House of Commons

Treasury Committee

Oral evidence: Autumn 2022 Fiscal Events, HC 740

Wednesday 19 October 2022

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Watch the meeting

Members present: Mel Stride (Chair); Rushanara Ali; Harriett Baldwin; Anthony Browne; Kevin Hollinrake; Julie Marson; Alison Thewliss.

Questions 60 - 133

Witnesses

I: Sir Jon Cunliffe, Deputy Governor for Financial Stability, Bank of England; Sarah Breeden, Executive Director, Financial Stability Strategy and Risk, Bank of England; Andrew Hauser, Executive Director, Markets, Bank of England.

HOUSE OF COMMONS

Examination of witnesses

Witnesses: Sir Jon Cunliffe, Sarah Breeden and Andrew Hauser.

Q60 **Chair:** Good afternoon and welcome to the Treasury Committee and our hearing into the autumn 2022 fiscal events, which includes the mini-Budget on 23 September and the recent statement by the new Chancellor. We are also going to cover the long-anticipated medium-term fiscal plan and OBR forecast that will be brought forward on the 31st of this month.

I am delighted to welcome three witnesses this afternoon. Could you introduce yourselves to the Committee?

Sir Jon Cunliffe: I am Jon Cunliffe, deputy governor of the Bank of England for financial stability.

Andrew Hauser: I am Andrew Hauser, executive director for markets.

Sarah Breeden: I am Sarah Breeden, executive director for financial stability strategy and risk.

Q61 **Chair:** Thank you all for appearing. Jon, can I start with you? You sent me a very useful letter that set out this intervention that the Bank came forward with in respect of the stress in the long end of the gilt market and the implications of that for pension funds. Could you just talk us through the NPC announcement on 22 September, the 23rd and the impact of the mini-Budget on the gilt market, and the end of the Bank's intervention?

In particular, could you focus on this issue—it has been a subject of some debate—about whether the spike in the gilt market when the last Chancellor made his statement on 23 September had a clear UK component to it and was related to that announcement, or whether this was all part of what was happening globally in the financial markets?

Sir Jon Cunliffe: If my memory fails me, I might call on Andrew, who was in the middle of the market movement. Our decision, which came out in the middle of the 22nd, was for a 50 basis point rise. At that point, yields at the long end went up by 13 basis points. Sterling remained pretty stable against both the euro and the dollar, which gives you some idea of how it was received.

The US had gone 75 basis points the night before. We have other examples where we have done less than the US. My sense is also that around that period the Government's fiscal event was already in the news. The IFS commented on the 21st or the 22nd about the package because the energy package was known, but the fiscal event and the degree of the tax cuts were not known. Citi also put out a paper.

Q62 **Chair:** Can I clarify that point? You would have anticipated those elements of the announcement that had been trailed by the Chancellor up to that point, but you did not have any internal discussions about the

other elements that were not trailed—the surprises.

Sir Jon Cunliffe: This is the point I was going to make. Some of the movement I was talking about is to do with the news about the fiscal position. Particularly—we made this clear in the minutes of that meeting on the 22nd—we had taken the energy package into account, because that was clear and that was there, but we had not taken the fiscal event that was coming the next day into account. We made it clear that we would do that in November. Some of the market were expecting us to have taken both things into account.

If we then roll forward to the 23rd, following the announcement, yields moved up by 39 basis points. They also continued to move over the next two or three working days. It was a total of about 130 basis points over effectively three working days.

Q63 **Chair:** Can you contextualise that move for us? It is the largest move in 30 years.

Sir Jon Cunliffe: The largest single daily move we have had, which was in 2000, was in the mid-30s. All the high moves we have had have either been followed by a reversal in the following days or, in one instance of a 20 basis point move, stayed stable. We have not had any experience of the long end going up by more than 30 basis points in a day or of a 130 basis point rise over three to four working days. For the long end of the curve—these are the 30-year gilts—that is really outside of historical experience.

I put in the subsequent letter to you that the five biggest movements we have had in gilt yields since we started keeping records for the long end, in 2000, came in that period from the 23rd until we intervened in the gilt market at 10 o'clock on Wednesday.

Q64 **Chair:** There is no debate, really, about what caused that move. This was the announcement on the 23rd.

Sir Jon Cunliffe: It is very fair to say that yields right across the curve have been moving up internationally since the turn of the year. We did see some movement in US and in German bonds. For bonds, you have to look at Germany because the EU does not issue bonds. There has been a general move. All of this happened against the background of rising rates and rates rising very quickly internationally up to September.

When you look at what happened after the 23rd, there is, in my view, clearly a UK component. I sent you a graph that shows UK interest rates and exchange rates over that period moving in a way that is not true for the US and the like. Clearly, this happened on a base of stretched international markets and rates that have been moving for the year. It is conceivable that our interest rate decision had some impact. I talked about the 13 basis points rise on the Thursday.

Q65 **Chair:** You will come on to the intervention in a moment, I am guessing,

but, before we reach that point, the situation is that the Treasury came forward with something that spooked the long end of the gilt market and caused the problem, and you then had to intervene. Did you have any notification from the Treasury that any of these measures were going to be coming forward before they were announced and that there might therefore be something you would want to think about, or did it blindside you in the same way that everybody else was quite surprised by it?

Sir Jon Cunliffe: The long end was what caused the particular problem, but the movements were across the whole of the curve. Like others, we knew there was a fiscal event. We knew some of the things that were in it because they were very public and were part of the Conservative leadership election campaign and the like, such as the reversal of the national insurance cut. Some of it was in the market. That is how Citi and others were able to estimate this.

Some was a surprise on the day to us as to others. We did not have a full briefing of the package the night before. The MPC would not have been able to take it into account. Our convention is that we take into account announced fiscal policy. No, we did not have a full briefing on the package, but some elements were—

Q66 **Chair:** Had they briefed you that instead of £30 billion of unfunded tax cuts there were going to be £45 billion, what might you have done? Would you have being having conversations and saying, "Hold on a minute; this is going to cause these kinds of problems"? How would you have reacted? I know it is a hypothetical question, but it is an important one.

Sir Jon Cunliffe: It is. We have very good relations with the Treasury and Treasury officials. They often ask us for our view on markets because we are closer to financial markets. They have some capability, but we are closer to financial markets than they are. Had they asked us what the market reaction would be, of course we would have interacted with them.

It is rightly not our responsibility to give the Government advice on fiscal policy, if I can put it that way. It would have been for the Treasury to advise on the market reaction, not the Bank. Clearly, where they engage us, we obviously help.

Q67 **Chair:** I have lost my place here, but, from memory, under section 9J of the 1998 Bank of England Act, as amended, you are able to step in and formally advise the Treasury if you feel that actions are about to be taken that perhaps might not be advisable. Is that the case? Would you have considered that action in those circumstances, had you known in advance what they were about to do?

