IN THE COMPETITION APPEAL TRIBUNAL 1517/11/7/22

Salisbury Square House
8 Salisbury Square
London EC4Y 8AP

Monday 18th November- Friday 20th December 2024

Before:

The Honourable Justice Michael Green
Ben Tidswell
Professor Michael Waterson

Merchant Interchange Fee Umbrella Proceedings

A P P E A R AN C E S

Ben Lask KC and Thomas Sebastian on Behalf of Allianz (Instructed by Pinsent Masons)

Sonia Tolaney KC, Matthew Cook KC, Owain Draper & Daniel Benedyk on behalf of Mastercard (Instructed by Jones Day LLP and Freshfields Bruckhaus Deringer LLP)

Daniel Jowell KC, Jessica Boyd KC, Isabel Buchanan, Ava Mayer & Aislinn Kelly-Lyth on behalf of Visa (Instructed by Linklaters LLP and Milbank LLP)

Kieron Beal KC, Philip Woolfe KC, Oscar Schonfeld, & Reuben Andrews on behalf of the SSH Claimants (Instructed by Scott+Scott UK LLP and Stephenson Harwood LLP)

Mark Simpson KC, Jack Williams & Alastair Holder Ross on behalf of Walter Merricks CBE (Instructed by Willkie Farr & Gallagher (UK) LLP)

Monday, 25 November 2024

(10.30 am)

In Private - redacted

(10.56 am)

(Short Break)

(11.10 am)

In open court

THE CHAIRMAN: Welcome to the hot-tub. We are going to swear you all in first off, so I will ask for that to happen.

MR VASSILIS ECONOMIDES (affirmed)

THE CHAIRMAN: Thank you, Mr Economides.

MR STEFANO TRENTO (affirmed)

THE CHAIRMAN: Thank you, Mr Trento.

MR JUSTIN COOMBS (affirmed)

THE CHAIRMAN: Thank you, Mr Coombs.

MR DEREK HOLT (affirmed)

THE CHAIRMAN: Thank you, Mr Holt.

MS RACHEL WEBSTER (affirmed)

THE CHAIRMAN: Thank you, Ms Webster.

MR GREG HARMAN (affirmed)

THE CHAIRMAN: Thank you, Mr Harman.

Right, well, I do not know which order we are going to sort of take you, but we will probably mix it around over the course of the morning, but I am going to hand

over to Professor Waterson to start off the questioning.

Questions by THE TRIBUNAL

PROFESSOR WATERSON: Thank you.

Just to start off, and I do not mean to pick you out specifically, but, Mr Economides, I understand that you are not formally qualified as an economist?

MR ECONOMIDES: That is correct.

PROFESSOR WATERSON: So therefore some of the questions may not relate to your expertise and you should feel free to -- not to answer those questions. In fact, I would be pleased if you would not answer those questions that relate to --

MR ECONOMIDES: I will make sure I do not. I understand.

PROFESSOR WATERSON: Thank you.

I also understand, more generally, that you have been instructed in different ways, and to focus on different factors; for example, that Mr Harman has focused on supply pass-on, and others have not focused on that, although they may have written about that.

MR HARMAN: I mean, that is one area that I focused on, but I think it is true that we have looked at it from a different perspective. I have looked at it more from an accounting perspective as to how the pricing process works, whilst it is contextualised within an economic framework, by applying very little on the economics of

the case.

PROFESSOR WATERSON: Yes.

I also understand that some of you have been instructed at some stage to look at volume effects and others have not. But for those who have not -- and I think it is Mr Holt, you have not, and Ms Webster, you have not -- you would nevertheless accept, I would think, that there are potential volume effects?

MR HOLT: Yes, I would accept that there are potential volume effects. I am not aware of the extent to which the other experts have already engaged on that. My sense is that that would be an issue for down the road in relation to Trial 2, but that is correct, yes.

MS WEBSTER: Just to confirm, that is also my understanding.

PROFESSOR WATERSON: Thank you.

If I -- I will pose what I see is the question that we, as economists, are examining, which is: to what extent did merchants change -- charge higher prices to consumers as a result of the MIF charge?

So is that in your understanding of the basic question that we are looking at?

MR TRENTO: Yes, this is our understanding of the main question for merchant pass-on.

MR COOMBS: Yes.

MR HOLT: Yes, I confirm that is the case as well.

MS WEBSTER: Yes.

MR HARMAN: Yes.

PROFESSOR WATERSON: Thank you. Good.

You have all had some figures which we will come to in due course, but if we first of all look at a very simple diagram which is in annex 3 of your little pack.

So this is a market under competition and we can see there that I have obviously made a number of assumptions in drawing this diagram. One is that the demand curve is a straight line, the other that the -- another that the supply curve is upward sloping, and a third that the charge, which I have obviously made ridiculously large for the purposes of the diagram, is an ad valorem charge.

Obviously those are all key assumptions, and I am not holding them -- you to them, but would you all agree, and I am not going to go in any specific order, but we will start from the right and move to the left, would you agree that this diagram shows a less than 100% shifting?

MR TRENTO: Yes. Thank you. So, yes, I would agree that this is a representation of what, in economic theory, you would think of as a perfectly competitive market.

THE CHAIRMAN: Maybe you can move the microphone a bit closer. Thank you.

MR TRENTO: Thank you. So I would agree that this is a representation of what, in economic textbooks, you would think of as a perfectly competitive market, whereby you have a supply and demand cover. Of course, one is to make assumptions on, you know, the slope and the curvature of the curves.

I agree that ... and you can see in this example that when the supply curve is upward sloping, that that means that even a firm-wide marginal cost, the pass-on would be less than 100%.

Maybe the only additional point that I wanted to make is, as part of the assumptions that are in this chart, is that what we are looking at is an industry-wide marginal cost.

PROFESSOR WATERSON: Thank you.

MR COOMBS: Yes, so, as you said at the outset, Professor Waterson, this graph is based on some assumptions, in particular about the slope of the supply curve. So I would agree that this is an accurate representation of what would happen if those assumptions are correct, but I think the question of the slope of the supply curve is a matter of contention between the experts to some extent in this case, and that obviously has an influence on the result. So, subject to that caveat, yes, I would agree with this diagram.

PROFESSOR WATERSON: Thank you.

Mr Holt.

MR HOLT: Yes, thank you, Professor Waterson. So I agree with the comments of the preceding experts that this represents a case of an ad valorem tax that would be passed through to an extent of less than 100%, given the assumptions that are noted here, and indeed I agree with Mr Coombs that there are some questions about what those assumptions could be in different sectors of the economy, for example, and that changing those assumptions in relation to either the slope or indeed the shape of the curves, including, you know, convexity is another aspect, could lead to either higher or lower levels of pass-on.

I think where I have sort of taken this is that this is a helpful guide to the likelihood of pass-on, but one really needs to then examine the empirical evidence which relates to the type of changes in cost that are represented by the MSCs.

One point that I think, if you are wanting to sort of try and link this theory to some of the evidence, that you might want to go to the evidence in relation to VAT changes in different sort of sectors or at the economy-wide level, because that gives an estimate of how, in practice, those types of taxes have been passed

through. Thank you.

PROFESSOR WATERSON: Thank you.

Ms Webster.

MS WEBSTER: Yes, thank you. Just to say that I also agree with the comments that have been made so far.

The one point that I would add is around the assumption that is made about the slope of the demand curve. In the way that I have been thanking about it for this case, where there is commonality in the MSC being incurred by sort of close to all merchants, then actually there is not an out-of-market constraint that is strong in this situation, and that would point to the demand curve being a steeper slope. But that is very much taking this general framework and thinking about how it would apply in this case.

PROFESSOR WATERSON: Thank you.

MR HARMAN: I have nothing else to add. I agree with the comments that have been made.

THE CHAIRMAN: A remarkable consensus to start with.

PROFESSOR WATERSON: Yes, I like to see that.

So the slope of the supply curve has been mentioned. In a perfectly competitive market, what alternative slope could we envisage?

Let us start at the other end, Ms Webster, or Mr Harman, if he wants to ...

MR HARMAN: I am happy to defer.
MS WEBSTER: So if it were a perfectly competitive market, I think one could envisage that as a flat, entirely horizontal supply curve.
MR HOLT: Yes, I would agree. I think the other point I would add to that is if you are looking at the -- as to short versus longer term time horizons, then there would be more opportunity, I think, for things like innovation to lead to cost savings, for example, and that might be a factor that would no longer lead to a somewhat flatter supply curve, potentially.
PROFESSOR WATERSON: Thank you.
MR COOMBS: Yes, Mr Holt has said what I was actually going to say, so I agree with him that I think the key issue here is whether we are looking at the short run or the long run. So I think in the long run, where firms are likely to benefit from economies of scale, you would expect the supply curve to be flatter than it is in the short run.
PROFESSOR WATERSON: Well, yes, but would you agree that in a perfectly competitive market, that is not feasible in the sense that if the supply curve would be downward sloping, then the firms would grow, there would no longer be a very large number of firms?
MR COOMBS: Yes, so I am not suggesting that the supply

curve would be downward sloping, I am suggesting that it would be flatter than it is in the short run.

PROFESSOR WATERSON: Thank you.

MR TRENTO: Well, I think I disagree with my colleagues. I think that the supply curve can be flat or it can be upward sloping, and there is no extant expectation that it would need to be flat.

I think if you -- if one thinks of the market supply curve, you can have an upward -- sorry, an upward supply curve if you have companies that have different marginal costs, such that you order the companies from the one with the lowest marginal cost to the highest marginal cost and you come up with an increase in supply curve. That is true for the short-term and for the long-term.

In the short-term, again, the curve can be -- can have any slope, but we know from economic theory that in the short-term, usually when there are capacity constraints, it is more likely there is an upward sloping curve. In the long term things may change, but even in the long term you still have the fact that there are many firms in the market, and they can have different marginal costs, and therefore the slope can be upward -- sorry, the supply curve can be upward sloping.

There is another issue, which is in the long term, depending on whether -- so imagine there is entry of --

imagine that the market is profitable, that attracts entry from other firms. As volume expands, there is going to be more demand for the inputs, and that demand for the inputs may or may not increase the price of the inputs, and if it does increase the price of the inputs, that would result in an increase in an upward sloping supply curve.

So my point is just that there is no expectation -- no extant expectation for a given slope of the supply curve, except maybe in the short run there would be an expectation for an upward slope in the supply curve.

PROFESSOR WATERSON: Thank you.

Now, of course, I have drawn this diagram as if the M, which I have not defined, but let us think of it as a MIF, is ad valorem. We will come on to talk about that a little bit later on.

So then let us turn to the --

MR TRENTO: Sorry, Professor Waterson, can I just make an additional point, which is it is true there is contention about the likely slope of the -- or whether there can be an expectation on the slope of the supply curve. I think there is also contention on whether the MSC are actually treated as a marginal cost by the Claimants, because the assumption that is behind this chart is that we are looking at a change in marginal

costs. If the change was not a marginal cost, then we would not have the support of this chart at least.

PROFESSOR WATERSON: Thank you.

So let us turn to the opposite end of the spectrum, then, to the diagram for a monopoly. Again, this diagram is -- well, this one actually, I think, is more than 100 years old, in some sense, I gather, that Wicksteed was the first person to think about things this way.

Just to explain what I have done in this diagram. So I have distinguished for a monopoly between the demand curve and the average revenue curve for the monopolist, and, again, I am assuming an ad valorem addition, and therefore the higher the price that the monopolist charges, the greater the gap between the demand curve and the average revenue curve. I have also assumed here, just for simplicity, a constant marginal cost.

So do people want to make any observations about this diagram, given that explanation?

THE CHAIRMAN: Shall we start in the middle maybe this time with Mr Holt?

PROFESSOR WATERSON: Yes, Mr Holt.

MR HOLT: We will take the middle right just to sort of start.

So I think, again, I agree with I think the interpretation which is being put here, which is that in a monopoly situation and with an ad valorem tax, and that is subject to certain further assumptions around the shape of the demand curve and the marginal cost curve, that pass-on would be expected to be positive but incomplete. I would note that in the ad valorem case it appears to be a little less than 50%, and in a case of a unit cost increase in tax, then it would typically, under this similar type of diagram, be about 50%, or exactly, according to the maths, 50%, as a pass-on rate.

I think one interesting insight to be drawn is that this demonstrates that while, I think, conditions of competition can be an important factor in determining the conditions under which pass-on of different types of costs may be carried out to a greater or lesser extent, the pass-on concept is not limited to situations of competition, as this diagram shows.

PROFESSOR WATERSON: Thank you.

So we will move to Mr Coombs.

MR COOMBS: I am not sure I have very much to add to that. I agree with the diagram and what it shows. Obviously it is based on various underlying assumptions.

I suppose I will just make the broad point, which I think Mr Holt has already made, that one can only get

so far in terms of using economic theory to derive expectations about pass-on. They provide prior expectations, but of course ultimately what I think all of us are doing is we are then using data to actually test those assumptions and see what the data shows.

So the question is, of course, are these assumptions relevant, and ultimately the way that we test that is by examining the data.

PROFESSOR WATERSON: Thank you. Of course I agree, absolutely.

Ms Webster.

MS WEBSTER: Thank you. I agree with what has been said. A good starting point.

I would also add, as I have interpreted this, this is the sort of first round effect of the imposition of the charge, and then the predictions for the pass-on by a monopolist.

If I am now thinking about the situation which we have, and I now think about this monopolist who is putting up their price, there then will be feedback effects, and that will be dependent on what is happening with the firms and the firms' costs where the monopolist is losing sales, the monopolist is clearly, with a downward sloping demand curve, losing its sales.

If that outside constraint, as I -- as is my

evidence, will also have been subject to the increase in the MSC charge, then they will also be passing on the MSC charge to a degree, and the result of that means there is scope for the monopolist to pass on -- so they do not face quite such the reduction in demand as implied by this diagram, but actually over time, in reaction to what the other firms are doing, would find that they can pass on a bit more.

So I think the sort of longer term effect would be a higher level of pass-on than predicted by this diagram, even in a situation where there is a monopolist or limited competition.

PROFESSOR WATERSON: In effect, what you are saying is that a monopolist in one product does face generalised competition from other products?

MS WEBSTER: That is right, yes.

PROFESSOR WATERSON: Mr Harman.

MR HARMAN: No, I do not have anything to add in terms of what I include in my reports. Of course, what I am seeking to do in my reports is to determine whether the accounting base records support the economic theories that are being put forward.

PROFESSOR WATERSON: Thank you.

Mr Trento.

MR TRENTO: So, first, I have to admit that it took me

a while to understand why you covered the demand cover and not the marginal cost curve, but eventually I got there. But I think even changing the marginal -- I think the chart is correct, but even changing the marginal costs would give you the same results really.

My only two comments are, first of all, the same comment as before, which is this is assuming a change in marginal costs, and then the second one is that you can see that when you enter the territory of imperfect competition, then things become more complex, and therefore you can have a pass-on at any rate, even with a cost and ... marginal cost.

The last point is that I consider, based on the evidence, that many of the SSH Claimants actually operate in imperfectly competitive markets, not meaning that -- not meaning that there is not a high degree of competition, but simply meaning that they sell a different share of products and therefore they have, you know, some pricing power to price above marginal costs, and therefore I consider that this second chart for the SSH Claimants may be more likely to be representative, save for the fact that it is looking at the marginal costs.

PROFESSOR WATERSON: Thank you. We will come on to imperfect competition, obviously.

So has anyone got any observations to make about what happened to the elasticity of demand as a result of this imposition of M at any given price?

MR COOMBS: I might go first. I think the observation I would make is that when we are looking at the MSC or the MIF and thinking about its magnitude, although it is -- I would not say it is small being compared to, for example, the margins that merchants are earning, but within the scope of the demand curve it is likely to be a small movement along the demand curve. So to the extent that there is any change in elasticity, that is likely to be very small, I would expect.

PROFESSOR WATERSON: Thank you.

Mr Holt?

MR HOLT: Maybe one very brief observation, other than agreeing with what Mr Coombs just said.

Again, this is obviously a specific case of a linear demand curve, and obviously elasticity moves according to where you are on the linear demand curve. That is not, obviously, necessarily the case in some other ways of looking at demand; isoelastic demands, that would not be the case. In particular, depending on the degree of convexity, that can be a situation where I think, as Dr Trento was alluding to, you can sort of -- that can lead to situations where what you might otherwise have

thought are the traditional sort of floor and ceiling of the simple perfect competition and monopoly models, ie the 50 to 100% range, where costs are passed on to, you know, 100% typically in a perfect competition world in some cases, and 50% by a monopolist, that can actually be either lower or higher depending on the shapes of the curves, even higher than 100% if it is sufficiently convex.

PROFESSOR WATERSON: Just to challenge you a bit on that. For a monopolist, will a monopolist ever over pass on?

MR HOLT: Well, I think obviously a monopolist would always want to be setting, you know -- the theory would be wanting to set a profit maximising price, and it would not want to be setting price at a point where it has inelastic demand, because if it did that, then it could make more money by raising prices and not losing demand, and so it could -- not losing a sufficient amount of demand, rather, to make that a profit maximising decision.

So I certainly agree with you that a monopolist would have certain features where there would be a particular range of elasticity which would make sense and other ranges would not make sense.

PROFESSOR WATERSON: Thank you.

Ms Webster.

MS WEBSTER: Yes, just to really agree with Mr Coombs, which is that I think the small size of the MSC cost is unlikely to mean that there is a -- that the curvature of the demand curve is a particularly relevant consideration when thinking about the degree of pass-on.

PROFESSOR WATERSON: Thank you.

MR HARMAN: Nothing further.

PROFESSOR WATERSON: Mr Trento.

