. And then, of  
8 course, just to finish off, and then I've completed my argument, and then of course we're  
9 back to, if all of them are applying the ladder structures, we get back to quite a strong  
10 incentive effect on prices. Indeed, one could argue that insofar as there is competition to  
11 acquire SPs, it may be that the ladders evolve over time towards pressurising lower and  
12 lower 08X prices. It's a possibility.

13 Q Well, that is my very point. I mean, this would be repeat gained with multiple ladders.

14 A Absolutely.

15 Q And we would be faced with Dobbs "n" report and ending in a very large number. What  
16 I am saying, and it is probably the only time I will say this to you today, is that your  
17 modelling is an over-simplification from reality. We know on the ground that there are a  
18 multiplicity of TCPs, some with ladders, some without, and it cannot be assumed that they  
19 are all identical today, and it cannot be assumed ad infinitum —

20 MR. READ: Sir, can I interrupt? Because I do want to know the case that Mr. O'Donoghue is  
21 actually putting on this point. I am looking at the transcript on Day 3 p.72, when he was  
22 cross-examining BT's witnesses, line 24, when he was cross-examining the BT witnesses  
23 about this point. And the question that was put was:

24 "We know that last summer the other principal TCPs have replicated identical, or  
25 virtually identical, ladder pricing systems to those of the BT with the exception,  
26 I think, of Cable & Wireless".

27 Now what he cannot do is, if he is putting that case to my witnesses, then to put a different  
28 case to this witness, because that is the premise upon which the witnesses were actually  
29 answering the question.

30 MR. O'DONOGHUE: Well sir, with respect, I do not think there is any tension. First of all we  
31 do not have the actual schedules. It is a matter of speculation. I understand the Cable &  
32 Wireless schedule is different, and Cable & Wireless is BT's competitor. That is, in my  
33 submission, something material, potentially so, and the point I am putting to Professor

1 Dobbs is that it is simply a source of uncertainty because these things can evolve over time.  
2 And it becomes complicated again, depending on the ladders at that point in time.

3 A My personal opinion —

4 THE CHAIRMAN: I will allow you to proceed on that basis, Mr. O'Donoghue.

5 MR. O'DONOGHUE: Sir, I think I can finish on that. Professor Dobbs, can I move on to the  
6 average retail price. You would agree that this is an important input and assumption in your  
7 modelling?

8 A Yes, I do.

9 Q I think I took you yesterday to the bottom rung in the 080 pricing where it said that the  
10 lower threshold 8.5 ppm was not a formal calculation, so there was a degree of fluidity, if I  
11 can call it that, on the BT side. I think, and Mr. Read can check the transcript, that  
12 Mr. Kilburn said that BT would not be prescriptive in terms of how average retail prices  
13 would be set. It would be a matter for discussion. They might accept a signed from the  
14 CFO of the MNOs, etc, etc. I do not if you were here, Professor Dobbs, when Mr. Ornel, formerly of EL, he said that within his company the average price of 08X calls simply did  
15 not exist for their P&L purposes, it was a made up number. The question, Professor Dobbs,  
16 is: again, in the real world, do you accept that this uncertainty over the level of the average  
17 retail price for the purposes of negotiation over time between the parties, that that would, in  
18 itself, create a level of uncertainty over the setting of the average retail price?

19  
20 A I think this is a question that would be better addressed to the individuals who were  
21 involved in those negotiations. I, myself, have no real experience of those issues. I think  
22 this all relates to Principle 3. The relevant person to be asking, probably from BT, would be  
23 Mr. Kilburn or somebody like that, Mr. Fitzakerly.

24 Q Can we briefly turn to the final determination in B1, tab 1, para.5.41. There you will see  
25 Ofcom discussing the average retail price. They say:

26 “... it should be possible to identify an average that is sufficiently accurate for  
27 these purposes. However, there are very many different ways in which such a  
28 calculation could be undertaken. It is our view that, if we were to conclude that  
29 NCCN 985 and 986 were fair and reasonable, it would be for the Parties to  
30 conduct negotiations to agree a method of calculating an average retail price  
31 that is fit for purpose. Any method should be reliable, transparent, compliant  
32 with competition law and avoid immaterial issues which would increase  
33 complexity, but have no material impact on the average retail rate.”

1 Again, we do not need to decide the average retail price today, but the point I am making,  
2 and I think it is recognised by practically everyone in the proceedings, is that there is  
3 considerable uncertainty as to the level at which the average retail would in practice be set?

4 A I think again I will just refer to my previous answer, which is that the operational issues  
5 associated with deciding on the price are things that are not within my competence to  
6 discuss.

7 Q I think I am making a different point, Professor Dobbs, which is that within your models ----

8 A I make the assumption that an average price is something that can be determined. The  
9 whole issue of ladder pricing presumes that fact. There is no question about that. The  
10 issues about whether the average price can be determined operationally is a matter for the –  
11 as far as I understand it, it is not a big issue – that is a technical issue and really one would  
12 need to address the relevant parties.

13 Q Indeed, but I think I am making a different point to you, Professor Dobbs, which ought to be  
14 within your compass, and that is that your assumptions as to price reduction effects are  
15 predicated on MNOs in the real world falling within a particular tier of average prices?

16 A That's correct.

17 Q And what I am saying to you is that, given the facts on the ground as to this process of  
18 negotiation and uncertainty, there is in fact considerable uncertainty as to whether an MNO  
19 would ultimately be placed within the particular rung that you say would lead to the price  
20 effects that you posit?

21 A I would be surprised if there was uncertainty about that, because I would be surprised if the  
22 parties couldn't agree between themselves on what rung of the ladder the average price lies.  
23 You are asking me to discuss the details of that kind of negotiation, and really the person  
24 that I think would be more appropriate to answer that kind of question from the BT side of  
25 the fence would be Mr. Kilburn.

26 Q Let us look at the facts as we know them. I can take you to the evidence if it is useful. My  
27 client, for example, we know that for 080 it was placed by BT in the 17.5 ppm to 22.5 ppm  
28 rung, and it was placed in the same rung for 0845 and 0870, and it was in that rung for a  
29 period of time. T-Mobile, which has somewhat higher prices, was placed in a higher rung  
30 at 13 ppm. What I am saying, Professor Dobbs, is that we know that, for several months,  
31 my client was actually placed in these rungs. If we go to your models and we assume for a  
32 minute linear functional form in that particular rung, the price effects vis-à-vis my client  
33 would not lead to reductions to the lowest rung in the ladder. The average price of where an

1 MNO is ultimately placed is something that is practically important, and it is, in my  
2 submission, a variable in this case?

3 A Are you saying that there is a difficulty in deciding on what the price is pre-NCCN prices,  
4 or there is a difficulty about what prices would be post-NCCN? I am not clear quite what  
5 the question is.

6 Q It is not really a point of difficulty. I am just saying that, given the fluidity as to what  
7 average retail price would ultimately be agreed between the parties, and given the  
8 importance of where you are in the rung to your modelling, I am simply saying that that in  
9 itself, leaving aside complexity, as to what ultimately that would be is a source of  
10 uncertainty?

11 A I really have no opinion on the matter. I think the truth is that the determination of the  
12 average price and where it lands – once it is agreed what the average price is between the  
13 two parties, where it lands on the ladder is clear cut. In so far as I have been involved in  
14 this dispute, I have been involved in examining the issue of the ladder pricing and how it  
15 incentivises that average price to fall. I have not been involved in the details of how  
16 average prices are computed.

17 Q I accept that. Let me just put one final question on this topic in this way: given, as  
18 Mr. Kilburn has testified, BT would not be prescriptive, is there not in practice some risk  
19 that this fluidity would lead to average retail prices being somewhat to the left or to the right  
20 of where you say they would be in the context of your modelling – the various reasons, this  
21 is a negotiation?

22 A I'm sure with a step function that in negotiations the steps are focal points. The mobile  
23 network operators in contractual negotiations would be keen to persuade a TCP that offers a  
24 ladder pricing arrangement, it would keen to persuade that TCP that they land on just below  
25 the next step up. I would expect that these kinds of negotiations would be resolvable. You  
26 are asking me about the details of the way that people negotiate and I have no knowledge of  
27 this, so it's not something I can really comment on.

28 Q Would you at least accept that within its own parameters your model predicts certain things,  
29 you say very clearly, but that outside those parameters it may not depict what are the facts  
30 on the ground?

31 A I think that the model tends to predict that MNOs will tend to adjust their average prices  
32 towards the foot of a step. I think that's a general proposition, that they will adjust their  
33 average prices downwards such that they land and drop down to the next rung down, or  
34 possibly to two rungs down, and so on. I do think there are focal points on which

1 negotiations would no doubt take place, so actually I think the uncertainty is much less than  
2 you suggest. I think that probably the negotiated outcomes would actually align with the  
3 predictions of the model.

4 Q Well, let us move on, I think you have said you are not an expert on these types of  
5 negotiations, let us leave it at that. Can we move on to demand elasticity? One thing that  
6 Mr. Read glossed over a couple of days ago was the empirical data which we know exist  
7 from an MNO as regards elasticity, so there is a supplemental bundle, which was sent to the  
8 Tribunal before the hearing; mine is marked “Supplementary bundle 1 for the hearing on 4  
9 to 23 April, contains confidential documents”.

10 THE CHAIRMAN: Bundle 36 for your note.

11 MR. O’DONOGHUE: And, sir, I should make it clear Professor Dobbs is in the confidentiality  
12 ring obviously. I do not think I need to refer to any of the confidential figures in here but  
13 obviously if Professor Dobbs wants to we will have to clear the house.

14 THE CHAIRMAN: Professor, you have probably seen how the game works, so if you want to  
15 refer to any confidential material, please feel free to do so but please warn us before you do  
16 so, so we can empty the court.

17 MR. O’DONOGHUE: Sir, one other wrinkle, there is a legal representative of the confidential  
18 party present in court and he/she has not formally been admitted to the confidentiality ring,  
19 but obviously it would be absurd to kick them out for their own data. I just want to make  
20 that clear.

21 THE CHAIRMAN: We will make an order admitting them for these purposes to the ring.

22 MR. O’DONOGHUE: Professor Dobbs, this is the draft determination in 0845/0870, can you  
23 turn to tab 2, para.5.111, in fact not that much is redacted, but you might skim that quickly,  
24 Professor Dobbs, because this is important – just to the end of 5.114.

25 MR. READ: Sir, can I just mention that it seems to me, looking at 5.113 and 5.114, just so there  
26 is no doubt about it, that in fact there has been some confidential matters that have not  
27 actually been highlighted in yellow.

28 THE CHAIRMAN: Yes, bits in square brackets.

29 MR. READ: Yes, so care does need to be exercised and the witness ought to be aware that those  
30 parts are confidential.

31 THE CHAIRMAN: I am not sure what the yellow highlighting actually signifies, whether it  
32 signifies confidentiality or something else.

33 MR. O’DONOGHUE: Partial confidentiality.

1 THE CHAIRMAN: Professor, look for the square brackets, as well as the yellow, for the  
2 avoidance of doubt.

3 MR. O'DONOGHUE: Avoid numbers.

4 A Avoid numbers, yes.

5 Q And names?

6 A And names, yes.

7 Q The point is, Professor Dobbs, here we have an MNO, we have an actual price change for  
8 08450/0870, we have the price data, the volume data, and we have an elasticity number.  
9 That number is minus 0.2 for one class of customers, and it is slightly higher for out of  
10 bundle customers. I think, Professor Dobbs, one does not have to be an economist to  
11 understand that means 0.2 as an elasticity is in the inelastic, if not hardly inelastic, scale?

12 A It is indeed.

13 Q One of your complaints, Professor Dobbs, is there is an absence of empirical data in this  
14 case but at least on a firm level we have these data from an MNO for the actual products the  
15 subject of these proceedings, and they have been entirely glossed over in your evidence?

16 A In my evidence?

17 Q You say there is no empirical data available, and I am suggesting that is at least partially not  
18 correct?

19 A I have to say that I have not particular seen this – well I probably have seen it – I think there  
20 has been a general proposition that elasticities have been fairly inelastic. Ofcom itself has  
21 perhaps come to the view that, other things equal that may be the case. Within the  
22 modelling I have been completely agnostic as to whether demands are elastic or inelastic.

23 Q Well we will come to spill-over, but I want to take this in chunks because it is important.  
24 You made quite a big deal about ----

25 A Could I just comment very, very briefly about this? One gets a price change, and one gets  
26 a volume response. The short run response is usually very limited because customers don't  
27 even know about the price change. Gradually over time they perhaps learn more about that  
28 fact and therefore as time passes you expect the volume response to be rather larger. This is  
29 the idea that short running elasticities are typically more inelastic, long run elasticities  
30 inevitably tend to be more towards elastic. I am not claiming in this particular case that  
31 demands are inelastic, I am just saying there is a general tendency. So when I am faced  
32 with a small piece of information like this, and I am asked to make a comment about it –  
33 apart from the comment I have just made – one needs to think about it, reflect on the time  
34 horizons over which the responses are assessed. Obviously, as you take a longer time

1 horizon other things change, so it becomes more difficult to disentangle different kinds of  
2 effects. I think the key point I would like to emphasise is that one can be over-impressed  
3 by quick little pieces of data which perhaps need to be treated with caution. I am not  
4 disputing numbers or anything like that, I am just saying as a general proposition – one of  
5 the things that I have suggested in my reports is the fact that one of the reasons that the  
6 MNOs might claim inelasticity when in fact there is much greater elasticity is because they  
7 are focusing on the relatively short run responses but not taking into account the fact that  
8 you would get tariff rebalancing, waterbed effects, and other things that would feed back  
9 into the demands for the product in the medium to longer term. Well you get my drift, the  
10 key point is that, as time passes, one gets a rather more elastic view of demand.

11 PROFESSOR STONEMAN: At 5.113 and 5.114, when I first read this I thought that it said they  
12 actually undertook the change and this is telling us about the outcome, but when I look in  
13 5.113 line 5 it talks about the ‘proposal’, it does not actually tell me that they changed it,  
14 and when I look at 5.114 line 3, after ‘confidential’ – “a [X] increase in price was ‘assumed’  
15 by”, so I am just wondering whether this was just an internal document that says what  
16 would happen to our revenue if we put our prices up, and in order to calculate that we will  
17 assume these demand elasticities. Is it that, or is that they changed their prices and this is  
18 what actually happened?

19 MR. O’DONOGHUE: Sir, without giving the game away, it is not my client, I do not actually  
20 know, but I agree it would appear there are some uncertainties.

21 PROFESSOR STONEMAN: Well, you are asking us to interpret it in a particular way as  
22 evidence of a particular value of an elasticity, and that is very important in the case, not just  
23 with this witness but with others.

24 MR. O’DONOGHUE: I agree, and I want to be fair to Professor Dobbs. But if, indeed, it was  
25 purely a proposal it is at least of interest to note that this was their ----

26 A Expectation.

27 Q I may be wrong or right, but I simply want to know that it is not correct to say that we are  
28 looking at this in a vacuum.

29 PROFESSOR STONEMAN: We will take it that way. Thank you.

30 MR. O’DONOGHUE: Sir, I do not honestly know if it was my client, and perhaps it is something  
31 which can be checked. (To the witness) Professor Dobbs, can we move on to the IVR data,  
32 which you do place some reliance on, which I think it is fair —

33 A I am sorry — ?

34 Q The IVR.

1 A The IVR, yes.

2 Q Now, this was in response to O2 taking certain calls out of bundle, so there was in effect a  
3 price increase. Now, I will come to the IVR data in a second, but the first question I have  
4 for you is obviously, this would equally have affected the traffic terminated on BT's  
5 network, and the simple question is why did BT not investigate the effect on the volume of  
6 its termination traffic? Why are we looking only at the IVR data?

7 A Well, obviously, my first answer is that I don't know why other individuals didn't look at  
8 this, but if you ask me would it have been relevant, it would have been of some interest,  
9 I think that's true. Obviously, the prices are rather different because with the fixed line  
10 traffic the prices are much lower, and therefore what is revealed by that for the relatively  
11 much higher prices that the MNOs are charging, these are open questions, but I don't  
12 dispute the idea that —

13 Q Well, the reason I put this is that Mr. Read has made quite a big deal about the fact that  
14 BT's hands were tied and it had no access to any data.

15 A Yes.

16 Q What I am simply saying is that your client, for this price change, could easily have looked  
17 at least at the volume changes, if any, and yet it seems that it did not. And, again, it seems  
18 to me it would have been a relevant question and an easy question for you to ask, and I am  
19 surprised that this has not been done.

20 A I think, my own approach to the problem was to make the point that, actually, the elasticity  
21 of demand is not a critical number to the conclusion to the models, and this is the reason  
22 why I didn't spend a lot of time looking in detail, or trying to dig out more detail, on  
23 demand elasticities. The point was that I found that whether or not demand is elastic or  
24 inelastic, the wholesale price schedule, the WPS, tends to incentivise price reductions.  
25 Therefore, it didn't seem to me to be a matter of any great importance whether a demand  
26 was significantly inelastic or significantly elastic.

27 Q Subject to spill over.

28 A Correct.

29 Q Which we will come to.

30 A Mmm.

31 Q Professor Dobbs, can we look at my client's actual evidence on this price change, in  
32 Vol.C2, tab.40. Professor Dobbs, looking at, quickly going through paras.12, 13 and 14 of  
33 that statement, they are marked "confidential". So, again, this is in the confidentiality ring,  
34 but from reading the draft determination it seems the cat was let out of the bag, and in



1 hindsight it does not seem to me that this information was particularly confidential because  
2 the explanation as to the price change and the reasons for it was set out on the draft  
3 determination, its essence at least, albeit there is some more detail here.

4 THE CHAIRMAN: Well, Mr. O'Donoghue since it is your client's statement, it is a matter for  
5 you what you take the witness not within.

6 MR. O'DONOGHUE: I think, sir, I am saying that I am not too concerned if Professor Dobbs  
7 wants to refer to particular —

8 THE CHAIRMAN: That is helpful to indicate. We do not need to worry about the highlighting,  
9 Professor Dobbs, in this instance.

10 MR. O'DONOGHUE: But in a nutshell, Professor Dobbs, there were people within bundle who  
11 were using the arbitrage on international call forwarding services to make quite a nice little  
12 business. I would not go as far as to suggest it was abusive, but it was something that O2  
13 was unhappy with, and the effect of taking it out of bundle was to increase the price. And  
14 what the IVR data shows is that there was a change in volume. What I want to put to you is  
15 that, given that in effect this was a decision by O2 to try and end what it perceived to be an  
16 abuse of the packages, is it not entirely unsurprising that there would be some effect on  
17 volume; in other words, by ending the abuse it followed that the volumes would reduce.  
18 That was the whole point.

19 A I think in my reports, I mention the IVR data as a source of ambiguity, primarily because  
20 Ofcom itself looked at that data and concluded rather similarly. So, I didn't actually spend  
21 a lot of time trying to unpick the, you know, what was problematic in that data or not. And  
22 indeed although I mention it in my report, I really don't think I added anything much more  
23 than Ofcom had originally said about that data, other than commented that it was something  
24 and that it was to some degree problematic. And I think that I was not unduly concerned  
25 about, as I said, the evidence here because I didn't feel at the time that whether demand  
26 elasticity or inelasticity was the case it really mattered. The models were given the same  
27 predictions whatever. So, I didn't spend a lot of time trying to unpick the problems in  
28 particular data sets.

29 Q Well, do you accept that there may be a case for saying that in fact because this was to end  
30 what was perceived as an abuse of a package, that in fact the data —

31 A It may well be the case. I mean, I have no opinion on that.

32 Q Professor Dobbs, can I ask you to turn to the simplifying non geographic numbers  
33 consultation in December. This is one of those documents that has come to mean all things

1 to all men. It is at CAT 13, 3.1. Can you turn, Professor Dobbs to para.4.23. Have you got  
2 that?

3 A Yes, I've got 4.23.

4 Q You will see the start, Professor Dobbs:

5 "Not only are consumers generally uncertain of NGC retail prices, many tend to  
6 over-estimate non-geographic prices."

7 Then you will see the table overleaf. If you look at the mobile column for the calls in this  
8 case we see 29 ppm, 46 ppm, 51 ppm. I appreciate these data came somewhat late in the  
9 day, but does it not provide some basis for saying that consumers' appreciation of prices is  
10 quite a way wide of the mark?

11 A Well, subject to the usual caveats about consumer research and the idea of hypothetical  
12 responses, economists tend to be more impressed by actual behaviour than what people say  
13 they will do or indeed what they say they believe. The bottom line is that whatever people  
14 say, one has to look at the volumes and prices to say what is the elasticity of demand. I  
15 think Ofcom in this document actually do do some analysis of potential deadweight loss  
16 because people think the prices are higher than they actually are. I am sure that there is  
17 some truth to that observation. I am not disputing that as an observation. The question of  
18 the implications for demand elasticity are open to ----

19 Q I agree, it is difficult to tell the quality of the survey, but what I am saying is that if there is  
20 some grain of truth in this and somebody misperceives advice by some margin, their  
21 response to a change in price in terms of volume is likely to be ----

22 Q Again, it depends on their misperception in the first place, and their misperception in the  
23 second place after prices changed. We are into conjecturing whether the response would be  
24 different and by how much. It is rather difficult to speculate. I am sure you could produce  
25 an argument that actually, so long as they are systematically over-estimating by the same  
26 amount there might not be too much bias in the estimates. I am speculating on the hoof  
27 here. I would need to think a little bit more about it.

28 Q Let me put it a slightly different way round. Given these data and assuming there is some  
29 basic quality in them, it is hardly unreasonable for Ofcom to say, "We are not convinced  
30 that demand is elastic". There is some basis for saying that?

31 A From this data.

32 Q Not only these data. I have put some other points to you on elasticity, not only these data?

33 A I am sorry, but I don't see the linkage between predicted volumes and the prices.

34 Q We do not have the volumes and the prices but what I am saying ----

1 A So how can we discuss elasticity?

2 Q If this survey has a grain of truth we know that there is a significant misperception of prices.

3 A Yes, but what does that say about elasticity?

4 Q It must park in some basic manner. If consumers misunderstand the prices to begin with, if  
5 there is a change in the prices their uptake on volume will be equally skewed because of  
6 that initial misperception, or at least there is some basis for suggesting that?

7 A They key point from an economics perspective is that individuals have whatever views they  
8 have about prices. They make whatever volume choices in terms of their traffic that they  
9 do. If the prices change, and they take some view about whatever they are and have  
10 confusion about that, but there is quantity response then one can simply link the actual  
11 prices to the actual quantity responses and consider what the elasticity that might be  
12 revealed by those numbers is. The fact that people may have misperceptions throughout the  
13 changes in prices, and so on, is neither here nor there to the question of what the elasticity  
14 of demand is.

15 Q We simply do not have the data. The point I am putting to you is that until Dobbs 3 your  
16 assumption was elastic demand, and what I am saying is that ----

17 Q No, that's not quite correct. I suggest in Dobbs 3 that the prices the individual MNOs  
18 choose we assume are profit maximising. In the Dobbs 3 model there are no spill-over  
19 effects. By the way I think that many parties, including the witnesses for Ofcom, would  
20 agree with the idea that spill-overs are not substantial. The assumption is that the  
21 observation on the price, and the assumption that it is to some degree profit maximising,  
22 implies an elasticity of demand. I make no assumption about the elasticity of demand, I just  
23 use the relationship between a profit maximising price and that price sensitivity that the  
24 elasticity is causing, the Lerner Index, and it gives you an estimate of the demand elasticity.

25 Q Let us leave it there. Sir, I have got two more topics, I should not be much longer.  
26 Professor Dobbs, can we move on to the subset, which is the issue of functional form?

27 A Right. This is which volume?

28 Q Can we go back to Dobbs 1, which is tab 1 of C1. I know the game has moved on, but if  
29 you turn first to p.4, about two-thirds down you say:  
30 "It does not appear to be possible to determine whether the wholesale price  
31 function is convex or concave – or indeed linear – without knowing the  
32 structure of the demand curve. Some illustrations may be helpful ..."

33 Then further down you say:  
34 "Taking the constant elasticity case for example ..."

1 Then on p.6 about half way down you say:

2 “However, it is occasionally useful to assume that the elasticity is a constant  
3 ...”

4 I know the game has moved on, Professor Dobbs, and we have had subsequent reports, but  
5 your point of departure in Dobbs 1 was that the constant elasticity assumption was a useful  
6 starting point?

7 A Yes, but within about one day or two days of submitting this report, I realised that I had  
8 much more to say about the matter, and that, in fact, some of the points I make here are  
9 really not germane to the issue at all. Basically, the problem with Dobbs 1 was that it was  
10 written under extreme time pressure.

11 Q Duress!

12 A Yes. I produced this within about four or five days of starting on the work.

13 Q I am not being critical, Professor Dobbs.

14 A Sorry, just to clarify, on the Friday this was submitted, and by the Sunday I had sorted out  
15 in my own mind what I could really say and I would prefer us to focus on Dobbs 2 as the  
16 correct one. It’s not that the material in Dobbs 1 is incorrect, it is that Dobbs 2 is the more  
17 clear and much more emphatically saying what I have to say. I had a better understanding  
18 two days after I submitted Dobbs 1.

19 Q I accept that. Would you agree that in the real world, in a sense, constancy is an oddity,  
20 because it assumes that demand never falls to zero, however high the prices, and it assumes  
21 that demand always increases as prices fall. Even the lawyers in this room know that that  
22 cannot be correct in the real world.