Sir Jon Cunliffe: It is difficult to deal with a hypothetical situation, to be honest. Had we thought there was a clear risk to financial stability ex ante on the basis of what we had—

Chair: You did ex post come to exactly that conclusion.

Sir Jon Cunliffe: Yes, ex post. Of course, market reactions are always difficult to forecast with accuracy. Yes, if we had thought something was going to be done that would lead to a financial stability issue, we would have advised Government.

To be clear, we would not have advised on the actual composition of fiscal policy. The advice would be very much about the knock-on effect to financial stability. We are very careful not to advise on the scope, nature or composition of fiscal policy.

Q68 **Chair:** To the extent that, had you known in advance what was planned, you might have come to the conclusion that it could have caused the problems that ex post it clearly did, you seem to be saying that you might have therefore formally notified the Treasury that you were very concerned about that.

Sir Jon Cunliffe: I might certainly have advised them of our concerns, yes.

Q69 **Chair:** Does it therefore follow that it would have been good practice on the part of the Treasury to have notified you in advance what was going to happen rather than leaving you to discover it, along with the rest of us, on the day? Why might they not do that?

Sir Jon Cunliffe: The second part I cannot answer, to be honest.

Chair: Let us park that, okay.

Sir Jon Cunliffe: The motivation behind—

Chair: I wondered whether there were technical or legalistic reasons, or precedent or something like that.

Sir Jon Cunliffe: That I do not know. I also know the mini-Budget or the fiscal event was prepared at considerable speed because the Government wanted to do it very soon after taking office. It may well have been a question of time and the speed with which they were preparing it. It may have been that some decisions were taken at the last minute. I have seen that happen before in Budgets when I used to work in the Treasury.

Q70 **Chair:** I know you will not speculate, but, logically, unless it was a very last-minute decision, really at the last minute, unless there is a good answer to this, why would they not have at least notified you so you could have had an opportunity to think it through and proffer your advice at that point?

Sir Jon Cunliffe: I could not speculate on that.

Q71 **Chair:** That is fair enough. That is perfectly fair. As a really important regulator, though, with a lot of important things going on and with serious fiscal stability risk having occurred, does it worry you that this has effectively emanated from our Treasury? Does that leave you concerned at least about the Ministers? I am not necessarily saying the

officials; they may have been saying something different.

Sir Jon Cunliffe: I am just trying to reach back into my Civil Service history. It is the job of Treasury officials to advise Ministers—I do not know what the advice was because we were not party to it and we would not expect to see that—but in the end Ministers take the decisions, and it is then the job of Treasury officials to implement the policy of the Government.

Q72 **Chair:** It is to implement the policies of Government, but not in a way that would neglect the fact you have very clear objectives in respect of financial stability. It just seems slightly ironic that the source of you not knowing and being bounced and so on, and then having to react in the way you did, came from our own Finance Ministry.

Sir Jon Cunliffe: The source of the mini-Budget—and you could say of that period—was ministerial decisions on fiscal policy. That is clear. Where Treasury officials or the Treasury as an institution stood is a different question. Treasury officials give the best advice they can. I do not know what the advice was.

Chair: I am sure.

Sir Jon Cunliffe: Then Ministers decide. That is right. From a financial stability point of view, we would have given the best advice we could, were we asked. I know the Chancellor and the Governor subsequently spoke quite a lot—the then Chancellor or the previous Chancellor and this Chancellor. Again, we give advice. We would talk about the financial stability issues. In the end, these are Government decisions on fiscal policy, made by the Government.

Q73 **Chair:** I totally accept that, and I totally get that. It seems to me that we have ended up in this position where what we are saying is that there could have been prior notification of what was going to happen. You could therefore have advised strongly against it. There might then have been a different decision, which might then have spared us all quite a lot of grief over the last few weeks.

Is a lesson from this that there should, under those kinds of circumstances and perhaps all circumstances, be some requirement on the Treasury to inform and consult clearly in a highly confidential manner, as you do on many other things anyway, around these kinds of fiscal events? Is there a process problem here?

Sir Jon Cunliffe: We should remember that this is an out-of-cycle fiscal event. We do not normally have a fiscal event at this time. It was a fiscal event that, as a matter of Government policy, was done at the start of the new Government's tenure. There was a policy reason on the Government's side to move quickly. That makes it an out-of-cycle event, if I can put it that way.

Q74 **Chair:** What about for an in-cycle event? You would not normally have

any surprises on Budget day.

Sir Jon Cunliffe: No. That is what I was leading up to. Normally, the Treasury comes and briefs us confidentially on the Budget. It briefs us on public expenditure announcements so we can take them into account. It normally briefs the Monetary Policy Committee because, while fiscal policy is not our responsibility, it affects the economy and we need to factor it in.

To be fair, we had some briefing from them ex ante on the fiscal event on the things they thought would be in it, but we did not get the normal briefing that we would get for a Budget. Of course, this was not a Budget.

Q75 **Chair:** Therein might lie the critical point. The Government were very keen to stress, ironically, that this was not a major fiscal event. It certainly was not a Budget etc., and therefore there was no OBR and the process was rather different.

Sir Jon Cunliffe: The last point you mentioned is important. When they brief us normally on the Budget, we see the OBR costings. That is what we take into account in monetary policy and the like. There were no OBR costings here. It was a different sort of event, if I can put it that way, in many respects.

Q76 **Chair:** That is very helpful. On the Financial Services Bill, there is this issue of the call-in power that the Treasury is seeking. We have not yet seen the amendment they are going to table in Committee, but we think we know the basic mechanics of how it will work—a public interest test, etc., and the ability to call measures in.

Particularly in the context of the conversation we are having at the moment, can you tell us what your concerns are about that in terms of your independence and the fact it might be overridden? What might the solution be in balancing this? The Government say they have a democratic mandate, at the end of the day. There is a lot happening, and they want to be able to intervene in the public interest. That is against the fact that it is very important that institutions like yours are actually seen to be independent.

Sir Jon Cunliffe: Fortuitously, I have just briefed the Public Bill Committee on this. I hope what I say now is consistent with what I said half an hour ago. I should make it very clear that we welcome the Bill as introduced. It is a necessary thing, now these powers have been brought back to the UK, to move to the system that basically every other regulator has. These are regulators' rules; they are not hardwired into primary legislation. In the European Union they have to be hardwired in for a number of reasons, but this is different.

We welcome the Bill. It is Parliament that sets our independence and our accountability. We will do whatever Parliament decides. The point I made is that the Bill gives us flexibility and an ability to be nimbler and to tailor regulation better to the UK. That nimbleness and flexibility needs to be

underpinned by a strong regulatory framework and independent regulators. That is best practice in most advanced economies.