MR TRENTO: I understand the question being on the elasticity of demand. My only point is that the charts show quite clearly that there is a strong relationship between a price increase and a volume effect, which is, unless demand is completely inelastic, then you would expect that the price increase, maybe due to pass-on, would give rise to a volume effect. But as Mr Holt said before, I think we all understand that volume effect will be, even though it is linked to pass-on, this is going to be addressed in Trial 3, not in Trial 2.

PROFESSOR WATERSON: Thank you. I am not making any promises about Trial 3.

Good.

But I think you would agree, just going on from that, that oddly, if you like, whereas in perfect competition and in monopoly you would not expect an overshifting, then in oligopoly it is possible for an

overshifting to occur.

Maybe -- I think Mr Holt specifically deals with this issue, so you might be an appropriate person to start talking about this.

MR HOLT: Sure. So obviously there are a range of models of imperfect competition, and I think one of the issues that was the identified at a relatively early stage amongst the experts, when we were thinking about what are the main determinants of pass-on from an economic theory perspective, is that once you get into the complexity of imperfect competition, in between obviously the monopoly and perfect competition states, then quite a wide range of further factors can become important. Most critically it can depend on the nature and intensity of competition, it can depend on the shapes of the demand covers and the supply curves respectively and --

PROFESSOR WATERSON: I think we had perhaps better not call them supply curves.

MR HOLT: Okay, sure. Reaction curves or ... yes.

But in any event, I think the economic theory does then, I think, give a potentially fairly wide range of outcomes, which is my point previously, that the range of outcomes can be low or high or indeed even above 100%.

I think the second point I would make is that while the economic theory can to some extent give you a guide as to which of these conditions might be most likely, many of these factors are quite challenging to measure or observe. So that raises I think a fairly important question, which is how much weight does one put on a detailed investigation of some of these specific models of imperfect competition for the practical assessment of pass-on?

I have not put a great deal of weight on it, because I have recognised that the theory can lead to quite broad outcomes, and it is actually difficult to implement, in a sort of practical sense, the implications of all those potential factors due to the measurability problem or lack of observation.

I would, however, note that to the extent that they are important, and they are likely to be important, they would tend to be captured in an empirical assessment, looking at the rate of pass-on over time, because these sorts of conditions would in a sense implicitly be picked up in what the model is looking at.

So that is really the focus I have made, that I have recognised that in principle these are factors that could be important, but from a measurement perspective, they do not seem to be critical to the empirical

framework, at least in my view.

PROFESSOR WATERSON: Thank you. So could I -- would you agree that the empirical framework that you and, as far as you are aware, the others -- but they can answer for themselves -- the empirical framework has, if you like, had to take some shortcuts, if you like. There are things that are not possible to evaluate empirically in detail, like the curvature of the demand curve, and so on?

MR HOLT: I would agree that myself, and I think it is fair to say that it might be the case for others, although I think there has been some commentary on what shapes might be in the longer run, as Dr Trento and Mr Coombs just mentioned, but overall I think that is a fair statement.

In my view, it is not of any great concern, to the extent that there is sufficient empirical evidence which would encapsulate the combination of these effects in any event.

PROFESSOR WATERSON: Thank you.

Ms Webster.

MS WEBSTER: Thank you. So when I have thought about this, I have sort of thought about two situations in which I would expect this overshifting, so pass-on above 100%, and I would expect that where the demand curve is

convex, so that price-sensitivity reduces as the price goes up. The alternative scenario is if there is increasing returns to scale so that the supply curve is downward sloping.

My expectation is that -- sorry, one further factor. I would expect that to be -- any overshifting would be more material in a world where there is lower competition. So I think it is agreed that where there is increased competition in a market or a higher level of competition, then the degree of overshifting is moderated, and any pass-on rate will come further back towards the 100.

In terms of those characteristics that I have just described, my expectation is I would not expect to see them as a common feature across most retail markets. So my expectation is if I saw a lot of empirical evidence which was all pointing to pass-on of 150% or more, I would think probably actually it is more likely that there is some difficulty in the empirical analysis to actually generate reliable results, because I would not expect that.

If I just turn also to now what I would expect in relation to MSC cost pass-on. I think because we are talking about such a small cost for merchants, then the likelihood that -- let us say that was passed on to

a large degree, the volume effect that is likely to be triggered by any price increase associated with that cost increase would be small, and the result of that is any change in volumes would be likely to be small.

Therefore, we are not talking about measuring pass-on over a large change in volumes, and in that respect I think one would not expect a curvature of demand to matter; I would expect it to be relatively constant over that. Equally, I would not expect to see a sort of material effect through any downward sloping supply curve.

PROFESSOR WATERSON: Thank you.

So to summarise, you might -- one might observe overshifting, but 150/200% would be -- that would suggest something suspicious about -- or not necessarily suspicious, but something awkward about what you are doing empirically in trying to assess this?

MS WEBSTER: Yes, and particularly I would not expect to see material pass-on rates above 100% in most markets, so I would add that as well.

PROFESSOR WATERSON: Thank you.

Mr Harman.

MR HARMAN: I mean, the only point that I guess I can add on that is what I see in the factual documents. I do not see instances of overshifting. If there was inflation,

for example, what I see there is that they try to accommodate that inflation within prices, but it is matched. If they think that the level of inflation is 3%, if that is 3% on cost of goods sold, for example, then you see a decision as to whether they can increase those prices up to 3%. You do not see it going beyond that.

PROFESSOR WATERSON: Thank you, that is very helpful.

Mr Trento.

MR TRENTO: I understand that your question is mainly related to economic theory.

PROFESSOR WATERSON: Yes.

MR TRENTO: My understanding is whether you can see, when you go to a market which is an oligopoly or a monopolistic competition market, whether you can see overshifting. From an economic theory perspective, the answer is yes. You will have more, depending on the demand function or the utility function of the consumers. If you look at cost and elasticity of supply utility function, then you will see that firms price with a mark-up over the margin of cost, and that would mean that there would be overshifting in those cases for the marginal costs.

I consider that once you get into the territory of monopolistic competition or oligopoly, then a wide range

of results is possible. Of course, that includes overshifting.

PROFESSOR WATERSON: Thank you. But, again, you would not expect a rate of much above 100%, are you saying; are you agreeing with the previous ...

MR TRENTO: For marginal costs?

PROFESSOR WATERSON: Yes, overshifting of any increase in marginal costs, you would not expect to see that much above 100%?

MR TRENTO: I do not know how to answer this from an economic theory perspective.

PROFESSOR WATERSON: Not -- well, okay, yes, but empirically then.

MR TRENTO: Empirically the issue is that I -- when I analyse the pass-on of the MSCs, I do not analyse the pass-on of COGS which is I understand how -- well, we will get into this discussion, but I do not analyse the pass-on of COGS, which are marginal costs, I analyse the pass-on of other costs, which is total overhead costs. So for that kind of pass-on, I am afraid that I cannot rely on this chart really, because it is a different type of cost.

PROFESSOR WATERSON: Yes. No, I understand. Thank you.

I do not think we have had you, Mr Coombs.

MR COOMBS: Thank you. So I think I agree with what has

been said or some of what has been said. Maybe I should clarify that by explaining which bits of what has been said I agree with.

So I think I would make two points. First, from a matter of pure theory, I would agree that it possibly to have an overshooting in oligopolistic markets.

Moving from theory to fact, and maybe this getting ahead of ourselves, but, you know, my view is that when you look at the evidence, the evidence tends to suggest a relatively high degree of competition in the markets that we are looking at, and I would agree with Ms Webster that in that situation, you would -- that would sort of dampen the extent of overshooting and mean that you would expect pass-on to converge more towards 100%.

So I think it is possible that pass-on can be more than 100%. But in answer to I think the question that you were just asking Dr Trento, I would not expect you to find a very material -- I would not expect you to find pass-on which is very materially above 100%.

PROFESSOR WATERSON: Thank you.

Now in order that the lawyers will be happy, we will move on to more empirical matters.

So I think one of the things on which you agree is that -- and I am talking about everyone here, although

I think Mr Ramirez did not agree, but he is not here now -- or was it Mr Murgatroyd, one of the two, anyway they are not here now. One of the things on which you would agree is that empirically trying to measure directly the pass-on of MIF is not a task that you would feel comfortable engaging in because -- and Mr Holt, I think, is specific on why he would not want to engage on that.

MR HOLT: Yes. Shall I just briefly comment on that?

PROFESSOR WATERSON: Yes.

MR HOLT: I think it was primarily Mr Murgatroyd who had carried out MIF-based things, but Mr Ramirez also did a sensitivity with a delta on the MIF as well, but obviously neither of them are here in a sense.

But my view on this is that we have a signal-to-noise ratio problem; in other words, the variation in the MIFs to be picked up, given the size and the lack of extensive changes over time, means that there is relatively little variation in MIFs or indeed in MSCs as a result of that, and by reference to the overall prices of products, which vary in some cases at least quite lot, this means that it is extremely difficult for a model, looking at the variation of the MIFs, to be picked up and identified as having an effect of any particular degree on price variation.

The important point to note is that this is the case even if there is an effect. So essentially that means that any modelling focusing on this does not have sufficient power to identify the nature of the effect that exists. I think that is why I think most of the experts, at least at the table now, agree that we need to focus on a proxy.

I am happy to comment on the analysis that has been carried out on the MIFs, which I disagree with, but I think, as a point of principle, that is my position.

PROFESSOR WATERSON: Thank you.

Mr Trento.

MR TRENTO: Just a small correction. Before, I talked about utility function tbhat are constant -- with constant elasticity of supply. Of course, I meant constant elasticity or substitution, not of supply.

Yes, I think the estimation of -- a direct estimation of the pass-on of MSC, it is very challenging. In my opinion, the main issue with that estimation is not necessarily about the size of the MSC. It can be an issue, but is not necessarily an issue. The main issue for me was that because the MSC may have an ad valorem component and may have a per unit component, then there is some homogeneity, meaning that it is not only the MSC that can affect prices, but when

price increases, then there is an automatic effect on the size of the MSC. So if you increase the price from 10 to 20, and the MSC is 10%, just to make a number of the price, then the MSC automatically increases from 1 to 2. Therefore, when doing an estimation, an empirical estimation, it becomes difficult to disentangle the causal effect of the MSC on prices from the causal effect of prices on MSCs.

On the size of the MSC, I agree with Mr Holt that makes an estimation challenging, but I consider this to be a problem of the power, if you want, of the analysis. It is also related to the size of the sample that you are using for estimation. So in some cases we have millions and millions of data points that allows you to analyse the effect of a variation in costs on a variation in prices, and when you have that amount of data, then you may be able to estimate the effect of even a small cost on prices.

PROFESSOR WATERSON: ^^^ But you would agree with Mr Holt, would you, that the signal-to-noise ratio is a critical factor?

MR TRENTO: I agree with that. I consider that in some cases -- I mean, in most cases this is something that affects my estimation, because I tried to estimate the proxies identified by Mr Economides, which were too

small for an economic estimation, so I agree with that, fully agree.

The only point I am making is that if you have millions and millions of data points, then you may be able to overcome this issue.

PROFESSOR WATERSON: Thank you.

MR BEAL: I am very sorry to rise, I have a procedural point pointed out to me.

We had understood that the experts on the front row were going to have their comments boxes on their laptops or their trackers turned off, so that there was not a team discussion being available to them. I am in the Tribunal's hands as to whether or not we can confirm that that applies for each expert.

They have each been sworn, and obviously it is evidence they are giving, and we have disabled our comments for our expert so that he cannot see what we are saying behind him, as it were.

I had thought that was --

THE CHAIRMAN: Are you saying that others' comment boxes might be open?

MR BEAL: That is what I have been told.

THE CHAIRMAN: Well, I would think it is probably inappropriate for any comment boxes to be open, so can you all confirm that that is the case?

MR HOLT: I can see a couple of comments that do not actually affect anything I have said, but there are a couple of comments, so this needs to be turned off.

THE CHAIRMAN: If that could be turned off in some way or other.

MR BEAL: Thank you.

THE CHAIRMAN: Thank you for pointing that out, Mr Beal.

MR TRENTO: There is a way to turn that off.

MR HOLT: Is there?

MR TRENTO: Yes, I think on the top right.

MR HOLT: It has gone.

THE CHAIRMAN: The benefits of being able to help each other.

MR HOLT: I appreciate that. Thank you.

THE CHAIRMAN: I do not know if you had finished, Mr Trento, had you?

MR TRENTO: Yes.

PROFESSOR WATERSON: Ms Webster then.

MS WEBSTER: We are going back now to the question of ...

PROFESSOR WATERSON: The signal-to-noise ratio and the issues around that.

MS WEBSTER: Thank you.

So just to confirm, the reason why I have taken the view that it is not feasible to give a reliable estimate of MSC pass-on directly is exactly the reason given by

Mr Holt. So for me, the issue of the low signal-to-noise ratio is what has caused me to think that it is not reliable to measure MSC pass-on directly.

THE CHAIRMAN: Mr Harman, do you want to comment?

MR HARMAN: That is my understanding as well.

THE CHAIRMAN: Mr Coombs I think has not spoken.

MR COOMBS: To be honest, I thought this was not really an area of disagreement because none of us actually attempt to do this.

PROFESSOR WATERSON: I am trying to get agreement about everything!

MR COOMBS: I agree it is not -- I have not tried to do it, and I agree, I think it would not be possible to do so.

THE CHAIRMAN: Just in case Mr Murgatroyd had been here.

PROFESSOR WATERSON: Yes.

MR HOLT: Can I just make one supplementary point, which is that we have been talking about the signal-to-noise ratio for the MIFs or MSCs. Obviously Dr Trento sort of also made some comments around, well, does that affect some other possible proxies, and I agreed with him that the issue in principle could apply to some of the other proxies but it depends on the circumstances. In some cases I have considered and ruled out potential proxies due to the signal-to-noise ratio, even if it was not specifically due to -- it was not MSCs in question, but

other potential proxies could be subject to the same problem.

PROFESSOR WATERSON: So it may be appropriate at this stage to bring in the other two diagrams. These are, I think, from Ms Webster's report. Is that right?

MS WEBSTER: Yes.

PROFESSOR WATERSON: Just to confirm, I do not think either of these are confidential in any way, are they?

MS WEBSTER: No.

PROFESSOR WATERSON: No. So maybe, first of all, you would, Ms Webster, clear up for me one puzzle, if you like. I think I know the answer, but you can tell me. What is 100% in your diagram?

MS WEBSTER: Are we speaking about Annex 1?

PROFESSOR WATERSON: Annex 1, yes.

MS WEBSTER: So 100% would be if all of the lines on this chart are aggregated and the missing line, which is cheques.

PROFESSOR WATERSON: Thank you. So direct debits, standing orders, and so on, are not included?

MS WEBSTER: That is right, I have excluded those, which I did on the basis of an expectation that they are less relevant forms of payment in the retail sectors.

PROFESSOR WATERSON: Thank you.

So what we see then is, remarkably, cheques appear

to be very common, it is a bit difficult for me to remember back then, but obviously they were a very common means of payment, and I do remember annoyingly standing behind people in the supermarket when they wrote out a cheque, and so on.

But, anyway, so we have seen a remarkable shrinkage in the use of cheques, a remarkable growth over time in the use of debit cards, and more gentle growth in the use of credit cards. Obviously we will want to come back to this issue in much greater detail when we think about the earlier period, but for now I think -- is there anything else that anyone wants to draw out of that diagram?

MR HOLT: Sir, I just have a clarification question, because I think Ms Webster kindly identified what adds up to 100%, and cheques is the missing component. But obviously there is still a question about what is the base of transactions that one is talking about? I read here that this is sort of referred to transactions made in the UK by resident individuals and businesses.

Now, that obviously, in theory, could be quite a broad range of types of transactions, such as payment of salary or house purchases being made, and so there is a question in my mind as to, well, what is the appropriate base of transactions that one would want to

look at if one is sort of focusing, as we are here in these proceedings, on retail merchant-type transactions, where the range of substitutes and possible relevant payment options might be somewhat different in terms of proportions.

MR ECONOMIDES: If I may, this is my chance to contribute to the discussion.

I have done some specific work on this analysis, Ms Webster's analysis, that I would like to share with court. It is true that the data that Ms Webster has used comprises both individual and business transactions; so it is not just retail transactions, it would include the business purchasing raw materials, supplies, etc.

Correct me if I am wrong, Ms Webster.

MS WEBSTER: No, that is correct.

MR ECONOMIDES: So we are extrapolating from this and applying it, and Ms Webster has made effort, valiant efforts to make it more retail oriented, but there are still issues with the chart.

I have prepared a few pages which have been, I understand, uploaded, so if the court will humour me, I can provide a little bit more detail, and also an alternative dataset to consider. Because fundamentally the issue with this chart is it exaggerates

significantly the growth in penetration of cards. The reason is that Ms Webster has excluded automated payments and direct debits from the chart. Automated payments have had explosive growth. Now, automated payments are not particularly relevant in a retail environment, so it is not completely inappropriate to exclude them. Direct debits are quite consumer-oriented but they are also not particularly applicable in the retail environment, so I think it is also appropriate to exclude them. But cheques do create an issue, because cheques -- I have some charts, if you would like to see them, or I can continue.

THE CHAIRMAN: Have they been provided to everybody and when?

MR ECONOMIDES: They have been provided only yesterday, I apologise for this, but I only found out that the question will arise on Friday.

PROFESSOR WATERSON: I do not think we can look at them right at the moment then.

MR BEAL: They have been uploaded, sir. They are at {RC-Q1/1/1}.

THE CHAIRMAN: Right. Everyone has had an opportunity to look at them. Does anyone object to them going in and being looked at now? I am seeing lots of shaking of heads. Okay.