23 A The key point to understand about the constant elasticity assumption in demand analysis, I  
24 should mention that perhaps if you did a statistical analysis of demand studies and looked at  
25 the most commonly used functional form that is assumed in those demands, it would be the  
26 constant elasticity case. So this observation, which is absolutely correct, about the  
27 intercepts, the curve is an asymptote. It asymptotes towards both axes. It never touches  
28 those axes. It is a mathematical point, it is absolutely correct, but of course in the real world  
29 we are looking at a range of prices and a range of quantities, and the question is whether a  
30 curve fits well in the region in which the data exists. That is the way that all econometric  
31 studies proceed, I think. Whether I therefore consider constant elasticity to be a realistic  
32 assumption, I am agnostic about this. My view was that when I presented Dobbs 3 I wanted  
33 to illustrate the structure of the profit functions and how the WTS impacted on that. I  
34 actually presented figures for the constant elasticity case, and I merely footnoted that similar

1 results were obtained for the linear demand case. Subsequent to that we have had a lot of  
2 debate about the structure of demand, and my view is still that although it is perfectly  
3 possible from a theoretical point of view that you can have any kind of shape of demand  
4 curve whatsoever, theory does not impose very many restrictions on the shape of demand,  
5 but in practice what econometricians tend to do is to assume that there will be some  
6 curvature and that you can think of linear and constant elasticity as perhaps bracketing the  
7 range of variation that you might expect, and interestingly the new materials that were  
8 introduced, tabs 1 to 7 in, I am not sure which docket it will be in but the material by  
9 Professor Werden *et al* who is discussing mainly merger analysis, he always emphasises the  
10 importance of sensitivity analysis and he always uses a range of demand curves which are,  
11 if you like, encompassed, or nested by the linear case in the constant elastic – these are the  
12 two extreme cases that he considers. He never considers anything beyond those two cases.  
13 In terms of my results I think these are the two extremes, where reality is a matter for  
14 debate, but my gut feeling is if I was asked I would say it is somewhere in between and  
15 therefore the results are somewhere in between, and personally I think the evidence is  
16 suggesting that the results are closer towards the constant elasticity case relative to the  
17 linear case.

18 Q Well, why do we not dig out the article you mentioned? Sir, this is the controversial cross-  
19 examination bundle.

20 THE CHAIRMAN: Our bundle 37, I think.

21 MR. O'DONOGHUE: Yes, I think it is tab 3, Professor Dobbs. This is the "Review of Industrial  
22 Organization", it is a respected journal, as I understand it?

23 A Yes, it is.

24 Q These economists, or some of them at least are reasonably well known?

25 A They have an international reputation, yes.

26 Q I asked you to read particular parts to limit the workload. Can I start with p.2, second  
27 paragraph: "A merger situation is built on three key assumptions", you assume 'Bertrand  
28 competition' – assumption one. The second assumption is the shape of the cost functions,  
29 and the final assumption is the demand system, and each demand system, has a certain  
30 inherent current properties. In the next paragraph they go on to identify four different  
31 possible demand systems, they have the tantalizing, almost ideal demand system, logit  
32 demand, and linear demand and log-linear or constant elasticity. They then go through  
33 various simulations. I have not asked you, Professor Dobbs, to look at the number  
34 crunching, but if you see on p.213 on the graphs I think it is obvious, even to the lawyers,

1 that there is quite a spread of results depending on which particular system is used. I want  
2 to go to section IV, the Discussion. They say:

3 “The four demand systems that have been used in merger situation have inherent  
4 curvature or shape characteristics that cause significant differences in predictions  
5 of postmerger price increases. In extrapolating from premerger equilibria,  
6 elasticities of demand change in ways that significantly affect the profit-  
7 maximizing price increases following a merger and that are inherent in the  
8 functional forms of the four demand systems. This suggests a need for research  
9 empirically determining the actual curvature shape characteristics of real world  
10 demand curves, or the development of demand systems for use in both estimation  
11 and simulation that have more flexible functional forms.”

12 They mention the Box-Cox transformation and they say:

13 “Unless there is good information about the higher-order properties of the demand  
14 curve, it is probably important to conduct merger simulations under a variety of  
15 assumed demand forms in order to take account of what Leamer (1983) calls  
16 ‘model uncertainty’. Confidence intervals for predicted post merger prices should  
17 incorporate not only variances of estimated elasticities but also the effects of  
18 different demand assumptions.”

19 I am not an economist, Professor Dobbs, but the point I take from this is first, there are  
20 inherent characteristics of particular demand curves that have a significant effect on the  
21 predicted price outcome. Do you agree with that?

22 A I agree with that. I also agree with the sentiments expressed in this paper, and I think in my  
23 previous answer I suggested that my approach can be viewed as one that fits in very nicely  
24 with the approach they suggest, which is that in the absence of considerable evidence about  
25 empirical shape one should conduct sensitivity analysis, and one should take a look at a  
26 range of demand curves and, in particular, if you look in this particular article at p.207 you  
27 will notice – this is the simplest one to understand – the demand functions are nested  
28 between the two extremes of the linear at the bottom, (fig.1), the linear curve is the one at  
29 the bottom, the constant elasticity is the one at the top, and the other two are nested within.  
30 It is also true that I, in my sensitivity analysis, although I did not report it extensively  
31 because there is a limit to how much of this material anybody would wish to see, but I have  
32 conduct of the experiments with the semi-log functional form, which is also intermediate  
33 these two demand functions. I should mention that these kind of curvatures are  
34 commonplace in economics, and indeed in the SNGN report Ofcom itself makes use of the

1 semi-log functional form when discussing welfare loss arising out of pricing  
2 misconceptions.

3 Q I do not think we disagree about that, but if I can direct you to 208 of the same article, I  
4 think I am making a different point. You will see at the top of the page:

5 “Although we find that these curvature properties are very important, the choice of  
6 a demand system in practice may also depend on other characteristics and we do  
7 not specifically recommend the use of any of these demand systems.”

8 As I understand their discussion, their conclusion, what they are saying is that because of  
9 the inherent properties you will inevitably have a variation in predicted price effects, and in  
10 the absence of empirical data it is not good economic practice to seize on a particular  
11 demand form, that one has to in effect adopt the most conservative assumption?

12 A My approach has been relatively pragmatic, it is one in which one always brings to any new  
13 problem or application some prior expectations about the structures of, in particular in this  
14 case, demand functions. It is not as though going back through the last 100 years or so we  
15 do not have any studies on demand and this sort of thing, there is a considerable body of  
16 evidence about these – and in general the tendency is to find some degree of curvature in  
17 demand functions. I am not suggesting that it is universal, but I am suggesting that when  
18 one comes to look at a new problem in which one has relatively limited information, it is  
19 natural to bring with one the information one already has from other studies; and that’s  
20 implicit in what I do when I say that, without strong evidence to the contrary, one would  
21 tend to assume that demand is likely to lie between the extremes of linear demand and  
22 constant elasticity. I’m not saying that I can prove this as a mathematical fact, in fact for  
23 sure you cannot prove it as a mathematical fact. But as between reasonable men — I would  
24 say perhaps in a more restricted sense “reasonable economists”, if there are such people —  
25 then they would tend to agree with that factor.

26 Q Well, two final questions, Professor Dobbs, it is interesting you say that, because one of  
27 your ripostes to Dr. Walker is, you say that most economists, if asked, would agree with you  
28 in terms of your assumptions as to elasticity.

29 A Mmm.

30 Q Now, most economists in this case do not agree with you. I mean, you are not suggesting  
31 you have done some straw poll of family fortunes —

32 A No, no. Have you done a straw poll?

33 Q Well, I have not, but what I am saying is that an objective reasonable-minded economist  
34 approaching this would do exactly as Dr. Walker has done, which is to say in the absence of

1 any empirical data, I have ambiguous results depending on constant elasticity or linear  
2 demand, and I'm not going to nail my colours to the mast in terms of fixating on any  
3 particular functional form. I'm happy to say the position is ambiguous in the absence of  
4 data".

5 A Mmm. I think that it's easy to say we have no empirical evidence. I mean, some kinds of  
6 information may be obviously quantitative, but they do inform some idea about the demand  
7 function. That's what I presented in one of my notes, I think it was note C, but also in my  
8 final report, Dobbs 7. I argue that one of the things that one knows as a sort of, I would call  
9 it the "stylised fact" is the idea that the true price is significantly above that which would be  
10 predicted by a linear demand curve, and I know there's been some discussion of that point.  
11 I think that most of the discussion misses the point that the 08X markets are after-markets  
12 and that people with mobile phones will make calls to these numbers almost, some people  
13 will make the calls, even at relatively high pence per minute prices.  
14 The other piece of information which came to light, and perhaps I should have seen it  
15 earlier, but with the volume of material that we've had before us, it didn't come to my  
16 attention in good time, but it's the DWP data. And, again, I did mention it in my report,  
17 Dobbs 7, that it revealed that demand was going to be more convex than the linear case, that  
18 in fact it revealed some degree of elasticity rather than inelasticity as you reduce prices.  
19 And because it was just in a footnote, I felt it was important to clarify that point, and that's  
20 what note C tries to do. It tries to make the point that that data is suggestive of convexity in  
21 the shape of the demand curve. And, again, what I would suggest is that the evidence  
22 always tends to point the same way, you know, whenever one comes up against any  
23 evidence, it always tends to point in the direction of not so much linear, but more towards  
24 some degree of curvature in demand curve. I'm not trying to hold up the DWP data and say  
25 "This is the best thing since sliced bread", I'm just trying to say that whenever this  
26 information comes up it tends to point in the same kinds of direction which is towards  
27 convexity.

28 Q Sir, I have no further questions.

29 THE CHAIRMAN: Thank you very much, Mr. Donoghue. Miss Smith.

30 MISS SMITH: Sir, have we time for a short break, or would you like me to start?

31 THE CHAIRMAN: No, we will rise for five minutes.

32 (Short break)

33 THE CHAIRMAN: Miss Smith?

34



Cross-examined by Miss SMITH

1  
2 Q Thank you, sir. Good morning, Professor Dobbs. Could I ask you to pull out bundle C1,  
3 which is the bundle containing your expert reports. I want to also refer to C2, but for the  
4 moment we will just have C1 out. Can I ask you to turn to your most recent official report,  
5 Dobbs 7, which is at tab 7. I would, first, like to just ask you a couple of questions on the  
6 waterbed effect which you deal with in section 3 of your report, p.28, starting at para.96.  
7 You say in para.96:

8                   “The waterbed effect has certainly been established in theory ... The question  
9                   is thus one of empirical materiality.”

10 You go on to make some comments in 97 and 98 about the empirical materiality. You say  
11 at the end of para.97:

12                   “Observed behaviour like this is thus suggestive that the waterbed impact may  
13                   be significantly less than 100%, and I think pretty much all the empirical  
14                   evidence supports this proposition.”

15 You do not give any empirical evidence at that stage to that proposition, do you?

16 A No, I have not conducted myself any empirical work on waterbed phenomena, and the  
17 theoretical predictions are in general for a range of values between 0 and 100 per cent.

18 Q When you refer to the empirical evidence supporting that proposition, did you have in mind,  
19 for example, the report produced by Professor Valletti and Professor Genakos?

20 A Let me think, in Dobbs I was asked – part of my remit was to give a brief review of  
21 evidence on the waterbed effect, and Professor Valletti’s work on this was part of the work  
22 that I briefly reviewed.

23 Q You would recall, would you, that that report absolutely said that the waterbed effect was  
24 likely to be less than 100 per cent, but that it was likely to be strong?

25 A It suggested that there was a significant waterbed effect, and it was also suggestive that that  
26 effect would be less than 100 per cent. The devil is in the detail in a lot of econometric  
27 work. There have been other studies, and one of the things that one finds when one looks  
28 closely at the work is – I would hesitate to say that I have looked closely at the work, I  
29 would not wish to profess to be an expert on the empirical evidence at all – but in so far as I  
30 have been able to glean some understanding of that work, it appears that it’s quite sensitive  
31 to the definitions of the average price. Professor Valletti actually has – I think obviously  
32 it’s something to ask him about ----

33 Q Of course.

1 A -- but he has teased out the difference according to the variation in definition of what one is  
2 focusing as to the extent of the effect.

3 Q I think it is fair to say on the basis of the, as you describe it, not detailed analysis that you  
4 have done of the empirical evidence you would not want to say how much less than 100 per  
5 cent the waterbed effect might be in this case? You would agree with that?

6 A I think my view on the waterbed is that it does not really too matter what that percentage is.

7 Q I was going to go on, but you make that very point in para.98 of your statement. You say:  
8 “... *whatever* the implement magnitude of the waterbed effect, so long as it is  
9 less than 100%, I consider these waterbed effects do not alter the direction of  
10 the overall welfare impact. That is, in my view, even if waterbed effects are  
11 highly material, I still take the view that [any] price reduction ... is overall  
12 welfare beneficial ...”

13 I understand that statement to be based on your total welfare analysis. That is correct, is it  
14 not?

15 A That’s correct. I think a point was raised yesterday about the total welfare measure and ----

16 Q I am not actually going to ask you any questions about the total welfare measure. That, I  
17 think, was properly dealt with by Mr. Herberg. If you want to make any points on the  
18 waterbed point then please do.

19 A Could I just make a very small point?

20 Q Absolutely.

21 A It was just that in so far as a firm’s profits are counted, I think Mr. Herberg suggested that  
22 because BT is a multi-national firm with business overseas, and so on, that it was all rather  
23 complicated to say what should count. Probably my answer at the time was not really very  
24 well considered, but I certainly would suggest now that one actually look at things like  
25 shareholding and also the amount of the business that is within this country and overseas  
26 and therefore one would come up with a weight. The weight that one would wish to apply  
27 might be not 100 per cent, but it is certainly not zero per cent.

28 Q It is not a simple matter. You would have to look at the various different benefits, costs and  
29 benefits, and on your evidence you would have to give each of them a weighting?

30 A Yes, it’s rather like Ofcom would have to give weightings to various effects in their  
31 analysis.

32 Q Absolutely. Can we move on a different point, that of demand curves, and I would like you  
33 to leave open C1, but also take out bundle C2, please. Can I ask you to turn to tab 46 in that  
34 bundle. This is the second expert report of Dr. Mike Walker. Can I ask you to turn to p.5

1 of that report, para.13, where he introduces table 1, which I am sure you have seen. What  
2 he has done in table 1 is he has used your modelling framework, as he says that the results  
3 in table 1 are all generated within the framework used by BT's experts to show the  
4 percentage of cases in which retail price for 0845 and 0870 fall to 12.5 ppm assuming either  
5 constant elasticity of demand or a linear functional demand curve. What he has done along  
6 the top of the table is he has put the price before the introduction of the new wholesale tariff  
7 structure. In ranges between 12.5 to 17.5, 17.5 to 22.5, etc. The modelling has been done,  
8 as I understand it, for a range of marginal costs between 1 ppm and 5 ppm. We see the top  
9 two rows are 0845 calls, and we see that with constant elasticity the price, and this is  
10 important, this is about the price dropped to the lowest tier, the 12.5ppm, and we see it is  
11 100 per cent all the way along until it is only 96 per cent before the pre-NCCN prices are  
12 between 32.5 and 40, I think 96 per cent is because he has modelled a range of marginal  
13 costs there, so it also depends on the marginal cost as well as the pre-NCCN price as to  
14 whether or not the post-NCCN price will drop to 12.5ppm. That is what you understand  
15 from this table as well. Then he has shown the results with a linear demand curve. We see  
16 that it is only at the pre-NCCN price of between 12.5ppm and 17.5 that there is a 100 per  
17 cent drop to 12.5ppm post-NCCN, only 14 per cent for some marginal costs at the next  
18 range of prices, and then no drop to 12.5ppm above the pre-NCCN price of 22.5p.  
19 Then we see the results for 0870 calls on the bottom two rows a similar picture – almost  
20 exactly the same picture, apart from the difference of 99 per cent rather than the 96 per cent  
21 – for constant elasticity and linear demand curves, and he explains his results in paras. 14  
22 and 15. I will just ask you as a first point, this table we say is essential and shows that it is  
23 essential for BT's purposes in establishing whether the wholesale tariff structure will  
24 provide an incentive for prices to drop to 12.5ppm, the lowest tier, whether the demand is  
25 actually closer to constant elasticity of demand or linear demand, because quite a different  
26 result is obtained for constant elasticity demand curves and linear demand curves, and BT is  
27 concerned in this case to establish the drop to that lowest tier. You would agree with that  
28 proposition?

29 A Are you telling me that as a fact?

30 Q I am asking whether you agree with the proposition that this shows because of the  
31 difference in results for the constant elasticity curve and the linear demand curve that it is an  
32 important question, as a matter of fact, where the demand curve actually is between constant  
33 elasticity of demand or linear demand curve, because where it actually is might give you  
34 very different results from your modelling?

1 A So that is the question. Well let us take the case of ----

2 Q Well it is a simple question: does this show that what the actual demand curve is, is an  
3 important point if you are going to try to prove prices will drop to 12.5ppm, yes or no?

4 A Again, the devil is in the detail. We are looking here, as I understand it, at a range of  
5 marginal costs from nought to five pence, when the range is actually, in my opinion, much  
6 lower than that. The evidence seems to suggest that it is between nought and 2.5p at a  
7 maximum and when we are looking at prices, we were looking at average prices. So  
8 headline rates should not impress anybody, the key point is that the average price can be  
9 considerably below, for example, a headline rate for some customers of 40ppm. The  
10 average rates appear to be for most MNOs something in that region of maybe 25p and less,  
11 maybe 25p and less. It is a bit hard to say because I personally do not have any detailed  
12 information about individual MNOs pricing, but we do have evidence from the SNGN study  
13 of the average of four MNOs prices, and that comes out as a pretty low level ----

14 Q You are not giving evidence, Professor Dobbs, as to what the actual averages might be, or  
15 what the actual marginal costs are?

16 THE CHAIRMAN: Miss Smith, what I understand the witness to be saying is that he does not  
17 accept the premise on which this table has been drawn up ----

18 A Yes.

19 THE CHAIRMAN: -- and I think he is articulating that.

20 MISS SMITH: Well, I am not quite sure that it is that, sir, I think if I could put the question, with  
21 respect, to Professor Dobbs. An important point is the devil is in the detail, is it not, there  
22 are a number of different variables to which the model is quite sensitive. The marginal  
23 costs, the average price and the shape of the demand curve, and obviously you will get  
24 different results from the model depending on what is fed into the model; that is by  
25 definition what a model is. But this table shows, does it not, that the results are quite  
26 sensitive to what you feed into the marginal cost, what you feed into the average price, and  
27 particularly what you feed in for the shape of the demand curve. You would not disagree  
28 with that proposition?

29 A What I would suggest is that when one takes ranges for variables, it is useful to have in  
30 mind what the relevant range should be and, for example, in this particular case what I am  
31 suggesting is that the relevant range is not from 12p to 40p, but when we are looking at  
32 average prices we are probably looking at a range from 12p to 25p. Then when we are  
33 looking at marginal cost the relevant range is not 0p to 100p, 000p to 5p either, it is not 3p,  
34 the trouble with tables like this is that by extending the ranges you get the impression that

1 there are lots of zeros up in particular areas of the table which are, in a sense, designed to  
2 impress you with the sensitivity results. But if one was to produce a slightly different table  
3 one could produce it and show that in fact for many cases the linear demand curve with  
4 relatively marginal cost and retail prices of below, say, 55p that actually the percentages go  
5 up considerably, and I think that that analysis is revealed in Mr. Pratt's analysis which is  
6 perhaps a little bit more extensive than Dr. Walker's, and by the way this table focused  
7 exclusively on the incentive to reduce price to 12.5p, the table does not also include the  
8 percentages where one goes down to 17.5p. Again the percentages are all much higher  
9 when one looks at that one in conjunction to the 12.5p, because one of the debates is about  
10 where is the reduction likely to go and the incentives, even in the linear case are pretty  
11 strongly towards 17.5 at a minimum, and in many cases to 12.5. I am not claiming that  
12 under linear demand that for sure the prices will fall to that, or are incentivised to fall to  
13 that. I think the work that has been done by several economists reveals that one can say that  
14 and reasonable assumptions about what the highest average price is likely to be, and under  
15 reasonable assumptions about what the highest marginal cost is likely to be the results are  
16 fairly clear cut.

17 Q Well there are a number of points –I am not here to enter into a debate with you, Professor  
18 Dobbs, and again we are not here to have a debate – first, it is a question of the  
19 reasonableness of the assumptions that you make about the marginal cost and the price  
20 before the end of the average price; you have just said that it is about the reasonableness of  
21 those assumptions. You are nodding?

22 A Yes.

23 Q You also mentioned that in your view, and that is contested to make it clear, but even on  
24 your view reasonable ranges may have been 0 to 25ppm for pre-NCCN price, and if we  
25 draw a line down the middle of Mr. Walker's table at 25ppm we still see that there is  
26 uncertainty and that there are substantial proportions of calls that will not drop to those  
27 12.5ppm, even within your reasonable range there are uncertainties, you would agree with  
28 that?

29 A I think that I responded to this report in Dobbs 7.

30 Q I will be taking you to that, if I may, but I would like to do it step by step. You say, even on  
31 your reasonable range, which again is contested, of marginal costs between 0 and 3ppm this  
32 table shows marginal costs between 1 and 5ppm so there are still uncertainties as to whether  
33 there will be the drop to 12.5ppm even where the marginal cost is up to 3ppm, the are still  
34 those uncertainties is what this table shows. You would agree with that?

1 A I think this table shows what it shows, I am not going to dispute the figures in the table.

2 Q No. Again you have made the point, but I think it is an important point, that what this table  
3 focuses on is a drop to 12.5ppm, you have made the point that your model shows a tendency  
4 to drop to price reductions generally, they may be to 17.5ppm, they may be to 12.5ppm?

5 A That's correct.

6 Q Of course BT in this case, as we understand it, is concerned to show a drop to 12.5ppm, and  
7 that is why you understand this table was produced.

8 A It is Ofcom's view, I think, that the critical issue is whether the fall is to 17.5 per cent or  
9 12.5p. It is certainly not my view.

10 Q It is not your view.

11 A Because whatever the reduction in price, I consider that it is highly likely that it will be  
12 welfare beneficial.

13 Q And that is based on your total welfare analysis.

14 A I consider that if one takes a view different from the total welfare view, and one emphasises  
15 consumer surplus and does the kind of analysis that Ofcom has done, I still consider that if  
16 the price falls to 17.5 that is quite likely to be welfare beneficial. I think that, and I made  
17 clear in my report that the Ofcom assessment of welfare on their own terms is, well, let us  
18 say we have had a debate about it.

19 Q You have had a debate about it. Can I ask you to turn to your response to Mr. Walker's  
20 tables, which is in your seventh report, starting at para.52, actually it starts at 49, but the  
21 meat of it, we start getting to the meat of it at 52, and you give a summary of your position  
22 at 53, p.17. Let us look, if we may, at what your statements are on the likely shape of the  
23 demand curve. In para.52 you say:

24 "Linear demand and constant elasticity of demand can reasonably be viewed as  
25 boundary cases".

26 I think you made that point to Mr. Herberg in cross-examination earlier.

27 A That is correct.

28 Q And you said to him where, as a matter of reality, the truth lies between those is a matter of  
29 debate, but your gut feeling, I noted, was that it was somewhere between the two.

30 A And the empirical evidence such as we have seems to suggest that the convexity would be  
31 closer towards the constant elasticity case than the linear case.

32 Q Yes.

33 A That would be my view.

1 Q And let us just focus on what you say about that in this witness statement, Dobbs 7. You  
2 say, as I understand it, for some range of higher prices, probably above 20ppm there is  
3 likely to be some convexity of demand, and that is spelt out in Annex 2 to your statement.  
4 If I could just take you to Annex 2, p.51 in A2.11 you say:

5 “We know as a matter of common sense, that there would be significant demand  
6 at a price of 40ppm, and indeed at much higher prices, and hence we know that  
7 demand *must* feature *some* convexity somewhere on the price interval above  
8 20ppm. That means we know that assuming linear demand or concave demand is  
9 not a good assumption for higher prices”.

10 And then you say, over the page, at A.2.15:

11 “In the present case then, the fact that we know that there would be non-zero  
12 demand at significantly higher prices implies there is almost certainly some  
13 convexity to the demand function over some range of those higher prices”.

14 You make the same point in para.2.18 towards the bottom of that paragraph:

15 “Notice that it is possible to have some concavity in demand as price is increased,  
16 but there is a need for significant convexity too, given that there is likely to be  
17 some positive demand at high prices”.

18 And you say, again, in A2.19, the last sentence:

19 “This in itself implies that demand function must have significant convexity in this  
20 region, and is likely to tend toward being a constant elasticity curve at these high  
21 prices”.

22 And you draw your conclusion over the page A2.20:

23 “Taking all these observations together therefore, it is my opinion that at higher  
24 prices, demand is undoubtedly greater than indicated under linear or concave  
25 demand, and that the ‘truth’ lies closer to the constant elasticity demand curve  
26 structure than to the linear demand structure”.

27 We should add “at these prices”. That is correct. What you are talking about here you  
28 actually, when we go back, we turn back to para.55 of your statement on p.18, you  
29 reproduce what is at A2.20:

30 “Taking these observations together therefore, it is my opinion that at higher  
31 prices, demand is undoubtedly greater than indicated under linear or concave  
32 demand, and that the ‘truth’ lies closer to the constant elasticity demand curve  
33 structure than to the linear demand structure”.

1 And for clarity, I suggest we should add “at those prices”. So, you are talking about a  
2 higher range of prices, above 20ppm, and you say that in the light of your analysis the truth  
3 lies closer to the constant elasticity demand curve at those prices. That is what you are  
4 saying in your report, is it not?

5 A I think in the Dobbs 7 report it is correct to say that —

6 Q I am going to come on to your note C.

7 A Yes.

8 Q Because I think that is where you fall back on this point.

9 A So, can I answer? I'm just going to say I agree with you that —

10 Q Yes.

11 A — for price increases, there is some evidence of convexity somewhere.

12 Q And you would also agree that, as a matter of theory, the shape of demand curves may  
13 change along the demand curves. They may be different shapes, lower ranges, upper —

14 A As a matter of theory, as a matter of theory —

15 Q Perhaps it is very dangerous to put points of theory.

16 A Yes — as a matter of theory, consumer theory, it places very limited restrictions on the  
17 shape of the demand function at the individual level; and then one has to aggregate over  
18 individuals to get towards the demand curve faced by an individual firm. So, again,  
19 aggregation leads to difficulty with making any formal predictions. The idea that demand  
20 could — I would just like to add one more point at the moment, which is to say that the  
21 assumption of profit maximisation does require that the demand curve passed through the  
22 current price  $P_0$  in this diagram must lie below and to the left of a unit elastic hyperbola. So  
23 we do know various pieces of information based on the assumption of profit maximisation,  
24 the assumption of the choke price, of out-price increases.