You have asked me about my concerns. It matters to the UK because the financial crisis gave us an example of how growth is not sustainable if the financial sector goes wrong. We have a financial sector 10 times the size of GDP. Other jurisdictions will also not be assured that their firms can use our financial services and our financial infrastructure, as a leading international financial centre, unless they are assured that our framework is credible and they are not importing risk into their jurisdictions by using the UK. Independent regulation is part of that.

I have not seen the amendment. There are areas outside of our objectives. National security is normally mentioned. If there are specific defined areas not in our objectives that the Government would want to look at on public policy grounds, that is one thing. The Government are going to have to define those extremely carefully.

On the other hand, there is a requirement in the Bill for us to have a primary objective, the safety and soundness of firms etc., and secondary objectives and have-regards around competitiveness, competition and a number of other areas. It is then for us to make the judgment on the risk appetite in those things. If the call-in power is designed so that the Government can basically take the same decision from a different perspective, yes, that does undermine the independence of the regulators and the framework of the system.

I have not seen the power. I understand the point about the public interest test. I would only observe that, of course, we exist in the public interest. Everything we do in the regulatory sphere is in the public interest. We have no other reason to do it. The public interests are balanced in the legislation. That is my point. If there is a question where another public interest dominates—national security would be an example—and we need to have a get-out, that I can understand. If this is, "We may have a different view of the public interest in your area"—

Chair: Yes, something that the cuts across your objectives.

Sir Jon Cunliffe: Yes, or decisions being made that take into account the same things that we would take into account. That is basically saying, "The way you have delivered the public interest is not the way democratically elected Ministers would want to deliver it, and we are calling it in." This is a perfectly possible system. It is perfectly possible for all regulation to be done by the Treasury or by Ministers, but it is very difficult to square that with independent and credible regulators.

Q77 **Chair:** We will read the transcript of that appearance before the Bill Committee with interest. Quickly going back to our earlier conversation, I have a very specific question. With the fiscal event or the MTFP on 31 October, are you expecting to be briefed on that before it happens?

Sir Jon Cunliffe: I have not heard from the Treasury. I have not asked; my colleagues may have done. Particularly as there is an OBR forecast and the Chancellor has underlined the importance of working with the Bank, I would expect that to happen. I do not know whether a decision has been taken. From memory, I think the Chancellor has said this will effectively be a Budget. If it is a Budget, I would expect the normal processes to apply.

Q78 **Chair:** From our general conversation on this point, it sounds like it will be quite important for the Government to take that step.

Sir Jon Cunliffe: It is important for the MPC because we will have to take a decision on interest rates and the control of inflation. We know a bit more about the new energy package, but there are still some parts that are not known. My sense is that the fiscal action is still going on, if I could put it that way.

To see in its totality how it plays out over a number of years, the OBR scoring will be very important for the MPC so we can judge the impact on the economy and then take action to do what we are required to do, which is to bring inflation under control.

Chair: That is very helpful. Thank you very much.

Q79 **Rushanara Ali:** I have some follow-up questions on some of the points that have been made already. You mentioned the call-in powers. In our last session, we had a Minister who came in who was not able to define what "public interest" means. There are grave concerns about the independence of institutions and institutions being side-lined, as we have seen with the OBR, or, as you have described, not being party to information in advance of the mini-Budget.

While the Government speak about maintaining the independence of institutions like the Bank of England, is there a real risk that what is happening is the undermining of institutions like yours and the OBR?

Sir Jon Cunliffe: I have not seen the amendment. I cannot say how it would play. As I just discussed, if it had the impact of allowing the same decision to be taken by a different balance of the same things we were due to look at, it would be saying, "You are independent until the point something is called in"—

Q80 **Rushanara Ali:** I did not mention the sacking of the Permanent Secretary at the Treasury as well. There is an undermining of the Civil Service.

Sir Jon Cunliffe: Yes, that is very difficult for me to comment on.

Q81 **Rushanara Ali:** The point is that there is a lack of respect for the institutions, which are there to protect Government in terms of providing independent advice and speaking truth to power. This is not serving our country well. We have had a situation where there is a risk to financial stability. I just wanted to raise this because there are real concerns now.

We have seen this play out in recent weeks.

Can I just pick up on the threat to financial stability? Could you just talk through, Sir Jon, precisely how and to what extent the fiscal event on 23 September posed a threat to financial stability, for our viewers to be able to really understand how that played about?

Sir Jon Cunliffe: I will do that, and I might ask Andrew to say a little bit about the market intelligence we were getting at the time. I do not want to get into the ins and outs of LDI strategies, but basically what we saw after the fiscal event was yields rising across the curve, and then they started to rise particularly at the long end of the curve. The long end of curve, particularly the index-linked element of the long end, is a pretty thin market. It is not as liquid as other parts of the curve, and it is populated very heavily by pension funds and insurance companies, which want to match long-term liabilities with long-term assets.

Let us take the investment funds that were providing asset-liability matching services for pension funds. It is important to make a distinction. The two funds often get conflated, but these are pension funds that use asset managers and set up or participate in investment funds. As the price of long-dated gilts went down, those investment funds started to have solvency risk.

At the same time, as the price went down, as the counterpart of that, they were facing margin calls. They needed to restore their solvency. Most of them were limited. These are pooled investment funds, where a number of smaller pension funds would participate. Most of them needed to sell gilts to restore their solvency. The problem is it was a rising and thin market. As they sold gilts, they drove the price down even further, which affected their solvency, which meant they had to sell more gilts.

A number of them were at a point where they would not have been able to restore solvency and they would have had to wind themselves up as limited liability funds. At that point, the gilts would have passed to the banks that had lent through repo to these funds. They would have held the collateral. They would not want that collateral, particularly with prices falling, on their books, so they would have every incentive to sell. As the price goes down—this is the dynamic—it triggers more of a need to sell, and you hit regulatory thresholds. That is what in the letter we call the "fire sale spiral".

We started to get information about that on the Friday evening. There were some calls from LDI managers. We did know about this risk. The FPC looked at this risk back in 2018. We did some work with the Pensions Regulator about resilience to rising interest rates. Most of these funds were testing to an instantaneous rise in long gilt yields of 100 basis points. What they saw was a rise of 160 over the five-day period. That was beyond them.

At that point, we started to become very aware that potentially we had a fire sale dynamic starting at the long end of the curve. If it became established, it would start to push down into the conventional and other parts of the curve. Then the gilt market would basically break down.

Q82 **Rushanara Ali:** You described the discussions that would have happened in normal times, with some pre-emptive conversations between the Treasury and the Bank. If that had happened, would you have been in a position to forewarn them of what might happen if they introduced £45 billion of unfunded tax cuts and so on? Would there be signals that could be sent or did you not see it coming?

Sir Jon Cunliffe: As I said earlier, you cannot predict entirely what the market reaction might be.