MR ECONOMIDES: Thank you, and I apologise for that.
THE CHAIRMAN: The only other thing is I am wondering whether we ought to have a further break, given it is quite a strain, I imagine, on the transcriber. Would now be an appropriate moment?
PROFESSOR WATERSON: Now I think would be an appropriate time.
THE CHAIRMAN: I do not think we need a full ten minutes but maybe a five-minute break.

All right, then. You have all been sworn in, so during any break you cannot talk to your teams or anybody about the case.

Yes, Mr Trento.

MR TRENTO: I just want to raise a point. Even when you shut down the comments, some comments I think still appear in the transcript, so I do not how to fix that.
THE CHAIRMAN: Maybe over the break we can try and find a way of turning off the comments. Maybe we just turn off your screens.
MR TRENTO: Yes, sorry, because I am not a native English speaker, I think it would be quite useful for me to have the transcripts there, but if it is not possible, it is not possible.
THE CHAIRMAN: It is coming up on the same screen as the transcript, is it?

MR TRENTO: Yes, I am afraid so.

THE CHAIRMAN: Well, does anyone else have this problem that their comments are still coming up? No. Okay. There must be a way of getting rid of it and we will sort it out over the break.

MR TRENTO: Perfect. Thank you.

(12.07 pm)

(Short Break)

(12.14 pm)

PROFESSOR WATERSON: Mr Economides, if you want to say something about this point at this stage, I think that would be useful. Maybe we can see what you have prepared on screen, although we may well come back to it at some later stage, but let us at least have a look at it.

THE CHAIRMAN: You have the reference numbers, do you, for --

MR ECONOMIDES: I saw it flash up a few minutes ago but it is {RC-Q1/1/1}.

So what we are looking at is the full dataset. There is a table with all the data on the next page, but this is -- before we go to the next page, apologies -- this is the full dataset with all the lines included. Some of the lines were included in Ms Webster's chart and some had been removed in order to adjust the chart

to try to make it as retail oriented as possible. That is my assumption -- presumption as to why that was done.

So, again, we are now seeing the full dataset, it is transaction values for both individuals and businesses, and it is by means of payment. So what you can see here is, again taking that very broad universe into account, the cash line, the debit card line and the credit card line are towards the bottom, and relatively flattish because of the very large denominator, obviously, whereas the two lines that are particularly interesting are the automated credit line, that is quite steep and grows, and that is to a large extent a reflection of businesses using automated credit more, but it is also consumers using it for non-retail transactions.

Automated credit, to be clear, is the Faster Payment System. It is transfers that we all do to a sort code and a bank account to make payment for services.

THE CHAIRMAN: It includes CHAPS payments, things like that?

MR ECONOMIDES: Yes, my understanding is that it does.

Again, a portion of them will be consumer and a large portion of them will be business.

Cheques is the other interesting line. It declines quite steeply from about 56% to almost nothing. Believe it or not, there are still cheques around. Hard to find, but there still are. That line is also both

businesses and consumers, and that is where the issue arises, because Ms Webster has made an assumption, and I cannot disagree with that assumption, that we can remove automated credit because they are not relevant for retail environment. We can probably also remove direct debits, the blue line, because although direct debits are probably relevant for some claimants, Three, for example, and others will be relying a lot on direct debits, they are probably less relevant for traditional retailers.

So if we skip the table and go to the third page {RC-Q1/1/3}, the table is there for reference. Well, actually, sorry, apologies, let us glance at the table just for one second {RC-Q1/1/2}, just to observe that if you take this denominator into account, ie transaction values for both businesses and individuals, actually credit card transactions barely move. You can see that they go from 1.4% to 2%. Debit card transactions go from 1% to 7%. So the lines are quite flat, but that is explained by the universe of payments that is not retail-specific.

Now, on the next page {RC-Q1/1/3}, and there are only five, this is removing direct debits as less relevant, removing automated credit, but showing clearly the cheque line. So this is basically the chart in the

report with the missing line added, so you can see where the rest of the 100% goes.

So I think what is interesting to note is that the lines obviously for direct debits and credit cards become a lot steeper, but the question is how much of that grey line is business versus retail, because what we are looking at is still not fully retail, it still has lots of business transactions in there. So the question is how many business transactions are in there and what would happen if we were to adjust that line?

So if we go to the next page {RC-Q1/1/4}, this is an alternative dataset from the British Retail Consortium. This is a survey based -- the BRC surveys its members. According to the BRC, their members represent 35% of total UK retail sales through 25,000 stores. That is mentioned in the note.

So based on this survey, you can see that they are -- by the way, the survey is retail-specific, so directly relevant, but unfortunately does not go before 2010. But at least it gives us an indication that between 2010 and 2022 the line for credit cards has been flat from '21, back to '21, with a slight spike during Covid, as expected, and the line for direct debits is steeper but not as steep as it was in the previous chart, it goes from --

THE CHAIRMAN: You mean debit cards?

MR ECONOMIDES: Apologies, yes, debit cards.

So it goes from 46 to 64, which is a meaningful difference of 18 percentage points but not as steep as what we saw previously.

So what I have tried to do on the next -- oh, and just to highlight that total card is 67% for 2010 and goes up to 85% for 2022. So in that period the growth is there but not as steep.

Now, the final page, trying to bring everything together {RC-Q1/1/5}, if -- so this is the same chart on the data that Ms Webster used, the line chart, with a cheque line included, but it is just a different representation. It is 100% stock bar, as opposed to lines, so you can see more clearly how things are together from one year to the other. So it is identical data to the ones we were looking -- the data we were looking at before, and if you exclude the grey part, it is identical data to the data in Ms Webster's report.

So if you compare 2022, starting from the right of the chart, total card, just adding up 18, the orange segment, and 63, is 81, versus Ms Webster's 85% for the BRC, based on the previous page. So the numbers are broadly equivalent, there is only 4 percentage points difference, and notice that cheques represent 12%.

Now, if you go back to 2010, which is the first year of BRC data, total card, based on this chart, is 24% versus BRC 67%. So there is a difference of 43 percentage points. Where are those 43 percentage points coming from? They are coming from cheques. Basically two-thirds of the cheques on this diagram -- for that year, the 60%, are not retail transactions, they are business transactions.

This is not overly scientific, it is directionally probably correct that two-thirds of the 60, about 40%, is business. So if you scale -- remove that and you scaled up cards, you would, if you believed that assumption, get to the BRC number of 67%.

Now, what would happen if we went back to 1995 and we considered again, without having the evidence for this, that two-thirds of the transactions are also business at that point in time? That would remove 56% as non-retail, so not potentially captured by the BRC survey if the BRC survey had been run there, and it would scale up the other numbers to a pretty meaningful extent. It would scale up the total card to 60% at that point in time.

THE CHAIRMAN: Right.

MR ECONOMIDES: I know there was a lot, but ...

THE CHAIRMAN: I think we need to give the others a chance

to comment on that, if they wish to.

MR COOMBS: Could I make a couple of comments here.

First of all, just going back to the graph in Annex 1, I think it might be useful to look at the numbers underlying this graph. I have the reference for that which is {RC-Q4/16/1}. That is the -- if we can download that, it is a spreadsheet. Is it possible to download the spreadsheet so we can look at it?

(Pause)

There we are. This is the graph. Then if we just scroll down to the table below, the table below. So what the graph is saying is it is saying the share of transaction values accounted for by cash and card payments, and so I think the question that Mr Economides was raising is, well, what are the transactions here, what is denominator that is being used here? We are dividing card transactions by a denominator; what is that denominator and is it correct?

So if you look at the left-hand column here, this is the denominator, the total, and the values for card payments and debit card payments are divided by this denominator to get the percentages which are shown in the graph. If I am getting this wrong, Ms Webster can correct me, but I understand that is what is happening here.

Now, the thing that is very strange is if you look at the denominator, the total here, it starts -- these are, I believe, billions of pounds. So it starts at 2 trillion in 1995, it goes up to about 2.3 trillion in 2002, after which it then declines, and declines quite steeply, so by 2022, it has declined to 1.16 trillion.

Now, what I presume we should be looking at here is the value of transactions in the UK retail economy. That is, I would have thought, what this denominator should be representing. But if that is the case, then this does not look right, in my opinion. It is simply very odd that the value of retail transactions has more than halved during that period.

PROFESSOR WATERSON: There is no adjustment for inflation here; these are raw figures?

MR COOMBS: I believe so, yes. So that, you know, suggests that this is not really a very meaningful comparison if we are having a denominator which is falling so dramatically.

Now, the question that Mr Economides has been highlighting is, well, what would be the correct denominator? So I agree with what he says, which is that cheques are included here. But cheques are not all retail transactions, there are cheques which are

business to business or other transactions.

The same issue would arise if we do what he has illustrated, which is you just add back in direct debits and other transactions, but, again, you will have a mix of retail and non-retail transactions.

So what would be the correct denominator? I am not quite sure if I have the answer to this, but I might do, which is that, Professor Waterson, you will remember there was a trial in Mr Merricks' case last year?

PROFESSOR WATERSON: Yes.

MR COOMBS: Where we dealt with the issue of value of commerce, and I produced a report there on value of commerce, and in the context of producing that report, I actually had to find out a number for the UK retail transactions.

It has taken me a while to remember this and get back, and I had to ask my team to investigate this and find out what we did, but it turns out that we did actually have a number for UK retail transactions. So I do not know if we want to go to it, but I believe it was uploaded to the system, so it is at {RC-Q4/23/1}.

Now, the caveat I would make is this has been done in a big hurry, in the sense that my team found these numbers over the weekend and so we put them together, but I thought it was important to do that to make the

court aware that these numbers, certainly in the case of Mr Merricks' proceedings, actually have already been used in the context of the value of commerce, and obviously these numbers, rather than going down, they increase quite dramatically over time.

So these numbers are taken -- they are derived from the ONS, the Office of National Statistics, and they are referred to in my report from last year, in Coombs 9.

MS TOLANEY: Can I just interrupt to say this material again has come very late.

THE CHAIRMAN: It has.

MS TOLANEY: So the other experts, I assume, and certainly our experts and we, have not had time to look at it at the moment.

THE CHAIRMAN: I understand that.

PROFESSOR WATERSON: I would suggest that we come back to this issue when we -- hopefully tomorrow, when we consider Mr Merricks more specifically. Overnight, I am sure, the others will have a chance to look at this.

MS TOLANEY: I am sure that is right, but just to put one marker down that I think the level of detail and data involved may take more time than overnight for a fair assessment.

THE CHAIRMAN: Of course you will not be able to talk to your experts overnight.

MS TOLANEY: Indeed.
THE CHAIRMAN: Well, it may be we come back to it then, or it is dealt with perhaps more appropriately in cross-examination.
MS TOLANEY: I think that may be more helpful.
THE CHAIRMAN: Yes.
MR COOMBS: Maybe just to close off: as I said, I think I did acknowledge earlier that this has been done in a hurry, so I would not say that this is, by any means, the perfect analysis, I am just saying that there alternative sources available, but, yes, I would want to look at this much more closely myself before relying on this analysis.
THE CHAIRMAN: If I recall correctly, this formed a large part of Merricks' opening submissions, submissions in relation to Ms Webster's graph. So I assume you have done the work to follow up on that?
MR COOMBS: Yes, I did some -- well, to be honest, my team did some digging to find out what we did in preparation for the trial last year and we found these numbers, but only ultimately over the weekend.
THE CHAIRMAN: Well, I think in the light of that it is probably inappropriate to go through it in any great detail in the hot-tub, and others ought to have an opportunity to consider it a bit more carefully, but

I think we know where you are coming from.

MR COOMBS: Thank you.

THE CHAIRMAN: Right.

PROFESSOR WATERSON: Maybe, unless there are further comments on this particular annex, then we should move on, unless you want to say more on it, Ms Webster.

MS WEBSTER: Yes, if I may. Just a few comments. So I think it is right that Mr Economides has pointed out that the data that I have presented in this annex is APACS data and it relates to both business transactions and to consumer transactions, retail transactions. What I have tried to do, therefore --

THE CHAIRMAN: Sorry, what did you say, what type of data?

MS WEBSTER: It is APACS. That is the source of the data.

THE CHAIRMAN: Yes, thank you.

MS WEBSTER: What I have tried to do is to strip out payment types that I think are less likely to be relevant in a retail setting, so have taken out automated credit, taken out direct debit. I have left in cheques because -- sort of partly to your comments earlier, Professor Waterson, about being in a supermarket and standing behind a person with cheques. Cheques were used to a degree in the retail setting. I think the analysis which Mr Economides has pointed out is that that is not the only use of cheques, and therefore they

would also have been used in a business setting for business transactions.

So then there is a question about sort of what proportion of cheques it is right to include or not. I have looked at this data sort of excluding cheques entirely, and what that shows, and apologies, I do not have a last minute graph to share, but that data shows that there is still a very large increase in card transactions and the share of all retail transactions covered by cards, and that is from, just to give an indication of the numbers, sort of around 10% for debit cards and 13% for credit cards, that would be at the beginning of the period, through to sort of 72%-ish for debit cards, 21% for credit cards, and that is really being driven by the full decline in cash, use of cash, and it is the substitution from cash to cards.

Now, again, I do not think that is necessarily exactly the right picture because cheques will have been used to an extent, but I just wanted to share that that is the picture that you get when you leave cheques out entirely.

I think the British Retail Consortium survey data is another source of information on this, and what I would note from the charts that Mr Economides has shared is there is a clear trend, particularly in the use of debit

cards, for the period of data that is included in his charts, so that is 2010 to 2022, with the increase -- and, sorry, that change in the use of the share of transactions covered by debit cards, when put together with credit cards, means that total card share of transactions rises from 67% in 2010 to 85% in 2022.

Mr Economides has talked about some sort of backward extrapolation to what the position could have been in 1995. I think that makes an assumption about actually how cheques were used in the retail environment, so I do not think those calculations were necessarily shared in the material that you shared with these charts, so I will not comment on that, but I would note that that is a fairly big assumption. So I would not place weight on the -- I think you said you thought it might be 60% card usage in 1995. I think that would be -- well, I would not place weight on that estimate. I think it would be an overstatement.

MR ECONOMIDES: If I may, I agree with that, and that is why I did not put it on the slide. It was just to illustrate that if a meaningful portion of those cheques were business oriented, the total of the two types of cards would go up, and I hope Ms Webster agrees with that now. Now, what number would it go up to is difficult to say.

PROFESSOR WATERSON: Thank you.

MS WEBSTER: One further comment on Mr Coombs' analysis, which I have had even less time than Mr Coombs has had to have a look at it.

So two thoughts. The first one is in terms of the source of the evidence in terms of the retail transactions, that is clearly a sort of big driver of the results that he obtains. I think I would want to look in detail at the assumptions that go into that. I think it depends, on a brief look, exactly which sectors have been selected from the ONS dataset to be termed retail sectors. There will be an element of judgment in that. I think I would wish to look at the assumptions.

In this sense, I probably prefer Mr Economides' analysis, which is this survey evidence based on retailers, which I think may be somewhat more reliable, because it does not require that assumption to be made.

The other comment that I would have on Mr Coombs' analysis is actually, I think, even when he then uses this analysis to look at the change in card usage as a share of all transactions, it is still showing the same upward trend, in particular driven by an increased share of transactions being accounted for by debit cards.

PROFESSOR WATERSON: Thank you.

MR COOMBS: Just to comment on that. I think we are all agreed that these numbers have been put together in a great hurry, so I am not suggesting that this is the right answer to the question; I am just saying there are alternative sources of information available and, in particular, they show a dramatic increase in retail transactions, rather than a dramatic decline in retail transactions.

PROFESSOR WATERSON: Thank you. I think that was useful, but we may well come back to this, and of course I am sure it will form a topic of cross-examination in due course.

So let us move on to another data issue, and I think Mr Holt would be a useful person to start here, about the criteria for choosing an appropriate proxy.

Before I say that, I should say that I think you are all agreed that amongst the people assembled before us here, you are all agreed that it is necessary to have -- to use a proxy to examine the relevant question that we are examining. So then the question is the criteria for that proxy, and so, Mr Holt?

MR HOLT: Yes. Thank you, Professor Waterson.

So the criteria that I think are relevant for the assessment of the proxy relate to a number of things.

Firstly, the nature of the counterfactual. Secondly, some of the factual assessment that is relevant and, thirdly, the economic principles.

So the nature of the counterfactual is relevant because the counterfactual I think could be agreed, but perhaps it is not, is that for the claim periods there would be a reduction to zero perhaps of the MIFs, and therefore that would be a permanent reduction that would persist throughout the remainder of the period. So the relevance from a criteria perspective that I take into account from that assessment is that we need to be thinking about a long-term perspective in relation to the concept of pass-on.

The second issue is what are the economic principles that are important determinants of the level of pass-on because that can help inform the relevant proxy. So, in my view, the most important economic principles that determine pass-on rates include the nature of the cost, ie whether it is variable or fixed; secondly, the nature of the extent to which the cost is a firm-specific or an industry-wide cost, and then, third, again, drawing back to the counterfactual point, the importance of the cost change being one which reflects not a temporary change but one that would persist over time.

I think there is a further component which is that,

again, going back to the nature of the proceedings and what the counterfactual is, it is of course a change in the level of the MIF and, hence, the MSC, and that is the price of an input, the price of accepting payment transactions, and so that is a relevant consideration because what we are trying to do is identify a proxy which would, in a sense, best replicate the likely effects of the change in the MSCs, and that is effectively a change in the price of an input, not a generalised change in the level of expenditure of some cost, and I think there are some important distinctions between those two points which I am happy to go into. I will sort of park on that for the moment.

So those are the primary economic principles that I think are relevant.

I had already identified that there are a number of other principles that I accept are important, but which are important to the determining of the sectoral pass-on rates from the empirical assessment but not so important for the choice of a proxy. Those include the factors that we discussed in the first part of the hot-tub, shape of curves and so on, I will not go through all that again.