25 Q Yes. I would like to come back to your assumption about the choke price shortly, if we can  
26 just focus at the moment on this point. In para.54 of your statement, p.17, about halfway  
27 through that paragraph, you say:

28 “Most economists would probably agree that in the absence of evidence to the  
29 contrary, it is more likely that demand elasticity will tend to increase with price  
30 rather than stay constant”,

31 so it would tend towards more linear demand, I think is what you are saying there.

32 A That’s right.

33 Q Yes.

34 A So, as a general tendency, again, the theory gives no indication of that fact.



1 Q Absolutely. You cannot discount a possibility, therefore, that, as you say, elasticity of price  
2 might tend to increase as price is increased. There is also a possibility, therefore, that  
3 elasticity as a matter of general theory, elasticity of price would decrease as prices decrease.

4 A No. As a matter of theory, one cannot discount that possibility.

5 Q Right. As you say in para.54:  
6 "This is merely a view about general tendency, one which might not hold in a  
7 particular case".

8 A That is correct.

9 Q Yes. So, in each particular case what you really need is some empirical evidence of how  
10 those particular consumers might respond to price to price rises on a particular good.

11 A That's correct. And I'm sure you're going to bring me to the DWP data and —

12 Q I will, very shortly. So, just put to you this point, that, looking just at the Dobbs 3 report at  
13 the moment, the Dobbs 3 modelling, the Dobbs 7 report, I am sorry, that is rather mis-  
14 characterising it, I will start again — looking just at the Dobbs 7 report, and we will come  
15 on to note C, your evidence in this report, as I understand it, does not exclude the possibility  
16 that demand could be linear or even concave at lower prices. We are looking here at your  
17 evidence simply as regards the higher range of prices above 20 ppm?

18 A If you are suggesting that in the locality of the current price it is possible for it to be  
19 concave and then to switch to convex later ----

20 Q That is not what I said.

21 A Is that not what you are suggesting?

22 Q No, I simply said that your evidence in this report which, as we have established, is that at a  
23 range of prices higher than 20 ppm there is likely to be convexity of demand. All I am  
24 saying is that that does not exclude the possibility – I put it no higher than that – that  
25 demand could be linear or even concave at lower prices?

26 A The discussion there does not rule out the possibility of linear demand at lower price, that's  
27 correct.

28 Q And if demand is linear, or even concave, although I see that you say that is an extreme  
29 assumption, at prices lower than 20 ppm you would agree there will be a reduced incentive  
30 to cut prices at that level?

31 A As a matter of fact, that is correct.

32 Q Absolutely. Of course, what we are concerned with in this case or, to put it fairly, what  
33 Ofcom is concerned with in this case is the cutting of prices to 12.5 ppm and 8.5 ppm, the

1 lower tiers for the 0845/0870 and 080 numbers. So the actual demand curve at those lower  
2 price ranges, you would agree with me, is pretty important?

3 A Yes, I would.

4 Q Can we then turn to your note C. I am afraid I have rather lost track where it ended up in  
5 the bundles, C1, tab 25, I am told, or you might even have it loose. This is your note C.  
6 Just by way of introduction, you take figures from the SNGN consultation paper, you take a  
7 table of figures, which were looking at the shares of calls to the DWP Benefit Claims  
8 Services lines made from mobiles, from fixed line and from payphone before and after the  
9 introduction of zero rating for those calls from mobiles. That is what you were looking at in  
10 this note?

11 A That's correct.

12 Q You used those figures in para.2 of your note to calculate an elasticity figure for 0800 calls  
13 of minus 2.47?

14 A That is correct.

15 Q That led you to make the conclusion in para.5, having carried out further calculations, that  
16 this provides empirical evidence that demand is convex not only for price increases but also  
17 for price decreases. That is the conclusion you draw?

18 A That's correct.

19 Q Paragraph 5, second page, last sentence.

20 A Correct.

21 Q So you would accept that the elasticity that you calculated of minus 2.47 is obviously only  
22 for calls to those numbers, the calls to the DWP Benefit Claims Services, and only in  
23 response, on the basis of this data, to the price signal given by all MNOs charging zero  
24 regardless of the operational tariff.

25 A That's correct.

26 Q Mr. Pratt made some points on this, you will recall yesterday, and you made some points on  
27 it in your evidence in chief, and Mr. Pratt's points, as I understand it, were that this data  
28 may not reflect what would happen as a result of BT's NCCNs. That was put to you  
29 essentially in examination in chief, and as I understand it from my notes what you said was  
30 that they could give some reasonable guidance because you said that if one MNO drops  
31 their prices to zero it is likely that others will follow, and it is irrelevant that these are lower  
32 income callers?

33 A They certainly suggested that the details of who makes the calls, and so on, at the individual  
34 level, the price sensitive individual or individual groups is not germane to the issue. With

1 regard to the question of what would happen if a single MNO reduced its price to zero, I  
2 think the point that I was trying to make in my evidence yesterday, or my statement  
3 yesterday, or my comment on it, was that I could understand the idea that in so far as this a  
4 universal price drop it may be more transparent to individuals and therefore you might say  
5 you would see a bigger response. I think that is true. However, on the other side we have  
6 the fact that the responses are increasing over time. We have the 5<sup>th</sup> March and 4<sup>th</sup> June. I  
7 am not going to suggest that this is highly robust data at all, but I'm suggesting there's a  
8 trend and that this is consistent with my argument earlier on about how price responsiveness  
9 of quantity to a change in price takes time to manifest itself. The shortened response in  
10 microseconds, nobody knows that the price has changed. There is no change in quantity.  
11 Then, as time progresses, people have more time to respond. The first thing I would say is  
12 that those volumes are increasing and therefore the implied elasticity is increasing. The  
13 other point I would make is that the calculation of minus 2.47 assumes there is no increase  
14 in the total volume of calls. It is merely that people who were making calls from fixed  
15 switch to mobile. Both those observations suggest that actually minus 2.47 is an under-  
16 estimate.

17 Q Can I put some points to you to see whether or not you would agree that what I have said  
18 might point the other way. From the answer you have just given, you would disagree,  
19 would you, with the proposition that there is at least a possibility that callers to the DWP  
20 Benefit Claims Services lines are lower income callers and may therefore be more price-  
21 sensitive than the population in general. You would disagree with that?

22 A No, I do not.

23 Q Another other point that I would like to put to you is that obviously your modelling looks at  
24 whether there an incentive for prices on mobile calls to 0800 to fall to the bottom tier, which  
25 is 8.5 ppm not zero – that is correct, is it not?

26 A That's correct.

27 Q Your modelling is also about the incentives for such prices to drop to 8.5 ppm on average,  
28 as I understand it?

29 A In the 080 case.

30 Q In the 080 case. Of course, mobile operators may be charging a range of prices for the 0800  
31 calls in and out of tariff bundles. I think you described it yesterday, that there may be price  
32 dispersion around the average – is that correct?

33 A That's a possibility.

1 Q Even if your modelling is correct, and that the prices do fall to this average below 8.5 ppm  
2 we will still have fixed line operators who are charging zero for these 0800 calls?

3 A That's correct.

4 Q We have the evidence that from 2009 BT has included these calls in its call retail bundles  
5 and Talk Talk also includes those calls in its bundles, so therefore a marginal to consumers  
6 of zero of making those calls?

7 A That is correct.

8 Q Therefore, you would accept that it is reasonable that there may still be price confusion in  
9 response to the mobile operators' response to the NCCNs. Even if they induce the falls in  
10 retail prices that your modelling suggests, consumer reactions to prices after the  
11 introduction of BT's NCCNs may not be the same as they were in response to the clear  
12 price signal given by the zero rating of all calls to the DWP helplines. Do you would accept  
13 that?

14 A I am sorry, could you repeat the question?

15 Q Sorry, it was a bit long. It is reasonable to suggest that consumers' reactions to the  
16 introduction of BT's NCCNs may not be the same as they were in response to the clear  
17 price signal given by the zero rating of all calls to the DWP helplines?

18 A It's certainly possible, depending on publicity and depending on many factors. Anything is  
19 possible.

20 Q Of course. As you said just now, this is not highly robust data, and you said in response to  
21 Mr. O'Donoghue this morning that one can over-impressed with quick little pieces of data  
22 which should be treated with caution?

23 A I think when I say "not be impressed", this is actual data. Mr. O'Donoghue was raising a  
24 case which, when we looked at it more closely, appeared that it was just what the MNO  
25 thought would happen, as opposed to an actual empirical application. This one is actual  
26 price change, actual change in quantities. Therefore, I do, and would, accord it much  
27 greater status than that previous document.

28 Q You would agree that there is a dearth of actual data on this matter in this case. I do not  
29 think that is controversial?

30 A I would agree that no one has presented – and of course the MNOs had that opportunity, I  
31 would guess.

32 Q As did BT, but I am sure Mr. Ward will be putting some points to you on that. Can I ask  
33 you to turn back to para.53 in Dobbs 7. I would like to just briefly consider in para.53 the  
34 reasons why you say linear or concave demand is an extreme assumption for these higher

1 price ranges, above 20 ppm. First of all, in (a) you talk about average retail prices and  
2 marginal costs, and we have dealt with that point. I do not want to dwell on it any further. I  
3 would like to concentrate on what you say in (b) through to (d). In (b), you say, and you are  
4 talking here about your choke prices:

5 “It can be shown that linear or concave demand is an extreme assumption. In  
6 particular, it entails that choke prices are unreasonably small. The choke price is  
7 the price above which no-one makes a call.”

8 It is where the demand curve cuts the vertical axis?

9 A Correct.

10 Q So, for example, in the Dobbs 3 model, so you are applying your Dobbs 3 model at this  
11 stage, are you?

12 A I think that the evidence bears on both the Dobbs 3 and the Dobbs 4 models, but I do not  
13 think it matters.

14 Q Because you calculate some prices in the following sentence, and it says: “In the Dobbs 3  
15 model ...”?

16 A Okay, I am sorry, yes.

17 Q So you were using the Dobbs 3 model to calculate those ----

18 A In paragraph 53b I am indeed using the Dobbs 3 model as it says.

19 Q “...if the pre-NCCN 08 retail price is 20ppm, the choke price is less than 40ppm.  
20 With concave demand it is even lower. We know that choke prices will be  
21 significantly higher than that. This in itself suggests there must be convexity in  
22 demand as post-NCCN retail price is increased.”

23 So the choke prices you have confirmed are calculated under the Dobbs 3 model. Now in  
24 the Dobbs 3 model I think you mentioned this in response to Mr. O’Donoghue this morning,  
25 you used an inferred elasticity, the Lerner Condition – that is correct?

26 A This is in – I am sorry, there was some sneezing going on, I didn’t quite catch – could you  
27 repeat the question?

28 Q Yes, of course. In the Dobbs 3 model you used an inferred elasticity which you obtained by  
29 using the Lerner Condition?

30 A That’s correct the Dobbs 3 model takes the observed MNO price and infers a demand  
31 elasticity from that.

32 Q The Lerner condition gives, must give an elasticity of a magnitude greater than 1?

33 A That’s correct, if there was no spill-over effect then that’s right.

1 Q Absolutely, we will come to the spill-over effect, just concentrate for the moment, if we  
2 may, on the Lerner Condition. So a magnitude greater than 1 implies, or actually says that  
3 there is elastic demand under current levels?

4 A That's correct.

5 Q We will come to the spill-over function. In the Dobbs 3 model it assumes elastic demand  
6 because the Lerner index gives an elasticity of a magnitude greater than 1?

7 A Well to be precise it infers an elasticity it doesn't assume an elasticity.

8 Q I am sorry, it infers an elasticity by use of that Lerner Condition?

9 A That's correct.

10 Q But the elasticity in that model will never be less than one?

11 A That's correct.

12 Q You have bundle C2 open, if you could look at tab 45, which is Dr. Walker's first report. If  
13 I can just ask you to turn to para. 46, p.13 in that report, he is there addressing the use of the  
14 Lerner index, and you will see the simple Lerner Index is set out in para. 44, and he then  
15 makes some comments on that. In para. 46 he points out that:

16            "... deriving an estimate of the elasticity demand at current prices using the Lerner  
17            Index does not tell us how that elasticity varies as price varies (i.e it does not tell us  
18            the shape of the demand curve). So BT's experts still need to make strong  
19            assumptions about this."

20 Leaving aside the word "strong", you would agree that the Lerner Index does not give us a  
21 curve?

22 A The statement is absolutely correct, yes, leaving the last sentence to one side.

23 Q And at para. 48 he notes:

24            "... the MNOs have argued that the actual elasticity of 080 calls is much lower  
25            than the one derived from the Lerner Index that is used by the BT experts."

26 And as far as you are aware that is also correct?

27 A That is their claim, yes.

28 Q That is our claim. So if demand were less elastic at current prices, so if it were inelastic at  
29 current prices, if it were below 1, as suggested by the MNOs, the choke price that you refer  
30 to in 53b would be higher, likely to be higher?

31 A That's absolutely correct. I think I make that point in one of the notes.

32 Q That is fine, you agree?

33 A I agree.

1 Q That is a consequence of the use of the lower index. And if choke prices were higher that  
2 might affect the strength of your conclusion about the significance of convexity of demand  
3 at those higher prices?

4 A I think that if one makes an assumption that the demand is inelastic, I recall that Ofcom's  
5 judgment was that it may be inelastic but was not very inelastic, but even if it is moderately  
6 inelastic as it gets more inelastic the choke price goes up for a linear demand curve.

7 Q Absolutely.

8 A I hesitate to do a calculation in my head, but for sure it goes up. The question then is  
9 whether the choke price that one would actually have in practice is significantly greater than  
10 the implied choke price from a linear demand. My gut feeling on that is yes, they would,  
11 because there are significant numbers of people in this city who do not really care too much  
12 what they pay in pence per minute when they make calls, there will always be some  
13 significant demand for calls at even quite high prices.

14 Q Yes, as you say, this is a gut feeling. There are a number of unknowns, I do not think you  
15 would disagree what is the actual elasticity of demand, what the level of choke price  
16 actually might be, a reasonable level of choke prices, so there are a number of unknowns  
17 just in this aspect of the case?

18 A Yes, but what I am suggesting is that as a piece of qualitative information the choke prices  
19 that are implied by linear demand and any assumption about the degree of inelasticity at the  
20 current MNO price does not come up with a figure for a choke price that is realistic.

21 Q If I may move on to the spill-over term. We have established that the Dobbs 3 model used  
22 an inferred elasticity, the Lerner Index, which would always be of a magnitude greater than  
23 1, that is elastic demand?

24 A Yes.

25 Q But as we have also discussed there was an issue – and let us not put it any higher than that  
26 at the moment – that demand might be inelastic, i.e. a magnitude of less than 1 at current  
27 prices. You responded to that issue – sorry, before we get there, if demand was inelastic, as  
28 I understand it, it is possible that the profitability index used in the Dobbs 3 model would  
29 show an incentive to price increases if there was a sufficiently inelastic demand?

30 A Under assumption of a linear proximation for the spill-over function, which is obviously  
31 another point that is being raised as an issue, but in the Dobbs 4 model the spill-over  
32 function is assumed to be a linear function. With that assumption the results that arise show  
33 that the more increasingly inelastic the demand is the greater the incentive to reduce price,  
34 the average price, the greater the incentive.

1 Q That is in response to your introduction of the spill-over function in the Dobbs 4 model. At  
2 the moment I am just concentrating on what the position is before you introduce the spill-  
3 over function in the Dobbs 3 model, and what I put to you was that if demand was inelastic  
4 it is possible that the profitability index used in the Dobbs 3 model, and we have not yet got  
5 on to the spill-over term, it is possible that the profitability index used in the Dobbs 3 would  
6 show an incentive to price increases if there was sufficiently inelastic demand?

7 A The Dobbs 3 model, the assumption of profit-maximisation and the implied demand  
8 elasticity, you cannot have inelastic demand in the Dobbs 3 model, if you make the  
9 assumption that the firm is profit-maximising. The two observations are inconsistent with  
10 each other. If you were to hypothesise that the firm is operating at a point which is inelastic  
11 and there are no spill-overs, then one would have to conclude that the firm is not profit-  
12 maximising.

13 Q Can I just ask you to look back at your Dobbs 3 report, which is at tab 3 of the bundle?  
14 Page 9 of that report. This is your Dobbs 3 model?

15 A Correct.

16 Q Paragraph 36(iii) the third paragraph:

17 “It is possible to consider other forms for demand. To date, only the case of a  
18 linear demand specification has been investigated. [That is the question of the  
19 shape of a demand curve] [But] Assuming linear demand implies that elasticity  
20 increases continuously as price is increased. It is possible to reformulate the  
21 analysis presented in Annex 2 to present the profit curves for this case. Essentially,  
22 such an analysis suggests that, so long as the profit maximising price for an MNO  
23 is less than 30ppm, there is still an incentive to reduce MNO retail price, although  
24 perhaps by only one or two steps to the left .... However, if the profit maximising  
25 price were as high as 40ppm, under the linear demand assumption, there is some  
26 incentive to increase price. Thus it appears the result is slightly less clearcut for  
27 MNOs that have higher pre-NCCN956 profit maximising price levels. However,  
28 this conclusion for the linear demand assumption ignores spillover impacts”,  
29 and we will get on to the spillover function. So on that model, before we introduce the  
30 spillover function, there is a possibility of an incentive to increase prices.

31 A It is always possible, if the current pre-NCCN retail price is sufficiently high. If the pre-  
32 NCCN retail price was significantly higher than 40p that is absolutely true. But the key  
33 point to remember is that average prices are, I would say, pretty certain to be less than  
34 30ppm and therefore your observation does not apply.



1 Q On your Dobbs 3 model, well, my observation does not apply on the assumption you have  
2 made about —

3 A There are incentives to increase price.

4 Q But that observation does not apply, because on your view the pre-NCCN prices are  
5 unlikely to be higher than 30ppm.

6 A Well —

7 Q That is your view on the pre-NCCN —

8 A — in the Dobbs 4 model I took a very —

9 Q — you discussed that. That is what you used to say my proposition was incorrect, because  
10 you think that is not realistic.

11 A I think you stated that if the NCCN, the pre-NCCN retail price was at 40p there could be an  
12 incentive to fix this price.

13 Q Actually, I was just reading out what is in the report. But, anyway, leave that to one side.  
14 And, another point before we get to the spillover term. On your Dobbs 3 model, as we have  
15 established, you used an inferred elasticity using the Lerner index. It would have been  
16 possible to take the profitability index in your Dobbs 3 model and do a sensitivity analysis  
17 using different elasticities rather than using the inferred elasticity, would it not?

18 A It's an interesting observation. The Dobbs 3 model says for a given pre-NCCN average  
19 price for 08X calls, we can infer, under the assumption of profit maximisation, what the  
20 demand elasticity must be. You could turn that around and say if we assume the demand  
21 elasticity at a particular number, like -1.3, one could calculate what the implied profit  
22 maximising price would be as well. The two things go together, the price set and the  
23 elasticity of demand at that price. And if you're asking me to say one can view the results  
24 of the Dobbs 3 model as referring to the range as referring to the profit maximising prices,  
25 even if the MNOs pre-NCCN prices were actually different from those prices, and the  
26 argument would be that, so long as the profit maximising prices are not too high, there is  
27 still an incentive to reduce price.

28 Q Yes.

29 A In other words, it is possible that the MNOs might be over-pricing or under-pricing at their  
30 current observed prices, but so long as we taken into account what the profit maximising  
31 prices, the range of those, are likely to be, then the model shows what it shows. And the  
32 key point I'm suggesting is that so long as their profit maximising prices are less than, well,  
33 it depends on the demand curve and so on, but if we're talking about the constant elasticity  
34 market, so long as the profit maximising prices are less than something just slightly less

1 than 40ppm, then we get the incentivisation. It could be that they are actually choosing  
2 30ppm.

3 Q It could be.

4 A And that they, they could have increased their profits by going up to, let's say 38ppm. But  
5 then they would still have an incentive to reduce when the WTS is applied —

6 Q Yes, you say they would still have an incentive to reduce price. Of course what I am  
7 concerned with is the incentive to reduce prices to the lowest tier, to the 12.5, less than 12.5  
8 and the less than 8.5ppm, and as you think you have already accepted, that depends on a  
9 number of variables including a pre-NCCN price for elasticity that you feed into the model  
10 and the shape of the demand curve that you feed into the model.

11 PROFESSOR STONEMAN: Does it not also depend upon the elasticity of the WTS schedule?

12 MISS SMITH: Of the WTS schedule?

13 PROFESSOR STONEMAN: Yes. If you make that steeper —

14 MISS SMITH: Yes.

15 PROFESSOR STONEMAN: — then you have more incentive to reduce the price, so —

16 MISS SMITH: Yes. Absolutely.

17 PROFESSOR STONEMAN: — another side to this, yes.

18 MISS SMITH: Of course. It depends on the shape of the actual ladder pricing and, yes, where  
19 the various tiers are and how steep they are where they are set.

20 PROFESSOR STONEMAN: How quickly it rises.

21 MISS SMITH: How quickly it rises. So, if we can, finally, with much, finally get to the spillover  
22 term, which is in Dobbs 4, and if I can ask you to look at Dobbs 4, which is in tab.4 of the  
23 bundle, paras.22-23 on p.7, you explain at 22:

24 “As previously remarked, the original Expert Report analysis assumed that  
25 spillover effects are only significant at higher prices, and are not present at the  
26 current MNO prices. This in turn entailed that, if current prices are profit  
27 maximising, 08-demand must be elastic. Whilst no evidence has been  
28 convincingly presented that this is incorrect, some MNOs have claimed that  
29 demand is inelastic. Accordingly, this possibility is considered in more detail in  
30 this section”.

31 And you set out in 23 a number of points that you make to address this, including in the last  
32 bullet point:

1                    “The impact of 08 pricing on demand for the rest of the MNO’s offering, on its  
2                    choice of prices and structures in the tariff bundles it offers, are captured through a  
3                    ‘reduced form’ spillover profit function”.

4                    And, I am not going to take you there but, just for everyone’s assistance, in para.82 of your  
5                    latest report, Dobbs 7, you explain what the spillover function does. You say:

6                    “The spillover function is defined pre-NCCN and it includes ALL the profit  
7                    consequences that impact the firm when it unilaterally changes its 08x price. These  
8                    include spillovers in terms of demands for other services, it includes  
9                    reputational effects ... and it includes any waterbed effects”.

10                   So, that is your spillover function.

11                   A     That’s correct.

12                   Q     And on p.8 of your fourth report equation 5 is the derivative of the spillover function,  
13                   I think that is correct.

14                   A     That’s correct, yes. At the current price.

15                   Q     At the current — ?

16                   A     Sorry, it’s the gradient of the spillover function at the pre-NCCN MNO’s price.

17                   Q     Yes. And the spillover term that you construct itself depends on elasticity of demand. Is  
18                   that correct?

19                   A     Yes, it does.

20                   Q     It’s got the epsilon that you see there is the elasticity —

21                   A     Yes, it does. In this model where there’s a potential for spillover, there’s an extra, if you  
22                   like, a degree of freedom, so that we have three assumptions that drive the model. The first  
23                   assumption is profit maximisation; the second assumption is (... I’m just going to run out  
24                   of a third assumption!) But, the first assumption is profit maximisation; the second  
25                   assumption is about the level of the demand elasticity, so that is a parameter that is varied.

26                   Q     So, we see the epsilon, and I think Professor Stoneman said on the very first day of this  
27                   hearing, that you cannot separate one from the other; you cannot separate the spillover  
28                   function from elasticity. Do you agree with that?

29                   A     I would indeed. The gradient of the spillover function is defined, you can see it in  
30                   equation 5 actually.

31                   Q     Yes.

32                   A     It’s defined by the pre-NCCN price, the assumption about the elasticity of demand and the  
33                   marginal cost app.

1 Q Yes. And, on p.9, equation 10, you would agree also, would you, that the spill-over  
2 function is linear across all relevant prices?

3 A Yes.

4 Q You talk about using the first order Taylor approximation which says that it is linear?

5 A Yes, and this is a point that obviously got debated extensively thereafter. I made the  
6 assumption of linear, which of course is a good assumption in the neighbourhood of the pre-  
7 NCCN 08X price. Obviously, as you vary that price, there is a question about the extent to  
8 which a linear approximation will be a good approximation.

9 Q We will come to that. I am sorry, I rather jumped a question there. I went straight on to the  
10 point about it being linear. If we could just go back to the point about equation 5, the spill-  
11 over function depending on the elasticity. As I understand it, there is a negative relationship  
12 between elasticity and the derivative of the spill-over function, that is a larger spill-over  
13 effect is associated with a smaller demand elasticity, and the two are linked in that way?

14 A That's correct, yes.

15 Q So effectively, what you are saying, or what the effect of this equation of the spill-over  
16 function is, the smaller the demand in elasticity the larger the spill-over effect, and that is  
17 effectively what the spill-over function. If there is a lower elasticity, the spill-over function  
18 makes up for it in effect by giving a larger spill-over effect?

19 A That's exactly right. That's exactly right.

20 Q Then we went on to the point about it being linear, and you anticipating. If I could ask you  
21 what I was going to put to you on that, which is the evidence of Professor Valletti. Could I  
22 ask you to turn to C2, tab 30. We have the expert report of Professor Valletti, and could I  
23 ask you to turn to para.17. He deals with the linearity of the spill-over function. Effectively  
24 what he is saying that it might be good to predict local responses, but you cannot use the  
25 first order Taylor series, the linear approach to the spill-over function to approximate the  
26 spill-over over wide ranges of prices.

27 A Yes. I think he makes the point that with a linear function, as you increase the 08X price,  
28 the magnitude of that increases without bound, because it is a linear function ---

29 Q So there is a straight line and a curved line. They might touch at one level but they diverge  
30 substantially as you go along?