Q83 **Rushanara Ali:** You could predict some of the risks. You could warn them of some of the risks.

Sir Jon Cunliffe: The thing one would have said was being said, if you look at the IFS. We did not know to what extent it would be funded or unfunded, and there was a growth plan. There would have been an intention to fund it through higher growth. If the markets lose confidence in the fiscal credibility, they will just increase the cost of borrowing. One would have made that point. If Ministers decide to do that, the market reaction would need to be taken into account.

I do not know whether we have been able to anticipate just how fast that would have been. It was also a market reaction to a new Government that it did not know. The then Chancellor said on television on the Sunday that there would be further tax cuts, which did have an impact in the Asian markets on the Sunday evening. Would we have been able to predict it would go so far and so quickly as to stress this particular point? No, probably not.

We would have known that there would have been a rising curve against the background of an international picture where interest rates and financial conditions had been tightening for nearly a year. Yes, one would have known that.

Andrew Hauser: Consistent with what Jon is saying, this was a situation that went from, "We are ringing you to let you know," to shouting on the phone to us within two days. The Friday was a conversation, as Jon has said, of, "It has been a bit tricky today." We know these people well. We have been speaking to them for years. We have a well-established market intelligence function—"We are letting you know. It is probably okay".

By Monday, the tone was getting more worried. By Monday evening, I was in back-to-back calls with LDI firms, which essentially were going to be up that night listing the gilt sales they would be executing the following morning. This is not the kind of task they are used to doing.

They are used to selling a few gilts in rather orderly ways. This was a full-scale liquidation event.

To put a bit of colour on what is being said, the non-linearity from, "This is more or less manageable" to, "This is completely out of control" happened over the weekend and into the Monday and Tuesday.

Q84 **Rushanara Ali:** You mentioned, Sir Jon, that it got worse when the then Chancellor made this remark about further tax cuts. Rather than calming nerves, it went the other way. Is there a case for now adding, among the stress tests to financial stability, Government stupidity or certainly alienating or isolating credible institutions so they cannot make their assessments?

Sir Jon Cunliffe: The stress tests we do are blind to the underlying cause. We do not say, "There could be a pandemic", "There could be a war" or "There could be some Government action that will trigger this". We simply say, "If, for whatever reason, gilt yields move by 100 basis points, could you live with it?" On the banking stress test, we say, "If, for whatever reason, the economy went into a certain level of recession, if the exchange rate moved in a certain way or if"—this is the normal banking stress test—"there were a 35% drop in house prices, would you be resilient to it?"

It is true. Those are more generic, and the contours of every stress event are different. Covid was very different in the way it impacted to the financial crisis, and this event was very different to the Covid shock.

Q85 **Rushanara Ali:** With respect, we are seeing that the Bank is having to react to a set of decisions that have been made without the normal practice of it being party to what the Government may or may not do, which is important. It is important to have a line of sight. You did not have a line of sight. You were flying blind and reacting to a set of grave mistakes that were made. There must be some lessons that can be learned from this.

By the way, when the Governor was here, in the last session, we had a discussion about interest rates. Not only does the necessary condition of inflation mean you are having to raise interest rates, but, with the Government's tax cuts, this is likely to be much more serious. Those warnings were there. We are grateful that we have an independent Bank, and long may that continue, but it is frustrating that you are having to pick up the pieces, which you have had to do very dramatically here.

There have to be some lessons learned about what we do to put a brake on irresponsible action by Government Ministers, whichever colour they may be. Right now it is a Conservative Government. Frankly the public do not care who, so long as we have financial stability. We need to learn from that. What are the lessons from what has just happened?

Sir Jon Cunliffe: I would say two things. First of all, the institutional framework is what sets the constraints on what can be done and what

cannot be done. That is set by Parliament, not by us. The OBR was set up after my time in the Treasury, but it was set up to ensure there was an independent view of the fiscal numbers because of credibility and, if you like, constraint. The Bank of England was given responsibility for monetary policy for a similar reason after the inflation episodes of the 1990s and 1980s. It is for Parliament to decide what constraints to put, in that sense.

On stress tests, though, a lesson we have taken—Sarah may want to comment on this—is that there can be events that move things beyond historical experience. Everything is based on what has happened in the past. We saw in Covid that you can see movements you have never seen before. This is an example of a different cause, but, in a stressed financial system going through a change in interest rate regime, certain actions led to a very fast market reaction, which pushed this up.

If I can generalise, when one does resilience testing, whether it is in the insurance industry on solvency or whether it is on banks, one needs to think, "The history says 100 basis points is out of our historical experience, but, if this is very important, do we need to build in some resilience above that?" We have had a number of out-of-historical-experience events over the last few years, and this was one of them.

Sarah Breeden: I would very much agree with that. In 2018, working with the Pensions Regulator, we had done a scenario analysis, a stress test, of these funds. The scenarios we used were 25, 50 and 100 basis point increases instantaneously in long-term interest rates. They looked very conservative in the context of the actual historical behaviour of that part of the curve. What we saw on this occasion was something that was sharper, of greater scale and at greater speed. That is the lesson.

Q86 **Rushanara Ali:** The speed point is well made and well understood, but, with all these proposals for tax cuts over the summer, we could see the Bank was going in the opposite direction to Government. The former Governor of the Bank of England described it as working at cross purposes. I raised the point about the positions being out of sync. In fact, it is much worse.

Are there lessons to be learned about what else you could have done to mitigate the risks and, in particular, in relation to what the FPC could do on financial stability? Are there also lessons to learn around policy co-ordination? It is very difficult for you to have to pick up the pieces afterwards, which is in a sense what you have had to do.

Sir Jon Cunliffe: I have a number of points. First, what this episode shows is that policy decisions that might have one effect in one environment can have a very different effect in another environment. The current environment is one where, as I say, financial conditions are tightening globally and there is high inflation. In another world, the market reaction would maybe have been different. Those things need to be factored in.

Rushanara Ali: We were all alive to the sensitivities.

Sir Jon Cunliffe: On the broader point about co-ordination, it is important that monetary policy understands what fiscal policy is doing and how it is doing it.

I am slightly nervous about co-ordination. I worked in the Treasury when we set interest rates and fiscal policy, so I have been there, if I could put it that way. There are different objectives for fiscal policy. It affects redistribution; it affects the economy in a different way. You want the fiscal authority to decide what it wants to do and you want the monetary policy authority to have the tools to react in order to meet the inflation objective.

Information is good, in my view. "Co-ordination" is a funny word, which stretches from co-operation on the one hand to constraint on the other, if I could put it that way. Where the two authorities communicate and try to work out, "We will do this much with fiscal and this much with monetary", it risks blurring the objectives of the two policies. We have experience of that. Look at the experience of monetary policy over the 1980s and 1990s in the UK. That was a good experience of that.