Also perhaps it is fair to point out that some of the other experts put more weight on some other

criteria, such as the size of cost and the treatment in pricing. In my view, again, given the counterfactual being one which suggests that we need to look at the long run here, the more important proxy selection considerations relate to the nature of the cost and the type of cost, so industry-wide and variable in the context of the facts of what the MIFs and the MSCs represent.

So, in my view, the other factors which some of the other experts have put a great deal of weight on are less likely and, in my view, uninformative as to the long-run rate of likely pass-on because the incentives that firms will face in relation to a variable industry-wide cost change I think are clear, irrespective -- and similar, irrespective of whether the size of the cost change is small or large. Obviously there will be a bigger effect for a large change than a small one, but we are not talking about the size of the effect, we are talking about the proportionate effect, and although, again, there are price adjustment costs that I appreciate will potentially be relevant, particularly for a small cost, again I do not think that that is a relevant consideration in the long-term because the long-term effectively will allow for an adjustment to these types of factors.

I think obviously we will probably come on to the issue of treatment of pricing strategy as a further potential criterion. I have put no weight on that as a long-term determinate pass-on and the reason for that is I do not consider that it would be reasonable to expect that firms whose incentives would be to potentially respond to a change, if it is a variable industry-wide cost change, would essentially leave money on the table and not act in relation to their own incentives for a persistent period of time and, moreover, I also I think -- it is sort of the flipside of the same coin -- do not consider it reasonable to expect that in a market with lots of rivals competing, and I think that in many sectors of the retail economy in the UK there is a significant amount of competition, that it would be reasonable to say that all these firms, who would face similar incentives, again based on the nature of the cost change being variable and industry-wide, would all fail to respond to those incentives, leave money on the table and not be, in a sense, forced through competitive reactions to respond to those incentives.

So those are the main criteria I have identified.

PROFESSOR WATERSON: Thank you. That is quite a long answer, but I imagine that Mr Trento has some

alternative observations to make on that.

MR TRENTO: Yes. Unfortunately I think it is going to be long as well, but --

THE CHAIRMAN: Can I just say, before you start, Mr Trento, we were having a bit of difficulty hearing exactly what you were saying. I think it was being picked up very well on the transcript, but if you could just try and talk a little bit slower, I think that would help us.

MR TRENTO: Of course.

THE CHAIRMAN: Thank you.

MR TRENTO: Yes, okay. So what is the main characteristics of a proxy cost that we want to have here? The main characteristic is that the proxy cost is passed on at the same rate or a similar rate as the MSCs. If that is not true, then we have the wrong proxy cost. I think there is quite a lot of evidence, both empirical evidence and qualitative evidence, that COGS, or cost of goods sold, and overhead costs are passed on at a different rate and that the mechanism for pass-on is very different for the two.

Now, we heard that Mr Holt referred to the variable cost and to the fixed cost, but if we go to the economic theory, really the distinction is between the marginal cost and the fixed cost. The marginal cost is the cost of supplying an additional unit of product and then if

you look at the evidence from the Claimants, what is a marginal cost? Well, if you are a supermarket and a want to sell bananas, then the wholesale price of bananas is a marginal cost and it is a product-specific cost.

If you look at other costs, so imagine I look at labour, I am a supermarket and my cost of labour, some of it is a fixed cost because I need a minimum amount of worker to make the supermarket operational and then if the supermarket is busier or if I want to open on a Sunday, then I will need more workers and that component is no longer fixed; it becomes variable. If you look at the price of utility, like electricity, it is almost the same. So you have a fixed component and then you want to open two additional hours, then you will have to increase the cost, but the big difference when you look at the evidence is really between product-specific cost, so the wholesale price of bananas, and common costs, which are these costs of labour, utilities, the rent and, you know, and a large number of other costs.

The evidence is that these product-specific costs are classified as cost of goods sold, so COGS, and the other common costs are classified as overheads because they are common costs and if you want to -- so, for

instance, the wage of a cashier, can you locate it with specific product? You cannot. So if you want to pass on the wage of a cashier, then you have to spread the cost across a large number of products and that is very different from the wholesale price that you pay for a particular product, which is part of COGS.

So I think the difference is quite neat. I think it is consistent with economic theory and when you look at the qualitative evidence, what the qualitative evidence has -- it is actually very nice because it is really consistent with economic theory because economic theory says: what do you need to know in order to price? You only need to know your demand -- these are the charts that Professor Waterson produced -- you only need to know demand and you need to know your marginal cost and then when you look out the Claimants' evidence, what you see is that the Claimants say the two most important things for us in order to price are the price of competitors, which will tell you something about the demand because if you price above your competitors you will sell less and if you price below, you will sell more, and the other thing is cost of goods sold. It is COGS and it is the product-specific cost that you have.

Then you have a bunch of other costs, which are these common costs, and the way that these are treated

I think is also consistent with logic and economic theory because if I am a price manager, what I want to do is I want to monitor those costs because I want my profitability to reach a certain level and so the way that the overhead costs may feed into price is much less granular than the way COGS feed into prices. What happens there is that if overhead costs go up by a lot and then my profitability decreases, then we have heard from the Claimants on Wednesday and Thursday last week, what do they do? Well, they say, okay, profitability is no longer aligned with our expectation, we need to do something about it, and what you can do, and we have heard from the witnesses, well, you can reduce your marketing expenditure, you can delay a training or you can even act on prices. You can increase your prices, for instance. But the mechanism for pass through for the overhead cost is this mechanism by which you look at overhead costs as an aggregate. If they affect your profitability in a way that you do not like, you may take an action and therefore, in my opinion, if the MSC -- so for those claimants for which the MSC is treated as an overhead cost, it makes sense to use as a proxy for the MSC total overhead costs because this is the mechanism through which these costs are fed in to prices, if they are.

That is the first thing.

Then the second thing is that if you look at COGS, these are much different. So COGS are available product-by-product and many claimants actually work with gross margin target, which means they say: okay, if our COGS is 100, then we want to have a price that is more or less on average 60% above our COGS. Therefore, if COGS change, then the -- this is a direct input into your pricing consideration so the two most important thing is COGS and price of competitors. The pass-on of total overhead costs has a completely different mechanism.

MR TIDSWELL: Can I jump in? Can I ask you a couple of questions about that. The first one is in relation to the setting of the gross margin, would I be right in thinking, both as a matter of economic theory and also from what we have heard from the evidence, the point of setting that gross margin is to have some approximation of what level of margin is necessary to cover all of the overhead costs?

MR TRENTO: I would perfectly agree with that, yes.

MR TIDSWELL: Also, just in relation to the evidence we heard last week, I got something of a sense, and maybe I am wrong about this, but something of a sense that actually the assessment of the bucket of costs or the

groupings of costs that were used for that gross margin purpose was quite pragmatic; in that it was not very helpful to have a very large cost stack to do it and it was much easier to pick out two or three things and often they were quite different things, depending on the business.

So, for example, and I am not going to get into any particular merchants, but we did see one merchant looking very specifically at some labour costs and pulling those into the costs of -- into the gross margin calculation. So the sense I got was that there was a pragmatism that said what are the real drivers of likely change in the price and how do I find those and pull them into my assessment. Would that be a fair -- I mean, that is slightly different, I think, from what you are saying, which is that there is more of a theoretical delineation. I got the impression it was really very pragmatic when they were choosing what they were going to put into the calculation.

MR TRENTO: I am grateful for the question because it allows me to clarify one thing. I think the gross margins are set with respect to COGS and then what you have just said, and I have agreed with that, is that those target margins are set with an eye to recovering all of the other costs which may be overhead costs and to make

a margin.

Now, my only point -- the only point that I am making is that when you look at the overhead costs, it is very difficult for a price manager to take a decision based on the change in price of each individual cost item that goes into overheads because these are hundreds of inputs. So it would be very computationally impossible and I think very inefficient for me to take a price decision based on, okay, let us look at the wage of retail staff, gone up by a bit; delivery staff, gone down by a bit; IT, etc, etc, and the MSC and the price of laptop and the price of, you know, electricity and so on and so forth, it is many, many items, many, many cost items.

So my understanding of what the Claimants do is that they take a broader approach, whereby they say, you know, either I look at the overall profitability or I look at big costs. So, for instance, I think what we have heard last week is that if wages account for around 50% of a business -- the total overheads costs a business, then the Claimants may want to look specifically at what happens when the level of wages increases or decreases or the costs of paying wages increases or decreases, but my only argument here is that this is not done for each individual cost item that

goes into overhead costs because it would be practically impossible to do that.

I do not know whether this answers your question?

MR TIDSWELL: No, it is, but I think the point I am driving at, and it will be interesting to see what others say about it, is that it is not so much about categorisation that is very specific to the type of cost, it is actually more about the pragmatism of choosing the costs that will most likely help you set a competitive price. So therefore you might have things in your overhead costs which are actually variable costs and do actually vary very directly with the price or the transaction, but, equally, you might choose not to take them into account because, as I think you were saying, they are just not particularly helpful in getting what may be quite an agricultural outcome from the costs of goods sold analysis, which you are then going to benchmark with some other things, like your assessment of competitive pricing and your own assessment of demand.

MR TRENTO: Sorry, just one second.

MR TIDSWELL: I am sorry, I have probably spoken too fast.

(Pause)

PROFESSOR WATERSON: By "agricultural", I think that is a New Zealand expression for "rough and ready".

MR HARMAN: Sir, I would also be able to comment on what

I actually see in the factual record.

PROFESSOR WATERSON: I fully intend to ask both you and Mr Economides.

THE CHAIRMAN: The point is whether we continue after lunch or shall we try and finish off this? I think we might struggle to finish it.

PROFESSOR WATERSON: Fair enough. Okay.

MR TIDSWELL: Shall we just see if Dr Trento wants to say anything else on that?

THE CHAIRMAN: Yes.

MR TIDSWELL: I do not know whether you want to say anything else on that?

MR TRENTO: I think --

THE CHAIRMAN: You want to go to lunch?

MR ECONOMIDES: Obviously Dr Trento and I have worked together closely on some of those things so I am happy to add my perspective later.

THE CHAIRMAN: I think quite a lot want to comment on this so we will adjourn now until 2 o'clock, but, as I said before, you remain in the hot-tub over lunch so you are not to talk to anybody about the case.

(1.05 pm)

(The luncheon adjournment)

(2.00 pm)

THE CHAIRMAN: Good afternoon.

PROFESSOR WATERSON: So I think we were -- we had had Mr Trento and we had also had Mr Holt on this issue of proxies and so on.

Mr Economides, I think you have something to say on this?

MR ECONOMIDES: I do. It is one of the few things I have something to say about. Thank you.

So let me just start by saying that I recognise that the distinction between variable versus fixed is very important, appears to be very important from an economist's perspective. I do not have a view on this, but it does seem to be that most of the expert economists are referring to this concept and trying to build the process to choose a proxy on the basis of that distinction.

I would argue, however, that that distinction is not that important from a business perspective. I would like to refer to Mr Tidswell's comment from before the break, from before lunch, when he indicated that a business cannot manage everything at the same time -- I may be paraphrasing, and correct me if I am wrong, but a business has to choose pragmatically, or tends to choose, not necessarily has to choose, tends to choose based on, at least the factual witnesses, a limited set of -- a more limited set of costs to act on, rather than

the full spectrum of the P&L.

MR TIDSWELL: Just to be clear, I was reading back what I think I picked up from the evidence, rather than expressing any --

MR ECONOMIDES: Okay, I understand.

MR TIDSWELL: It may be there are arguments about whether the evidence does say that, but that is certainly the point.

MR ECONOMIDES: Okay, thank you.

So I would argue that that premise is correct and that businesses have to focus on the most material of performance levers to drive the financial performance of a business.

A change in prices cannot occur without something positive happening. It can -- an actor acting, typically. That actor can be a machine, and if it is a machine then the evaluation is a bit easier. We look at the inputs that go into the machine to determine if a certain cost is one of them. If the actor is a human, and we are looking to find a proxy cost to simulate their behaviour, then the evaluation is more complex, and I think the question of whether a human acted on an increase in cost requires a set of business considerations in addition to potentially the economic considerations that the expert economists have

considered.

From our perspective, we considered the position in the P&L. As the factual witnesses emphasised, it makes a significant difference in terms of the business response to a change in cost, whether something is a COGS or an overhead. I can come back to this. The relative size as a cost component, we feel it is important, because visibility changes based on size. Also the -- whether a change in cost will trigger management attention -- will attract management attention and also trigger action, changed based on size. Again, businesses have a lot of variables to manage and they cannot focus on every single one.

As I said, visibility, management reporting, the nature of the cost, whether it is discretionary or essential. If something is discretionary, there is the added ability to reduce the cost rather than pass it on. So the propensity to reduce the cost may be higher, whereas for something that is of an essential nature the propensity to pass it on may be higher.

The business ability to reduce the cost. Again, if something is capable of being reduced, it is more -- less likely to be passed on. Visibility to end-customers because they are in some cases, for example, like VAT, expecting a change, whereas in the

case of an MSC they are not expecting such change, and that applies to, I would argue, most of the overhead costs. Consumers do not necessarily have an understanding of the overhead costs of a business.

Then, finally, the relationship with revenue, so if it is variable or fixed.

So we did this exercise to identify proxy costs that have similar characteristics, and we did -- unfortunately we -- the exercise appeared to require even larger costs than the ones that we proposed. So therefore the question becomes: where should one go? We think that, following that thread, especially when it comes to claimants that treat the MSC as overhead, you have to follow that thread and go to total overheads as the natural next step, because you are relaxing further the size consideration, potentially you are also relaxing, or clearly also relaxing the visibility consideration, but you are staying on the same side of the P&L, and therefore a lot of the characteristics that we think are important for the selection of the proxy will apply to total overheads, whereas they will not apply to COGS.

Now, another way to look at it is to evaluate the two potential proxies, total overhead versus COGS, in relation to the three channels of pass-on, as they have

been characterised: the direct, the pass-on through the margin -- through margin management, and the pass-on by following competitor prices.

When it comes to direct pass-on, the factual evidence is important, and the fact that overhead costs, like the MSC, are not considered in price setting, as the factual -- as the factual witnesses have testified, is important. Clearly COGS would not enjoy the same treatment, and therefore it would be -- it would grossly overestimate the pass-on.

Looking at margin-related pass-on, again, the factual witnesses are important here, factual evidence. Businesses optimise their margins, and when they set prices, they optimise their prices typically based on price elasticity and the likely reaction of the market.

I do not want to refer to confidential information from the witness testimonies, but we have heard that a lot of effort goes into the management of the price, looking at competitors, and the notion that then that gross margin estimate moves up the management chain, somebody discovers that EBITDA is -- or operating margin is not sufficient, and then pushes it back for a significant change in price, is, from my perspective, and based on my experience, quite problematic. It is much more likely at that point that that conversation

will trigger a cost reduction, rather than a review of prices, assuming that the prices were set at the optimal level to start with.

I am not saying that prices can never change as a result of that process, but it is much more likely that a cost conversation will take place.

So, therefore, both the direct and the indirect channels are a lot less available. The case of -- the direct channel is not available, it is not -- when the MSC is not considered, and the indirect channel is a lot less likely to be used.

So that leaves the competitive pass-on channel, and I cannot see, assuming that we consider that all the Claimants are representative of their sectors, and I can talk about that, I know it is a big if, but it is an if, I cannot see how one of those major companies will see the -- will only manage prices to follow competition and how a competitor can actually seek to pass on the MSC when the direct mechanism may not be available for them, assuming they operate in a similar way, and the indirect channel will also not be available, assuming, again, they operate in the same way.

Two more points. One is on the lumpiness of overheads. Overheads are not linear. COGS is a lot more linear than overheads, that is an assertion I am

making, but I think it was almost made by either Mr Coombs or Mr Holt as an argument for overheads not being a suitable proxy, that they are lumpy, and they do not move in a -- necessarily in a predictable fashion.

That is indeed the case; overheads are not hundreds of costs, they are actually thousands of costs, and some of them go up and some of them go down from one period to the other. That is not the type of movement that we see in prices. That is not the type of movement that a business can react to. So they have to pick their battles and pick when they increase prices.

The final thing that I will say is on -- one of the arguments against using total overheads as a proxy has been that they are fixed, whereas COGS are variable, and therefore one has to have -- one has to choose COGS because of their variable nature. It is actually not true that COGS are variable, entirely variable, as we all know, and it is not quite true that overheads are entirely fixed either.

Now, I have not been able to identify a study, but if you look at the definitions of overheads, for example, from the Corporate Finance Institute, they include fixed overheads, variable overheads and semi-variable overheads. Some pretty significant components mentioned in each category for variable

overheads, shipping costs, advertising and marketing, consultancy service, legal expenses, maintenance and repair. For semi-variable, sales commissions, vehicle usage, utilities, and I would argue also labour, especially in the case of retail businesses.

So when Mr Holt looked at my report, he looked at my classification of the costs of the Claimants into fixed, semi-fixed and variable -- semi-fixed being equivalent to semi-variable -- and reached the conclusion that only 5% of those costs were variable by just adding up the cost categories that I had identified as clearly variable. Unfortunately, that conclusion is a bit misleading, because it ignores completely the semi-variable costs which were, according to my calculations that were confirmed by him, about 61% of total costs.

Then, even for the fixed costs in overheads, which he broadly agreed were 34%, a component of those are actually variable. Even the most fixed of costs, which is potentially facilities, has cleaning services, maintenance, refit in a retail business that can be variable components.

So I will conclude by saying that I think that even on that dimension, overhead does not fail the test. It can have a number of variable components, it can be

quite variable, and COGS can also have significant fixed components, factory overheads, and the other things. So I do not think that following the thread of a cost has to be fixed or variable, which is a thread that I do not agree with, necessary precludes the use of total overheads as a suitable proxy.