31 A That's correct. I did put a caveat on the quality of the approximation in Dobbs 4. In fact, I  
32 raised the issue of to what extent a linear approximation could be used. I have no dispute  
33 with the argument that for large changes in price it clearly cannot be the case that the spur  
34 function can be linear. It makes no sense. The question is whether it might be linear over a

1 range of price, and of course I think what we would all agree on is that the range of price  
2 that we're considering is quite significant. It is not as though we are at 20p and we're  
3 talking about 20 to 20.1. We were talking about quite big ranges, and I think it is perfectly  
4 possible that the function is non-linear on the interval of it that's of interest. I'm not going  
5 to argue against that. If I could just add that I have, in annex 3 to Dobbs 7, considered the  
6 idea that the spill-over function must have some functional form and that functional form is  
7 limited by the assumption of profit maximisation. This is quite a complex mathematical  
8 point that is very difficult to describe in words. What the annex 3 does is to dispense with  
9 the linearity assumption and say even if we make no assumptions about the structure of the  
10 spill-over function, we can still show that it's reasonable to assume ---- Sorry, let me start  
11 again. We can still show that the incentives hold up to that relaxation of the assumption.

12 Q We will come to that. Perhaps we can just look at the moment at the criticisms that  
13 Professor Valletti makes, just to understand what they are. In para.18 he says:

14 "In particular, the linearity assumption biases the results towards giving more  
15 incentives to reduce 08xX prices under the WTS. This is because the spill-over  
16 function is never bounded above under the assumptions of Professor Dobbs: by  
17 setting an arbitrarily large 08X price, the MNO will receive an infinite penalty  
18 ..."

19 So, effectively, explains that as prices increase there will be an ever increasing penalty  
20 because of the linear nature of the spill-over.

21 A That's correct. I've produced some diagrams in annex 3 to illustrate the point, but without  
22 going to those, the argument is that, as a matter of mathematics, the large increases in  
23 prices, the spill-over function, if it is assumed to be linear, does increase without bound.  
24 That, I think we are all agreed upon, cannot be right for large changes in price. Therefore, it  
25 was a point that perhaps needed to be addressed, and I would suggest that I have addressed  
26 it in annex 3 to my latest report.

27 Q No doubt that will be put by your counsel to Professor Valletti. It is also true, is it not, not  
28 just as the price goes up that there is an ever-increasing penalty under the spill-over  
29 function, but equally as the price goes down because of the linear nature ----

30 A That's absolutely correct.

31 Q -- there is an ever-increasing penalty?

32 A Except to say that prices are bounded by zero.

33 Q All the way down.

34 A So a price can only go ----

1 Q Yes, but the way down to zero.

2 A So the issue is not nearly so germane.

3 Q There is an increase in penalty as the price drops towards zero, an increasing benefit under  
4 the spill-over function as the price drops towards zero. You have just, I think, agreed with  
5 that.

6 A I don't think I disagree with that.

7 Q Annex 3 of Dobbs 7, you would agree that it only deals with the question non-LRIC  
8 linearity of the spill-over function above the pre-NCCN price – is that correct?

9 A Let me remind myself. That is correct. The point that I was addressing was the point raised  
10 by Professor Valletti, which was the point that the spill-over function increased without  
11 bound. That was the particular concern. I have only applied the bounds analysis to price  
12 increases. Because the issue is whether there might be incentives to increase price when  
13 there is a non-linear spill-over function.

14 Q Figure A3.2 on p.63 of your report shows an incentive, as you say, to increase price?

15 A Correct. Sorry, could you repeat the question again.

16 Q It shows the incentive to increase price.

17 A Well, it is showing the profitability functions and showing the upper bounds, the  
18 profitability functions. What I have tried to indicate on these diagrams is that the spill-over  
19 function necessarily starts by following the linear approximation. Let me take a particular  
20 example. Let me take the constant elasticity case as a pure illustration of explanation, the  
21 second from the bottom working upwards, the second profit curves.

22 Q Have you got colours on yours or not?

23 A So this would be for  $p_{\text{nought}}$  is 20ppm, and what you see there is the mauve or purple curve  
24 is the profitability predictions under the linear approximation and the red line that moves  
25 upwards is the absolute upper bound that the profitability function could possibly attain. No  
26 one would be particularly expected to attain that upper bound, so that is a matter of absolute  
27 fact, the assumption of profit maximisation the function could not get above that. To be  
28 clear I am not claiming it would ever get anywhere near that, but it presents an upper bound  
29 limit to it.

30 Then I put in our arrows which illustrate where the profits might go in practice, and all that  
31 I am illustrating with the two arrows is the fact that they start off in a similar way to the  
32 linear approximation. Then they may deviate, and they might deviate in either direction  
33 either above or below the linear approximation. What we can say is they are definitely

1 bounded below the red line, and that in the region of the current price they will be close to  
2 the linear approximation. Beyond those observations I wouldn't like to say more.

3 Q So just to make it clear on p.58 of the annex under equation 11, you explain there is a right  
4 hand side of your equation as is specified the bound for MNO profitability and in particular  
5 the upper bound for profitability as prices increased above the current ----

6 A That's correct.

7 Q So we are talking about increases above the current ----

8 A I had not investigated the consequences for price decreases.

9 Q I think just to round off on this point, you very fairly accepted that you had identified the  
10 dangers of using a linear spill-over function in your fourth expert report at paras. 44 to 45 of  
11 that fourth expert report, tab 4, p.33, you explain that you used a first order Taylor series  
12 expansion and the spill-over function used is linear. You say at the end of para.44:

13 "Whether the linear approximation spillover function used is a reasonable proxy  
14 as retail price diverges significantly from the current position is less obvious."

15 I think you very fairly accepted that was a danger?

16 A I would only add one small point to that which is that this point was also debated by Ofcom  
17 and some of the discussion suggested that spill-overs are not likely to be highly material in  
18 this actual case and insofar as the spill-overs are not highly material the gradient of the  
19 function and the impact of the spill-over function is also not material and one could say that  
20 when it is of this lower order of magnitude in terms of its impact probably a linear  
21 approximation over the relevant range is not such a bad assumption.

22 Q The spill-over will matter if the demand is inelastic?

23 A It would if it was.

24 Q Yes. If I could just finish on this point by putting to you a different point on the spill-over  
25 function which is made in Dr. Walker's second statement, so if you could look in C2, tab  
26 46, para. 21 on p.8. Dr. Walker deals with a slightly different point. He says:

27 "The most plausible possibility is that increases in 08x call prices would lead to  
28 subscribers leaving the network altogether (i.e. switching to another network).

29 This means that the spillover effect will depend on the price of 08x calls charged  
30 by other MNOs, but Professor Dobbs does not account for this. If all MNOs face  
31 the same incentives, then if one is incentivised to raise its price in response to the  
32 WTS the others are also likely to be incentivised to raise their prices, but if they all  
33 raise their prices, then what drives the spillover effect, since it will not be driven by  
34 changes in the relative prices between the MNOs? The same issue arise for a price

1 reduction: if all lower their prices then there should be no spillover. Since  
2 Professor Dobbs assumes the spillover depends only on the MNO's own 08x  
3 prices, the implication is that his model over-estimates the profitability of a price  
4 fall and under-estimates of a price rise when rivals also adjust their prices.”

5 So he is saying essentially that it does not take account of the fact that you have identified  
6 earlier in your evidence that rivals are likely to give a competitive response to an increase or  
7 a decrease in prices by the other MNOs?

8 A I think, with respect, I was describing competitive responses by TCPs to the introduction  
9 of ----

10 Q You may have been.

11 A My view on the retail course, the 08x retail course, is that as several commentators have  
12 commented, this can be viewed as an after market. The idea that when one varies the price  
13 of an 08x call it induces significant switching of customers to another network. It is not  
14 something that I think anyone has raised as a serious proposition. In other words, what we  
15 are looking at here is the idea of individuals who come on to a network and then they face  
16 the choice of how much shall we use, whether or not to call 0800, or shall we switch and  
17 shall we wait and go home and make a call from a fixed line? So the question of the price  
18 that they face there might influence whether they go home and make a call and so on, but it  
19 probably does not influence them too much as to which network they choose, and I think  
20 that without giving chapter and verse on that, that that point has been made by Ofcom, and  
21 also several other witnesses. So I don't think the idea of substitution of that form is  
22 particularly material.

23 Q “p” is defined in your spill-over term as own price. That is correct, is it not?

24 A It is the price for an individual MNO. I think what you were driving at was the idea that  
25 when  $p_{\text{notht}}$  is increased for an individual MNO with the others holding constant, so this is  
26 the idea of, let us say, everybody prices 0845 at 20ppm and then one MNO charges 30ppm.  
27 The argument is that that single fact makes a great difference to the choices consumers  
28 make when they choose networks, that suddenly when they were faced with that change in  
29 price they would all switch to another MNO. We have heard evidence, I think that I can  
30 remember, some evidence from O2, going back some time now in terms of the proceedings,  
31 about pricing of 08x services is for one thing mainly out of bundle, and is thought of as  
32 something that can be priced up essentially separately from the issue of who chooses which  
33 network and so on.



1 Q Let me just take you back to the point made by Dr. Walker, which I think survives, that if  
2 all MNOs lower their prices then there should be no spill-over. The question of whether  
3 they will all or whether they will not you have debated, but the point remains that if they all  
4 lower their prices, if they all respond in the same way then there should be no spill-over?

5 A We are going to enter into a technical debate I think here, because obviously the idea that all  
6 the MNOs face the same ladder gives them the same incentive to reduce price to some  
7 degree – they may have different demand elasticities and so on – but the idea that if they  
8 were to all reduce their price what are the consequences of that. Well, for one thing one can  
9 say that there will be waterbed effects of the type that Professor Valletti has described,  
10 which will feed through and lead to consequences. It is a little bit hard to say there will be  
11 no spill over effects. I think that it is a matter to debate, I suppose. But, I suppose in one  
12 sense it all drives towards the nadir that, although we've spent a lot of time talking about  
13 spillover effects and so on, most people perhaps around the room would agree that large  
14 spillover effects are not particularly what we think is the truth of the case. We think that if  
15 there are spillover effects they are going to be fairly small, and what Dr. Walker is  
16 suggesting is that, "Well, they may be even smaller". Well, I have no problem with that  
17 because I think that everything is driving back towards the idea of the conclusions of the  
18 Dobbs 3 model as opposed to the Dobbs 4 model. We said — the only reason I introduced  
19 the Dobbs 4 model was to introduce the idea, well, there could be spillover effects, if you  
20 want to look at them, let's look at them.

21 Q Right. No doubt that debate will be continued with Dr. Walker. If I can go back to your  
22 seventh statement, para.53, to a slightly different point which I hope is not quite so  
23 mathematical and not quite such a long point. Paragraph 53C. This is another point that  
24 you make in support of your statement that linear or concave demand is an extreme  
25 assumption at prices above the 20ppm, and you rely on the assumption there. You say at  
26 53C:

27 "As a mathematical fact, the assumption that the pre-NCCN 08x retail price is a  
28 'global maximum' (no other price can yield more profit) actually imposes a severe  
29 restriction on the demand curve at higher prices. Given we expect there to be a  
30 high choke price, this entails significant convexity in demand at higher prices".

31 So, as you say, a global maximum price means no other price can yield more profit. So, it  
32 is a profit maximising price.

33 A Yes, it is set to that assumption.

1 Q So, it is the highest price that an MNO can charge because, in competitive conditions, any  
2 higher price would lead to it losing volume to its competitors.

3 A No, the argument is that if we assume that the current price is a profit maximising price.

4 Q Yes.

5 A As you increase price it cannot be that demand is too large, or there would be another point  
6 at which the firm would earn higher profits. So, in fact, demand has to fall; and it is  
7 squeezed by a sort of a boundary curve which is a hyperbola. And so what I'm suggesting is  
8 that we start here and from here, because of profit maximisation, the demand curve is  
9 squeezed to lie to the left of this hyperbola, and if we have a high choke price the demand  
10 curve has to go up to it in some form that will have to feature some degree of convexity.

11 Q What I want to focus on is the assumption there that the pre-NCCN 08 retail price for those  
12 calls in particular is a profit maximising price, and I want just to point to you on that you are  
13 aware, of course, that the MNOs charge a very wide range of different prices for the 08  
14 calls.

15 A I am aware of that.

16 Q Yes, and if I could put to you some evidence from Mr. Stone of Vodafone, which is in C2  
17 (If you give me a moment, I do not have a reference. I will just find it). At tab.41 in C2,  
18 the first witness statement of Mr. Stone of Vodafone. So, we have Mr. Stone, Vodafone,  
19 first witness statement para.16. He is talking about the factors that are relevant in  
20 determining how tariffs are formulated. He says (I am sorry, have you got it?) He says:  
21 "Other factors such as Vodafone's corporate social responsibility obligations, regulatory  
22 pressure or media coverage can also play a part in how tariffs are set".  
23 So, in the light of that evidence, and in the light of the evidence that there is a wide range of  
24 prices that mobile operators may charge for 08 calls, there are factors that may keep these  
25 prices down that are more soft edged social factors. Would you accept that there is at least  
26 a possibility that the pre-NCCN prices charged by the mobile operators may not, those  
27 particular prices may not be profit maximising, even though their overall pricing might be  
28 profit maximising?

29 A Well, one can, as an economist, one tends to be rather cynical about corporate social  
30 responsibility, but —

31 Q Yes, well that was not —

32 A — what I would suggest is that, taking into account what might be described as  
33 "reputational effects", it is entirely sensible, and insofar as a price, setting a price, one needs  
34 to take into account what people think about your company, because that will translate into

1           profitability at the end of the day it makes sense, and therefore the soft factors that you have  
2           described I would say are absolutely things which would be taken into account in setting the  
3           price. It does not preclude the fact that in terms of the overall profit of the organisation, the  
4           price set is profit maximising because of course —

5   Q       Yes, that is a point, I am sorry to cut you off there, that is a point I think I put, that you  
6           would accept there is at least a possibility that the particular prices for the 08 calls which is  
7           what you are discussing in 53C might not be profit maximising, although pricing over the  
8           organisation, as you said, might be profit maximising.

9   A       It's an open question.

10 Q       Yes.

11 A       In all my models I have just assumed that, whatever the prices are, they are to some degree  
12           reasonably profit maximising.

13 Q       Absolutely, and if that assumption were incorrect, I am not saying it is or not, but if it were  
14           incorrect, obviously that would affect your modelling and your conclusions on the demand  
15           curve —

16 A       I would say that, if you take away the assumption of profit maximisation, you take away  
17           everything I have done.

18 Q       Yes. And if I could move on to a different point in your statement, para.63, p.20. Here you  
19           address a figure that was produced by Dr. Walker in his first report. And so, to finish off,  
20           I would like to ask you to turn to that figure which is in C2, tab.45, just look at Dr. Walker's  
21           figure first and then I will come back to what you say about it in your seventh statement.

22 A       This is page, or paragraph — ?

23 Q       I am sorry, it is tab.45, it is at para.20, it is below his para.20. Paragraph 20 is the  
24           introduction. I would like to start with that on p.5 and then we see figure 1 and figure 2 on  
25           the following pages. So, Dr. Walker explains what he has done here in para.20. Of course  
26           this, and I should set the scene, this report, Walker 1, was produced for the purposes of the  
27           080 appeal.

28 A       That's correct.

29 Q       That's correct. So, what we were dealing with, as you, I think, said earlier, the issue in that  
30           case was the direction of the direct effect. That is whether the 08 prices would rise or fall.  
31           I think Ofcom had held it was not clear even that prices would fall post the NCCN 956.

32 A       That's correct, yes.

1 Q Obviously the position then changed in the 0845/0870 determination because Ofcom  
2 reached a conclusion that the direction would be towards reductions in the retail price. It  
3 was the magnitude of the direct effect that became the issue in the 0845/0870 appeal.

4 A Yes, I think that's a fair comment.

5 Q That is right, so, that sets the scene. This report was produced at the time when the issue  
6 was the direction of the direct effect, whether or not there would be a price reduction, or  
7 whether there would be price increase in response to the NCCN956. And I think your first  
8 reports were produced in response to that as well, the first few Dobbs —

9 A Yes, that's correct, Dobbs 1, Dobbs 2 and Dobbs 3.

10 Q That is right. So, in para.20 Dr. Walker explains what he has done:  
11 "I have considered how the profit maximising retail prices for 080 calls set by  
12 an MNO change after the proposed WTS [that was NCCN956]. For each  
13 combination of initial average retail price in marginal cost, I have calculated  
14 whether the proposed WTS incentivises the MNOs to raise or lower prices. The  
15 initial profit maximising price varies between 10 ppm and 40 ppm and marginal  
16 cost varies between 1 and 5 ppm. Figure 1 shows the results of the constant  
17 elasticity demand curve and figure 2 shows the equivalent response for linear  
18 demand. The dark areas show those combinations of initial retail and marginal  
19 cost that would lead to price rises under the proposed WTS. Note that these are  
20 calculated on the basis of the assumptions made by Dobbs and Reid. I am not  
21 suggesting these are reasonable assumptions to make."

22 So the shaded areas are where there is an incentive for a price increase – that is correct?

23 A That's correct, yes.

24 Q So if we see figure 1 over the page, the shaded area shows, as I have said, incentive for  
25 price rises, so we can see, for example, where the initial price is 30. If we draw a line up  
26 from 30 on the bottom axis on the horizontal axis any marginal cost over 3 is likely to see a  
27 price rise. You see that from the figure?

28 A That's correct.

29 Q Where marginal cost is, for example, 2, draw a line across from the vertical axis, any initial  
30 price of more than about 35 ppm is likely to lead to a price rise?

31 A That's correct.

32 Q That is what this figure shows. That is for constant elasticity of demand. Figure 2 for linear  
33 demand, we see that where the initial price is about 30 ppm, if we draw a straight line up  
34 from that, we see that any marginal cost ---- Let me start again. Figure 2, where the initial

1 price is more than about 30 ppm we see a price increase kicks in at about a marginal cost of  
2 3 ppm.

3 A It is a little higher ----

4 (*Speaking at once*)

5 Q -- If we go 30, draw a line up, we hit the shaded area at about a marginal cost of 3 ppm?

6 A If you made it 29 then it never does until you get up to about 3.5 ppm when there's a couple  
7 of shaded areas to the left.

8 Q Absolutely. These are daggers which appear to the left.

9 A The stalactite.

10 Q There is an incentive for a price rise where the initial price is about 12.5 ppm, see on the far  
11 left small dagger, and a marginal cost just below 5, and an incentive for a price rise where  
12 initial price is about 17.5p and marginal cost is just above 3.5p. Obviously there is an  
13 argument to be had and we have had that argument to a certain extent about what reasonable  
14 marginal costs and reasonable initial prices are. We see the conclusion drawn by  
15 Dr. Walker in para.21:

16 "What is clear from these figures is that in both cases, using exactly the same  
17 framework as used by Dobbs and Reid, there is no clear cut result as to whether  
18 prices will rise or fall after the introduction of the new WTS. It is clear that  
19 under the constant elasticity assumption ..."

20 so his figure 1 –

21 "... the lower the marginal cost and the lower the initial profit maximising  
22 price, the more likely the proposed WTS will lead to a reduction in the profit  
23 maximising retail price under the assumptions used by Dobbs and Reid. Under  
24 the linear demand function ..."

25 that is figure 2 –

26 "... prices can rise even at low marginal costs and even at average prices as low  
27 as 12.5 ppm. However, without empirical evidence on the true level of these  
28 parameters, the two figures show that the effects of the proposed WTS are  
29 ambiguous even within the restricted model used by BT's experts."

30 I will just ask you a couple of questions on that. You have already accepted that the shaded  
31 areas in the Walker diagrams at pp.6 and 7 are only the areas of increased prices?

32 A That's correct.

33 Q The areas of uncertainty, those grey areas, in this case Ofcom's case is that it is not enough  
34 for BT to show that prices will remain constant or even that they will fall. Ofcom's case is

1 that they have to fall all the way to the bottom of step of the ladder which is what you seek  
2 to prove in your latest reports?

3 A Sorry, have you moved on to the 0845 case now?

4 Q Sorry, that is true. This is the 080 case, and you would accept, I think, just this simple  
5 proposition, that if we are considering the probability of prices falling to the lowest tier of  
6 the pricing structure on the 080 case – that is to below 8.5 ppm, these shaded areas are  
7 likely to be larger?

8 A These diagrams do not say anything about moving down to any particular step. You have to  
9 go to, for example, the results presented by Mr. Pratt. They give better information. These  
10 diagrams are focused purely on, would there be an incentive to increase price or would there  
11 be an incentive to decrease price.

12 Q Absolutely.

13 A These diagrams show that so long as the pre-NCCN prices, and these are average prices, not  
14 headline prices, are less than 30 ppm, or maybe 29 ppm, and marginal costs are less than 3.5  
15 ppm, there is no incentive to increase price. So they simply endorse the view that has  
16 become increasingly clear to me over the many months that I've spent on this case that the  
17 incentive is towards price reductions rather than price increases.

18 Q Of course, and I do not think Ofcom will quibble with you that there is an incentive towards  
19 price reduction. What they are concerned about and what we are all concerned about is the  
20 magnitude of that likely effect, and that is the important point in this case.

21 A Except that we can draw no conclusions about that from this report.

22 Q Absolutely. You address it in your recent report, which is where I need to put it to you.  
23 You address it in para.63 and following of Dobbs 7. I am looking at the time. This is the  
24 last point I want to address, and I probably have, at the most, five minutes on it.

25 THE CHAIRMAN: Why do you not finish now?

26 MISS SMITH: Thank you, sir. Without meaning to be unfair to you, Professor Dobbs, I just  
27 make the comment that where you deal with this in your seventh report, you do not make it  
28 crystal clear that all we are talking about here is the difference between price increases and  
29 price decreases. If you look at para.63 you address the Walker 1 figure and you say you  
30 made similar arguments regarding the certainty about retail price incentives within the  
31 Dobbs 3 model:

32 "Uncertainty can be 'found' ... if one posits high enough pre-NCCN retail  
33 prices and high marginal costs."

1 As you have fairly just clarified, the uncertainty there is about the direction of the direct  
2 effect?

3 A Yes, I think we have all written so much that occasionally some degree of imprecision has  
4 drifted in. I think I would need to read the text fairly closely to see whether I have  
5 misrepresented Dr. Walker.

6 Q I am not suggesting that.

7 THE CHAIRMAN: Professor Dobbs, we are simply seeking clarity. No one is going to criticise  
8 your English.

9 MISS SMITH: Absolutely not.

10 THE CHAIRMAN: It is really the evidence that you give now that matters.

11 MISS SMITH: Can I just tie up this point with the reference to your figure 2 on p.21, where you  
12 are overlaying your relevant region on Dr. Walker's figure 1, which you will recall was the  
13 constant elasticity of demand. You fairly say that the region, the triangular area to the top  
14 right of the graph is the region on which retail prices might be incentivised to increase, and  
15 you have put on this a rectangle, which you say is the relevant region. That is, you say, in  
16 effect, the reasonable average retail prices, and that depends on average retail prices being  
17 less than 30 ppm and marginal costs being less than 2 ppm. You say those are the plausible  
18 ranges. In any event, all this shows is that in that plausible range there is no danger of price  
19 increases. That is all this shows?

20 A That is correct, yes.

21 Q You would accept that the region on the top right of the graph simply shows where prices  
22 might be incentivised to increase. It says nothing about the extent to which any price  
23 decrease might be incentivised, the magnitude of any price decrease?

24 A The magnitude, that is correct.

25 MISS SMITH: Sir, those are all my questions on this point. There is one point on which I did  
26 have some further questions. It may be that, having considered the matter over lunchtime,  
27 we do not need to put any further questions at all, but if I could have the indulgence to  
28 consider that point, and it would only be a further five minutes after lunch if it were the  
29 case, but I think we are likely to be able to leave those points.

30 THE CHAIRMAN: We will rise now and resume at two o'clock.

31 MISS SMITH: Thank you very much, sir.

32 (Adjourned for a short time)

33 THE CHAIRMAN: Miss Smith?

34 MISS SMITH: I have no further questions, sir.

1 THE CHAIRMAN: I am grateful, thank you. Mr. Ward?

2 MR. WARD. I have a few. I am pleased to say that some of the topics I was going to cover have  
3 already been covered, so I would be very hopeful of being no more than 30 minutes.

4 Cross-examined by Mr. WARD

5 Q Professor Dobbs, I am not going to ask you about any of the detail of the economic  
6 modelling. What I am going to do is ask you to think about the practical limitations of what  
7 it can show, of necessity. Given the complexity of the effects that you have sought to  
8 analyse, would you accept that there is quite a deal of scope for the MNOs to get this  
9 wrong, even if in fact what they are trying to do is achieve the outcome that you say would  
10 be economically rational?

11 A I would suggest that the step function nature of the wholesale price function gives them a  
12 very focal point to think about, and in their negotiations with the TCP that offers that ladder  
13 price function I would think it would be fairly clear to them where their incentives lie.

14 Q We will talk about that in a moment, because what you have identified is one particular  
15 incentive effect, and of course there may be a lot of other factors that the MNOs need to  
16 consider? You are nodding?

17 A Yes, I agree with that.

18 Q To take up your snooker analogy of yesterday, I want to suggest to you not that the  
19 modelling is flawed because the snooker players do not solve the equations before they  
20 strike the board, but rather what I do want to suggest is that there could be subtle and  
21 important differences between the ways in which a player may hold the cue or position  
22 themselves. It may make a critical difference as to whether the ball goes in the pot. To  
23 translate that point back to what we were really thinking about, there maybe things just  
24 beyond marginal cost and the demand response that are actually difficult to catch the model  
25 and affect world outcomes. Would you accept that?

26 A Yes, indeed, before the break we were discussing some of the soft considerations that might  
27 influence individual MNOs choices, and all that I said at the time was that usually one  
28 would make the presumption that these decisions were made without causing too much  
29 damage to long term profitability, because if they were to deviate significantly from that  
30 point then – well, it is obvious.

31 Q If I can just read you a sentence from the determination, there is no need to turn it up, it is  
32 very short, it is para. 8.48 of the 0845 determination, Ofcom says:

33 “Even if profit maximising in the long run that may not be an appropriate  
34 assumption in the short run when viewing the pricing of an individual service.”