Rushanara Ali: This is before the Bank was independent.

Sir Jon Cunliffe: Yes, as I would put it, before we separated fiscal policy and monetary policy.

Q87 **Harriett Baldwin:** I would like to start with Andrew on some of the operational issues, and then I have some questions for Sarah as well. Andrew, when the Governor was here on 7 September, I asked him about the interaction of the move to quantitative tightening and the fact that the new Government were clearly going to be much more expansionary from a fiscal point of view. It struck me that that could potentially mean a fairly indigestible set of gilt issuances and transactions.

What advice did you give the committee about the capacity of the gilt market to cope with the quantitative tightening and the amount of additional gilt issuance that was anticipated?

Andrew Hauser: Just to clarify, do you mean before all of this LDI thing kicked off?

Harriett Baldwin: Definitely before, yes. I believe it was the 22nd when the Monetary Policy Committee signed off on the £80 billion quantitative tightening. I, as an outside observer, could see there might be some potential tensions in the interaction with the gilt market. What were you flagging to the Monetary Policy Committee?

Andrew Hauser: It was my team's job to provide an assessment of the functioning of the gilt market and indeed the money markets in general. We have a series of dashboards and statistics that we use to brief on that. We certainly did say that functioning had become a bit more

challenged over that period. That was obvious. There is no point in trying to hide all of that.

There were a couple of other bits of feedback we gave them that ultimately led to the committee deciding to go ahead. One of them was the quantum of sales. To remind you, there was £80 billion of unwinded QE over the year. A little less than half of that was in sales; the rest of it was in maturities. Although the quantum was innovative for the Bank of England, it was judged, relative to the size of the gilt market, to be digestible.

Secondly, having spent the best part of a year describing to the market what the exit path would look like—it was multiyear; it could take the best part of five or 10 years to unwind QE—the very strong steer from market participants, not quite universally but more or less, was that for the MPC not to make a start on that scheme at that time would be disruptive. It was clear that the MPC had a big job to do and that this had to be unwound. Particularly at the short end of the gilt market, as I suspect you understand well, there were some quite substantial bits of dysfunction going on because we owned so many of the gilts.

If we fast-forward a little bit to the QT scheme we announced yesterday, we have skewed to the short end precisely to reflect the fact that over that period market conditions have worsened, but, at the short end of the curve, if anything, the feedback from the market has been that we could well do with returning some of the stock to the market rather than holding it off the market and driving some very large yield separations between swaps and gilts. We certainly were objective in the guidance that we gave the committee.

Q88 **Harriett Baldwin:** You said it was going to be all right.

Andrew Hauser: No. As a central bank, unfortunately we never say that. We told them the risks, but our judgment was that, given the scale of the exit and given the market feedback about varying from the plan that had been carefully and systematically communicated over the best part of the year, so long as we did it in a clear, transparent and well guided way, it was on balance okay to go ahead.

Q89 **Harriett Baldwin:** You did not really have time on 23 September to update that point of view before you started getting calls from the liability-driven investors.

Andrew Hauser: Quite so, yes. As you know, by the time we announced the LDI package, as an executive—to your point, it was not the MPC; the MPC’s vote remained and remains that they would exit that £80 billion over that period—we took the view that we would postpone the start of QT for a month, which was well received, frankly, as I am sure will not surprise you.

We then took the view recently, in fact yesterday, that we would skew to the short end. If I am honest with you, I am sure it is not universally

applauded in the market. On balance, our announcement yesterday has again been welcomed as something that has given a degree of clarity about where we are.

Q90 **Harriett Baldwin:** Has any central bank successfully unwound quantitative easing yet?

Andrew Hauser: Many central banks are unwinding quantitative easing. In many cases, as you know, it is possible to do by allowing Government bonds to mature.

Q91 **Harriett Baldwin:** Has anyone successfully done it using active sales?

Andrew Hauser: There are two central banks engaging in sales. One is the New Zealand central bank, which has a somewhat different structure in mind, and the other is us. In both cases, we have a relatively long duration stock, as you know well, having been a Treasury Minister. Therefore, if we were we to stay in and simply allow it to mature, we would be in for the best part of 50 or 60 years.

Q92 **Harriett Baldwin:** Has anyone successfully unwound a long-duration stock?

Andrew Hauser: Not yet, no. It is innovative for all central banks.

Q93 **Harriett Baldwin:** Sarah, I was fascinated by this news that you had run a stress test on liability-driven investing back in 2018. When it became clear that quantitative tightening was going to begin, I wondered whether you thought it might be an appropriate time to update that stress test.

Sarah Breeden: One of the things we have been doing in this very different macro-financial environment, if I might label it so, is thinking about which bits of the financial system are likely to come under pressure as financial conditions get tighter.

The stress test we are doing of the banking system this year is very focused on tighter financial conditions. We have also been looking at the non-bank financial system as well. We have been talking internationally about that. This is a global system, and so, through the FSB, we have been pushing this agenda.

In our own risk assessment at the Bank of England, we have been thinking through, sector by sector, how this environment might affect different forms of non-bank financial institutions, whether it is money funds, open-ended funds, hedge funds or liability-driven investors. Having just launched the banking stress test, which we did in September, the next phase of our work was doing this risk assessment on the non-bank financial sector.

Q94 **Harriett Baldwin:** Sadly, events overtook your timetable.

Sarah Breeden: We have been doing a real-life stress test instead. Going back to that point about ahistorical movements, having done a stress test involving an instantaneous rise in long-maturity bonds of 100

basis points, we did think we had done a pretty good job of stress testing this.

Q95 **Harriett Baldwin:** Did you publish that stress test—the 2018 one?

Sarah Breeden: It is in our financial stability report.

Q96 **Harriett Baldwin:** In terms of that particular stress test, does it allow failure? If you see failure of one of the pension funds in that, would you regard that as being acceptable within the parameters you set for the stress test?

Sarah Breeden: On the back of that, we worked with TPR, which is the regulator of these pension funds, to drive improvements in liquidity risk management. In 2019 TPR followed up on that stress test with a survey of pension scheme members in order to see whether there had been improvements. They have continued to make those points to the regulated firms since.

Q97 **Harriett Baldwin:** Sir Jon, when you were last here I asked you about the 1994 bond market debacle. That was a very, very awful time, which sadly I traded my way through. I am just wondering whether the definition of the amount by which things can move needs to be changed because we are in a market where central banks are raising rates.

Sir Jon Cunliffe: Maybe I can make a couple of points, and two of clarification. The announcement that we were likely to do QT came in August. The minutes made clear that in September we would confirm that on the evidence and analysis. There is an interesting question about how much of that QT pressure might have been in the pressure we saw in the bond market through LDI. My answer would be that whatever was in the price would have been in the price a long time beforehand.