PROFESSOR WATERSON: So Mr Harman, what is your view on this issue?

MR HARMAN: Yes. I mean, if I go just a step back, to go back to the question of gross margins, because I think that it is kind of relevant, because what was put forward there to the Tribunal was there could be a significant difference between pass-on of overheads versus cost of goods sold.

You know, in general, so I am not talking about any claimant in particular, but the general theme that one gets from looking at the budgeting, monitoring documents and the price-setting documents, is that at the beginning of a year the company has to think what it wants to achieve through a set of targets and a budgeting process. What we often find in those situations is that what the firm really cares about at the end of the day is its profitability, end profitability and the cash flows that it generates, because it has to pay those cash flows either to

shareholders, to owners and to debt holders, so EBIT or EBITDA or variations of that are very important.

The senior teams will tend to give some overview as to what they expect for the following year. They will be aware of certain headwinds, for example. Maybe they observe that there are higher energy costs coming. We already see, with the BRC, they have looked at the Labour budget, for example, and said, well, there are increases in National Insurance and minimum wages. As a headwind, we can see that that is going to either lead to price increases or it is going to lead to the laying off of staff. That is not a cost that they say they can actually eat within a particular year, it has to be offset in some way.

From there, what the teams will do at a more detailed level, ie those people who are responsible for certain divisions, will think about what is possible on a bottom-up basis in a set of budgets, and there may well be -- and I would be surprised if there was not -- a difference between budgets and targets. That is when the senior team will come back and challenge the business to say: you need to do a bit more in price, you need to do a bit more in cost, these assumptions are wrong, let us think about these assumptions. That sets a plan that the business will try to manage towards

during the course of the year.

Now, why I think that is important is because what it means is that the gross profit level is set so that it achieves the overall profitability requirements of the company. That gross profit is not set, you know, by itself without consideration of whether the firm is going to hit its overall targets.

So at that moment, it is absolutely true if the Claimants say: we are not aware of MSCs, because they do not. That is a cost of the finance function, and they would not see them on a day-to-day basis, and they would not see them changing on a day-to-day basis, noting that there has not been this significant change of the magnitude that is contemplated by the counterfactual in this case. But it makes sense for them to then manage the business based on what they can control; the changes in suppliers' costs is something they can control. Given that, if they had a gross margin target, if the cost of purchases go up by 10%, they would be able to increase prices by 10%, or they would consider whether they can in the market place, and that would then return them to the same profit margin in percentage terms that they are seeking to achieve.

So the first thing I would say is that there is this indirect degree of pass-on mechanism that flows from the

setting of firm targets up to the gross margin and they get embedded into the prices that we observe. So that is kind of point 1.

I would then say it is clear from the factual evidence that outside of increases in supply costs, the firm might have regard to other costs changes. Maybe these are costs that are large and they are transparent, so energy costs go up, the firm will think: am I particularly specific in relation to energy costs or is that a cost that is likely to be common across the industry? Will there be ability for me at that time to increase prices for energy costs? Of course we saw, when there were higher energy costs, that flowed through into high levels of inflation, which is obviously observing that prices did actually go up, and that cost, the energy cost, is likely to have been an overhead.

But I should also, just to make clear, the accounting standards, the International Accounting Standard number 1, the presentation of financial accounts, provides users, or, sorry, the producers of those accounts, the different ways in which they can record costs, and they can either do it by issue or by function. So one of them you would not have a cost of goods sold, and you would group costs such as purchases, depreciation, warehousing. The other mechanism requires

them to have a cost of goods sold, but users of -- or the producers of those accounts have quite a wide scope as to what goes into them, and it is then for the auditors to sign off as to whether they think that is credible. So some cost of goods sold may include categories of overhead costs actually in cost of goods sold, and some that overhead might actually sit in overheads.

Then just one other thing to say on that topic is that just because the accounts are produced on that basis does not mean that underlying management accounting information that is available to different teams is presented on that basis, because obviously a company behind a set of accounts is going to have a lot of detailed information that sits behind it.

So that was something on the gross margin which I think is important.

Obviously during the course of the year they are monitoring the budgets and they are comparing actual to budget, and through that process there may become challenges that go back to the business, either reducing costs or potentially for changing prices as a consequence of that, and of course if they fail within a given year, then the next year you start again and you observe what your costs and your expectations are from

there.

Now, what does that mean, I think, for proxies? I am not wedded to the idea that one can categorise just overheads and just cost of goods sold and believe that that is going to lead to the right type of proxy, in part because it is a mixed bag of what is in them. Cost of goods might be variable, might be overheads. It is likely to be more variable than fixed overheads, but there may be a level of fixity in it, and the overheads themselves, I have shown in my report, are likely to be a mix of variable, semi-variable and fixed.

It did strike me that one alternative that might have come from that, if you thought that the overhead price mechanism would yield a different level of pass-on, might have been to add up all the variable aspects of overheads to make them a bigger category of variable costs. That would be possible, but the data does not allow you to do that currently; you would have to have more data for those claimants that would allow you to categorise those costs into the different buckets.

PROFESSOR WATERSON: You raise two interesting possibilities there. One is National Insurance, you said, well, if that varies, then the company will have to decide how to treat that, and the other was energy costs.

MR HARMAN: Yes.
PROFESSOR WATERSON: So then a question comes of whether those might constitute appropriate proxy variables, in the sense, particularly with energy costs, that they vary rather more substantially than MIFs do.
MR HARMAN: Yes.
PROFESSOR WATERSON: Therefore, whether those might potentially be a candidate for examining.
MR HARMAN: I mean, I will let the economists who have thought about the proxies for their econometrics deal with that in more detail. But I would say what that raises there is the other the distinction that Mr Holt brought up, which was the degree to which costs are common across a set of businesses and the degree to which they are fixed. I think, again, if you are going to have both cost of goods sold, which have specific elements, and some which have common elements, and the same happens with overheads, you would have a degree of commonality for some and a degree of specific for others, when you talk about energy, when we see in the record whether they have changed prices or acted in a different way for such costs, what is missing from the record is what decision they actually went through. Did they determine that that cost was likely to be common, so we are more likely to be able to pass it on, or is it

a cost that is specific and we have to, you know, eat that cost in some way, we have to mitigate that cost in some way?

We do not have that level of granularity in the narrative that would allow us to see which costs led to, you know, different type of pricing decisions, but it is something that one could hypothesise, potentially, that they are the types of costs that may be more common across the businesses and may give a better indication.

PROFESSOR WATERSON: Thank you.

Now, we have not heard yet from Ms Webster, nor Mr Coombs, I think, have we, on this topic?

MS WEBSTER: Okay, so I have thought about this from the context of whether merchants would have treated MSCs as a variable cost in their price setting or as a fixed cost from the perspective of price setting, and then can make some comments about appropriate proxies in either case.

When I say how they treated them from the perspective of price setting, it is really from the perspective of do they affect the profit level -- profit maximising level of prices? So that is the frame that I am using.

If it is the case that the merchants treated the MSC as a variable cost for price setting, then my position

is very similar to Mr Holt's in terms of the factors that matter for the selection of a relevant proxy. I suspect that most variable costs can be used as a relevant proxy, COGS, for example, so long as it is a permanent -- what we are measuring is the effect on prices of a permanent change in the cost, and also I would want that cost change to be industry-wide.

I would add one thing to the criteria that Mr Holt set out, which is I think it would be important that the cost that is used as a proxy is sufficiently big such that a change in that cost -- the effect that that would then have on prices can actually be measured econometrically, and I do not think that is an issue of taking the measurement of the pass-on of a big cost in its variable cost world and then applying it to the MSC, because economic theory would tell me that I would expect a small variable cost change to be passed on in just the same way as I would for a larger variable cost change.

So that is in the sort of world where the merchant treats the MSC as a variable cost.

If, alternatively, we are in a world where the merchant does not treat the MSC as a variable cost, and, you know, that could be just because it does not fine-tune its pricing to such a degree that would pick

up changes in what is a small cost, but assuming we are in that world, then ideally what one would want to do from a proxy cost point of view is find a fixed cost which is of a similar size to the MSC and measure the pass-on of that. That is because in this world where the MSC is being treated as a fixed cost, size matters to the extent of pass-on, and that is because --

PROFESSOR WATERSON: So this is a big difference between fixed and variable, you say?

MS WEBSTER: Exactly so. The reason that size matters for the pass-on of a fixed cost is because the mechanism by which a fixed cost is passed on is very different to the variable cost world. So it does not affect, at the margin, where am I going to set my profit-maximising price? Because that decision at the margin is a trade-off between additional margin earned on any sales I retain, margin lost on any sales I lose. But where that margin is calculated with reference to the costs that I no longer incur relative to the price, costs I no longer incur will be probably COGS, might be some labour, if I have put up my prices and sales have contracted so I do not need quite so many staff on the floor, but they will not be the fixed costs associated with running the premises. That is my assumption.

So that is why what then happens is if you then had

a change in those fixed costs, I do not know, the rent of the premises, then it does not change -- it does not feature into this profit-maximising trade-off calculation. It tells me that I make a little bit less money as the store operator. Now, if the rent went up by so much that actually it became no longer profitable for me to operate, then it could be the case that the rent increase causes me to go out of business.

PROFESSOR WATERSON: Or shrink the chain.

MS WEBSTER: Or shrink the chain, exactly. Then what happens is there is a bit less competition and prices drift up and everyone that has stayed the market is able to cover their costs, but it is through that mechanism that changes in fixed costs feed through ultimately to the retail prices through influencing those investment -- well, either exit decisions or contraction decisions or investment.

My view is that if you have a cost which is as small as the MSC, and then you are thinking about changes in a cost that would again be very small, my view is it is really unlikely that that would then have the effect of triggering these different investment decisions, so either bringing forward investment decisions or causing exit or contraction. So, therefore, my view is that the size of the MSC makes that pass-on unlikely.

If you were talking about a big fixed cost and that change, then, yes, it may well change the investment decisions. So size really matters when it comes to fixed cost pass-on.

So in the ideal, coming back to choice of proxy, I would ideally want to measure the pass-on of a small fixed cost as a best proxy for pass-on of MSC were it to be treated as a fixed cost. But this is a bit hypothetical, because we just had a discussion that actually you cannot measure the pass-on of a price that is --

PROFESSOR WATERSON: Mr Harman's point.

MS WEBSTER: -- and actually, you know, as I have set out in my evidence, I think it is quite difficult also to measure even the pass-on of a fixed cost that is larger than the MSC. So I think in some ways it is a bit of a moot point.

So, therefore, given that set-up, I think it is critical really that we find a proxy which is either fixed or variable, and then that proxy sort of follows the factual evidence as to how merchants treated the MSC in practice. If they treated it as variable, let us use something like COGS pass-on. If they treated it as fixed, then my presumption is that -- or, sorry, my expectation based on theory is that pass-on will be low,

and then query whether that can actually be measured by an econometric analysis of a proxy.

PROFESSOR WATERSON: Thank you.

Mr Coombs, I think you have not commented on this issue.

MR COOMBS: Yes. I think I agree with many of the things that Mr Holt said before lunch and, in particular, I think there are two aspects which he highlighted which are very important here.

So the first is that we are looking at the long run, so in the case of Mr Merricks' claim, we are looking at a claim period of nearly two decades. So what we are interested in is what happened over the long run.

Secondly, what we are looking at is a cost that has been persistent throughout that period with little variation. So the issue here, the counterfactual question is what would have been the situation if there had been no MIF, and the MIF has been a persistent cost with little variation throughout the period that we are concerned with. So we are concerned with the long run and we are concerned with the cost that has been persistent with little variation.

Now, broadly speaking, there seem to be two approaches which people are discussing here. One is an approach based on economic theory, and another is an

approach based on looking at the evidence provided by some of the Claimants.

So in terms of economic theory, it seems to me fairly obvious that the MSC is a variable cost. It is a cost that --

PROFESSOR WATERSON: I think you are pointing the wrong way there, but anyway.

MR COOMBS: Anyway, I will stop pointing. The MSC is a variable cost. It is a cost that varies with output, it is not a fixed cost. It therefore seems to me quite -- to be honest, quite confusing if we start using economic theory to analyse how fixed costs are passed on and then using that to inform how we examine the proxy in this case, because then we start to examine the pass-on of a cost which is very different from the MSC and the mechanisms and the dynamics will be very different.

So, personally, I think it is a bit dangerous and a bit confusing to go down that route. So if we are looking at this from a perspective of economic theory, I think it is very clear that the MSC is a variable cost and we should be looking at a proxy in those terms.

Then we turn to the evidence provided by the Claimants. So as a general principle, obviously it is important that this economic analysis is grounded in the

factual evidence. So we should always be looking at the factual evidence in order to inform how we design our analysis and how we conduct our analysis.

Having said which, some factual evidence can be more helpful than other factual evidence, and my view is that the factual evidence in this case is not very helpful.

So, first of all, the factual evidence that we have is drawn from a small number of claimants. They have not been selected through a robust -- a statistically robust survey of all of the merchants in the UK who would be relevant to Mr Merricks' claim. So the evidence in that sense is rather anecdotal.

Secondly, when we actually look at the evidence that has been provided, it can be difficult to interpret and, you know, we see that in that Mr Economides and Mr Harman, looking at the same evidence, seem to have not reached the same conclusions on all aspects of that evidence.

So the evidence is not clear-cut and, you know, maybe this has all been resolved over the past few days by cross-examination, but certainly from reading the expert reports there seems to be ambiguity in the evidence.

There is also then a more fundamental point, which comes back to where I started off, saying what we are

looking at is the long run. The evidence -- the factual evidence, as far as I can see, is mostly talking about what happens in the short run, it is people talking about how they react in the short run to changes in costs, and so that is not necessarily informative about what we are concerned about here which is the long run pass-on of these costs.

So for that reason, I have not placed really any weight on the factual evidence. I have approached it from the perspective that the MSC is clearly a variable cost and that is the most appropriate way to select a proxy.

The last thing perhaps I want to comment is this question about the size of the cost, and I think Ms Webster made an important point here, which is that there is a certain circularity here, because we are looking for a proxy, because we have said that a cost that is the size of the MSC, it would not possible to isolate the pass-on of that cost because it is too small. So obviously if you choose a proxy which is equivalent in size, you are likely to end up with the same problem.

So, as Ms Webster, I think, said, it is in some ways moot. But I think also, as a matter of principle, I do not think we need to be concerned about the size of the

cost in that sense. Again, this comes back to the fact that we are looking at the long run.

So I would agree that a small cost in the short run might not be passed on, because a firm will face transactions costs, such as menu costs, that will inhibit its ability to pass on a small cost, but over the longer run period you would expect that cost to be passed on. It becomes part of that cost stack, and that cost stack will ultimately influence the price level of the firm.

So I think that size is important when you are focused on the short run. I would argue that it is less important, it is in fact of no importance, when we are examining long-run pass-on, as is the question in this case.

PROFESSOR WATERSON: Thank you.

Does anyone want to come back on any of those points? This is obviously an issue of contention amongst you.

MR HOLT: I would not mind, in part because some comments have been made in relation to assumptions or analysis I carried out, and also I think I sort of set out really what were the criteria, and perhaps others have expanded on the criteria and started to talk about the evidence a little bit as well. So I think I have a couple of

further observations I think that I would like to make.

So I guess, starting with Dr Trento, I think he made a couple of points that I would not necessarily agree with in relation to whether the treatment of COGS and overhead by firms is consistent with economic theory. I would not agree with that, to the extent that is really what he was indicating, because, as I think some of the other experts have identified, overheads are not uniform in terms of their nature and composition, they are indeed, as Mr Economides was explaining, a combination of fixed, semi-fixed and variable.

Now, what that means, I think, is that there are some important distinctions potentially to be drawn as to the nature of the costs, even within the overhead component, and it is not necessarily accurate as a result to assume that there would be common treatment of all overhead costs, irrespective of their underlying nature.

In addition to the variable, fixed or semi-fixed dimension, I would add the firm-specific and industry-wide dimension as another important factor. Maybe just to illustrate: I think, even from the claimant evidence, there seems to be some indication that they do on occasions take into account different overheads in a different way and that can be informed by

a number of considerations.

So one example, and, again, I think, given we are in open session, perhaps I will not name the individual claimant, but one of the Claimants takes into account labour costs in how it thinks about pricing and, yet, my understanding is that that is not because they are characterised as COGS, they are characterised as overheads, but they recognise that those have an important, in their business, potentially at least, variable or semi-variable impact.

One of the other claimants, again I will not name them, took into account, if I understand correctly, issues such as customer retention, acquisition and retention costs, because at least some proportion of those might be variable and relate to each customer that you have to pick up entails an amount of administration, promotion or whatever it might be. There are some actual variable costs there.

Now, again, my understanding was not that that was something that was picked up directly in COGS, but was an overhead calculation but which nevertheless had some economic fundamentals that were important to their business decisions.

I think -- I mean, obviously those are just two illustrations. I think, therefore, it is not really

something that I would be capable of stating as a general proposition, that all firms treat all overhead costs the same, and I think, as Mr Coombs just identified, it is actually quite difficult, based on what has been disclosed in these proceedings, to reach any clear-cut views in that regard, but there does seem to be some quite important economic distinctions between the nature of the costs as a variable or fixed cost and industry-wide or otherwise.

I think the other issue is that when thinking about overheads and the extent to which that is an appropriate proxy, and obviously there are a number of practical considerations that I have addressed in some detail, and I will sort of park those, because I think those will come up when we get into the different sort of evidence sources and how we can use that evidence. But just from a conceptual standpoint, I agree with Mr Economides that, again, not all overheads are the same. Some might be fixed, some might be variable, some might be firm-specific, some might be industry-wide.