1           Would you accept that?

2   A    Well that is either a paraphrase or a quote from Ofcom, I think it is also true that Ofcom  
3       agreed with me that dynamic considerations were not hugely important in the present  
4       context.

5   Q    Allow me, if I may, to show you a little bit of the evidence of Mr. Stone. You have already  
6       been shown some of it, I am not going back to those topics, I just want to move on to  
7       something different. His witness statement is in bundle C2 at tab 41. I need to show you a  
8       little bit of this and then take you to a piece of the transcript which I have had handed  
9       around. Mr. Stone is a pricing analyst within Vodafone who has actual responsibility – I  
10      think not final responsibility – for deciding on the response to the NCCNs. Just to show  
11      you the gist of what he says. He explains how prices are set by Vodafone, and in particular  
12      in response to this particular proposal, perhaps the best thing is to pick it up at para. 30 – I  
13      do not know whether you have been in court when any of this has been explored before. I  
14      know this passage is familiar to the Tribunal. He says:  
15                 “Vodafone would in reality face the choice of:  
16                         (i) Do nothing ...  
17                         (ii) Reduce its retail prices ...  
18                         (iii) increase its retail prices ...

19      And then at para. 32 he says that the first course of action, i.e. do nothing, is not feasible,  
20      and then in para. 33 he talks about the possibility of reducing his prices and says:  
21                 “ ... in order to recover lost revenues and meet revenue targets ... I would need to  
22                 consider tariff rebalancing.”

23      Then he says, towards the end of the paragraph:  
24                 “Since other mobile operators would be facing a similar challenge ... I would  
25                 expect them to be looking to adjust their pricing too, and I would therefore not be  
26                 inhibited from contemplating an increase in 080 call charges or some form of tariff  
27                 rebalancing.”

28      He is talking about what the range of commercial options are from his commercial  
29      perspective?

30   A    He certainly considered the three possible options.

31   Q    Yes, exactly?

32   A    Up, down and stay the same.

33   Q    Finally, just to show you before I take you to the transcript, he says in para. 36:

1 “If Vodafone were to elect not to reduce the current level of retail charges ... given  
2 the nature of the charging structure, we would most likely raise them ... In  
3 practice, this would mean raising the 080 retail charge to the very top of a  
4 particular BT price band. This could be entirely rational since it would most likely  
5 generate additional retail revenues with no material drop in call volumes and no  
6 additional exposure on the part of Vodafone to BT. For example, since BT  
7 deemed that a wholesale rate of 10 pence per minute would be deemed applicable  
8 to Vodafone, I would give active consideration to raising the retail rate to 27 pence  
9 per minute since it would make no difference to the wholesale charge ... My  
10 experience of setting 080 prices leads me to conclude that an increase of this kind  
11 would be unlikely to lead to any significant fall in demand from Vodafone’s  
12 postpay subscribers. To ensure that Vodafone’s revenue streams were preserved, I  
13 would also consider the adoption of some of the commercial measures described  
14 above in paragraph 33 ... [i.e. rebalancing] in conjunction with an increase in 080  
15 charges.”

16 So that is just sort of practical and commercial perspective that says: “Faced with this we  
17 would want to make sure we didn’t lose any revenue, but there are various ways we can do  
18 it.”?

19 A Yes, this would seem to be suggesting that Vodafone at the pre-NCCN prices, and at the  
20 pre-NCCN position were deliberately underpricing, and that there were plenty of revenues  
21 out there to be had if they wanted them, and that if BT were to impose a ladder pricing on  
22 them well they would go and find some more revenue somewhere else. It is true, and I am  
23 sure we have discussed the waterbed features in the previous days of this hearing, and I am  
24 sure they will be discussed again later today by Professor Valletti, but insofar as you put  
25 those to one side, just for the moment, I would say “Well, Vodafone would say this kind of  
26 thing, wouldn’t they”, and it doesn’t necessarily mean anything in particular. What I would  
27 say is that actions speak louder than words.

28 Q Yes, well, we have no actions, of course, because this is an entirely novel structure. But, we  
29 will come back to that.

30 A This is just a kind of a vague threat, if you like.

31 Q Let me just try and complete the picture that you have started to paint about the possibility  
32 Vodafone is under-pricing, and remind you of para.16 of his statement that Miss Smith took  
33 you to. You simply pointed to the fact that (this is Mr. Stone):

1 “Other factors such as Vodafone’s corporate social responsibility obligations,  
2 regulatory pressure or media coverage might actually induce under-pricing”,  
3 and you accepted that this morning.

4 A As a general proposition, I have discussed this point, for example, in the earlier reports  
5 I discussed the choices that BT made in making it choices for wholesale pricing. I made the  
6 point that it would take into account the potential for regulatory intervention and also for the  
7 dispute they were currently involved in.

8 Q Quite. Well, can I, with that rather, perhaps unnecessarily on my part, lengthy preamble  
9 take you back to what I really wanted to show you, which is the transcript which I hope you  
10 have in front you. This is just a piece of the transcript of the cross-examination of  
11 Mr. Stone, the witness whose statement we have just been looking at. And this is  
12 Mr. Read’s cross examination, and on the first page there you can see, at number 8, he asks  
13 questions about para.36 which I have just shown you, where Mr. Stone said:

14 “My experience of setting prices leads me to conclude an increase of this kind  
15 would be unlikely to lead to any significant fall in demand”.

16 And Mr. Read says, at number 14:

17 “In that statement you are effectively saying “Option 3”, which is increased retail  
18 prices ... is the more likely option”.

19 And it is really the answer rather than the question which I would like to just put to you:

20 “In principle, in the documents I’ve given, I have tried to get across that there are  
21 lots of different factors, and those different factors could be different at varying  
22 times. For example, we may be trying to grow market share, which might  
23 encourage us to have lower prices than some of the competitors; we may be  
24 trying to improve our customer scores, which we call ‘Net Promoter Score’ and  
25 that might encourage one behaviour. We may be trying to maximise revenue or  
26 we may be trying to reduce cost. So, depending on each month, we do tend to  
27 have different objectives. And I think it was outlined earlier that we would be  
28 trying to fix wherever the problem in the business is. If I was attempting to  
29 maximise revenue on that particular call number it is likely I would be looking to  
30 raise the price”.

31 Now, I do not want to put to you that that is the final outcome for Vodafone. All I want to  
32 suggest, though, is that this kind of evidence demonstrates that pricing is a complex  
33 business, not merely a matter of profit maximising on a particular number range.

1 A I think what it reveals to me is that people say various things, and when these are not  
2 actually backed by actions, we can take from these statements what we will.

3 Q Can I suggest to you there is another obstacle to the MNOs acting in a way that you might  
4 identify as profit maximisingly rational. In the course of this hearing BT has made a great  
5 deal of the fact that there is said by Ofcom to be consumer confusion about 08X prices.  
6 And you have accepted, yesterday, that the modelling generates predictions about average  
7 prices for 080 calls. You are nodding.

8 A That's correct.

9 Q Yes. And you said yesterday that there may still be a "dispersion of prices", to use your  
10 phrase of yesterday (and for the tribunal's note, that is p.92 line 15). And if I understand it  
11 correctly what you are saying is that even if your model in fact ends up being fully  
12 articulated in reality, we will end up with a range of price points.

13 A It is possible because indeed in the modelling in Dobbs 6 Annex 1, which we do not need to  
14 go to, but I will just mention in passing, where the complexity of the MNOs tariff package  
15 offerings is analysed in some fairly general detail, it has some limitations which are  
16 addressed in Dobbs 7 Annex 5, but to return to the point, which was, I remind myself — ?

17 Q I was asking you about the fact that it seemed the implication was we would end up with a  
18 range of different price points.

19 A Yes, it is possible, insofar as for a particular 08X number, the prices are different at  
20 different price points, it is possible that there can be some dispersion. Of course the  
21 incentive to reduce the average price will result in consumer benefits. I think what we are  
22 talking about when we talk about the extent to which dispersion in prices is reduced is,  
23 we're talking about the externality which Dr. Maldoom has explained in his reports in some  
24 detail, and so on. So, there are two aspects to the benefits that arise.

25 Q I actually wanted to make a much simpler point, if I may. I was not going to embark on the  
26 question of externalities at all. It is really only this — we have a situation of consumer  
27 confusion to start with. We have a ladder price imposed by BT. We know that the rest of  
28 the market may or may not follow, but even the BT ladder price will cause a certain amount  
29 of "dispersion of prices" to use your phrase. What I want to suggest, therefore, is that  
30 consumer response, never mind the MNO response, but consumer response will not be what  
31 one would predict under perfect information. Would you accept that?

32 A I would accept that there is always uncertainty in the market place. The question is  
33 whether, over time, that increases or diminishes; and there is no reason to expect that, okay,  
34 there may be some adjustment processes, and the level of confusion in consumer's minds

1 may increase or decrease. I think what one would expect, in the short term one might  
2 expect that the level of dispersion might decrease, but I wouldn't like to discuss that in any  
3 great detail.

4 Q We do not know, do we?

5 A We don't know, for sure.

6 Q We just do not know. But, if I may, we start from a position where Ofcom has decided  
7 provisionally, and subject to consultation, that the level of consumer confusion is so severe  
8 they are going to impose direct retail price controls, about the most stringent form of  
9 regulation open to them. So, whatever the MNOs may think about that, Ofcom at least  
10 thinks it is an extremely serious problem.

11 A I think that's correct. One of the point that I made earlier was the idea that there is  
12 significant competition amongst TCPs to introduce ladder pricing, and I suggested that there  
13 may well be competitive effects which drive the incentives for MNOs to reduce their prices  
14 ever lower, and the lower the average price goes towards zero, I think as a logical  
15 consequence of that, the lower the dispersion of prices that would be associated with that;  
16 and therefore the greater the benefit that would arise from that in terms of reducing the  
17 external effect that Dr. Maldoom has described in detail.

18 Q Yes, and of course, as you also accepted this morning when Mr. O'Donoghue was asking  
19 questions on that subject, what you are now talking about is several iterations of NCCN into  
20 the future as opposed to the effects of the NCCNs that are actually under appeal.

21 A Well, you introduced the issue before Ofcom in its consultation document, and whether they  
22 have the need to introduce regulator price control in particular over 08 numbers which is  
23 fairly clear cut, the thing is that we have the 08 prices that we have at the moment, my gut  
24 feeling is that the introduction of ladder pricing by TCPs and competition that will ensue in  
25 that wholesale will potentially actually – I am not going to say will solve the problem that  
26 Ofcom wishes to solve, but I'm saying there's potential for it. It will be very interesting to  
27 see it actually play out in practice.

28 Q We have gone a long way from what I was hoping was a simple point, if I may come back.  
29 It is simply this: I suggested to you that the consumer response itself, now, will be  
30 conditioned by heavily imperfect information, and that the consequence of that is that the  
31 MNOs' response will also, in effect, reflect the fact that consumers themselves have  
32 imperfect information. You are nodding.

33 A I agree that the idea that pricing has to take place in a context of demand and certainty is  
34 obviously a fact of life. That is true. That doesn't alter the fact that over time individual

1 firms and the decision makers in those firms cannot improve the quality of their price  
2 decisions. The propositions that underpin the economic models is that they get it  
3 approximately right.

4 Q Can I just move on to another question. The kind of factors we are talking about may prove  
5 to be of critical importance in this case, because of course the WTS is not a smooth  
6 function, but it is a step. So factors that might otherwise be marginal may have a critical  
7 effect in tipping you from one step to another. Do you accept that?

8 A No, I think actually in many respects the step function nature of the wholesale price  
9 function actually concentrates the minds of the MNOs on particular points rather than  
10 having to pick a point on a continuum. They are focused on particular values and therefore  
11 it actually, in some respects, simplifies the decision they have to make.

12 Q You do not accept that these factors we have just been discussing to all practical purposes  
13 cloud the incentive effects that you derive from your model?

14 A No, I do not.

15 Q Can I turn to another subject. You effectively painted a picture of the MNOs feeling their  
16 way forward over time and eventually coming to the results which are in the model?

17 A Yes.

18 Q In part over a number of iterations of the NCCNs, but also in respect of this NCCN itself?

19 A I have, in response to another question about the market share of BT and its implications for  
20 ladder pricing, talked about the evolution of the market from that perspective, and in the  
21 same vein you would expect that whenever there is a change in the market place of any type  
22 individuals respond and take time to respond.

23 Q Yesterday you were asked the direct question, I think by Mr. O'Donoghue, how long, and  
24 the answer you gave, which is in the transcript on p.99, line 10, is:

25 "I think it is very difficult to make any judgment about that."

26 What you said today on the same subject was, over a long time horizon it becomes more  
27 difficult to disentangle effects. Really, what I want to suggest to you is that if we are now  
28 talking about effects that may take place over a long time then it becomes all the more  
29 uncertain what the net result of the NCCNs will be?

30 A Well, I think there are obviously issues about the adjustment of tariff packages, but what I  
31 consider to be fairly clearly cut is the fact that the MNOs will have incentives in their  
32 negotiations with TCPs that have ladder pricing functions, they will have incentives to  
33 negotiate to the right hand point on the steps. So they have focal points to think about. I  
34 don't really fully agree with what you have just proposed.

- 1 Q What you have said again, if I may, is over a longer time horizon it becomes more difficult  
2 to disentangle the effects. What I am suggesting to you is that over the longer time horizon  
3 it becomes more difficult now to predict what those effects are likely to be in the real world  
4 situations faced by the MNOs?
- 5 A I think that the models discuss the incentives to reduce price. The presumptions that the  
6 current design of tariffs, and so on, is not too far away from profit maximising for those  
7 firms. The firms themselves claim that they are in a fairly competitive market place and  
8 that, in itself, implies that they cannot be too far away from profit maximising. When a  
9 change occurs there is always a process of adjustment, as I have said in various contexts.  
10 The level of – the pace of adjustment will be a function of the incentives that the individuals  
11 face, and you can argue that there are fairly strong incentives to move to a lower point on  
12 the price ladder, and I would expect the MNOs to actually move to one of those points fairly  
13 quickly. Of course, it doesn't stop or eliminate the possibility that they may try to gain the  
14 market in the sense of – for example, they could deliberately choose to increase their  
15 average price, but ----
- 16 Q We are not talking about that.
- 17 A Let me just quickly finish on that point. That would almost inevitably damage their  
18 profitability, and the only purpose they could have for doing such a thing would be to try to  
19 persuade Ofcom to intervene or behave in some other way. As I say, the clear incentives  
20 are to reduce price, and that is what I would expect them to do.
- 21 Q We already know that the landscape is going to change fundamentally if Ofcom acts as it is  
22 proposing to?
- 23 A Of course, yes, that's certainly true.
- 24 Q We also have seen evidence that even if the MNOs wanted to comply with what you  
25 consider to be a rational approach to this, they are going to need to do significant additional  
26 systems work. What I am suggesting to you is not that any particular time line is or is not  
27 right, but simply that we do not know?
- 28 A We do not know concerning what?
- 29 Q How long it would take to realise the incentive effects that you predict?
- 30 A In terms of the full-blown adjustment, no, that's true.
- 31 Q Can I turn to a different, although related topic, namely the question of empirical evidence.  
32 You accepted yesterday that it would have been straightforward to design a WTS that  
33 unambiguously created an incentive to reduce prices?
- 34 A Yes, that's correct.

1 Q And that is on the transcript, p.95, line 23. What you said was that this was an innovative  
2 tariff, and if I may read you a couple of sentences of what you said yesterday:  
3 "One of the things with innovations in pricing is that in the first instance when  
4 they're first introduced, they're not necessarily going to hit the nail on the head.  
5 I think to some degree one could say this may well be the case here."  
6 You appreciate that there is some doubt on the MNOs' part about whether BT was even  
7 trying to hit that particular nail on the head, but I do not need to ask you about that. I just  
8 want to suggest though that the particular design of this WTS has, in fact, increased the  
9 uncertainty as to its outcome.  
10 A The design of the WTS has increased the uncertainty of its outcome.  
11 Q That is why we have 18 reports.  
12 A For example, you could just simply say you could introduce a wholesale price function  
13 which was no charge until 5p and then if you go beyond that it's £1 ppm. Something like  
14 that would for sure make the MNOs, if they accepted that this thing was to apply, keep  
15 within that parameter. Dr. Walker was entirely right in making the point that he did. The  
16 question then becomes one of what was in BT's mind when it designed the wholesale  
17 price ----  
18 Q I do not need to ask you questions about that. As you fairly said, that is not a matter you  
19 can comment on. What I did want to suggest though was a further point about this, that the  
20 novelty of the proposal is another obstacle to certainty because there is no practical  
21 experience for us draw upon of this kind of ladder pricing in action?  
22 A That is a fact, that there is no previous history of this.  
23 Q You appreciate that it is the MNOs' case at least that the outcomes here are highly sensitive  
24 to empirical questions such as the structure of demand. I do not want to reopen that debate,  
25 but that is the MNOs' case?  
26 A That is the MNOs' case, and it is one that I have disputed in the sense that – well, we've  
27 been there.  
28 Q We have had that debate this morning. I absolutely do not want to reopen it. What you did  
29 say this morning that we would warmly agree with is that you have to look at volumes and  
30 prices to establish an actual elasticity of demand?  
31 A If you wish to estimate an elasticity of demand, that's correct, yes.  
32 Q Your reports, of course, do not contain any such volumes or price information?  
33 A That's correct.



1 Q You said that you had no contact this morning with the people within BT who had actually  
2 designed the NCCN?

3 A I have since coming to the court.

4 Q You met for the first time.

5 A If you go back to Dobbs 1, Dobbs 2, Dobbs 3, Dobbs 4, I didn't have any direct contact  
6 with the staff involved.

7 Q Did BT supply you with any data about their own experience with 08X calls?

8 A It's possible. What I can say is that if I was given data I didn't look at it, in the sense that I  
9 haven't tried to do any sort of empirical work.

10 Q Well I am sure that if they had given you relevant data you would have used them, surely?  
11 If they had given you relevant data surely you would have used it?

12 A I am certainly not asked to look at a data set and do any estimation or any kind of analysis  
13 on any of that data, no, that is true.

14 Q Because we know that BT itself has a mobile operation. It is an MVNO that uses  
15 Vodafone's network, and it has had that arrangement since 2004, and before then, of course,  
16 going much further into the past it had the Cellnet operation which became O2, which I  
17 believe was spun off in 2001, but there is no data from those sources that have been given to  
18 you to prepare your evidence?

19 A No, that is correct.

20 Q Did you have any input from anybody even like Mr. Stone, offering experience or  
21 judgments about how pricing is done on the ground from within BT?

22 A No, that's correct.

23 Q And they did not provide you with any kind of survey evidence even?

24 A No, I think that's correct too.

25 Q Can I just show you something in the Ofcom's decision, which is bundle B1, para. 8.44,  
26 which in my bundle is on p.129 but there is some variation on that. At para. 8.44 "Our  
27 View":

28 "We acknowledge that the empirical evidence available from all parties and  
29 interested parties on the Direct effect is limited. We disagree with BT's arguments  
30 that its models are empirically based."

31 Then it says in the next paragraph:

32 "Neither BT nor Professor Dobbs have provided supporting empirical evidence in  
33 relation to demand elasticity or the structure of MNOs' demands other than some  
34 'stylised facts'."

1 Then in para. 8.46, second line:

2 “We consider though that it would have been possible for BT to test its models  
3 using its BT Group experience of offering 0845/0870 services to consumers  
4 including empirical evidence relating to BT’s decision to include them in bundles  
5 as referred to by C&W.”

6 Do you ever recall discussing these paragraphs after this determination was published with  
7 BT?

8 A I don’t recall now. Obviously I discussed with the BT economists the material, of course,  
9 but it is certainly true that no data has been provided for me to analyse in that respect.

10 Q Because it is striking that we have had obviously a large number of reports since the date of  
11 this one and they have maintained your *a priori* analysis but there has been no attempt to  
12 patch this hole identified by Ofcom in its determination.

13 A Is that a statement? I think that is a statement, is it not?

14 Q Really the question is whether you asked for any such data to assist in your analysis?

15 A No, I didn’t.

16 MR. WARD: Thank you, I have no further questions.

17 THE CHAIRMAN: Thank you very much, Mr. Ward. Mr. Read?

18 Re-examined by Mr. READ

19 Q I hope not to be too long with you, Professor Dobbs, in re-examination. You were asked by  
20 Mr. Herberg yesterday about the BT CEO being paid £1 million in bonus, and whether that  
21 should be treated as part of the welfare analysis. Now, on the basis of using the total  
22 welfare analysis that you have referred to, and it was being put to you on the basis of the  
23 total welfare analysis that it includes taking into account the £1 million bonus of the CEO of  
24 BT. On the other side of the equation and looking at the MNOs what happens with the total  
25 welfare analysis in respect of any bonus paid to the MNOs CEO?

26 A Well they are treated equally.

27 Q If you go down a level and take Ofcom’s analysis rather than a total welfare analysis, and if  
28 you look at the business customers of the MNOs, what happens with the business  
29 customer’s CEO if he receives a bonus, how is that taken into account?

30 A In Ofcom’s analysis?

31 Q In Ofcom’s analysis?

32 A As far as I understand it – well I think Ofcom have actually revealed the answer to that, and  
33 they have clarified it in Mr. Myers’ statement. As I understand it, it is that profits to MNO  
34 businesses are counted equally with all the rest in the sense that any consequences for MNO

1 business customers on pricing and if it flows through into profits for those businesses it is  
2 just counted as part of the benefit.

3 Q You were asked a series of questions concerning your figure 7, and perhaps we should have  
4 a look at that, it is in bundle C1, tab 7, at p.44. You were asked a series of questions about  
5 figure 7 and in particular I think earlier on when it was first introduced at figure 5, because  
6 effectively figure 7 is an extension of, I think, figure 5, is it not?

7 A Yes.

8 Q You were asked a series of sometimes quite heated questions about whether or not you were  
9 treating this as a clear cut indication of what was likely to happen. Can I just ask you to  
10 look at para. 152 on p.41? You say:

11 “Naturally it is possible to criticise this representation of the total welfare impact,  
12 but in my opinion it is a useful way of capturing in a simple figure some of the key  
13 ideas and it is also beneficial in the way that Ofcom’s tables are not for the simple  
14 reason that it attempts to quantify the relative magnitudes of different impacts and  
15 relates them all to how post NCCN retail prices varied.”

16 You went through the questioning of Mr. Herberg yesterday, does that paragraph 152 still  
17 reflect your views after the questions that were put to you?

18 A Yes, it does.

19 Q You were asked by Mr. O’Donoghue yesterday afternoon, some questions about the  
20 imposition of the NCCNs, and how exactly they would play out and, indeed, I think Mr.  
21 Ward referred to them slightly just a few minutes ago. Can I just read back to you one of  
22 the answers you gave in the transcript, this is at p.99 of yesterday’s transcript, day 7, line  
23 10. You were asked the question:

24 “Can you give the Tribunal some indication of how long you think that this would  
25 take, this learning curve?”

26 Your answer was:

27 “The learning curve? I think it is very difficult to make any judgment about that.  
28 What one could perhaps say is that the process of getting in the ball park may be  
29 relatively quick because if you do not get into the ball park relatively quick you do  
30 suffer significant profit loss and you leave a lot of money on the table. Getting to  
31 the exact optimum, if such a thing can be so described, may take longer.

32 Now, can I ask you this question — taking into account your modelling and all the various  
33 forms it has actually been through, how do you think BT’s NCCNs relate to getting into that  
34 ball park?

1 A Well, I think that the incentives are reasonably clear-cut. I think I've made it fairly clear  
2 that I consider that the MNOs would have significant incentives to negotiate on which point  
3 of the ladder they are going to land. The negotiations would occur with the TCP that is  
4 offering the ladder. And I would expect that particular process to be completed fairly  
5 quickly.

6 Q You were asked by Miss Smith, I think it was Miss Smith, earlier on this morning about the  
7 demand curve, the shape of the demand curve, and whether it was linear or concave, and the  
8 question was put to you, it could be linear or concave at lower prices, and your answer was:

9 "The discussion does not rule out the possibility of demand being linear at lower  
10 prices".

11 Just so that we are clear, what is your actual view of what is more likely than not?

12 A The empirical evidence such as we have, limited though it is, is that if one makes the  
13 assumption of linearity all the way down to zero price, I think the DWP data is strongly  
14 suggestive of the fact that, at lower prices there's going to be much greater volume  
15 expansion effect from reduction in prices. Obviously, the other thing I can say is that  
16 although reasonable economists can disagree, the idea of demand having some convexity  
17 over that region is not unreasonable. Certainly the fact that you have, I think it is actually  
18 explained better in my note C, can I refer to note C?

19 Q If you want to, yes.

20 A Figure one there, it may be helpful just to refer to figure 1 of note C, and what the figure  
21 shows is the implications of linear demand under the assumption of profit maximisation at  
22 the initial pre-NCCN price  $p_0$  if demand was linear, then we would predict that the volume  
23 effect of reducing prices to zero would be an increase in quantity of around about 100 per  
24 cent whereas the observed quantity increase from the reduction in the DWP 08 price to zero  
25 is in fact a number which is at least 3.47 times, sorry, I should say it's 347 per cent, a  
26 247 per cent increase on the initial volume, in other words. And possibly greater. So, what  
27 we can say is that the demand curve, if we extrapolate from those observations for the DWP  
28 data to demand curves for MNOs in general — which of course is not something we can  
29 say, "Oh, they all have the same structure" and balance it all, but it's a reasonable position  
30 to take that this is indicative of something, and it's indicative of convexity. As I understand  
31 it, the question is whether, if  $p_0$  for example, was, let's say 20ppm, and we're looking at a  
32 reduction price to 12ppm, 12.5ppm, would we see some convexity there? Well, for sure  
33 we're going to see convexity when we reduce it to nought, and I would suggest that we will  
34 likely see some convexity all the way down, and that is a point that I can make without

1 saying that this is for sure or guaranteed, because obviously we're talking about knowing  
2 two numbers and a gradient, and — I can only say what I've said.