Secondly, it is quite deliberately structured that the MPC decides on the annual programme and it can pause or change that annual programme if—I think these are the words—there is severe distress. It is a very high hurdle, but the executive has operational control. To your point, the MPC could not come back on the Friday after it had decided to go ahead on the Thursday, but in a way it was for the executive to handle that incident, which we did, as Andrew explained, by delaying.

Q98 **Harriett Baldwin:** I would put it to you, Sir Jon, that what was not in the price was the fact you would get this big reaction from the liability-driven investors. Where is the failure in the mechanism for them to be alert to the fact that these forces are suddenly going to be at work on their portfolios? You are in charge of financial stability, so I expect you know.

Sir Jon Cunliffe: The way we would deal with that, which is the way we did deal with it, is that, between MPC reviews of the programme and an adjustment of the annual programme, the executive can postpone auctions, which is exactly what we did, or take a decision to change the

composition, which is what we have done going forward to ensure it does not add pressure.

Q99 **Harriett Baldwin:** How satisfied are you that, given the time your intervention has bought for these liability-driven investors, they have used the time and your willingness to buy bonds off them well?

Sir Jon Cunliffe: I put some of that in the letter we sent you yesterday. There are lots of funds, and Sarah can talk about the week and a half or whatever of trying to get there. The big funds have got to a point where on average they could absorb a 200 basis point hike in yields from where we were last Friday.

That would take rates back up by 200 basis points. They have done that. In terms of capital injections, again we cannot have figures for all, but, looking at the big funds, there has been over £30 billion of capital injections into these funds. There have also been gilt sales to reduce the leverage. You have seen the £19.25 billion that we sold, but some were sold in the market as well. It is probably just over £20 billion. They have created much greater resilience, but they are not infinitely resilient.

Going back to the previous question, there is an issue: we expect the private sector to insure against outlier events, but clearly the private sector cannot insure against everything. There comes a point at which—you saw this with Covid—the public sector has to step in. They are now much more resilient than they were. What we have seen since Friday is a combination of the fiscal announcements, which have clearly reduced the pressure in the markets, and this resilience.

On the QT auction, we announced yesterday that we would be going ahead. You might want to say a word about the market reaction and digestibility.

Q100 **Harriett Baldwin:** I just want to draw you out, at the end of this operational section, with one final statement, if I may, deputy governor for financial stability. Now the Treasury has rowed back on some of tax changes, now you have had this window where the liability-driven investors can get out of some of their problem trades, and now the ship is set to continue to quantitatively tighten, you are confident there are no further unexploded landmines beneath the gilt market. Let us just focus on the gilt market.

Sir Jon Cunliffe: I can maybe cover the whole thing. The specific issue that we came in to deal with, which was this accelerator or amplifier effect for LDI funds, has been dealt with. That does not mean that, if gilt yields went up by 250 basis points, we would not have a problem again. There is certainly more insurance and more resilience.

Q101 **Harriett Baldwin:** There are no other problems out there.

Sir Jon Cunliffe: Generally speaking, financial markets globally are adjusting to a huge shift in monetary conditions, if I can put it that way.

It is happening very quickly. It is not just us. Interest rates have gone up in all the jurisdictions. The IMF published its *Global Financial Stability Report*, which listed a number of the issues. As interest rates go up, there are areas that are vulnerable. We have reported on a lot of them through the Financial Policy Committee.

The areas I would look at where you might see stress are emerging markets, particularly with the strength of the dollar, and emerging market bond funds. Some of the higher-risk investments that people have gone into have seen larger inflows. We have warned in the past about potential stress in leveraged loans, leveraged lending and high-yield corporate bonds. On the equities side, the S&P has lost about 25% this year, whether or not that reflects what is going to happen on earnings going forward.

Am I confident that, as this tightening proceeds, there will not be other stresses in the financial system? No. We know where the weaker areas are. They are predominantly in non-bank finance. This is an area that we have been targeting and looking at for nearly 10 years now because it is much more difficult to stress test than banks are.

To be completely accurate, we did not run a stress test on LDIs in the same way as we run a stress test on banks. We ran a simulation on a number of pension funds, insurance companies and hedge funds of what they would do if liquidity dried up in that particular way, with an instantaneous 100 basis points rise.

There is, in financial stability terms, a gap globally between the powers of the financial stability authorities and the data they can see and receive. The stress is liquidity stress, not solvency, in non-bank finance. This has been a huge project for the Financial Stability Board. We have made improvements over the last 10 years, but my overall view is that the banking system is resilient to quite considerable stress—we saw that during Covid—whereas non-bank finance is not as resilient to liquidity problems as I would like.

We have just seen it in LDI; we saw it during Covid in the dash for cash. More attention needs to be given to financial stability and macroprudential issues by authorities like the Bank of England and the securities regulators that are responsible for those markets. That is a global problem, but I do think there is a vulnerability there, yes.

Q102 **Harriett Baldwin:** You have painted a landscape where there are potentially some pitfalls on the financial stability side. Do you see that as having any implications for monetary policy, in so far as monetary policy will not be able to do what it needs to do to bring inflation back down again?

Sir Jon Cunliffe: Monetary policy will need to do what it needs to do. If we let this current bout of very high inflation get entrenched into the system, with a highly inflationary environment, that is not going to be

good for financial stability either. It is not an either/or. Bringing inflation under control is necessary for the stability of the financial system as well. We will do our job.

We will look to financial stability authorities and macroprudential regulators to deal with issues that may emerge. I am not saying they will, but I can see the vulnerabilities. In other areas or other jurisdictions, action might need to be taken of the sort we have.

Q103 **Harriett Baldwin:** You now think this gilt-buying episode you went through in September and October is behind you and that you can continue now on your path to quantitative tightening.

Sir Jon Cunliffe: The LDI episode is behind us, I hope. The evidence is that it is. You can never say "never" in this game, I am afraid. The financial markets are going to have to adjust to the Government's fiscal policies. That could be a big adjustment in either direction. It is not our job to, and we do not want to, prevent markets making the adjustment. What we want to do is make sure that the dynamics of that do not make it overshoot or undershoot, and that adjustment will need to happen.

We are sufficiently confident of the conditions in the gilt market now, or yesterday when we announced, to continue with the programme of QT. The executive has the ability to flex that programme, as it did when another problem came, and then the MPC has set out the conditions or the hurdle for stopping, pausing or changing the programme, but within the context of where we were when we announced yesterday that we are going ahead, yes, we think the market can digest that.

Q104 **Julie Marson:** Thank you for what you have said so far. To overlay some of the operational decisions and the interventions that you have made, I would just like to look at the communication process that overlays that. You are working in a very volatile, quick-moving time. You are making the decisions. How does the communication process overlay that or work with that to make sure that the interventions are happening, but that the communications complement that and go along so that it improves volatility and confidence at the same time?