But from the perspective of a general choice, as between COGS as a proxy and overheads as a proxy, the real question here is: which is better for the MSCs? I do not think I was suggesting -- if I gave the indication that I was suggesting this, I certainly did

not intend to -- I was not suggesting that all overheads are fixed and all COGS are variable, ie some sort of binary distinction that can be completely dramatically distinguished in that way. But it does seem clear to me that the overhead categories of costs are predominantly fixed or semi-fixed, and that the COGS category of costs are predominantly variable or at least to a large extent.

So I think when one sort of recognises that it is not perhaps a binary issue, and then one moves to the more important question of which is the better proxy, I think it is still quite clear that the COGS shares the characteristics to a greater extent.

I think the same point which I have just made, about which is the better proxy in relation to the variable/fixed component, could equally be made in relation to the industry-specific -- sorry, the firm-specific or industry-wide component.

Again, I would accept that MSCs have an important element of commonality, and yet also there is a degree to which some of the MSCs will depend on the particular card transaction and payment component mix, but, equally, for COGS I would expect there to be a range of factors of a similar nature, such as which supplier did you buy from, how strong is your bargaining position,

what type of products are you buying mainly, own brand or third party brands? You know, one could go on. There will be a number of rather more firm-specific components, even to the COGS aspect.

So I think, again, when one thinks not in binary terms but more about the relevant question as to which is the better proxy, I think COGS has a number of important advantages.

THE CHAIRMAN: Can I just ask: do you say that it is not relevant to look at the particular firm and see the way that MSCs were treated?

MR HOLT: So the way I have dealt with that is to recognise that in the shorter term that could have an impact, in the sense that if it is the case that it is not in the direct pricing strategy, then I could see that potentially that would have a short-run impact on exactly what costs they are taking into account when they decide on a price change.

But my view is that that is not a relevant consideration for the longer term pass-on, which I think is the relevant timeframe here, and I think that is essentially for two reasons. First, again, as I think I mentioned at the outset, I do not think it is credible to say that firms will be in a persistent out-of-optimal situation over the longer term, and so if their

incentives are pointing in a direction, I fully accept that people do not micromanage and adopt profit-maximising principles to -- you know, on a second-by-second basis, and are always, you know, applying precise models in that way, but I am considering that it would be unlikely that firms would persistently deviate from what their incentives are telling them.

So that is essentially the first reason.

The second reason is the treatment point, I think, is very difficult to come to a definitive conclusion as to what might have happened in the but-for world. I accept that the Claimants will have a way of describing their pricing strategy, but obviously what we have not had is a disclosure of all the possible considerations of all the costs that have changed over the claim period and all the ways in which those were taken into account. I would have expected that, even if there is a general pricing strategy, that there might well be a degree of interpretation as to exactly how do you implement that in any given circumstance, and it might change over time, it might change depending on, you know, who -- you know, different parts of the business, different managers. There will be a huge amount of complexity underpinning exactly how firms deal

with these very complex decisions over a period of time.

So I think the more relevant consideration -- again, focusing on the longer term -- is to think about, well, is it sustainable that a whole sector of firms facing a variable and industry-wide cost would all be deviating from the profit-maximising position in the longer term, and I do not think that is a credible position.

PROFESSOR WATERSON: Thank you.

So if I could perhaps attempt a very broad summary of this discussion, which has been very useful, I think, it would be that there is actually no perfect category of cost which would be ideal for all firms in all periods, and that actually the distinction between fixed costs and variable costs is rather more nuanced than one might think; is that fair?

I see some nods. I will take that as agreement.

MR COOMBS: I think if I could just add to that. So the approach I have taken is to effectively -- I do not -- I am not sure if it cuts through that, but to look at total costs on the basis that in the long run you would expect all costs to be variable, and therefore, by looking at total costs, you are sort of cutting through this analysis, this issue, to some extent, and, you know, again that is consistent with the fact that what I am trying to do is identify the long run pass-on rate.

PROFESSOR WATERSON: Thank you. I think that raises another issue which we will come back to, perhaps, but maybe not today.

MR ECONOMIDES: Can I just add one point on the pricing of businesses, and I will not refer to claimants to reveal any confidential information. But when businesses set their prices, they do not have perfect information. I am stating the obvious here. The charts that you were at earlier, than I can barely understand, are not charts that they have in front of them where they can understand the industry marginal cost line and make decisions on the basis of this.

So they have to work on the basis of assumptions. They look at their COGS, typically, and they make an assumption that this is what others -- what it costs others to produce this service or product, and then they look at their overheads and they largely consider them as firm-specific, they consider them as necessary costs to do business that they need to manage.

So, therefore, they make this price-setting exercise as best as they can by looking at primarily the gross margin, I would argue, based on my experience, looking at COGS and looking at price elasticities. If they are more sophisticated, some do not even have that information, and they set the price.

Now, that goes away and goes to a higher level of management; and to respond to Mr Harman, who explained that sometimes it comes back, and the price-setters are told: that is not a good enough price, you need to change it. That probably contradicts a lot of the pricing rules that those businesses adhere to, because they set the price at a level -- in the first place at a level they felt appropriate, they felt reflected their understanding of the supply curve in the industry, it reflected their understanding of what competitors would do, and unless there is a specific trigger that suggests that that calculation was wrong, changing the price at that point is probably the wrong thing to do if the business wants to drive growth, wants to drive -- protect its volume and protect its market share.

So I think that is an important distinction. The two margin levels, gross margin and EBITDA, they are not just two different margin levels that different levels of management look at, they are fundamentally used differently in a business. Gross margin is primarily used for price setting, and commercial cost of goods sold, management questions who are going to be our key suppliers, what should be the price in the market.

An overhead is used as a necessary cost of doing business, the primary means to control that being cost

reduction.

PROFESSOR WATERSON: Thank you.

Anyone ...

THE CHAIRMAN: I think Ms Webster wanted to say something.

MS WEBSTER: Thank you.

Two points. One in response to Mr Coombs. I do not think the focus on total cost as a proxy gets round the issue. I do not agree with the position that all costs become variable in the long term. I mean, I do in the sense that in the long term you can get out of contracts for premises and staff and you can close down, and costs can be avoided. But from the perspective of price-setting, which is very much over a sort of more limited change in volumes, then I do not think that all costs are variable in that sense.

The second point I wanted to make was to respond to Mr Holt's points of a moment ago. Speaking as an economist, I have a lot of sympathy with the way that Mr Holt describes it, which is the MSC was a variable cost, and if sales contracted for a business, then the MSC costs will have contracted. In that sense, it is right that -- sorry, I would expect as an economist for that to be factored into price setting.

Now, I am also, I suppose, a realist, and recognise that sort of economic principles of profit maximisation

do not necessarily get translated as such in business situations. I think that is what I am seeking to give recognition to. There may be some situations, even in the long term, I would say, where if merchants are not fine-tuning their pricing to the degree that you can pick up a change in such a small cost, then it may be the case, even in the long term, that the firms are not necessarily responding to the profit-maximising incentives as described by Mr Holt.

That may be entirely rational, because the sort of business time that is needed to work out exactly how they want to change prices and fine-tune to that extent, there just may be costs associated with doing that which cause them to stop short of seeking to pass on the MSC, as they would a variable cost.

PROFESSOR WATERSON: Thank you.

I think we have probably run around that -- sorry, Mr Coombs.

MR COOMBS: Sorry, can I just make one comment.

I think I would view things as completely opposite to the way that Ms Webster has just put it. So the way I would view it is in the short run, firms will not necessarily, you know, optimise the situation. There are various transactions costs, there is latency, and so on, but you would expect over the long run that they

would move towards an equilibrium situation, and that costs that may not be -- might not be factored into decision-making in the short run will end up having an influence in the long run, so I would personally probably see it the other way round.

MR HARMAN: A very quick point. I think that Mr Economides and myself will disagree on the importance of gross margins and EBITDA margins, but it seems like at least we agree that a firm will seek to mitigate a cost increase. I say that some of that may go through in prices. Mr Economides seemed to be implying that any cost increase would be offset by other costs reductions, in his last statement, which would then take me on to the supplier pass-on point.

PROFESSOR WATERSON: Yes, which we are coming back to, but not yet.

MR ECONOMIDES: One second. Supplier pass-on is one way of managing costs, and it is actually the hardest one. If only businesses could go around the suppliers, bidding them for lower prices.

I can provide evidence for this and we can argue it at the right time, but let me stop at: it is one of the ways, rather than the only way.

PROFESSOR WATERSON: Good. Thank you.

So let us move on to a related topic, which is -- we

have talked about proxies, now let us talk about data sources. So three sets of data sources have been suggested. One is public data, one is -- another is previous studies, and a third is data from the Claimants directly. I wanted us to talk about these various sources and their strengths and weaknesses.

So perhaps, since he has been relatively abstaining from the back and forth just now, we will start with Mr Trento.

MR TRENTO: Thank you. All right, so on my analysis I rely mainly or almost exclusively on claimants' data. Let me explain why that is the case.

I think we need to understand what the Claimants' data is. So we receive data from a claimant, which is maybe fashion retailer, and what is the dataset that we have in front of us? We have information on every single transaction that took place for the last ten years. For some claimants these are shorter periods, but on average for all claimants it is around six years, every single transaction that has taken place. On that single transaction we have information on prices, we have information on COGS, we have information on whether the price was reduced because there was a seasonal sale, or it was reduced because it was an end of stock sale.

We have information on the date of sale. In the case of hotels, we have information on the type of room that was booked, we have information on how many guests, the number of the nights, the date of the staying, the date of the booking, so we know how long it took, you know, the difference between the booking date and the date of stay, which is an important factor in assessing prices. We also know the occupancy rate of the hotel at the date of stay, and we also know the occupancy rate at the date of booking, which is also an important factor determining prices. Because if the hotel is setting a price and nobody is booking, then the hotel will realise that maybe they have set a price that is too high and then they will try to, you know, reduce the price, you know, to encourage bookings.

All these things are very -- so all this information is very important for us to estimate pass-on. Why is that the case? Because in the end, when we want to estimate pass-on, what we want to do is we want to explain prices, and we want to explain all of the -- you know, how all of the factors that affect prices indeed affect prices. One of these factors is costs, and that is what we look at, it is the pass-on rate. But in order to estimate the causal effect of costs on prices, we need to know the effect of all of these other

factors, which are all very important in setting prices, so that we can distinguish the effect of cost on prices from the effect of other factors on prices.

The Claimants' data is a mine of gold for an economist, because we are talking about, in many cases, millions of transactions, millions of data points, and that is a very valuable source of information for an estimation of passing on.

Now, you compare that to public data. Public data has not even close a similar level of granularity. What public data is, there is an index, a price index, which is the average price of a basket of goods that is typically consumed by a UK household, and then you have an average price of a basket of goods that are typically produced by UK producers, and you only can look at how the average price of this basket of goods evolves over time, so you are missing all of the cross-section variations, so all the variation in price and COGS between transaction and transaction you have lost completely with the public data.

Now, I probably should not go into the details now, but in my second report, and hopefully I will have the occasion to speak about this now, in my opinion, what happens with the public data is that the level of aggregation that it has, and the fact that there is no

matching between, you know, the different type of cost and prices, the fact that when you estimate data with publicly available -- sorry, when you estimate pass-on with publicly available data, you do not have information all of the costs that affect prices, you do not have information on all of the factors that affect prices. It means to me that the public data analysis very likely to lead to a biased estimate.

So the reason why I am focusing on claimants' data is mainly that I think that the Claimants' data is more reliable for an estimation of pass-on than the public data.

PROFESSOR WATERSON: Thank you. That is very clear.

Who wants to speak up, on the other hand, for public data?

MR COOMBS: Since I am sat next, I will.

First of all, maybe it is important to recognise that Dr Trento and I have been instructed to assess slightly different questions. So Dr Trento has been instructed to assess pass-on in the merchant claims. I have been instructed to assess pass-on for Mr Merricks' claim.

An important point about Mr Merricks' claim is Mr Merricks' claim is not about individual merchants, it is about all consumers across the economy as a whole

over a period of nearly two decades.

So the question that I have to address is how do I assess pass-on across the economy as a whole over a period of nearly two decades? I believe the best way to assess that is by using the public data. The reason for that is, in comparison with the merchant data, firstly, the public data is sector-wide. So I have -- so just to clarify with that, I have divided the economy up into 12 sectors, and this was something that we discussed at the hearing in January, and we can discuss it again if it would be helpful. But I have divided the economy up into 12 sectors, estimated the pass-on rate for each sector, and then used data on the volume of transactions in each of those sectors to produce a weighted average pass-on rate across the economy as a whole.

Now, I have used, or I prioritised using public data, because where public data available, it covers the whole sector or subsector that I am concerned with, rather than one individual merchant within that sector, and also covers a long time period. So in many of the sectors that I am looking at, it covers a period starting in 1996, which is quite close to the start of Mr Merricks' claim which is 1992. In contrast, the merchant data is very recent. It is for recent years.

So for that reason I prioritised using the public data, because I feel it is a better way to estimate pass-on that is relevant to Mr Merricks' claim period.

Now, having said that, in practice, when I have looked at each of these sectors, there are some sectors where public data just simply is not available at all. There are some sectors where public data is available but I have decided it would not produce a reliable estimate, reflecting actually some of the concerns that Dr Trento has identified. In some cases, the cost data just would not be available to use. In particular, there are some sectors where imports are clearly very important, but the data on imports is only available for more recent years.

So there are some sectors where it either was not possible, or, in my opinion, was not appropriate to use public data, because it would not have produced a reliable estimate, and so in those cases I have used the merchant data, recognising that then creates two issues. One is the question about whether data from that individual merchant is representative of the sector, so I have had to spend some time looking at that in order to assess whether that was the case. Secondly, whether it is going to be representative of Mr Merricks' claim period, and I have also spent some time looking at

that to assess whether I can use a pass-on rate based on recent merchant data to estimate pass-on during Mr Merricks' claim period.

So those are the reasons why I have prioritised the public data over the merchant data, but have used the merchant data where I felt it was the most -- it was either the only available evidence or was the more appropriate evidence to use.

So that is two of your three sources of evidence, Professor Waterson.

PROFESSOR WATERSON: Okay --

MR COOMBS: The third that you mentioned is previous studies.

PROFESSOR WATERSON: Sorry, carry on.

MR COOMBS: So for the previous studies, I have looked at information from the previous studies. I think it is very useful in terms of providing background. So it provides background and context. It also is a useful cross-check. Obviously the limitation of the previous studies is that they often do not relate to the UK, and sometimes they relate to periods which are not the same as Mr Merricks' claim period. Some of them they just seem completely irrelevant.

So some studies I completely ignored, because I thought they were not really informative. Some of

them I thought they were informative, so I have looked at them, and I have used the estimates as background in the cross-check, but what I have not done is I have not used the previous studies to actually produce an estimate for any sector. I have not used them as part of my calculation.

PROFESSOR WATERSON: Thank you.

Ms Webster.

MS WEBSTER: Yes, just to follow up and comment on those three sources of evidence.

In principle, my preference is for merchant data, partly for the reasons that Dr Trento describes. I think sort of all else equal, it is possible with that more granular data to get more reliable results of cost pass-on, and that is partly because, unlike the public data, you have costs and price information from the same business, and so they are clearly more closely related than they are for the public data.

I think working with the businesses themselves, it is possible to get more insight into the features of the business that then need to be taken into account in how the modelling is constructed, so, for example, knowing what types of events to control for where they may be having an effect on prices, and that helps to then isolate the impact that cost changes are having on

prices.

I think also another benefit is that it is, in theory, possible to undertake an analysis of cost pass-on for cost types other than the main variable costs. So, again, if we think about public data, what is available there in these PPI indices for costs is really a measure of COGS, a proxy for the COGS that might be associated with merchants in the sectors where we are looking at price changes.

In practice, I think, in these proceedings, having worked with the data that we have from the Merchant Claimants, my feeling is that actually, despite Dr Trento's characterisation of sort of having lots of data, it is actually quite difficult, working with that data, to get particularly reliable results, and I suspect we will come on to that in your next area of questioning so I will not say more than that for now.

But, therefore, in my view, in these proceedings, while I would in principle prefer merchant data, I think actually they are now just sort of one of three sources of information of cost pass-on.

When it comes to public data, I do agree also with Mr Coombs, I think. If one is trying to measure pass-on for a sector, at a sector level, then public data is in theory a better mechanism for doing that. I think in

practice it comes down to -- the question is whether one can get a reliable estimate, given some of the issues that Dr Trento described.

So for me, there are three drawbacks of using -- sorry, issues with working with the public data that mean that the results that come out of analysis of public data may not be reliable. Those are the ones of trying to find a match between a price indices and a cost indices when they relate to these separate baskets of goods. There is then a question about identifying appropriate controls for events that may have influenced prices, which should not be attributed to the costs and need to be controlled for to get -- to isolate the impact that cost changes have on prices. I think, particularly because there is a long period of time covered by the public data, you know, there are a lot of things that potentially could have occurred over that period that one would ideally control for that it is difficult to control for.

Then the third relates to this issue about having two separate indices, one of prices and one of costs. One does not know what proportion the costs measure accounts for in the pricing measure, and when one does the econometrics one gets an elasticity, a pass-on elasticity, so understanding the effect that

a percentage change of costs has on a percentage change of price, but actually that does not tell you what the absolute level of cost pass-on was. So if costs change by 100, what proportion of that 100 is passed on to prices?

To make a -- to make -- to translate the elasticities into that measure, one needs to know the price-cost ratio, and that is not available for public data, so you have to make assumptions importing data from other situations to be able to say: well, this price-cost ratio could be X, but it is not known whether X is appropriate given the data that we have.