3 Q Yes. You were also asked about the question of price confusion regarding pricing on 080  
4 and 0845 numbers, and you were asked the question about whether or not, if prices fell to  
5 8.5ppm or 8.49ppm in the case of 080 numbers, whether that would still exist, and your  
6 answer was:

7 "It's certainly possible, but anything's possible".

8 Now, can you try and just talk about this in terms of likelihoods rather than in terms of just  
9 possibilities.

10 A Could you repeat the first part —

11 Q The question being put to you, to which you gave the answer, "It's certainly possible,  
12 anything's possible" was about whether, if prices fell from their current prices, to 8.5p or  
13 8.49p, whether consumer confusion about pricing would still exist.

14 A I think it is fair to say that some degree of confusion over prices will be manifest in the  
15 market. But I did make the point earlier that, as one brings the average price down towards  
16 zero, as a sort of a general observation, the extent of dispersion in price points will also tend  
17 to reduce, as a matter of sort of logic. You can sort of see that as the average price gets  
18 closer and closer to zero, you cannot have so much price dispersion. I know that I'm being a  
19 little bit loose in terms of mathematics here, but I think as a point of intuition, I think it  
20 makes sense.

21 Q Could I ask you to turn to bundle C1, tab 3, and if you go to para.36 – do you have that on  
22 p.9?

23 A Yes, I have it.

24 Q We see that it is quite a long paragraph, but the third indentation where you talk about  
25 considering other forms of demand, and as we read through that – I will not read the whole  
26 paragraph out – it says in terms:

27 "However, if the profit maximising price were as high as 40 ppm under the  
28 linear demand assumption, there is some incentive to increase price."

29 You were asked some questions about that. I just want to be clear what exactly it is you are  
30 saying in that para.36(iii).

31 A I appear to be discussing the case of linear demand here, at least in the bottom half of this  
32 paragraph. I think I am merely confirming what Dr. Walker was observing in the figures  
33 that we were discussing earlier, which was that if prices are sufficiently high then there may  
34 be some incentive to increase price, but of course we're talking about average 08X prices

1 here. I think the evidence appears to be that the average 08X prices are significantly below  
2 40p, whereas of course it may be that there are some headline rates which are at 40, but that  
3 doesn't say anything – we know pretty much for sure that the average prices are  
4 significantly below that.

5 Q You have made reference to, I think, Mr. Pratt's figures, which are at annex 1 and 2 of his  
6 statement. To what extent do you accept those as being accurate read-outs, if you like, of  
7 your model?

8 A I trust Mr. Pratt. I have not cross-checked every single data point in the diagrams. They  
9 look pretty reasonable to me as predictions of the model. I would not wish to dispute  
10 anything.

11 Q So if we need to look at anything we can go there to look at them?

12 A Yes, that is correct.

13 Q You were asked about para.8.48 of the final determination, and whether or not there was a  
14 short term or long term effect going on and your answer was, "Ofcom agree with me that  
15 dynamic considerations are not important in the present context". What did you mean by  
16 that?

17 A I think that I – certainly I think Ofcom were commenting on a paragraph or two that I wrote  
18 about incentives to deviate from short rung pricing, and I discussed penetration pricing,  
19 dynamic pricing to build market share, and so on. I think that I was commenting that  
20 Ofcom agreed with me that in this particular case those issues are not to the fore.

21 Q Finally, you were asked a series of questions about data and, for example, it was put to you  
22 as to whether you had any data from BT's MVNO or indeed Cellnet or O2 or indeed any  
23 survey evidence and the like. Can I just ask you this question: to what extent do you think  
24 the absence of any material like that undermines your modelling?

25 A I think it would be true to say that demand estimation is a difficult process in general. It  
26 would be difficult to say that the evidence or the data that might have been provided by BT  
27 would have been particularly helpful for getting a feeling for the kinds of faced by the  
28 mobile network operators.

29 MR. READ: Sir, do you have any more questions of Professor Dobbs?

30 MR. HERBERG: Sir, before the Tribunal asks its questions, can I raise a small point? I raise it at  
31 this stage just because it might conceivably, although I doubt it, affect the Tribunal's  
32 questions. A point was raised when Mr. O'Donoghue asking questions of Professor Dobbs  
33 about paras.5.113 and 5.114 of the draft determination, and Professor Stoneman raised a  
34 question as to whether the MNO which was referred to in those paragraphs was putting

1 forward actual data or effectively referring to a proposed price change as opposed to an  
2 actual price change. We have, since that question was asked, checked with the actual  
3 submission that was made to Ofcom in those paragraphs and I am instructed that we can  
4 confirm that it was proposed data, not actual data, as Professor Stoneman suspected, that  
5 was being referred to in those paragraphs. I thought I should raise it at this stage.

6 THE CHAIRMAN: Thank you, Mr. Herberg, that is very helpful.

7 PROFESSOR STONEMAN: It is nice to know I am right on some occasions. I should say, just  
8 as a matter of courtesy to the court, I have known Ian for many, many years, we have a  
9 professional acquaintance. We have never worked together and we are not close  
10 colleagues, but we are aware of another as members of the court will be aware of one  
11 another. That is the position. I would like to ask you two questions. As you would expect  
12 with two economists, I am not friendly any more. The first question is: in your statement  
13 you make many statements to say that the tendency of the WTS is to induce the MNOs to  
14 reduce prices, and most likely to reduce them to either 12.5 or 8.5. Is that a reasonable  
15 approximation to what you say?

16 A I think that's what I say, yes.

17 Q What is the degree of the problem on which you judge what is most likely?

18 A That's a good question. It's a judgment about the extent of convexity that one would expect  
19 in the demand function. We have already had a long discussion about demand functions  
20 and the fact that, for example, the DWP data ----

21 Q No, I think you are going slightly back beyond where I want to get you. I have a feeling  
22 that what you are basing it on is what is the number that generates that highest profits for  
23 the MNO?

24 A Oh, yes, ultimately, yes.

25 Q That is basically what you use for the judgment. I am not asking why it is that number?

26 A Yes, that's correct.

27 Q There are a couple of places I could you to but could I take you to Dobbs 4, which is C1, tab  
28 4, and I would like to go p.27. It some charts. Most of these charts show, and this is the  
29 080 example, that the highest profit is earned at 8.5p – yes?

30 A Yes. I could comment that on these charts the only difference between 080 and 0845 and  
31 0870 is the tooth at 8p. If you think of the same problem with 0845 and 0870, you just  
32 delete the first two and take it as a smooth over that point.

33 Q What I am interested in here is, if you like, the convexity or not of the profit function. If the  
34 profit function is not very convex and is quite flat around 8.5, the incentive to go all the way

1 to 8.5 is very weak. I know it varies here according to your initial price, but if we take the  
2 top lines from each of these charts, and I am not saying that any one is any more relevant  
3 than any other, apart from the one in the bottom left hand corner. They are very flat. There  
4 does not seem to me to be a great deal of incentive to actually end up at 8.5 rather than  
5 anywhere up to about 30 if you are near the top of the ranking?

6 A Well, on p.27 I suppose. with the benefit of information that has come through over the  
7 course of events and including the evidence that's presented in the SNGN about MNOs'  
8 average prices, one tends to discount the top curve as being not a particularly relevant one,  
9 because that is at 40 ppm. Average prices could be regarded as lower than that. If you go  
10 down to 20p I think that you tend to see quite an emphatic difference. Obviously there will  
11 be some dispersion in 08X prices across MNOs, but the averages revealed in Ofcom's  
12 SNGN document gives an average that is relatively low and I think it may well be the case  
13 that most of the MNOs are pricing at and around 20 ppm. If one says that's the ballpark  
14 that we're looking at then I see the curves as being more slightly emphatic than might at  
15 first appear.

16 Q An unfortunate implication of that, of course, is that the MNOs pricing the highest in the  
17 initial state are the ones that have the least incentive to reduce their price in the post state  
18 because their curves are less convex?

19 A That is certainly a logic corollary of the diagram which shows that if the average price is  
20 higher the profit functions are flatter and therefore the power of the incentive to reduce does  
21 depend on that, I agree.

22 Q So that was the first point. The second point is to do with your spill-overs, and I was  
23 interested in the interconnection between your concept of spill-overs and tariff rebalancing.  
24 I think I read it that your spill-overs are basically that if you increase the price of 0800  
25 numbers it might induce people not to have a phone with an MNO, although we have  
26 argued the effect might be small it was that sort of spill-over, but there is a question of tariff  
27 rebalancing. Is tariff rebalancing included in your spill-overs or not?

28 A Conceptually tariff rebalancing is included if one considers the problem as one for the  
29 MNOs of changing 08 price, and thinking of that as the control variable, and thinking of the  
30 other variables under the MNOs control as things which would respond in theory to the  
31 choice of the 08X price because overall the MNO, according to the model, is attempting to  
32 maximise profits. Let me just retrench and start again and just say if we consider the overall  
33 pricing problem of the MNO, and consider it trying to maximise its profits by balancing  
34 everything, getting everything just so, and we then say: "Let us consider the 08X price and



1 vary this unilaterally”, with the idea that as you move this price it would be logical for the  
2 firm to re-optimize the other prices as a consequence, at least in theory, we can debate  
3 about the magnitude of these effects but at least in theory. The idea is that the spill-over  
4 function captures how, when you vary the 08X price it also leads to re-optimisation of other  
5 prices.

6 Q Is that not the MTPE effect that you have in your welfare analysis?

7 A That’s correct, and I think it is Dr. Walker who makes that point that the idea of a spill-over  
8 effect implies an MTPE effect, and I would agree with that fact.

9 Q Is it not therefore the case that in your numerical simulations here, which have a profit  
10 function and you have a ‘c<sub>nought</sub>’ and you have a ‘p<sub>nought</sub>’ and a ‘p<sub>one</sub>’, but implicit in that  
11 is the profit earned by the mobile operator pre and post the change in price, and how much  
12 of that will come from spill-over and how much of it will come from the operation of the  
13 number. In other words, the value of the MTPE is implicit in the simulations that you have  
14 undertaken?

15 A The value of the MTPE is implicit in the sense that it will influence the optimal choice, yes,  
16 I agree with that.

17 Q So the choice is not independent of the size of the MTPE?

18 A And then the MTPE leads to other welfare effects.

19 Q Yes, and I have a feeling in those numbers you can actually extract the MTPE that is  
20 actually built into each of the scenarios ----

21 A I think that’s true.

22 Q -- that you have modelled?

23 A Yes.

24 Q One last point on that one, if there is a significant MTPE there is a tariff rebalancing effect,  
25 does the Lerner Condition still hold?

26 A No it doesn’t, and the easiest case to explain this, although it is not – it is easier to talk about  
27 Lerner Conditions and so on in the case of what is called the uniform pricing, where we  
28 have just a simple set of prices, and the multi-project pricing rule is one in which the  
29 optimal price can be written down as a price cost mark-up is equal to 1 over the elasticity of  
30 demand – that is the Lerner Condition – plus an adjustment term, and the adjustment term  
31 actually includes a sum of other price cost margins, other revenue shares, other cross-price  
32 elasticities and so on, and in a sense the spill-over function is like a summary, or reduced  
33 form for all of that complex of elements.

1 MR. READ: Sir, I have just one question that arises out of that because if I have understood what  
2 we were looking at, which is p.27 I think?

3 PROFESSOR STONEMAN: That was the 'pictures', yes.

4 MR. READ: I just want to be absolutely clear because I think that the question was being put to  
5 Professor Dobbs on the basis of the incentive to fall to 8.5ppm, but if I have understood  
6 these diagrams correctly we are actually looking here at 0870, 0845, so I think the correct  
7 benchmark is 12.5 ppm.

8 PROFESSOR STONEMAN: You are right, yes.

9 MR. READ: I just wanted to clarify that I was not missing something.

10 PROFESSOR STONEMAN: No, it's me, thank you.

11 THE CHAIRMAN: I think Professor Dobbs was saying that the only difference between these  
12 two diagrams were the number of teeth that existed between the two ----

13 A That's correct.

14 THE CHAIRMAN: -- because one has different ladders.

15 MR. READ: I have no further questions arising out of that.

16 THE CHAIRMAN: In that case, thank you very much, Professor Dobbs.

17 (The witness withdrew)

18 MR. READ: Sir, Professor Dobbs took longer in the witness box in purdah therefore than I had  
19 originally anticipated. Could I have a short adjournment, I think it may actually help me cut  
20 down the number of questions I have to ask Professor Valletti, so I think it may actually  
21 achieve a time saving rather than increasing the time. If I could have 15 minutes just to take  
22 a few points with him? The position is, sir, I think we will definitely get Professor Valletti  
23 today, I am sure he will be very glad to hear, and we may be able to start Dr. Walker as  
24 well.

25 THE CHAIRMAN: Because you have three witnesses, Professor Valletti, Dr. Walker and Mr.  
26 Muysert?

27 MR. READ: I think all counsel are agreed that if we can get through Professor Valletti today then  
28 in fact the Tribunal will not have to sit particularly late tomorrow because we will get all the  
29 evidence finished, and in fact we may be able to rise early on Friday. I think that is the  
30 prognosis from counsel as it stands at the moment.

31 THE CHAIRMAN: That would be helpful. Very well we will rise for 15 minutes and we will  
32 take our coffee break.

33 (Short break)

34

1 THE CHAIRMAN: Mr. Herberg.

2 MR. HERBERG: Sir, I think the baton passes back to me, as it were, and with the Tribunal's  
3 permission, I will call Professor Valletti to give evidence.

4 THE CHAIRMAN: Indeed.

5 Tomaso VALLETTI, Affirmed  
6 Examined by Mr. HERBERG

7 Q Professor Valletti, you should have in front of you, it may be in front of you rather than to  
8 your left, file C2. Is that the one out?

9 A Yes.

10 Q Could I ask you to turn to tab.30 in that bundle, please.

11 A Yes.

12 Q And you should have there an expert report bearing your name.

13 A Yes. I have it.

14 Q And if you would turn in that report to p.21.

15 A Yes.

16 Q Is that your signature in the report?

17 A Yes.

18 Q And is that the report by which you wish to give your evidence to the court today?

19 A Indeed. It is.

20 Q Since you have signed that report further evidence has been given to the court, in particular  
21 the further report of Professor Dobbs, Dobbs 7, and annexes 1 to 5 to that report. Have you  
22 read that report?

23 A Yes, I have.

24 Q Subsequent to that you had a meeting with Professor Dobbs and you agreed a note. Can I  
25 just take you to that note. I think that should be in bundle C1. If you leave the C2 and pull  
26 out C1, and go to the very end, tab 26. I think the first document in that tab, it may be on  
27 the top, is a meeting note.

28 A I apologise, I have 25 and then nothing.

29 Q It may be tab 25 then.

30 A I see our joint statement, yes.

31 Q Then the first document in that tab, is that headed "Meeting between Professor Valletti and  
32 Professor Dobbs"?

33 A Yes, it is.

34 Q Is that a record that you agreed with Professor Dobbs of your meeting?

1 A Yes.

2 Q I do not know whether the copy in front of you is signed by you?

3 A No, but I do recall agreeing this.

4 Q Have you actually signed a copy of this yet?

5 A This particular one, I think we did at the time, we did. There was a small change and then I  
6 didn't sign.

7 Q I think, sir, the position may be that the original draft was signed and then after ----

8 THE CHAIRMAN: Then they raised a question.

9 MR. HERBERG: It has not yet been signed a second time, but it can be done.

10 A I will sign it, yes.

11 Q There is no disagreement that this is the agreed note?

12 A No.

13 Q I think behind that note should be three further notes from Professor Dobbs, note A, note B  
14 and note C?

15 A Yes.

16 Q You have read those notes, have you?

17 A Yes, I have.

18 Q Just for clarification, if you go back to the meeting note, the meeting note has headings,  
19 note A, note B and note C. Am I right in thinking that those notes A to C do not relate to  
20 Professor Dobbs' further notes A, B and C – they are not on the same topics?

21 A They should be. Note A is the first one, it's on the spill-over. Note B – yes, they do relate  
22 to those, yes, they do.

23 Q And note C?

24 A Note C is on the linear demand, I think. Yes, note C was a note on figures and Simplifying  
25 Non-Geographic Numbers. Yes, there is a correspondence, A, B, C.

26 Q You think note C does refer to Dobbs note C, note on figures Simplifying Non-Geographic  
27 Numbers?

28 A It does refer just to some aspects, although this was not really ----

29 Q It does come out of that note?

30 A It does come out from those mathematical formulae on the linear demand and the intercept,  
31 the choke point, etc, that aspect, not to the empirical figures side of it.

32 Q Thank you, that is very helpful, that was my misunderstanding. Can I ask you, subject to  
33 the agreed note, is there anything in Professor Dobbs' seventh report and the five annexes

1 attached or in Professor Dobbs' further notes A to C which cause you to change any of the  
2 views you expressed in your report?

3 A No, I haven't changed my views about my report.

4 Q Can I ask you one question of clarification arising out of the agreed note A. You will see  
5 the last comment says:

6 "Professor Valletti suggests the local gradient of the spill-over cannot be signed.  
7 Professor Dobbs disagrees."

8 A Right, yes.

9 Q Could you explain to the Tribunal in summary your reasons for suggesting that the local  
10 gradient of the spill-over effect cannot be signed and why you think you and  
11 Professor Dobbs disagree?

12 A I don't have access to empirical data, but this is related to Dobbs 4, if I may ask to take  
13 Dobbs 4, which would be – do you know in which bundle it is?

14 Q It will be C1, tab 4.

15 A Remember that the spill-over effect is trying to capture some cross-price effects at that  
16 setting the 08 price might have on the components of the mobile banders. Professor Dobbs  
17 uses it in a reduced form without specifying a lot of what is actually embedded within this  
18 spill-over approach. So far so good. Then if I may just ask to take p.8 of Dobbs 4, it's  
19 looking at the gradient of this spill-over effect which is given by some mathematical  
20 formula. That is formula 5 on p.8. So the sign of that thing, whatever you want to call it, is  
21 going to be dictating the gradient that you need to look at the local incentive to push the  
22 price up or down. If you look at the following page, p.9, there is a footnote, and in this  
23 footnote, if I may quote, it is written:

24 "A little care needs to be exercised with the sensitivity analysis; the spill-over  
25 function is never decreasing with the retail price ..."

26 if a condition is also satisfied. The area, I guess, of disagreement is exactly summarised by  
27 this formula, to the extent that this condition applies then indeed the gradient will be  
28 positive; if the condition is not satisfied then the gradient will not be a positive thing. Since  
29 in general I cannot say what those elements in the formula are, and if I may be a bit more  
30 specific I cannot *a priori*, just as a matter of theory, say whether the gradient of the spill-  
31 over at the point per zero is positive or negative. It may well be satisfied in the practice  
32 given the current numbers to plug in that condition, but as a matter of theory I cannot say  
33 whether that is satisfied or not. In particular, I would like to draw your attention to some of  
34 the parameters which are in this condition. One is the price  $p_0$ , that's something we can

1 observe. Something is MC, the marginal cost, something we can reasonably assume to be  
2 between 1 and 5 ppm. Then there is also elasticity. The elasticity, as an economist, if I ask  
3 to other economists, they will say, “Elasticity, you look at a price change and you try to  
4 calculate *ceteris paribus* the quantity change”, and that’s what the elasticity captures. What  
5 this elasticity is actually saying in the reduced form approach of Professor Dobbs is  
6 something a bit more complicated, I should say, and something which is a little bit less  
7 convincing from an economics point of view in the sense that this elasticity is not what I’ve  
8 just told you, you change a price and you observe the quantity change. Neither in the short  
9 run nor in the long run, because the difference between long run and short run is just you  
10 give customers enough time to adjust – maybe they didn’t know about the price change,  
11 maybe they need some time, word of mouth, other people to tell you, and again given the  
12 *ceteris paribus* \*\* you do not change other elements, instead the elasticity, precisely by the  
13 way it is constructed by the spill-over function includes both the normal effect you change  
14 ‘p0’ and you observe what happens to the quantity, but it includes also all the feedback, the  
15 waterbed, many times it has been included, so it is not a common notion of an elasticity in,  
16 as I said, commonsense, common agreed sense that you change one price and you let the  
17 other things being equal, constant, *ceteris paribus* \*\* This instead induces both, there is a  
18 price change on the price of 08 numbers and also an induced feed back effect, that is  
19 precisely the nature of the spill-over, so the mathematical formula is correct, but I have  
20 some problems in knowing in practice, and with some particular data what is the elasticity  
21 overall encompassing, is actually capturing. So this the air of disagreement. Of course, if  
22 this condition is satisfied in the data then the low current gradient can be signed \*\*  
23 otherwise it cannot.

24 Q Thank you, Professor Valletti, there is one other matter I want to ask you about very briefly,  
25 and that is about a paper co-written by you which has featured in the evidence. It is the  
26 Genakos and Valletti paper which you wrote in November 2009. Can I take you to a copy  
27 of that, it is in vol.14 and it should be at tab 5.4 in that bundle. What I would like to ask  
28 you, because it has been relied on at various points in the case, can you explain to the  
29 Tribunal what, in your view, can you infer from this paper about the existence and strength  
30 of a waterbed effect in this case?

31 A This paper, it’s an empirical paper, and we test indeed the waterbed effect, but in a slightly  
32 different context, this was the context of regulation of mobile termination rates, so it is not  
33 exactly the same environment, but there was again the idea of a mobile platform offering  
34 different services, some of these services would be paid by us customers, that is what we

1 pay but some of the services would be paid by some of the people terminating their calls  
2 when they call to mobile customers, so we looked exactly at whether Ofcom in this case,  
3 another regulatory authority around the world, by reducing termination rates had caused,  
4 whether there was any causal relation to an increase in the prices to mobile customers – the  
5 ‘waterbed effect’ at least that is the way it is known in this literature. We brought this  
6 theory to a test and I can tell you what we could do and what we couldn’t do given the data  
7 at our disposal. So the data we had, we had very precise data on mobile termination rates in  
8 the world – in many countries – and those were mobile termination rates, pence per minutes  
9 (the prices) and we also had quite detailed information about what customers pay, so the  
10 mobile bills in total amount of pounds per month or something like this. So what we tested  
11 was the following, whether cutting mobile termination rates the price – so many pence per  
12 minute – had caused any change in the prices of mobile customers, and we do find,  
13 according to the empirical specification, the various results, but as has been cited, for  
14 instance by Dr. Walker, our preferred specification, we do find that if you cut mobile  
15 termination rates by 10 per cent (this is again pence per minute) this would cause a 5 per  
16 cent increase in the mobile customer’s total bill per month. That is the magnitude that we  
17 find. So we do find this rebalancing effect, which is substantial, it is both statistically  
18 significant and economically significant, because a 5 per cent increase in the total bill is not  
19 a negligible magnitude following this 10 per cent decrease in mobile termination rates.  
20 From this result can we infer something on, the jargon we use is the ‘percentage of the  
21 waterbed’, is it 100 per cent complete or not? With these results you cannot, because the  
22 empirical evidence that we have is about price, it is not about quantities, because as you  
23 understand whether there is 100 per cent, 90 per cent, 80 per cent, 120 per cent waterbed  
24 effect, depends on what is a fraction of total revenues which are accounted by mobile  
25 termination rates, vis-à-vis the rest of what we pay to the mobile customers. But if we do  
26 not have the quantities we don’t know that, but you can see that, for instance, mobile  
27 termination rates accounted for 50 per cent, which is too high of course. 50 per cent of the  
28 total revenues of mobile operators – they don’t of course, I am really going for a simple  
29 case – and also if the elasticities were the same, so the quantity change, the volume change  
30 of people calling mobile customers, as well as the quantity change in consumers dropping,  
31 mobile operators were comparable, then 50:50 and we find 10 per cent causing a 5 per cent,  
32 the waterbed effect in this situation would be 50 per cent. But, since actually the revenues –  
33 this is again from market information, it is not in our data, but from market information we  
34 know that mobile termination rates account for less than 50 per cent of termination revenues

1 – maybe 30 per cent, 20 per cent, depending on the country, depending on how long those  
2 rates have been regulated for – then the waterbed effect seems to be considerably higher  
3 than this 50 per cent, considerably higher than that. This is what you can (or cannot) derive  
4 from our first set of results.

5 We also have a second set of results in our paper, we do not have quantities but have an  
6 indirect approach and we say if it was a one for one, a 100 per cent complete waterbed  
7 effect the total profitability of the MNOs would be unaffected, because it is the one for one.  
8 So we directly test whether regulation of mobile termination rates affected somehow total  
9 profitability and we do find, according to severe \*\* specification that the numbers, the  
10 direction of effect is always negative, and it would be negative if you don't pass on to your  
11 consumer entirely. So if you keep a lot of mobile termination rents, if you cut the rents do  
12 you keep those rents or not. In all the specification we find the negative effect, but  
13 statistically speaking some of those specifications turn out to be insignificant, so it's a  
14 negative but insignificant – sorry for this technical point. I am sorry for this technical point  
15 but when something is not significantly different from zero in fact, if it is not significantly  
16 different from zero we have even some specification that would say collect those  
17 specifications looking at indirectly via the total impact on profits, you can infer that that  
18 would have been 100 per cent complete in those specifications.

19 In the others instead where there is a negative impact, but also a statistically significant  
20 negative impact, we know in those results it will be less than complete, so that's what we  
21 find in our results.

22 Q Professor Valletti, thank you very much. I think Mr. Read, for BT, will ask you some  
23 questions.

24 THE CHAIRMAN: I do not know if anyone before Mr. Read has any questions? No, then Mr.  
25 Read.

26 Cross-examined by Mr. READ

27 Q It is fair to say, is it not, that your report is effectively focused on five very discrete areas  
28 that you were asked to look at and that effectively two of those areas took up what you have  
29 just been discussing, namely, the waterbed effect, and the other three issues were focused  
30 on some quite specific points?

31 A Yes.

32 Q And I think you have also more or less made the point when you were giving your answers  
33 to Mr. Herberg that in fact you have been looking at this primarily from a theoretical  
34 background rather than any empirical overview?



1 A Well I guess I have two answers. Yes, I have analysed primarily contributions by Professor  
2 Dobbs from the theoretical point of view, although there was also one question on how  
3 relevant my previous work on the waterbed effect was. So to the extent that I have given  
4 some answers on my previous work on this case I haven't seen any empirical evidence. Is  
5 that what you ask?