Sir Jon Cunliffe: Do you mean communication with the market?

Q105 **Julie Marson:** Yes, the markets publicly, so that market confidence is rowing in the same direction—publicly or privately, because sometimes there seems to be a bit of a conflict.

Sir Jon Cunliffe: If I give a bit of an overview, then Andrew can say a word about communication with the markets—he has said a bit already—and Sarah can speak as well about communication and a little bit of forceful communication with some of the LDI side.

How you communicate is absolutely crucial in one of these crises. We made a statement on the Monday, when we could see this happening, about monetary policy, reaffirming that we would do what was necessary

on monetary policy. In terms of the market intervention, once we came to the conclusion, late on the Wednesday, that we would need to go ahead, we would need to have ready a market notice. We would need to communicate that at a certain time to the market.

What we say in that notice is crucial, with the decision to explain that this was a temporary targeted operation for financial stability. That is the first one we have done under that objective, which is why it is important for people to look at it and for us to be accountable for it. It would be limited to 14 days; we would be buying with reserve price auctions; and we saw it as a backstop. All of those things are really important, because when that market notice came out, you could see that the gilt market reacted. Yields came down, but market participants need to look at it and they need to have the information.

We spent quite a lot of time in those discussions on the Wednesday, and subsequently when we increased the scope of the auctions and took in index-linked gilts, in the drafting and the precision of the information that we were giving. That is very important.

It is also important to be transparent about what we have bought so that the market can see what is happening, and to be transparent about why we are doing it. We tried to do that. It was helpful to have to account to Parliament, because it also gave us a way of explaining to the markets and the public why we were doing what we were doing.

In terms of the private communication, I could ask Sarah to say something about LDI.

Sitting suspended for a Division in the House.

On resuming—

Chair: Good afternoon. Welcome back after a Division in the House of Commons. When I suspended the Committee, we were mid-question from Julie Marson to Jon Cunliffe.

Q106 **Julie Marson:** Just to pick up again, we were talking about the effectiveness of the communications during the period of the interventions and whether it was all rowing in the same direction. Just to pick up again with an example, one chief executive at a pension advisory firm had said that, although there were clear messages coming from the Bank, there were also other suggestions. For example, there were private briefings about the difference between the Bank not continuing the intervention but then there also being private interventions, so that the interventions would continue beyond that. I am wondering about the effectiveness and consistency of those communications.

Sir Jon Cunliffe: I think that story came out in the *Financial Times*.

Julie Marson: It did.

Sir Jon Cunliffe: It came out after we had said that we were closing on a certain date. I do not know where it came from. I do not know of anyone in the Bank who said that. I certainly know of nobody who was dealing with this who said that, so you would have to ask the journal in question where that came from.

We were very clear that it would be 14 days. You can argue that that was the wrong thing to do. A number of people did and said it was insufficient time. Then the Governor was very clear that it would stop, and the reason for that was that we were not seeing as much movement as we needed. I will bring Sarah in on what was happening.

There were a lot of frictions, but there was a feeling there. It was important that this liquidity issue was resolved. It was painful to resolve for firms, but we did not want to be stuck supporting the gilt market beyond the need to do so for this operation. We wanted to let the gilt market adjust to the new economic reality and to the fiscal policy messages they were getting, which is its job.

I am absolutely sure that nobody dealing with this briefed that, because that is not what we said. To be honest, I do not know. There is a lot of chatter in markets. There are a lot of Chinese whispers, but I do not know where that came from. Our communication was clear, the market notice was very clear, the Governor was very clear, and do you know what? We did what it said on the tin.

Sarah Breeden: I was part of the team talking to the LDI fund managers through this period, because we needed them to know that this operation was ending and we needed them to act to make sure that it could end. We were working with the FCA. We were working with TPR. We were working with the institutions themselves. I did calls with pension funds myself, and we were absolutely crystal clear that this was a targeted, time-limited operation that would end on the 14th. They needed to complete their rebalancing in that period. That was a consistent message.

Sir Jon Cunliffe: I cannot guarantee that there was not somebody in the Bank who said something to somebody else that could have been interpreted that way. There are an awful lot of people. I would be surprised but I could not rule it out. The messages that were coming from the people who were in charge of the operation and the executive at the top of the Bank were very clear.

Andrew Hauser: I will add one point. There were an awful lot of people who wanted to hear that message and are quite adept at finding ways to get that coming back at the people to whom it was aimed. I spoke to many of them and I told every single one of them, "You are wrong", but they did not want to hear that, so it is quite possible that someone heard an echo of their own voice.

Q107 **Julie Marson:** Was the announcement on 10 October that you were going to increase the gilt purchase sizes from £5 billion to £10 billion

potentially an official but conflicting message? Do you think that gave a conflicting message to the market?

Sir Jon Cunliffe: I will ask Andrew to say a bit about why we did it, but the notice said that the auctions would be £5 billion, but that we reserve the right to change the size if we feel it necessary. The reason we felt it necessary was because not much was bought in the first week. It is partly to do with the LDI managers getting their ducks in a row. It took longer before they could know how much to sell, so, in the light of that, we changed it.

Andrew Hauser: It was to achieve precisely the opposite aim. It said, "We are here for another week. We do not want anyone to be able to say that you were not able to sell your gilts to us because we did not allow you enough space". In fact, we never got anywhere close to £10 billion, and we actually did not buy very much in the first two weeks. We were offered very little. It took the firms a long time to get their act together.

Sir Jon Cunliffe: We do not have—and I would argue it is very difficult to have—perfect vision in how you deal with 175 pooled funds all investing with a number of asset managers, including five or six big ones, knowing how long it is going to take them. It is also important that the scheme adjusts in the light of what you heard.

The index-linked announcement, which came the following day, was more difficult for us because we were not set up to do it. We started the contingency work, but it was possible that this would work with conventionals. When it became clear that index-linked was important, you have to adapt and learn within the scheme. There was some adaptation and learning as we went along, but I thought the market notice signalled that and, actually, the market wanted that.

Q108 **Julie Marson:** One of the most memorable statements from Andrew Bailey, the Governor, was on 11 October. He was in Washington. It was about the ending of the gilt purchases, but also about how pension funds needed to sort themselves out and so on. That was done in a Q&A rather than a pre-organised press conference. How did that come about? Was that pre-arranged like that? Were you consulted on that beforehand?

Sir Jon Cunliffe: We were certainly thinking about the need to say something, and this goes back to widening the auctions and taking index-linked so that everything was there. We were seeing how much was coming in. In the end, we bought £19.25 billion, which is much less than we thought we might need to, because much of it came through the work that Sarah did on the capital injections. We certainly discussed internally, "Do we need to do something there?" and we were of the view that it was really important to emphasise that this was ending. The Governor was asked a question, and for him it was important to actually get the message out.