So the long -- the point of that is there is an uncertainty that is introduced in making that conversion, and that again is a drawback, I suppose, of using the public data.

On the previous studies, I think I am in a similar position to Mr Coombs, which is I see these as allowing one to draw broad inferences for the likely level of pass-on of variable costs. There are many sectors where there are either no studies available at all or there are very few papers. What I found interesting in my analysis of those papers is the more papers you have, the broader the range of estimates that you have, so it is really a worry when you only have one, two, three

papers. The pass-on estimates that you get for a sector based on those papers is just a function of the papers that you have, and it is hard, I think, to draw anything -- to pinpoint an estimate and say, okay, the studies tell me that pass-on in this sector is likely to be X.

PROFESSOR WATERSON: Thank you. Of course, academics have the luxury, if you like, of being able to choose their questions in a way that is not quite open to you economists here.

MS WEBSTER: Yes.

PROFESSOR WATERSON: Mr Holt.

MR HOLT: Thank you. So I have three sort over overarching points, and then I will try and address the question as to what the pros and cons are, and I agree actually with some of what the other experts have already said, so I will try and be quick when I am sort of in agreement.

So I think the first point is that in my view all three of the evidence sources have advantages and disadvantages. In my view, none dominates the other, nor is one entirely inferior to the other.

Second, I accept that for all three types of broad sources of evidence, there might be issues around reliability that need to be taken into account by the experts. Some sort of judgment and filtering clearly

needs to go into that assessment in order to assess how much weight to be put on some of those findings, and, in my view, one can identify obviously different sort of particular thresholds as to, well, what is an informative study and what is not.

But overall, the interesting thing is that I do not think -- and, again, on the assumption for this part of the discussion that we are interested in variable industry-wide costs, because I accept that, for the most part at least, the public data and the existing studies primarily focus on that, but I will make a brief remark about that in a moment.

To the extent that they are mainly focused on that type of study, it is, I think, interesting that the results are broadly similar from all three of the general broad sources of evidence. So whereas my view is that there are some important advantages to taking into account all three sources of evidence, to the extent that actually what I just said holds true, you might argue that it actually does not matter all that much because of the broad consistency in results. I do accept that by "broad consistency", that is not to say that all the results are exactly the same or there is no, you know, ranges around those, but broadly they tend to indicate high pass-on from any of the sectors.

I think the third point I would make is that none of the three evidence sources offers complete coverage of the sectors that the experts are asked to address. I appreciate that actually probably it is the case that almost every expert has been instructed to focus on something somewhat different which relates to, you know, the nature of their party's involvement in the proceedings, but at the same time my understanding is that for the umbrella proceedings we are trying to identify sectoral level estimates that apply essentially in all the potentially relevant sectors that merchant claims could relate to, not just SSH, also stayed claims and, you know, other claims. So I think it is quite important, therefore, that none of the three sources of evidence really offer that coverage.

I think you then -- and just to put some numbers on that. So I have looked at 18 sector/subsector combinations.

PROFESSOR WATERSON: Your sectors are a bit different from Mr --

MR HOLT: (Overspeaking) That is entirely true. In fact, I think it is fair to say that all four of the experts who have tried to adopt a sectorisation approach have got something a little bit different.

My overall view on that, since it is brought up, is

it is probably not as big a problem as it might first appear, because a matching process, I think, can be carried out, to the extent that that would be required in order to reach some degree of, you know, agreement as to, you know, which claims fit within which sectors, and I think I have already tried to do some matching at the standard industrial classification code, for instance, to the extent that that would be helpful.

But basically the public data covers, I think, 13 of those 18. The existing studies or previous studies covers also 13, albeit not quite the same 13, and the claimant data only covers eight. So, in my view, a triangulation, essentially looking at the relevant evidence across all three sources, is beneficial in two ways. One, it assists with coverage and, two, it provides independent and different sources of evidence which, particularly in the context, as it appears has been the case in these proceedings, if the evidence is complementary and broadly pointing in a similar direction, then that leads me to have greater confidence.

But I do accept that each of the approaches has some disadvantages, so let me just quickly go through those.

So existing studies. I think probably the most important advantage of that is they are specifically

focused on understanding the impact of a change in the price of an input. It is a natural experiment of a change in VAT. It is an actual increase in the price of energy emissions. It is the actual change in an interest rate. These are all price changes.

Now, that is much more important for the understanding of cost pass-on than some aggregated information about how overhead expenditure might have evolved for all sorts of different possible reasons, most of which, I might add, are not relevant to the concept of pass-on in the first place.

So that is a really important advantage.

I have already mentioned that I think the existing studies add a lot of potential coverage and complementarity to the evidence base, and I think it is also the case that, while one can quibble with the quality of design or the quality of data, as long as the economist is (a) identifying, you know, a peer-reviewed journal, sort of triaging to ensure that some of that quality has been taken into account, and furthermore adopting, to the extent judgment is required, to assess reliability and relevance, which I have done in Holt 11, and then furthermore tried to expand based on some of the further studies that Ms Webster and Mr Coombs have identified, then I think you can sort of address some of

those concerns that others have identified.

Now, there are some limitations. Mr Coombs mentioned the point that they are not all -- that only a minority are for the UK and for the claim periods of relevance in the proceedings. I accept that. I would have preferred to use UK studies as well. My view on this is that just because it is not from the UK, as long as it is from a country with, you know, a broadly similar economic structure, then it can be informative, albeit I would accept that it adds some noise to the overall question.

I have looked at whether geography has an important impact, and it does not seem to be the case that the UK ones are systematically lower, such that relying on non-UK ones would give a risk of upward bias. If anything, it is the other way round. I also accept the point about timing. Some of the studies date back some decades. Again, that adds noise, I accept that. But, again, I have looked at whether there is any likelihood of a systematic bias that is arising from that and I cannot see it. The studies over time seem to broadly fit the same pattern of 60 to 100%.

So that is existing studies.

Public data, I think a lot of comments have already been made. I would add that the data is available from

reputable organisations, such as the ONS and government departments. I agree that it is particularly suitable for the question of an industry-wide and sectoral analysis, because that is what the indices are actually trying to cover. They are designed to be statistically representative of the subsectors that they represent, and also, because of the way in which they are designed, to focus only on price changes, not mix changes, the idea that there is some sort of aggregation concern is wrong.

Also, there is a good coverage, there are a lot of subsectors in this data, and I certainly appreciate, coming on to the disadvantages, some of the points that that have been made. So I agree the matching point: you do have to, in this type of analysis, identify an approach to figure out which output price indices are a good match and which caused input or producer price indices.

The different experts have taken somewhat different approaches. I have taken an approach, which is to start from what I am trying to find evidence for, which is my subsector level analysis, find the best price indices and try and match that to the best available cost indices that relate to those. Others have started from an admittedly higher threshold for the matching to get

more precise results. I accept that there is some judgment as to exactly which of those two perhaps is the more appropriate, but certainly the advantage of my approach is that it allows for some additional coverage, bearing in mind how limited the overall evidence base is in these proceedings anyway.

I think, if anything, the impact of the price and cost-matching question is one of attenuation bias; in other words, if you do not have a perfect match, then you have some variation in the costs which is not directly relevant to the output price index, well, that would tend to have a downward effect.

So although I agree that it is a relevant consideration and would ideally want to have the best possible matches, as long as you have reasonable matches, in my view, in my judgment, I am willing to live with a degree of imperfection here, particularly because it is likely to lead to some conservatism in the estimates.

THE CHAIRMAN: Mr Holt, we need to take a break at some point. Are you coming to an end?

MR HOLT: Yes. Shall I just quickly move to the claimant data, then, and I appreciate we will come to some of the econometric challenges on the public data, and so I will park that debate to save time for now.

So claimant data. I agree with some of the points about the rich and granular dataset. The only comment I would make there is that that is not the case for all of them, that is the case for some of them. Many of them do not have that, or, alternatively, have it but for an insufficient time period, or have it for -- have insufficient variation with which to properly carry out analysis, so only nine -- in my view, only nine of the 13 are capable of reliable estimates using that data.

I agree that the price-cost information that Ms Webster identified as an advantage is an advantage. The public data I think does require some estimates on price-cost ratios, albeit I think that that is, you know, one of the things that adds some noise but not necessarily a concern.

PROFESSOR WATERSON: We will come back to that.

MR HOLT: Sure. Okay, great.

So the disadvantage then on the claimant data is, firstly, that it does not apply -- you cannot sort of use it in all these cases for some of the reasons I mentioned. It is more prone to issues such as mix effects and aggregation effects than the public data or indeed the existing studies, and those effects would tend to lead to downward bias, in one case at least, if you have a mismatch of the aggregation between the

prices and the costs. I accept that there is also a possibility of mix effects going upward under certain conditions as well. Let us park that for the econometrics discussion, perhaps.

So, in summary, I think if you recognise that all of them have advantages and disadvantages, the appropriate approach is to place some weight on this evidence, and then we have a debate about, well, how much weight to put, and we can park that one as well.

PROFESSOR WATERSON: Thank you.

THE CHAIRMAN: Thank you, Mr Holt.

We will take a ten-minute break.

(3.29 pm)

(Short Break)

(3.40 pm)

PROFESSOR WATERSON: I thought I saw some of the lawyers getting a bit sleepy in the earlier session, so I thought we ... I am not looking anyone in particular, but I thought we would go on to some econometric issues.

MR TRENTO: Sorry, Professor Waterson, I have a few points that I would like to make in reply to some of the experts' observations.

PROFESSOR WATERSON: Okay.

MR TRENTO: Thank you. The first point goes back to Mr Coombs' point that we had different instructions and

so we have different objectives. I agree with this point. So Mr Coombs, I think also Mr Holt and Ms Webster, they have analysed the pass-on of the overall UK economy, and I do not have that task. So, for me, it is really the pass-on of the SSH Claimants.

Now, the way that I have done this is that I have ranked the top ten sectors in terms of the size of the claim, and this covers a large part, around 70%, of the claim, and then I have analysed the pass-on for these ten sectors.

Some of these sectors, the way I have defined the sector is that I have defined the sectors very, very narrowly because I could do that. I had the advantage that I did not have to look at the whole of the UK economy. The other experts had to define sectors which are very broad, but I did not do that, I did something different, and so for some of the sectors, for instance video games, I have only one claimant in that sector which is Sony, and therefore when the issue of extrapolation comes, because one of the points that was raised is that we ask: you can look at the pass-on of one claimant, but that does not tell you much about the pass-on of the whole sector.

Well, it is true in their case, but it is not really true in my case, because in my case I have, for

instance, Sony that is only one claimant in one sector. I have Holland & Barrett which is one of the two claimants in that sector that I have defined for them, and I have defined for them a sector that, you know, does not exist in reality. I put it very narrowly, which is health retail, and I did it very narrowly exactly because I am addressing this issue.

There is another one which is travel agencies. I have data for one claimant, but there are only three claimants in that sector.

In the other sectors, some of the sectors, I have more than 500 claimants, but I do not have, like the other experts, I do not have an entertainment sector, which is a collection of very, very different subsectors, like, I do not know, video games or restaurants or the Royal Opera House. I have hotels, and then I use the data from Hilton for the whole sector. I have restaurants, and then I use the data from Wagamama to estimate the pass-on for that sector.

So that point, that point on can you extrapolate. In my case, it is much easier than it is in the case of the other experts, so that is something that I wanted to clarify.

The other point I wanted to clarify is that one of the reasons that I have mainly used claimants' data is

that if you look at public data, some of the public data is not relevant to me, because if I do an estimate -- because under my approach the relevant proxy cost is the overhead costs and it is not the COGS. COGS would give you, you know, the wrong answer under my approach, and if you do an estimation of the pass-on of PPIs, which is Producer Price Index, on CPIs, which is Consumer Price Index, but what is PPI? PPI is the wholesale price that the retailers pay to the wholesalers and, under my approach ... you know, that is COGS under my approach, that is not very informative.

I think one could also do an estimation of the pass-on of wages into CPI, but I think this will come later. I have serious doubts as to the use of public data.

Then on the economic literature, which I did not discuss before, we are in a similar situation, because a lot of the existing literature looks at the pass-on of, for instance, wholesale prices into retail prices. This is not relevant to me. Or they look at the pass-on of excise duties into retail prices, but excise duties are duties -- for instance, the excise duty on sugar or alcohol or alcoholic beverages. This is something that is paid by the manufacturer and then to the extent that it is passed on, it goes into the wholesale price, and

then again you would be estimating the pass-on of wholesale prices into retail price, and it is not very relevant to me.

THE CHAIRMAN: Dr Trento, I think we need to probably move on to the next topic.

MR TRENTO: Sorry.

THE CHAIRMAN: Do you have much more to say?

MR TRENTO: Only one thing, but -- yes.

THE CHAIRMAN: I think we have your point. Do not worry. Thank you.

PROFESSOR WATERSON: So ...

MR COOMBS: I will be very quick. The first point to say is I think we are all agreed there are imperfections in all of the data sources. That is life. We have to work with imperfect data. It is not a reason to ignore any data source. I use all three to some extent, most of us do, the issue is just which emphasis -- how much emphasis do you place on each of them?

Ms Webster raised what she described as some issues with the public data. If we are pressed for time, I will not go into each of them. But I would say -- you know, she chose her words carefully -- they are issues, they are not problems. They are things that can easily be dealt with, each of the three issues that she raised.

Lastly, the point that I forgot to make regarding

the merchant data, which I think is very important. The merchant data, of course, is about the cost of individual merchants, so it is about firm-specific costs, and what we really should be capturing is market-wide or sector-wide costs, because it is the pass-on of those costs which are relevant in this case.

That is not to say that we therefore cannot use the merchant data; I used the merchant data, but that is an issue that needs to be borne in mind, because it means that an estimate based on merchant data is likely to be an underestimate of the pass-on rate, and that is just something that has to be factored into the interpretation of the results.

PROFESSOR WATERSON: Thank you.

MS WEBSTER: I will be very brief. Only to say that the issues that I described with the public data, I mean, they can be overcome to the extent that a regression can be run and some results generated. I do not think that they can be overcome in the sense that one can have trust that the results that are generated are reliable. I think one would -- the issues are such that there is considerable uncertainty associated with those estimates, and I think we can take -- that is a point no doubt we will explore in further detail later.

PROFESSOR WATERSON: Thank you.

So, yes, roughly speaking, what people have chosen to do, and this is very broad, is they have taken something that I would call P, a price, if you like, and something which is called C, a cost, defined in various different ways, and they have regressed P on C. At a very broad level, I think that is what everyone has done.

So then the question is: well, do we do this in a time series way or a panel data way? What is the appropriate way of dealing with that? Maybe people would give me their views on what would be ideal, maybe, and then what would be -- what they have done, because we are all agreed that the situation is less than ideal.

So I do not know who wants to start on that. Yes, Ms Webster, you can start?

MS WEBSTER: Yes, I am happy to.

So perhaps a comment first on what I am most interested in understanding. So from the perspective of trying to understand the extent to which a change in a cost then leads through to a change in the price of a product, I am most interested in the variation in costs and prices over time. So if it is available to me, I think it is beneficial to use a panel data with lots of products, the prices and costs of which vary over time, and to explore the extent of that

relationship between cost and price at the product level but analysed through the panel. Sometimes that is not feasible, in which case I would prefer to -- I will do a time series, and that is if, for example, I am looking at exploring the relationship between costs and prices at the level of an individual business.

I note that some of the other experts have, in running a panel, also taken into account the variation in costs and prices that exist across products, as well as for an individual product over time. My view is that variation in the relationship between costs and prices that exists across products is -- I find it more difficult to interpret that as pass-on. So for example, take a cheap product, cost of 50, price of 60, a gap -- a margin of 10. I then might have, I do not know, a branded product, which is more expensive, and it both costs more, I do not know, 100, but then can be sold for more, maybe 150, you have clearly got a situation there where the higher cost product has got to very much more a higher price, but that could be for any number of reasons. It could be to do with the characteristics of the products that are being sold which are explained by, I do not know, if we then put a real product on this, say it is a plain t-shirt versus a branded t-shirt, you might expect there to be a difference in the margin that

is associated with the plain t-shirt versus the branded t-shirt, but that difference between -- the relationship between price and cost between the two products, is not pass-on, it is just reflecting other characteristics of the product, and I think that is -- the models that take that variation across products into account is less easily interpreted as pass-on.

PROFESSOR WATERSON: Thank you.

Yes, it reminds me actually -- this is a side issue -- of a student of mine who did a very interesting study of the difference between the prices of those shirts with the little symbol on them, between the ones that were fake and the ones which were real, and there was quite a difference, although no one could tell in someone wearing it whether it was fake or real.

Anyway.

MR HOLT: Shall I go next? I do not mind.

PROFESSOR WATERSON: Yes.

MR HOLT: I agree with, I think, almost all, and possibly all, of what Ms Webster just said in relation to time series and panel, but let me just expand on a couple of points.

The most important thing is I agree what we are most interested in here, and the reason we are most interested in it is because of the counterfactual and

the impact that we are looking for, which is an analogy to the change in MSCs, the price of an input cost, which happens at a point in time, and then would persist. Now, that means that the most important variation we are looking for is a change in the price of an input.

One general remark on that is possible in the public data, because the public data is indices which reflect price and cost changes, and it is also possible in the claimant data, at least insofar as -- at least part of -- most of the claimant data has a disaggregated product level pricing structure and associated cost of essentially the COGS at the product level. So in that case, what you have are unit prices and unit costs, and therefore the variation is of the type that essentially I think is relevant.