6 Q No, let us park the waterbed effect because that is slightly different but in terms of the three  
7 other points within your report, they are really coming at it from a very focused, theoretical  
8 perspective?

9 A Indeed.

10 Q Now, one of the topics that you were asked to comment upon was from a theoretical  
11 perspective, the implications of the assumption that the spill-over effect is globally linear?

12 A Yes.

13 Q I think that you accept that that is in fact probably not an important question because  
14 effectively you believe the spill-over effect is unlikely to be very large in any event?

15 A Well I guess, again the answer is yes, I do not believe that the spill-over effect is  
16 particularly significant, but I also disagree that if it is of any relevance it can ever be linear,  
17 that is a separate thing, it cannot be linear.

18 Q I understand that, and I just wanted to explore with you first, before I move to the second  
19 point, the first points you make about it because as I understand what you are saying you  
20 have effectively two reasons that you obviously say are good reasons and I don't think  
21 Professor Dobbs would dispute them with you. The first point you make is that the market  
22 for the 080 numbers is an aftermarket, and therefore it seems very unlikely that mobile users  
23 make their purchasing choices on the basis of the price of those 08X calls?

24 A That's an empirical question. I would say it would be reasonable that many of us do not  
25 subscribe to our mobile banders by taking those prices into account.

26 Q And then I think you also rely upon the evidence from Simplifying Non-Geographic  
27 Numbers which is, as you know, the consultation that Ofcom published in December of this  
28 year. You look at that and you give a specific instance where in fact it rather suggests that  
29 the empirical evidence supports the idea that this is in fact an after-market.

30 A Yes, well, an after-market amendment. Sometimes we do look into after market prices to  
31 the extent that our expenditure into the after-market is sufficiently relevant.

32 Q Okay.

1 A But since the expenditure on 08 numbers is probably small with, typically to consumers,  
2 that's a general statement in after-market, so it would be wrong to infer that in any after-  
3 market those prices are never taken into account.

4 Q No.

5 A Depending on the amount of expenditure you will have —

6 Q Professor Valletti, I have enough problems understanding this case, and I am certainly not  
7 going to actually take it further into any other area, you will be glad to hear. But, that is  
8 why, you say, in fact the spillover is likely to be negligible, and therefore it can safely be  
9 neglected, in fact.

10 A Indeed, yes. If it is negligible it can be neglected.

11 Q And that view, indeed perhaps not unsurprisingly, is the view of Ofcom in the final  
12 determination.

13 A You should ask Ofcom this question.

14 Q Well, let me just ask you to take bundle B1, it may be out.

15 A I have B1.

16 Q B1, tab.1, so if you look at tab.1, and if I can ask you to go, it is around about p.137 in that  
17 document. Unfortunately yours may be slightly different to mine, it may be on p.136, but it  
18 is paras.8.84 that I would like you to look at.

19 A Yes.

20 Q Have you managed to locate that paragraph?

21 A Mmm, yes.

22 Q You can see, at 8.84:  
23 "In our Supplementary Consultation we noted that the evidence set out in the  
24 Draft Determination tends to suggest that spillover effects are not large".  
25 And it goes on and discusses that, and if one reads through there we see, in para.8.90  
26 "In relation to the linearity of the spillover function in Dobbs 4, we continue to  
27 believe that the spillover function is unlikely to be linear over a wide range of  
28 prices. In the absence of supporting empirical evidence we are unable to reach a  
29 view on the shape of the spillover function".

30 And then it goes on:  
31 "However, if spillover effects are insignificant, the shape of the spillover function  
32 is largely irrelevant".

33 And that is really your position, is it not — that if the spillover function is insignificant, as  
34 you say it is, it is largely irrelevant.

1 A It is correct.

2 Q You can put that bundle to one side. And, now, can I just look at the theoretical point of  
3 view about global linearity, even though both, I suspect, BT, Ofcom and yourself agree that  
4 it is actually any relevance in this case, because in fact it can be safely neglected. But, let us  
5 just go through the theory in a little detail. Now, would you agree with this, that the point  
6 where global linearity in the spillover effect is likely to be least relevant is at high prices?  
7 Because as the global linearity goes up, it does not have a boundary at the end of it, and  
8 therefore that point in the shape of the line is actually the area where the whole assumption  
9 of global linearity is probably least —

10 A I don't exactly know what you mean by "least", but I would disagree in the following sense:  
11 I mean, globally linear SP function would give strong disincentives to set high 08 prices, so,  
12 but that's a result coming from the assumption of globally linear spillover function. So, the  
13 implication of a globally linear spillover function is that you will never want to jump to  
14 high. Why? Because if you jump very high with the price, you have a very high penalty  
15 because of the negative spillover, which is precisely linear, so the more you increase the  
16 price, the more you are shooting your own feet, and you will not want to do that.

17 Q Yes. And if you look in paragraph —

18 A And it is precisely the shape, so I would disagree with you that is irrelevant. You don't  
19 want to do that precisely because it is linear.

20 Q Yes. And, if I can ask you to look at your expert report at para.18. It is bundle C2 and your  
21 expert report is at tab.30.

22 A Yes.

23 Q Paragraph 18 is on p.9.

24 A Thank you.

25 Q And if you look at para.18, there you are making, I think, the point you have just made,  
26 which is that:

27 "This is because the spillover function is never bounded above under the  
28 assumptions of Professor Dobbs: by setting an arbitrarily large 08X price, the  
29 MNO will receive an infinite penalty (and, obviously, the MNO will want to avoid  
30 this by *not* setting such a large 08x price)".

31 And that is the point you have just made, is it not?

32 A Indeed.

33 Q And it is fair to say, because you obviously say you have read Professor Dobbs' seventh  
34 report, it is fair to say that that is the point he is really answering in Dobbs 7.

1 A No. Can you tell me where is that?

2 Q Let me just take you to his report. You will have to find, I am afraid, another bundle.

3 A Sure.

4 Q You will have to look at bundle C1

5 A So now we're working under the assumption that spillovers do matter, right?

6 Q Well, we are working on, I mean, I absolutely agree. I mean, I may be actually wasting a  
7 peaceable amount of the Tribunal's time by going down this route, but I think that, as you  
8 have actually raised it in your report, I think I probably ought to put at least a little bit of our  
9 case on this point.

10 A Sure.

11 Q Okay. If you go to tab.7 within C2, sorry, Volume C1, tab.7 (my fault). And you see there  
12 the seventh report of Professor Dobbs.

13 A Yes.

14 Q Which you say you have had a chance to read. Can I ask you to go on to p.54 which is  
15 Annex 3.

16 A Yes.

17 Q There he is talking about establishing robustness. The Dobbs 4 model, which is the one that  
18 obviously deals with the one with the spillover, which waterbed effects and bounds for the  
19 spillover function. Do you see that?

20 A Mmm.

21 Q And, is it not fair to say that in this, what Professor Dobbs is doing is, he is looking  
22 effectively at the point that you were making about an infinite bound — accepting, if you  
23 like, global linearity does not suit that, and considering the position in that area, if you like,  
24 of the graph as to what the position may be if it is not globally linear.

25 A Well no, because, I have a problem a little bit, we discussed with Professor Dobbs when we  
26 met a couple of weeks ago. The problem I have with this approach, this approach both has  
27 a waterbed effect, p.55, equation 2, via this alpha parameter, but it also has the spill-over  
28 function,  $p$ , and these two things are kind of — it's very difficult to understand what he's  
29 doing because he's conflating so many things, and the  $S(p)$ , the spill-over function, seems to  
30 capture already the spill-over. Now there's also an extra parameter, so this is the spill-over  
31 without the waterbed. So it's not very clear what the spill-over now is capturing.

32 Q I see.

33 A You cannot have a spill-over and also an additional waterbed parameter. So I don't know  
34 what the spill-over is, I'm afraid. I thought the spill-over would account for the feedback

1 effects on the other prices, so if you do have the spill-over already then that would be Dobbs  
2 4 and my comments to Dobbs 4. Now I have also a waterbed parameter, so this is a spill-  
3 over but without feedback. We go by subtracting ----

4 Q You are not saying it is wrong, you just do not understand the full workings of it because it  
5 is not clearly enough spelt out for you there?

6 A Yes.

7 Q Can I ask you to go back in that same document to p.22. Do you have that, para.70?

8 A Yes.

9 Q There it is talking about the spill-over function, its linear approximation. He is at least  
10 touching on the point that you raised in para.18 of your expert report. Do you see that?

11 A Yes.

12 Q Then he says it is argued that the linearity is unrealistic when large price variations are  
13 being considered. He says he has already discussed it in Dobbs 4. I do not want to get into  
14 the archaeology of this case. He cites para.18:

15 “Professor Valletti emphasises this point by pointing out the spill-over function  
16 increases without bound as the MNO retail prices increased. Something which  
17 is clearly not realistic are very high prices. The point behind these criticisms by  
18 ...”

19 yourself and Mr. Myers and others is that:

20 “... if the spill-over function attenuates as price increases, it may be that the  
21 overall model prediction becomes some uncertain.”

22 Really that is your point, is it not, the point you were making at para.18. That is the point  
23 that Professor Dobbs is trying to address in that annex 3. If I have understood what you are  
24 saying about annex 3, it is that it not clear enough to you exactly how he has gone about it  
25 because you have got the added complication of the waterbed effect being added in?

26 A I think with Professor Dobbs, even Professor Dobbs, he agrees in general it cannot be linear.  
27 We both agree with that.

28 Q Absolutely, and that is the very reason that you identified in para.18 of your report, is it not?

29 A Indeed.

30 Q So, yes, he agrees that, and that is what he is attempting to look at, that para.18 in your  
31 report point about the obvious ...

32 A Correct.

33 Q Again, I am not going to get into the algebra of it, if annex 3 were sufficient that might ease  
34 your concerns about the question of his testing his modelling in global linearity?

- 1 A Yes. If you want a straightforward answer, yes, if it was correct, yes, if he could understand  
2 what it means.
- 3 Q I think I will be here until Christmas trying to ----
- 4 A No, no, it was very useful, the further notes that Professor Dobbs produced called A, B and  
5 C, because there that was what I was urging him to do in my own report to say, "Can we  
6 just try to boil it down to quantities of services, my analogy of an after market, can we call  
7 it something instead of S because otherwise I don't understand, and when he spelt out what  
8 the S is, there is even, if I may say – that's C2 ----
- 9 Q Sorry, what are you after?
- 10 A I am after the note that Professor Dobbs ----
- 11 Q It is in C1 at the end. If you are after the agreed note it is at C1.
- 12 A It does actually present now an expression of what the spill-over is. If I may ask to go on to  
13 tab 25, note A of Professor Dobbs' data, 31<sup>st</sup> March – yes?
- 14 Q Yes.
- 15 Q You will find that on p.2 of that note, that finally there is a definition of what the spill-over  
16 is, and the spill-over is defined after equation 5 on p.2, the second line after equation, you  
17 have an expression S of  $p_0$ , that is the spill-over. This spill-over is minus the sign of  $F - F$   
18 is the waterbed effect ----
- 19 Q You are looking at equation 5?
- 20 A No, two lines after equation 5. S of  $p_0$ , that is the explicit definition, minus F of  $p_0$ . That is  
21 the negative sign of the waterbed effect times the total quantity in the primary market. So  
22 this is the total quantity of mobile customers as a function both of the price they pay, which  
23 will be affected by the waterbed effect and by the price of the 08 number to the extent that  
24 he's looked through those prices. So this is what the spill-over effect is. Now, if this thing  
25 has to be linear you will have, and again this is a mathematical fact, you will have to take  
26 the derivative of this thing with respect to MNOs, which is made of three terms and have no  
27 weight to the term it is linear, and it have no weight to the term it is even positive. I don't  
28 know, and this is when I put my hands up and I say I cannot know as a matter of theory.  
29 Unfortunately, this has been unfortunate, all the debate has been going along some  
30 theoretical abstract debate without seeing enough evidence. This has already been said and  
31 I find it a bit unfortunate. That's where I stop. I'm saying I cannot even sign it locally, let  
32 alone saying it is linear, globally linear, locally linear, I can't say.
- 33 Q Let me just pick up a couple of points from that, Professor Valletti, because I think it is fair  
34 to say, is it not, that there may at various points have been misunderstandings between you

1 and Professor Dobbs as to what actually was the purport of what each was actually doing in  
2 terms of looking at the material. You may have been, in effect, on occasions talking at  
3 cross-purposes because it wasn't clear what was actually going on. Would you agree with  
4 that?

5 A Yes.

6 Q The second point you make quite rightly is that obviously if one is looking at it from a  
7 theoretical perspective then it may actually become relatively harder to actually work out  
8 whether you can sign all these things or not. Can I give you a concrete example of that. I  
9 am afraid I am going to have to ask you to go back to bundle C1.

10 A I have it in front of me.

11 Q I think that you were asked Professor Dobbs fourth report, which was at tab 4 within C1.  
12 You remember going to it.

13 A Yes.

14 Q And at p.8 you were asked about his equation 5, and it was not necessarily signed. I think  
15 that is the point you were making to Mr. Herberg earlier on. The point I want to put to you  
16 about this, Professor Valletti, is that, yes, it is quite right that one does not know the sign of  
17 E in this particular instance. Of course this is partly dependent upon what one is actually  
18 trying to achieve in order to demonstrate it. Part of the problem, Professor Valletti, is  
19 probably you do not know the archaeology of all this case. When we say "archaeology", we  
20 mean what was buried away in one report here, one report there, and who is commenting on  
21 what. If I can just take you back to p.7, para.22, one sees from the end of that:

22 "Whilst no evidence has been convincingly presented that this is incorrect ..."  
23 and he is talking there about whether demand is elastic or inelastic, -

24 "... some MNOs have claimed that demand is inelastic."

25 So the proposition, if you like, that Professor Dobbs is starting from in this material is  
26 actually testing out the MNOs' claim of inelasticity. Would it be fair to say that in those  
27 circumstances it is not perhaps unreasonable, not necessarily to sign equation 5.

28 A I agree, if you want the price of 08 services to be in an inelastic portion. So again, the idea  
29 is if the current price is in some inelastic portion you ask yourself why aren't these  
30 operators pushing it up, they would be making more money. So there must be something  
31 refraining them from pushing up the spike, the demand locally being inelastic, and so  
32 correctly there must be something else, and something else – and I think this is the  
33 archaeology – has been summarised by the spill-over function in reduced form, and indeed

1 if you want the price to stay there despite the demand being inelastic you will have to  
2 assume that the conditions that Professor Dobbs imposes are satisfied.

3 Q Can we then leave the question of spill-over effects, and turn to multi-price points, or price  
4 discrimination?

5 A Yes.

6 Q Obviously one of the issues you raise is the issue of substitution and if I can ask you to look  
7 at your report which is in bundle C2, do you have it at tab 30?

8 A Yes.

9 Q If I can ask you to look at para. 23, one of the criticisms, if you like, you are making about  
10 Professor Dodds is that he has ignored reasonable patterns of demand substitution among  
11 the various 080X services, and possibly other services in the mobile package as well – do  
12 you see that?

13 A Yes.

14 Q And again from a theoretical perspective that may be absolutely correct, but can I ask you to  
15 take that bundle B1 again which you had out earlier on, and turn to tab 1, which is the final  
16 determination. It is a lengthy document, I assume you did not read every single detail of this  
17 and take it in, in the context of what you were being asked to do – that would be a fair  
18 comment, would it?

19 A Yes.

20 Q So this may not be something you have seen before, but can I ask you to go first to annex 4  
21 which starts around about p.261. You will see this is the supplementary consultation they  
22 have put out, in fact I suspect after your involvement as a result of you having looked at the  
23 various factors; in any event whatever it was, it was after the draft determination. Then can  
24 I ask you to turn to para. 2.85 and there it is dealing specifically with the “Substitution  
25 between 0845/087 calls and other services.”

26 A I have it.

27 Q Obviously this whole section is dealing with the substitution between 0845 and 0870 calls  
28 and other services. It goes through the submissions and then it sets out Ofcom’s view:

29 “The potential for substitution ... and other services is potentially important  
30 because, as we noted in the Draft Determination, it tends to increase the MNOs’  
31 incentives to raise prices ...”

32 Then it says at 2.89:

33 “However, we note that the available evidence does not suggest that there is likely  
34 to be a large substitution effect, and as BT notes, inelastic firm demand for mobile-



1 originated 0845/0870 calls at current prices as suggested by the MNOs may be  
2 inconsistent with a strong substitution effect.”

3 So in that sense if that is right part of your theoretical concerns about the Dodds’ modelling  
4 disappear to some degree, do they not?

5 A This is substitutability between 0845 and other – the answer to your question “yes”, I would  
6 be happy, but we are talking about two different things, are we not. This is substitutability  
7 between prices of 08 calls and other services ----

8 Q Yes.

9 A -- so other elements in the mobile bundle or something like this, whereas I am referring to  
10 substitutability among the various 08 services, so to be honest I have to say I don’t even  
11 know what 08 services are, it’s interesting. I guess you can have recipes – cooking recipes  
12 – horoscopes or something more fancy, more kinky, so maybe these things are substitutes  
13 among each other or complements among each other. These are the substitutability not  
14 between those services in general, 08 services, and the other elements, so I think there is a  
15 different pattern of substitutability. But I don’t think that Professor Dobbs and I actually  
16 disagree on the analysis of multi-point \*\* because we were looking at different things. I  
17 was looking at the incentive to reduce the price of each and every 08 service, and that’s  
18 where I was saying that then these patterns of substitution would matter, whereas he is  
19 looking at some weighted average so in fact his weighted average is unit revenue from 08  
20 services and then those patterns of substitutability would not matter, and we agree with that,  
21 we even wrote in our joint note.

22 Q I see, that is very helpful Professor Valletti. I think to your agreed note there was a  
23 qualification which you put in saying: “Yes, that applies to weighted averages, but  
24 obviously does not apply to non-weighted average price, which obviously as a matter of  
25 commonsense is absolutely right. Again, I am trying to see whether in practice it actually  
26 has much of an impact in what we are looking at?

27 A In practice, if you ask to the common person I give you a price which is 10, another price  
28 which is 20, what is the average price? The average person would say 15. They wouldn’t  
29 ask you: “Well, but this price, how many units do you multiply it by?” So in that sense the  
30 average price is perhaps the first notion that people will look at and in this sense  
31 unfortunately Dobbs’ analysis cannot say anything because there is nothing that can be said  
32 in general. But I would agree that if you say “The price is 20” and you buy a lot of units  
33 and the price is 10 and 20, whatever I said, but you understand there are quantities as well,

1 you want to look at the total expenditure then the weighted average of the type that  
2 Professor Dobbs is looking at makes perfect sense.

3 Q The example that I was trying to muse about late last night was if you have 100 Minis  
4 selling at £10,000 each, which will come to £1 million and you have one Rolls Royce that  
5 you sell at £100,000, if you take the mean average it gets very close to the £10,000  
6 figure ----

7 A We are saying exactly the same thing.

8 Q Yes, but if you actually use a non-weighted average you end up with something like half a  
9 million?

10 A Yes.

11 Q Yes, we are talking about the same thing.

12 A We are.

13 Q Just one final point on this, it is probably one of these areas that again has resulted as a  
14 result of misunderstandings between yourself and Professor Dobbs over what the other was  
15 actually saying. The sign that is etched on my memory in this case, namely  $Q_j^{08}(x^*)$ ?

16 A Very good! (Laughter)

17 Q I told you it is etched! Are we now, if I have understood it rightly agreeing that actually it  
18 can be positive or negative in the way it is actually being used?

19 A Yes.

20 Q Okay we are *ad idem* on that at last. I am so glad because I do not have to get into the  
21 algebra of it. That is very helpful, Professor Valletti, can I take you now on to the other  
22 main area of your reports where you deal with the waterbed effect. Obviously you  
23 conducted your study, which I think started off in 2007, and is I think it was December  
24 2009 it was incepted for publication?

25 A Yes, actually it will come in print on the next year, which will tell you how the academic  
26 lags in publication.

27 Q I was going to say it is almost as slow as judgments being published, but perhaps I will get  
28 criticised for that! (Laughter) Can I just ask you to take it because I think you were  
29 referred to it earlier, and it is in CAT bundle 14. I think the paper in the format that it is  
30 going to be published, if I have understood it correctly, is at tab 5.5. You have that?

31 A Yes.

32 Q I just wanted to ask you because obviously it is quite a long paper, and if we go to the end  
33 of it in particular at p.65 – it may start slightly earlier than that because I think these are the  
34 tables you actually produce, and at the end of the report, so I think we are looking at table

1 B11 here, p.60 which is on competition and the waterbed effect. But, if we go to p.65 we  
2 see at the bottom of all of this a source reference, and it says:

3 “Author’s calculations based on the combination of variables from the Merrill  
4 Lynch dataset and the Teligen data corresponding to the best deals available at  
5 every quarter”.

6 A Yes.

7 Q And, just so that I am clear, this analysis is actually focusing on a particular set of deals, is  
8 it, ie the best deals for each quarter? Have I understood that correctly?

9 A Yes. Since you asked, so, the source of the data here, the main source of the pricing data is  
10 a company called Teligen, they are a consulting company that collect price data which they  
11 sell to regulators, operators. They do the following, because it’s very difficult to understand  
12 how much do we pay? How much does the average consumer pay? So, Teligen does the  
13 following: Teligen at every quarter, in every country of the world (not every country, in the  
14 more relevant countries, economically relevant for mobile services) they collect all the  
15 universals of available tariffs. There are thousands of them. So today, if you go to a mobile  
16 shop you may find 100 different contracts, maybe more, I don’t know. I wouldn’t be able to  
17 say but, a lot, there is many operators compete in tariffs, pre-paid, post-paid, etcetera,  
18 etcetera. And Teligen also fixes, because they are experts, the profile of the average  
19 consumer, and they say, “Okay, we know [because they are experts] they are light users,  
20 they make use of the phone just, you know, a few calls per day; for medium users and  
21 heavy users using the phone according to some profiles, and they are going to call family  
22 and friends, partner, etcetera, they send text messages”. And so they have all this market  
23 information that they have and they construct, basically, essentially a tariff basket. And  
24 they say, “If, given your profile, you would have to choose your contract today, okay, you  
25 would be spending £50 with tariff A of operator 1, £65 with tariff J of operator Z”, okay?  
26 So something like that. And then they say, “The best deal to use is the following: if you  
27 happen to be a super-rational consumer, [super-rationals are always going for the best deal,  
28 which today can be a pre-paid, tomorrow can be a pulse paid, a contract, a pay as you go,  
29 etcetera], that’s how much you would be paying, and that’s your bill that we use in our  
30 calculation so, sorry it took some time, but that’s what it means, best deal in the data.

31 Q Yes, I see, but it’s not effectively just looking at everything in the round, a global total. It’s  
32 actually focusing —

33 A At that point in time what would be the best deal for you at that point in time at that country  
34 on the operators available in that country.

1 Q Yes. What I am trying to get clear in my own mind is whether you are looking at,  
2 effectively a sub-set of the group, or whether you are looking at the total group as a whole.

3 A Sub-set? What is the group in your question?

4 Q Well, obviously if you like, the group that one might look at is all telecoms customers of a  
5 particular MNO and what actually happens to them if, for example, termination rates are  
6 pressed down. But, if I understood what you are saying correctly, you are suggesting that,  
7 no, that is not looking at the total group, that is looking at a specific group within that total  
8 group which is focused on —

9 A Yes. So your question is, to what extent the average person would behave in this fashion,  
10 like the best deal customer? Is that — ?

11 Q Well, my question is first to establish what you have actually focused on in doing this.

12 A Yes, I've just told you. This is what the data — we do also, you can do also a second type  
13 of analysis which can create similar results and we actually use in a second paper, which is  
14 also forthcoming which is not mentioned here, but Ofcom has —

15 Q This is your “see-saw” paper.

16 A The see-saw paper, yes. In that paper we say, “Well some customers, we know we don't go  
17 seamlessly between contract and pre-pay because of budget constraints. Even if today a  
18 contract is a better option I don't want to commit myself to, you know, a 24 months contract  
19 for this, so I will always be on pre-paid”. At the same time a contract guy, well, you know,  
20 number portability, there is more stickiness, basically, so we also look, in the see-saw paper,  
21 at, instead of looking at the best deal, if you force customers only to look at pre-pay or to  
22 look only at contract. So, we can also look at that. That's what we can do with this data.  
23 And then results, there are, of course, some other, yes, some interesting things coming out,  
24 but the waterbed is still there.

25 Q Yes. I think, perhaps I can summarise it like this, that effectively what you have done  
26 is split the data down between specific groups in order to get a more focused understanding  
27 of —

28 A No, we haven't done it. It's Teligen who does it, the data —

29 Q I see, yes.

30 A That is the marketing company who collects this data.

31 Q Yes. Certainly. I suppose the point I am, sort of, groping towards but now showing where  
32 I am actually getting there is, to what extent can you take away from your studies, which are  
33 obviously looking at sub-areas, a sort of average of what might happen in the mobile  
34 termination market as a whole?

1 A Well, we can, the answer to this, like anything we do in such a science, is, I mean, you can  
2 falsify this, if you can come up with better data.

3 Q Yes.

4 A I am very happy for you to run the analysis again. I mean, so far, that's the only thing that  
5 someone tried to do, because of lack of data. So, as we say, we put our hands up, that's  
6 where we stop, because that's what the data can give you and what it cannot. But this kind  
7 of detailed information that Teligen has is very interesting to say something about prices.

8 Q Yes.

9 A Because otherwise the other things that are available, usually you see one observation for  
10 the UK market, on average one year, and that's not, when the information is very aggregate  
11 you can't do much statistical analysis.

12 Q Yes, I mean, that is one of your problems, is it not, with certain of the other studies, that  
13 they have only used what I think is called the "Merrill Lynch dataset", which is not  
14 necessarily as focused and as clear-cut as obviously —

15 A Well, Merrill Lynch dataset that some other people use, they don't have any information of  
16 the bill. I told you, Teligen would tell you who are an average consumer making ten calls a  
17 day, five text messages to a select number of friends and family, you're going to spend £25  
18 a month, okay, they come up with information about the deal. If you behave like that, of  
19 course. Instead, Merrill Lynch, they collect actual data from the balance sheets of the  
20 company. So they say, "Well Vodafone UK made so many billions in one year", and they  
21 divide it by the number of customers and so they say "On average each customer generated  
22 X amount of money". On average generated, but this includes, unfortunately, all the  
23 sources of revenues for the moment. So, remember we wanted to disentangle the waterbed  
24 mobile termination rates vis-a-vis the bill of the customer. Instead, since in the incoming  
25 revenues of the Vodafone operator, just to make an example, you would have, your account,  
26 for termination revenues, you are inflating, you are already putting your right hand side  
27 variable in the regression in your left hand side variable. So, obviously those results would  
28 be biased, so the Merrill Lynch data are bound to give you biased results unless you purify  
29 them of the termination site. Again, it is a platform with two sources of revenues, from the  
30 customer and from termination rates. You want to see how these two things are going  
31 together. If instead you divide the total profitability by the numbers, you will already have  
32 in your price metrics the mobile termination rates, and you cannot run a regression you will  
33 get biased results. And we don't do these mistakes, you know, these conception mistakes.

34 Q Can I just ask you look at para.48 of your report, where I think you actually —

1 A Not of the waterbed.

2 Q No, no. I think probably I have explored that as far as I need to.

3 A Yes.

4 Q If I can ask you to look at para.48 of your expert report, where you say:

5 “There is another recent consulting paper by Growitsch and others. They find

6 no evidence of the waterbed effect. However, this paper also suffers from the

7 same problem as described above at para.47. The authors utilise the Merrill

8 Lynch data as a dataset for the purposes of evaluating the waterbed

9 phenomenon.”

10 For all the reasons you have just said it makes perhaps the underlying results questionable

11 as to whether or not they are right?

12 A Correct.

13 Q Can I ask you to take another bundle, which you probably do not have to hand. It is another

14 report, but it is in the authorities bundle 3, tab 54, I believe. It has ended up with the legal

15 authorities which gives it a status it does not deserve. It is an economic paper by

16 Dr. Veronese and Professor Pesendorfer. Professor Pesendorfer is also quite a well known

17 economics expert.

18 A Yes, indeed, a Professor of the London School of Economics, yes.

19 Q This report, we know, was prepared for Ofcom. I think the outcome of this is that, in fact,

20 they were given more data by Ofcom and they used the Teligen dataset. One sees that, for

21 example, at the bottom of p.4 where they talk in terms:

22 “We also undertook analysis using price indices produced by Teligen and that

23 are frequently used by the OECD and national regulators.”

24 Again, in so far as it goes beyond the Merrill Lynch dataset it is actually a better one than

25 we were just looking at because it has got more information. Would that have been the

26 same Teligen dataset that you were using? You do not know?

27 A I don’t actually know, to be honest. They do say that it is, but I don’t know.

28 Q If you look at p.5 in the executive summary they say:

29 “Our Teligen findings are consistent with the ‘waterbed’ effects found by

30 Genakos and Valletti on low usage-low price mobile services, but not with their

31 finds of a negative correlation between the level of MTRs and high usage-high

32 price mobile service subscriptions. The lack of an effect of the level of MTRs

33 on RPM is consistent with a similar finding by Genakos and Valletti based on

34 average revenue per user.”

1 So they find some effects are the same as yours and others that are not. I think, in fact, what  
2 they do with the Teligen dataset, and we see this if we go on through the report. Can we go  
3 to p.30, they actually try and de-bias some of the information and material that has been  
4 used. Have you seen this report before, by the way?

5 A Not recently, but I remember having been invited to a seminar at Ofcom maybe a couple of  
6 years ago when it was presented.

7 Q We see from p.30 that they de-biasing the data there in order to work out various scenarios,  
8 which are then represented in their table 8. At the top we see the mobile termination rates  
9 and the six scenarios are then set out. These actually show positive figures, I think, do they  
10 not?

11 A They do.

12 Q Which would actually mean that a higher MTR equals higher retail prices?

13 A Yes, they are dependent variable. You will see the dependent variable, that is in the  
14 heading of table 8, "log RPM". That is retail price per minute. So retail price per minute  
15 again suffers, also they try to de-bias it, but it suffered from the bias problem I mentioned  
16 before. So revenues of the operators which already include termination revenues. So they  
17 don't use our approach. They use a different approach – although they do, I suppose, their  
18 best, I am not a referee of this paper, and this was not given to me in this specific case so I  
19 cannot comment into details, but they are using in a sense the wrong approach to the  
20 question, although they try to do something about it.

21 Q Would it be fair to say this: there are a number of empirical studies out there about the  
22 waterbed. They are saying different things, but a number of them may be subject to  
23 concerns about the dataset and the like. At the end of the day, if I can put it like this, there  
24 are perhaps too few studies out there at the moment.

25 A Again, I don't want to sound too arrogant but the only published study is our study, my  
26 study with Christos Genakos. I did speak both to Martin and Barbara about theirs and they  
27 said, "No, we will never submit this to an academic journal, because we think our dataset is  
28 too dirty". There is a difference, I should say, between published and unpublished.

29 Q One is peer reviewed and one is not.

30 A It depends also on the quality of the output of course. Professor Pesendorfer and  
31 Dr. Veronese decided that the quality of the data they had in this specific case was not  
32 sufficiently high to be ambitious and submitted to an academic peer reviewed journal. In  
33 fact, it's still a working paper from 2009.

1 Q I think you indicated earlier on that you would like more data to be able to investigate it  
2 further and really get to ----

3 A Perhaps, like any academic, it's very data hungry, yes. As an aside, I am involved  
4 sometimes in some consulting, etc, on theoretical things and I say, "Give us data, give us  
5 data, because we want to run empirical projects". We never get to see any data.

6 Q Can I finish by summarising where we are on the waterbed effect, because I think you  
7 accept, and do not claim, that there is a proven 100 per cent waterbed effect?

8 A I accept that.

9 Q I think you think accept also that it would be nice to have more data and with the probable  
10 exception of your paper, there have been very few empirical studies on the subject?

11 A There are a few which I actually quote in my report, including some published ones, which  
12 are consistent with the existence of a waterbed effect.

13 Q Inconsistent with?

14 A Consistent – they are all consistent.

15 Q But not a 100 per cent waterbed effect?

16 A No one has the right data to tackle that question.

17 Q It is also fair to say, and it is no criticism of the people who have actually carried it out, that  
18 it has been specifically focused on the mobile termination rate end of the market?

19 A Indeed, that's correct.

20 Q Here obviously we are looking at call origination, the other end of the market, if I can put it  
21 like that. Although there may be good reasons why you say the data can carry through, no  
22 one has actually conducted a study on effectively a waterbed effect in call origination?

23 A The analogies are there, of course. What would matter to me at least would be to  
24 understand – mobile termination seems to be an example where the magnitude of revenues  
25 you make from termination should be bigger. So I would expect a mobile waterbed effect  
26 to be higher in the mobile termination rate vis-à-vis this current case. I do not know what  
27 portion of the total these after market calls, but that would be crucial information that I  
28 would need to assess the empirical relevance on this aspect of the waterbed being 100 per  
29 cent complete or incomplete.

30 Q I think it is also fair to say that there has never been a study that concentrates on the  
31 specificities of the UK market – I think that is what you say in your report itself?

32 A Yes.

33 MR. READ: Thank you, Professor Valletti, those are all the questions I have got.

34 THE CHAIRMAN: Mr. Herberg?



Re-examined by Mr. HERBERG

- 1
- 2 Q I have just got one question in re-examination. Professor Valletti, you said in answer to a
- 3 question from Mr. Read that the spill-over function includes feedback effects?
- 4 A Yes.
- 5 Q I think you were talking about feedback effects which would be flowing from higher prices
- 6 charged by MNOs as a consequence of the waterbed effect?
- 7 A Yes, some price readjustment, yes.
- 8 Q Is it the case that the spill-over function that you have been considering also takes account
- 9 of feedback effects from higher termination rates?
- 10 A From higher?
- 11 Q From higher termination rates being charged by BT under the NCCNs, so in other words
- 12 because of BT's charges there were not going to be higher prices, but there was going to be
- 13 higher termination charges because they were not reducing their prices and were therefore
- 14 being charged ----
- 15 A I am not sure I am following you.
- 16 Q Let me take that step by step. I just want to see what the feedback effects, which the spill-
- 17 over function is addressing, what it is capturing, and it is capturing effects flowing from
- 18 higher prices as I understand it?
- 19 A What prices? We have to be specific unfortunately because they are different things. The
- 20 spill-over function is capturing to what extent in the optimal price setting of the 08 calls.
- 21 Q Yes, I think I probably took two steps in one, so if retail prices of 08 services are reduced
- 22 as a consequence of the NCCNs, then potentially there will be effects on other prices?
- 23 A Yes, that's true in general even without a spill-over function via the waterbed.
- 24 Q And there is also a possibility of an effect flowing from the mobile companies being
- 25 charged higher termination rates. If they do not reduce their prices to the lowest step they
- 26 will be charged higher termination rates by BT so they will suffer a loss of profitability
- 27 through that mechanism, and does that potentially have spill over consequences?
- 28 A This will have for sure a waterbed consequence, a re-adjustment consequence, there will be
- 29 a change in the price for the mobile – what is the jargon used now – mobile price bundle
- 30 effect?
- 31 Q Mobile tariff package effect?
- 32 A There will be this kind of effect, if this is what you are asking, there will be this linkage.
- 33 Q And is that captured by Professor Dobbs spill-over function or not?

1 A This is something unfortunately I guess you heard this so many times, and I suppose it's  
2 still very obscure. Two things I guess we have been endlessly discussing; one thing is to  
3 what extent the setting of the price in the after market 08 calls, in my example toner and  
4 printer. Printer is a primary market, we buy a printer and then we will have some usage, so  
5 many pages we need to print and then there will be also the price of the toner. So there are  
6 two prices always there, okay. So one thing is to what extent the price of the toner will  
7 affect the price of the printer? In our example, in fact to be more precise the profitability of  
8 the toner market will be affecting the setting in the primary market, and this effect is strong,  
9 that is what some of us – maybe it's an unfortunate jargon – name the 'waterbed effect', and  
10 that's a phenomenon which is out there, it's a theoretical proposition, I think there is no  
11 disagreement in this room among any one of us, so that is the waterbed effect. These  
12 waterbeds you can have via spill-over, via different mechanisms.

13 The other question is to what extent, when the producer of the toner is setting the price of  
14 the toner, to what extent this price setting is affected somehow by some feedback by some  
15 spill-over via the primary market? This second impact, to what extent the pricing of 08  
16 calls will be changed by some other effects that the operators are taking into account and  
17 this can exist only if there is a spill-over effect. I want to make myself clear if I can, the  
18 spill-over effect is a sufficient but not a necessary condition for a waterbed effect to exist –  
19 sufficient but not necessary. Even without a spill-over effect you will still have – if you  
20 make a lot of money from the toner for whatever reason, you are going to set the lower  
21 price for the printer. How do you set the price of the toner? Do you set it low enough  
22 because you anticipate the see through of those prices? We do look into the 08 prices and  
23 that is what the spill-over catches. If we don't then essentially the firm setting the price for  
24 the toner would be setting a monopoly price on the residual demand for printed pages, etc,  
25 once the consumer has already bought the printer, mobile operators will be setting whatever  
26 price, a monopoly price, on 0800 calls once we have already joined the mobile platforms,  
27 even if there is no further feedback. I don't know if this was related somehow to what you  
28 said, but there is an important distinction there to be made – one thing is the waterbed,  
29 which is always there, even without a spill-over, the second thing is the spill-over will be  
30 this thing that allows you to price in a more or less elastic portion of the *ex post* 0800  
31 demand function according to this feedback.

32 Q Let me just try and ask one more question to, I think clarify your answer. Just imagine for a  
33 moment that BT's price changes come into effect and that the mobile companies react by  
34 not changing their 08 retail prices, so they do not change the retail price. So as a

1 consequence the termination charge which they face rises. In that circumstance, does  
2 Professor Dobbs' spill-over term change or not?

3 A No, it doesn't because  $p_0$  is still the same, but the spill-over depends on  $p_0$  obviously.  
4 However, that is where Professor Dobbs cannot capture this particular case, his analysis,  
5 there will be a waterbed effect, and you see that because the analogy here would be the  
6 price of the toner stays unchanged for whatever reason but the cost of the toner goes up and  
7 there is some lag – firms cannot change it soon, etc – the profitability of the toner will be  
8 diminished, and the profitability of the toner is going down, the price for the printer would  
9 go up. This is an example of where you do see a waterbed effect even without the spill-  
10 over.

11 Q Yes, thank you, Professor Valletti.

12 PROFESSOR STONEMAN: I would like to carry on that questioning because I think there are  
13 two or three terms here that have been used interchangeably and it is probably a case of  
14 people using them differently which is why there is some confusion, because I asked  
15 Professor Dobbs a little while ago whether the spill-over effect included the tariff  
16 rebalancing effect, which is, I think, the same as your waterbed effect ----

17 A Yes.

18 Q -- and he said "yes", and you told me "no" it can't be because the spill-over effect is only  
19 part of the effect, the waterbed is additional, so there are two or three things going on. Let  
20 me try and clarify a few things, which might be just for the satisfaction of myself rather than  
21 sorting it out for anybody else in the room. The mobile tariff package effect which is, in the  
22 end, what we are really interested in, that is the same as your waterbed effect, is it?

23 A Yes.

24 Q I do not think that your toner/printer example is particularly good because we are talking  
25 here about an effect that is tariff rebalancing. These are multi-product firms, these multi-  
26 nationals, who are saying that "If, by one route or another, our profit is reduced by BT  
27 charging higher costs, or whether or not this leads to a change in 0800 prices, we will  
28 rebalance our tariffs, we will change the price of other products in our own bundle, not in  
29 somebody else's bundle, but in our own bundle". What you have told us is that in your  
30 work if fixed termination rates were changed, which was your example ----

31 A Mobile termination rates.

32 Q All right, is termination on the mobile networks coming from the fixed operator?

33 A Correct.

1 Q So if termination rates on the mobile networks are reduced by 10 per cent then those mobile  
2 operators under a 'caller pays' principle actually increase their prices to callers by 5 per  
3 cent, and you say "I can't tell you what impact that has on total profitability because I have  
4 no quantity data", but that is what you did not know. It might even be the case that being as  
5 the termination rates are probably half calling rates, origination rate is 5p each way, I can't  
6 tell you that. Anyway, what you have is that as your waterbed effect, and that is the mobile  
7 tariff package effect that we have so much discussion about. Now, there is then a spillover  
8 effect, which in some ways could be considered quite separate from this, and the spillover  
9 effect said, "If the price of calling 0800 numbers increases, that maybe discouraged some  
10 people from having a mobile phone on your network". That is a strict spillover effect, and  
11 it could be considered quite separate from the waterbed effect. And I think everybody in  
12 this room is agreed that that spillover effect is minimal. Nobody is too worried about that  
13 one way or the other.

14 So, what we are really worried about is the size of the waterbed effect. Now, one of the  
15 complicating factors in measuring that waterbed effect is that it is endogenous to the pricing  
16 set up, in that if you are maximising profits as a multi-national, as a multi-product mobile  
17 operator, what appears in your profit function is not just the profits that derive from 0800  
18 numbers, but also the profit that derives from other numbers, and you have to take into  
19 account how the price of those other numbers will change when the 0800 number changes.  
20 So, that is determinative endogenously, because it depends on how much you change the  
21 price; and what you have given us is some hint of how much the price will change. When  
22 your costs decrease by 10 per cent we know your price goes up by 5 per cent in this case.  
23 But, we still have not got any clear evidence of the actual size of this mobile tariff package  
24 effect which is your waterbed effect. All we know is that the spillover effect is nothing to  
25 worry about. Is that reasonable?

26 A It's correct. In fact I was not instructed by Ofcom to look into the empirical evidence  
27 because I wasn't given any so it's just —

28 Q No, because a lot of other people looked and they have not found any either.

29 A So, that's entirely correct what you said.

30 Q Thank you.

31 MR. READ: Thank you very much, Professor.

32 A Thank you.

33 MISS SMITH: Sir, Dr. Walker is here. Would you like to call him to start his evidence this  
34 afternoon, or first thing tomorrow morning?

1 THE CHAIRMAN: We have ten minutes. Would it inconvenience anyone if he were in Purdah  
2 overnight

3 MISS SMITH: No.

4 THE CHAIRMAN: Then we will make a start, in that case.

5 MISS SMITH: Yes. If I can call Dr. Mike Walker.

6 Michael WALKER, Sworn  
7 Examined by Miss SMITH

8 Q Can I ask you to take out bundle C2, I think it is probably the one in front of you, yes, and  
9 turn to tab.45. Can you just confirm for the record that you are Dr. Mike Walker. Your  
10 address, your business address is 99 Bishopsgate, London EC2M 3XD.

11 A Yes.

12 Q And you will find at tab.45 of bundle C2 you first expert report dated 21<sup>st</sup> October 2010,  
13 and if you can turn to p.25 of that report, there is your signature. Can you confirm that?

14 A Yes, that's my signature.

15 Q And, can you confirm that that is the evidence you give to this Tribunal.

16 A Yes.

17 Q And, if you look, then, at tab.46 we have your second, your supplemental expert report of  
18 26<sup>th</sup> January 2011, and on p.21 can you confirm that is your signature?

19 A Yes.

20 Q Finally, at tab.47, what has become known as your third report dated 25<sup>th</sup> March 2011, can  
21 you confirm that is your signature on p.20?

22 A Yes, it is.

23 Q And that report and your second report continue to be the evidence you wish to give to the  
24 Tribunal in this case.

25 A Yes.

26 Q And is there anything in any of those reports that you wish to change or add to?

27 A No.

28 Q And I think you will be cross-examined by Mr. Read for BT.

29 MR. READ: Dr. Walker, can I start by making, obviously, the point that you spent a lot of time  
30 in your expert's reports discussing the waterbed effect or the mobile tariff package effect,  
31 and I think we call it the same thing. For example, in your first report, if we can just turn  
32 that up, which is at tab.45, at s.3.2 and indeed, further on, 3.3 and onwards, you spend a lot  
33 of time discussing this waterbed effect. Do you see that?

34 A Yes.

1 Q Yes. So, it is quite an important part of your reasoning, if I can put it like that, in reaching  
2 your conclusions.

3 A It's an important part of it, yes.

4 Q Can I ask this — you regard the mobile tariff package effect as an externality. That is right,  
5 is it not?

6 A No, I don't think I describe it as an externality. I regard it as just a fact that will arise out of  
7 the nature of competition between multi-product firms.

8 Q Well, can I ask you to turn to para.88 in that report, right at the end. And there you are  
9 setting out:

10 “BT and its experts have argued that reducing the retail prices for 080 calls from  
11 mobiles is necessary in order to protect the 080 ‘brand’, as MNOs do not take into  
12 account the negative externality imposed on the 080 brand by high retail prices”.

13 So, there you are dealing with a specific externality, the effect of, effectively, consumer  
14 confusion and other issues, and actually that is having an externality on the prices of 080,  
15 because it is actually affecting the brand.

16 A No. I think the externality you have just talked about is the 080 brand externality. I was  
17 merely making the point that, if there is a waterbed effect and if that does lead to higher  
18 prices to consumers for non 080 services, then that will have a negative effect on their  
19 welfare. There will be a loss of consumer surplus.

20 Q You call it a negative externality, do you not?

21 A Yes, because it's the consumers when buying, paying for non-080 calls, will be paying a  
22 higher price. It is an effect as a result of, in this setting, 080 prices going down.

23 Q But in this paragraph you are weighing that effect you call the “negative externality” of  
24 prices, the MTPE effect, against the other “negative externality” which is the words you use  
25 of the brand issues concerning 080 pricing. You are balancing off against each other.

26 A I'm making the point that there is a negative effect on consumers as a result of higher non-  
27 080 prices that should be balanced against any positive effects as a result of lower 08X call  
28 prices, which is the brand externality which I haven't talked about. That's been talked  
29 about by Dr. Maldoom and obviously by Ofcom.

30 Q But you are referring them specifically to being corresponding externalities.

31 A I'm not quite sure what you mean by “corresponding”. They're not of the same type. One  
32 relates — the 080 brand externality relates to issues to do with, you know, consumer  
33 confusion you mentioned to do with, I guess, prices being too high. I don't know, you'd  
34 have to speak to Dr. Maldoom and Ofcom. The point I am making about non-080 call

1 prices, if prices go up there's a loss of consumer welfare, it is a countervailing effect that  
2 you would take into account when you are carrying out your welfare analysis.

3 Q You see if you can take CAT bundle 13, tab 3.1 which is an exhibit to Mr. Myers' witness  
4 statement, and that exhibit contains simplifying non-geographic numbers, you are  
5 presumably familiar with this document, are you not?

6 A Yes.

7 Q And if we go to 4.4 at p.42 we see there that Ofcom sets out:

8 "Our main concerns about the way in which retail level operates. We consider that  
9 our consumers suffer a loss in welfare due to the impact of three related market  
10 failures."

11 So they are talking there about market failures, and one is lack of price awareness, and then

12 "Co-ordination between different elements in the value chain, particularly the SPs  
13 and OCPs (the 'vertical' externalities)",

14 and then the third bullet point:

15 "The impact of individual OCP (and potentially SP) behaviour on the reputation  
16 and consumer understanding of individual number ranges and on the market as a  
17 whole (the 'horizontal externalities')."

18 Ofcom there are using the word 'externality' in a specific form, namely that there is some  
19 real concern about market failures going on and these are the externalities are being faced.

20 Is that not the way that most people use the word "externality" in economic terms?

21 A This is a perfectly reasonable way to describe these consumer detriments, to describe them  
22 as 'externalities'. I was using the term just as we have one price changing, 080 prices  
23 potentially changing, and that would have effects on other prices, and that will then have  
24 negative effects on consumers. That is simply the only point I was making. Whether you  
25 want to call that 'externality' or you do not like my use of that word, that is fine, it has no  
26 relevance to the underlined point which is if there is a waterbed effect, and if 08X prices go  
27 down, or MNOs retention goes down because of the WTS then we would expect to see  
28 consumer detriment caused by higher prices for other services, that is what the waterbed  
29 effect means, it's the only point I am making.

30 PROFESSOR STONEMAN: Being as it is getting late could I clarify this for you, they are both  
31 externalities, it is just that the first one is not market intermediated whereas the second one  
32 is, and it is only non-market intermediated externalities that cause welfare problems, so the  
33 labels are fine, it's just that they are very different types of externality?

1 MR. READ: In effect, and that's where I was going to move on to, sir. I don't know whether that  
2 is the point you would like to finish or not.

3 THE CHAIRMAN: I think that is an appropriate moment, Mr. Read. Dr. Walker, You probably  
4 understand that you should speak to no one about your evidence overnight. There is one  
5 point of future housekeeping I wanted to raise, we have been giving some thought to closing  
6 submissions and we have a proposal we would like to float to the parties, we do not invite  
7 comment on it, we would like you to think about it overnight and come back to us, but our  
8 thoughts are these. First, we consider that two days of oral closing would be appropriate  
9 and after that the laws of diminishing returns would probably set in and we would look  
10 primarily to Monday and Tuesday for that. That said, we think it is unreasonable to expect  
11 the parties to put in any kind of written submissions before that date, because in the time  
12 you simply will not be able to produce anything which will do justice to your respective  
13 cases and, what is more, we will not have time to read them. We were minded to suggest  
14 that if you wanted to put in written submissions you put them in after your oral closings on,  
15 say, 28<sup>th</sup> April, at the end of the month. That would enable you in your oral closings to  
16 focus on the key points and sweep up, as it were, any more detailed points and any further  
17 thoughts in writing later on.

18 In terms of how we would anticipate the breaking down of oral submissions, taking into  
19 account the advocacy run over effect which the Tribunal notices at times, we were minded  
20 to divide the parties up into three blocks. Essentially we see that there are certain interests  
21 which have been reflected in the cross-examination. We have Ofcom on its own, we have  
22 BT and Cable & Wireless having a certain level of concurrent interests and then we have  
23 O2, Vodafone and EE again having a certain degree of concurrent interests, and we are  
24 minded in a rough and ready approach to say that each group would have three and a half  
25 hours each to make their submissions and they could decide amongst themselves how they  
26 would allocate the time between them, and that would ensure that the parties would create  
27 their balancing as to what points they want to run, and which points they do not.

28 As I say, we float this as a suggestion that we think would be constructive. We are not  
29 particularly bothered, I have to say, about the order in which people address their  
30 submissions, we find this case really quite unusual and complicated, both on the economic  
31 and the legal front and, frankly, what we want to hear from the parties is their answer to the  
32 very difficult problems that are in front of us, and we are not sure that we are going to be  
33 particularly help by who goes first and who goes last, and on that front we would be



1 perfectly minded to allow the parties their own head as to how they use their time. As I say,  
2 I do not expect a response to that.

3 MR. READ: Sir, can I just say one thing, which is about written submissions, and I have had  
4 experience of this in other cases, one of the problems obviously with having later written  
5 submissions that are often fuller and fleshed out is of course that the other parties then lose  
6 the opportunity to effectively come back on those written submissions if there is some point  
7 or other that causes particular concern. I just put that down because obviously if one has the  
8 written submissions before the closing speech then no one can complain, but if one has the  
9 written submissions afterwards there is always this problem, which might be dealt with,  
10 perhaps if any party really did feel they had a problem, by a further exchange later on, but I  
11 just float that point.

12 THE CHAIRMAN: I can see that, we are anticipating that we are going to be providing the  
13 parties with a list of the points that are causing us particular concern, and that may assist  
14 you in how it is addressed, but we, I think, would not have any difficulty in having a sweep  
15 up after closing submissions provided it was really points that were important and were  
16 new. I will leave that with you and we will rise until 10 o'clock tomorrow morning.

17 (Adjourned until 10.00 am on Friday, 15<sup>th</sup> April 2011)  
18