I agree also that the claimant data, when it is disaggregated, has the attraction of that product level granularity, and that means that you can adopt a panel-based approach, and you can, furthermore, through the use of product fixed effects, which strip out the concern that Ms Webster rightly highlighted that, well, you know, comparing an unbranded and a branded product might show a lot of variation between costs and prices that might over-interpret the pass-on, but the data allows you, for the most part, to control

for that through product fixed effects, and that is essentially what I have done, where possible.

What that then means is that the essential variation that you are using in the model is the change in, in my case, in the COGS of the products over time to see if that is then filtering into any change in the prices. So that is the right sort of variation.

Now, there is a couple -- there are a couple of exceptions to the claimant data where I have not done that approach. One is where the data just was not of that format. Can I mention individual claimants here? I do not think I am revealing anything confidential but it might be helpful.

PROFESSOR WATERSON: I think Mr Trento has, so ...

MR HOLT: Yes, okay. We can blame him then!

No, I apologise.

So for Allianz, the data was not provided in a disaggregated format, it was at a business line unit level, and so that was essentially what you could do, you could do a time series in that case. There is a degree of a risk of a mix effect in that, but I do not think it is necessarily a material one in that case and it could go in any direction.

So that is Allianz. I did not do the full disaggregated panel approach in that case because the

data was not there.

Hilton was another interesting case, and Dr Trento has highlighted it. He mentioned how much disaggregated pricing there is by room type, room date, you know, a whole range of parameters, which I agree with his factual description. The interesting thing, though, is that that price data did not come accompanied with any cost data, it was just the price side of things for a short period of time for about three years.

Now, the cost data was in a different file, which was over a much longer period of time, aggregated at a monthly level and allowed by hotel. So there was some disaggregation by hotel information for various types of costs and for prices as an average room, and there is also information on the average number of bookings, the total number of bookings per month.

So there is a trade-off there, I accept. You could either go down the disaggregated price information and try and figure out a model that explains the more precise disaggregated pricing, or you can essentially accept that the cost information is at an aggregated level and then essentially match that structure to the price and then see what is happening.

PROFESSOR WATERSON: Aggregate up?

MR HOLT: Aggregate up, yes. Well, the information was

aggregated as it was.

Now, in my view, the far preferable approach is the one I adopted because, firstly, the idea that there were 6 million or however many observations in the price data is completely illusory, because it does not allow -- the model would not allow you to take advantage of that degree of variation if you were then comparing it against three years of monthly overhead data. That is however many, 36 observations of overheads. All you can do in that case is, you know, look at the impact on the average price for some different types of rooms, and for a very short period, I would add.

Now, the concern I have with that approach is that if there is a mix effect, by which I mean let us say there is a lot of variation in costs over time for a mix reason, ie changes in types of rooms booked and so on, then that would be leading to a lot of variation in the cost variable but not in the price variable. Individual room prices for, say, standard and premium would not be expected to be impacted by that particular factor, and so you would have, in my view, a strong downward -- well, a downward effect. The degree of the materiality is, I guess, somewhat hard to fully comprehend, but a definitely downward bias associated with that mismatch of the level of aggregation.

So that was the reason, essentially, alongside the much better time period than the other data had, that I did not adopt a general approach to the full disaggregation.

The only other thing I would add is that -- I think I might have already said previously, the time series approach in the public data does not suffer from some of these mix or aggregation type effect problems which are the source of the need to use the most disaggregated version of the data possible in the claimant data. So although I agree that there are certainly advantages to the panel and certain considerations in certain circumstances, those circumstances, to the extent that in part they relate to concerns about mix effects and aggregation effects, do not apply for the public data.

There is an important question then about the level of aggregation in the data regarding overheads, and I think this is now perhaps, if any, the time to address it, because there is going to be a lot of talk about how there is, you know, millions of observations and granular data, but that is not the case for the claimant data. The overhead data is not of that structure at all, it is generally monthly level expenditure on a number of different categories.

So what are the implications of that? I think,

firstly, it means that you do not have the prices, going back to the issue at the beginning, the MSC changes, the change in the price. So it would be interesting to know about wage rate changes, changes in the -- you know, pounds per megawatt hour for energy or pounds per square foot for your rental arrangements. Those are price changes that would be quite interesting. If the aggregate expenditure does not give you the information about prices, you then have to assume that the variation is relevant.

Let us just sort of take the example of what an actual change in aggregate overhead expenditure could really mean. So let us say for a particular retailer, overheads went up by 10% from one month to the next or one period to the next. The first possible interpretation is the sorts of things I just mentioned, wage increases, energy costs per unit went up, and so on. That would be a legitimate and interesting type of cost change to look into, but the information does not allow you to know whether that is happening, or the same 10% increase might of course reflect that, you know, additional staff were taken on because we are coming up to the Christmas period, or maybe there was a change in the store hours.

By the way, I am talking about stores, because one

suggestion is that you can get around the aggregation problem by dividing aggregated expenditure by something like the number of stores, and my answer to that is that that fixes one problem, ie if the overhead only went up because you opened a new store, but it leaves unresolved all of the other problems, so I am just trying to list out for your understanding what those might be.

So if you had -- if you added a few larger stores over the course of the first period to the second period, then there would be a mix effect, because your overheads per store would reflect the fact that the larger stores inevitably have higher overheads, or it might also be that during that period of time the firm added a new distribution centre, which of course would have a big impact on the monthly distribution cost, apparently, in the overhead calculation. But while of course that would increase an overhead cost, the presumed reason for doing it is that it would increase the efficiency of the rest of the logistics operation.

Now, you could go on with lots of other points, but I think the critical point is that only one of the four examples I gave was a legitimate source of cost variation that would be interesting for the purpose of understanding pass-on, and the other three were not only not interesting, because they are not relevant, but they

actually would likely have either a neutral or possibly even a downward effect on product level prices because of the efficiency benefit.

So I think, to cut this short, as valiant as the efforts made by some of the experts have been, sadly it is all meaningless, because it does not allow you to measure something that is actually relevant.

PROFESSOR WATERSON: So in a nutshell, what you are saying is that there is a mismatch between the cost data and the price data, for example -- a prominent example would be there is far more pricing data than there is cost data, and so the apparent -- the apparent degrees of freedom implied by the pricing data do not lead to the actual number of degrees of freedom in the analysis?

MR HOLT: That is correct in only part of the problem. That is the part I mentioned earlier, which is if you have the mismatch on aggregation, you have the artificial variation on the overheads that is being mapped on to no changes in the product level prices. Then you are saying, well, there is no pass-on because there is variation in the aggregated variable because of mix effects. So that is a downward bias. That is part of the problem.

What I am describing is, I am afraid, a much more serious problem that does not rely on the mismatch of

the aggregation. So even if you have the same level of aggregation up, monthly prices and revenue and monthly aggregated expenditure, the critical issue is not that there is a mismatch, it is that the nature of what was provided for data regarding overheads does not have any pricing, and therefore any variation could reflect any and all of the types of issues I mentioned, some of which would have upward effects on price, some of which would have neutral effects on price, some of which might have downward effects on price, and therefore what you are measuring is essentially almost pointless.

So -- and, frankly, that is before you even identify some further problems, which is that overhead data obviously, as we discussed before, is a mix of fixed and variable costs. I think that that already largely rules it out as a relevant proxy for that reason. But even if you did not rule it out on that reason, it would have a serious measurement issue because the fixed costs -- the pass-on of fixed cost cannot be measured in a claimant dataset that lasts four or six years, because even if you say that the pass-on of even a fixed cost should maybe happen in three years, well, then you have effectively two cycles in six years of data. There is just not enough time period in the claimant data to possibly capture, you know, given the inevitable noise,

to capture the amount of effect that you would need in order to reach a reliable estimate.

PROFESSOR WATERSON: Thank you.

So, Mr Coombs, maybe.

MR COOMBS: So there has been some discussion about panel data. I am not sure if everybody in the room understands what a panel is so maybe I could just briefly explain. There are two types of data. So we can have time series data which varies over time and we can have cross-sectional data which varies across different products and we can think of like a table, where we have products along one dimension and time along the other.

So if you think about, say, with Primark, we might have the cost of a men's shirt over time, the cost of a men's pair of trousers over time, the cost of a pair of socks over time and so on. So when we are talking a panel, we are talking about the fact that we have time series for different products over time. So eventually we have like a table which shows how prices of each of these products varied over time.

Now, when it comes to the public data, the approach that I have used, I have not used a panel, I have just used time series data. So I have a price, average price for the sector, which is basically defined by an index

that is created by the ONS, and then I have a cost index for the sector, and all I am doing is regressing the price index across the cross index -- across the cost index.

The reason I do that is because for the public data I have a lot of observations over time. So I am looking at a period starting generally in the 1990s through to 2019. So I have somewhere between 200-300 observations over time. So that is enough observations to do a time series analysis.

When it comes to the merchant data, generally there is a shorter period of time and there is data for lots of different products. So in that case, like other experts, I have used a panel. So, as I have said, with Primark it will be men's shirts, men's socks, men's trousers and so on over time and I have done -- used that in my regression.

Now, the issue that Ms Webster has identified is that with a panel potentially you are getting a mix of two different effects. You are getting how price changes over time in response to a change in cost and you are getting how prices of different products vary related to how the costs of those different products vary.

Now, one way that you can design the analysis in

order to only be looking at the variation over time is by including fixed effects for each product, which is almost like a dummy variable for each product, and therefore you strip out the variation across products and all you are capturing is the variation over time, but you are benefiting from the panel, from the fact that you have all these different products, because it means that you might, for example, I do not know, say you only have 12 periods of time but if you have 12 periods of time but you have lots of the different products, it means that you have more than 12 observations. You have 12 times the number of products.

So that is the approach that I have used when I was using the merchant data. So I have used a panel, but I have controlled with these fixed effects for variations across products. So what I am essentially doing is still only really capturing how costs and prices are related to each other over time and have captured a time series analysis.

So I think, coming back to the question, the question is: are we interested in variation over time or are we interested in variation over products? The approach I have taken has been to capture the variation over time, rather than the variation across products. I am not necessarily saying that capturing variation

across products is completely meaningless and irrelevant, but it is not what I have done. It is not the way I have approached the analysis.

PROFESSOR WATERSON: Thank you.

Just to come back very briefly to you, Mr Holt. When you use public data, what sort of size of dataset are you looking at?

MR HOLT: So I have smaller datasets than what Mr Coombs has identified for two reasons. One, I have a shorter time period because I focused primarily on the claim period relevant to the merchant claims, but also because in the main, even though I have done sensitivities to look at what if I do not limit it to that, but I sort of expand the dataset to an earlier period, in many cases the data does not go back that much further than the claim period in any event, and the difference between us, I think, in that regard is that we have looked at somewhat different subsectors. So I have some extra ones and some of the extra ones I have do not have quite as long a data series.

I think a related issue is that we have adopted different methodologies. So I have adopted, I think, a simpler methodology, which is essentially a reduced form unless type model, and then I have taken into account the general time series issues around

stationarity, which I will not go into too much detail now, but I am sure we will get into it, but I have addressed that by adopting either levels of first differences, depending on the outcome of those tests.

So -- but basically I do not need, in my view, quite as long time series as Mr Coombs perhaps did because he imposes a particular structure in his long-run-based approach. I do not adopt an explicit long-run-based approach; I assume that the variable cost pass-on effectively is happening within a year through my use of lagged quarters.

The other reason why I have fewer observations, by the way, is I have used quarterly data, rather than monthly. In my view, that is not a really important distinction because there is not that much additional information when you break it down by month versus quarter.

PROFESSOR WATERSON: That is what I was wondering about.

MR HOLT: Yes. So I have done it at the quarterly level basically, but that is for the public data.

Obviously generally I have used the frequency of the claimant data at the level that it was provided usually. Sometimes that is by week, sometimes by month and so on.

PROFESSOR WATERSON: Thank you.

Dr Trento.

MR TRENTO: Yes, okay. I think on the question of time series versus panel data, I used panel data because it is the data that is available for the Claimants. I am interested in pass-on of total overhead costs and for that pass-on I have used variation in time, but one thing I wanted to explain is that Mr Holt has set out a few issues with the overheads data. I think there is some misunderstanding and I think I would like to clarify.

So the first one is the following: he said: oh, yes, you talk about the claimant data but in millions of observations but with overhead costs, you only have monthly data. That is correct. It does not mean that the very disaggregated data that I get from the Claimants is less useful because, as I have said before, what you want to do in estimating pass-on is you want to explain prices and all of the variation in the data that allows you to explain prices, it also allows you to identify a causal effect, in my case, of total overhead cost of prices. So the fact that overhead data is only aggregated at a monthly level, it does not mean that we are not using the whole of the granularity and information that is in the Claimants' data. We are using fully all of that granularity.

Let me make an example, coming back to a point that

was raised by Mr Holt, which is he says for Hilton's data, yes, you have prices at the transaction level but then you only have cost at the monthly level and, again, this is true, but the granularity at the transaction level gives you a lot of information on factors that affect prices. So, for instance, again, the type of room or, you know, the difference between the time of booking and the time of arrival, the number of guests and all this information, and this needs to be used, in my opinion, in order to estimate a causal effect of cost on prices and Mr Holt said, no, because you only have three years of data. That is not correct. You have five years of data. It is not three.

Then, second of all, the problem that he -- the problem with aggregating the data is the following: imagine you have a hotel where the share of standard room that is booked go up in time so meaning people are booking more and more standard rooms and less and less premium rooms, then if you aggregate the prices what you see is that you see a decline in prices there that is not real. It is just an aggregation effect. When you use aggregated data, like Mr Holt has used and I have not used for Hilton, then you have a problem, in my opinion.

So, going back to the Hilton example, you know,

I think using disaggregated data is better than using aggregated data.

There is another issue that Mr Holt raised here, which is about overhead costs. I think the issue that he raises is that you do not have a price for the overhead costs so you do not know whether wages have gone up, you do not know whether the price of coffee machines have gone up, you do not know, you know, whether the price of electricity has gone up and so on and so forth. I think that is correct, but I have two observations on that.

The first one is the one that I have said before, which is overhead costs, if you are a price manager you cannot look individually at the price of each individual component of the overhead costs. This is not the way it works. The way it works is that they look maybe at big components and maybe they look at how the overhead costs affect profitability, so a broader perspective and not, you know, what is the price of input A, B, C, D, etc, etc. So this is one point.

The other point is that he said, yes, okay, overhead cost could increase, not because prices have increased but because of other factors. I agree with that. We have tried to take this issue into account in our estimation. So, for instance, what we use is

a normalised version of total overhead costs whereby what we do is we divide the value of total overhead costs by the number of stores because we think this is the biggest variation you can have in overhead costs. If you open up a new supermarket, then of course your overhead costs are going to go up but you would not expect there to be an effect on prices. I agree with that. We control for that in our analysis. There are smaller -- you know, it is possible that other things may happen. So, for instance, business -- sorry, Christmas period is busier than usual, maybe the overhead costs may go up in there because you want more retail staff. We also try to control for these things. So we control for seasonality in our analysis, and we also do another thing, which is we use -- sorry, this is a technical term, but we use a moving (inaudible), which means if we want to explain the price in December 2020, we use the average total overhead costs in the three months previous to December or in the six months or in the 12 months. We do all three. Therefore, we -- so if there is a spike in overhead costs which is due to, for instance, Christmas, we control for that.

The last point is on the timeline of the passing on of overhead costs. We have heard from Mr Holt that he thinks you cannot estimate the pass-on of overhead costs

because it takes longer for them to be passed on. I think he actually says that the two avenues for the pass-on of MSCs are that the company copies or monitors the price of the competitors and for that kind of pass-on, I do not think there is any delay.

Another possibility that -- another possibility for the pass-on of overhead costs is that they affect profitability and then, because profitability went down, maybe you want to increase your costs, but for that you have reviews of profitability and that happens maybe every month or every three months or every six months or every year. So it does not take four years to -- for the overhead costs to be passed on.

I agree with Mr Holt that there are a few instances -- well, sorry, I agree with Mr Holt that if the effect of overhead costs on prices is indirect, so it is not an effect that a company says overhead costs have increased and then we increase our prices, but if it is that overhead costs have increased, that has made some of the companies in the market unprofitable, the companies that are unprofitable leave the market and then the companies that stay in the market then increase their prices, yes, I agree that can take longer, but I think that the first thing I would say is that what we want to establish as econometricians, we want to

establish causality and when you look at a longer period of time there are a lot of confounding factors that are difficult to control for.

Yes, the second thing that I would say is that I do not think my model would miss that effect. It would capture that effect with a delay. Of course if it takes 40 years or six years, maybe I miss that effect, but also if it takes six years and the claim period is ten years, that means that the pass-on for the six years is zero and that also must be taken into account.

PROFESSOR WATERSON: Thank you.

Actually one of your claimants, and I will not name them obviously for this purpose, but one of your claimants in a sense made a point, which is partly for you and partly against you in this argument, that in response to a change in costs they changed the price of one item amongst their set of items. So that is the point in favour of what you say.

The point against you is that, of course, that would have been -- that may well be picked up also in the aggregate across their products and therefore a slight change, but it might be too small to measure; I do not know.

Anyway, you may well know who I am talking about but I will not name them because it is detailed information.

Mr Harman, do you want to say anything on this topic?

MR HARMAN: Thankfully not.

PROFESSOR WATERSON: Good.

Well, I am hesitant about moving on to another topic.

THE CHAIRMAN: Maybe we should not. No one wants to say anything more on that topic? No. Okay. I think we are sort of up with the timetable, are we not?

PROFESSOR WATERSON: Yes.

THE CHAIRMAN: It has been quite a long day so I think we should call it a day and we will resume at 10.30 tomorrow.

Of course you are still in the witness box, as such, so no discussion about the evidence.

All right. 10.30 tomorrow.

(4.25 pm)

(The hearing adjourned until 10.30 am
on Tuesday, 26 November 2024)