Andrew Hauser: Julie, I would say to you that on the desk, where we were actually operating this, the change of tone when that message was given was very noticeable. Beforehand, there was quite a widespread view that perhaps the story one was reading in the press was going to happen: "There is no urgency here. The Bank will roll over". We can debate it, but after that statement there were a lot more serious conversations from LDI firms about getting the business done that was left, and that was, from my rather narrow perspective on the overall issue, very helpful.

Sir Jon Cunliffe: I was actually on the platform immediately before but on a different thing. When you are asked the question, if you do not answer it, or you say, "That is under consideration", "I am not answering that", or "This is what we said", you run the risk of allowing the idea that you are going to do something different to gain currency. Once you are asked the question publicly, it is important that you do not wind up with the thing you are trying to avoid, with people thinking, "They were not crystal clear. They do not mean it".

Q109 **Julie Marson:** Supposing you had not been asked the question, was that pre-arranged?

Sir Jon Cunliffe: I was not involved in the set-up of that panel interview, but if that had not happened, we probably would have made a statement. We were talking internally about how we reinforce for people that they have to take the action, because they were capable of doing it; witness the fact that they did it.

Q110 **Julie Marson:** At that time, were you particularly worried that the LDI fund managers were not actually doing enough to improve their resilience?

Sarah Breeden: It was that a number of the fund managers were delaying taking the final decision. There are two forms of LDI managers. There are the pooled fund managers and the segregated accounts. The pooled fund managers had gone at this building of resilience with gusto. It was a complex operational process. They needed to decide how much extra capital to bring into the fund, sell assets to bring that extra capital, then on the back of that decide how many gilts might need to be sold. That was complex operationally, but they were taking it very seriously.

What was different was on the segregated accounts side, where there was more operational flexibility, and therefore they were prevaricating about whether to make a decision to sell or not. It was for those funds that I saw the greatest difference as a result of Andrew's statement.

Q111 **Kevin Hollinrake:** I am sorry if one or two of these questions have been asked before, but I missed some of the session. I apologise, and just put me straight if that is the case. Were LDIs a problem anywhere else in the world?

Sir Jon Cunliffe: To be honest, I am not sure. To the extent that it is an issue here or the strategy is used here, I do not think that is true of anywhere else in the world. It is the product of having a large number of defined benefit schemes, and then the accounting and the valuation of those schemes.

I think the largest defined benefit population outside the UK is in the Netherlands, and I know that the Dutch central bank is looking at what is happening here, but the US also has defined benefit schemes. I discussed this with the chairman of the SEC when I was in Washington, looking to see if it is an issue, but the conclusion is that their system works in a different way. It is more prevalent here just because of the structure of our pension system and the structure of Government debt.

Q112 **Kevin Hollinrake:** What about the structure of Government debt?

Sir Jon Cunliffe: Some of the liquidity pressure came because the long end of the gilt curve is not that liquid, particularly when you come to the index-linked. It is populated very heavily by pension funds that are matching liabilities. In the US it is a bigger market and there are more players in it. Then some of the defined benefit schemes are at state level and they do not have the same requirements to fund.

My answer is that I do not think so, but I know a number of jurisdictions that have defined benefit. Obviously, for defined contribution it does not arise, but this strategy would not be applicable there. Looking at it, I think it is a bigger issue in the UK than anywhere else.

Sarah Breeden: The only thing I would add is that the Dutch pension schemes are the closest. We have been talking to the Dutch central bank about the issues that we have seen in order to understand whether similar issues might arise in their market.

Q113 **Kevin Hollinrake:** It is a combination of our pension system and the profile of our debt, but also what happened in terms of the yield curve.

Sir Jon Cunliffe: Yes. If we had seen the same movements in the UK yield curve as you saw in the Euro yield curve, then it would have been within the resilience of these funds to deal with it. They have not seen a 130-basis-point increase in Europe. The long end in Europe is not so developed, but yes.

Q114 **Kevin Hollinrake:** You have been speaking to people in the Netherlands on this, so this is becoming more of a known known than it probably was prior to all this happening. Is that right? I know you looked at this to some extent.

Sir Jon Cunliffe: In terms of the specific LDI problem that occurred, we knew that pension funds using this strategy needed to be resilient to rising interest rates. It is not quite straightforward, because when interest rates rise, pension funds get a benefit, because the value of their liabilities goes down, in many cases, more than the value of their assets.

Before rates went up, I think there was a £200 billion gap. Assets were £200 billion bigger than liabilities. For defined benefit schemes as a whole, I think assets are now £400 billion bigger than liabilities, because it is the discount rate on the liabilities that really drives that.

We knew it was there. We knew that they needed liquidity management and resilience, which was why we worked with them on that. The question is really about how prepared they were. In particular, it is the pooled funds that are the problem, to some extent. When you are just a pension fund running this strategy, the value of your assets goes down. You have to pay margin, and you see the asset side of your balance sheet go down, but you see the liability side of your balance sheet go down as well, so you basically have more assets to liabilities. Then, if you have the liquidity to pay margin calls or you can sell to get there, then it balances within the fund.

The particular problem with the pooled funds was that the assets, which were going down in value, were being held in these investment funds, but the pension liabilities were being held in the pension funds. This is why they call it rebalancing the fund. To get that balance, the pension funds had to actually transfer resources to the asset managers. There were frictions in raising the liquidity in the first place, as well as going through the governance. Pension fund governance, quite rightly, is not the fastest thing, perhaps. Normally they move at a much slower rate on a quarterly basis. Trustees are not really up to speed with what is happening in the financial markets. Then you have to get the assets out of the custodians, liquidate them and get the capital injection.

Look at the pension funds and the LDI funds as a whole, as if they are one balance sheet. For the segregated funds, which is the bulk of this market, it is just one balance sheet. It is a pension fund that manages it within its own balance sheet, but it gives the management of this strategy to an asset manager to do on its own behalf. It is more of an agent model. They were slower, but they were able to rebalance much more easily, so it is really a question of the frictions.

We knew this was there. We knew that this, plus other parts of the system, needed to be tested against big shocks to liquidity. To be honest, the shock we tested at in 2018 was 100 basis points. We talked about that. That had not happened before, but that was actually smaller than what happened.

Q115 **Kevin Hollinrake:** This is not a criticism at all. The combination of circumstances took you by surprise to some extent.

Sir Jon Cunliffe: Yes. If you had asked me on 1 September whether I would have expected to see what I saw in the UK gilt market from the 23rd to now—and not just the gilt market—that is not something I expected. Did we expect LDI funds, in particular, to blow up? No. Andrew talked earlier about how we started to get the indications that this was a problem as the yield curve started that sharp move.

Andrew Hauser: One point I would add to that is that, of course, interest rates have been moving upwards since last summer. The funds needed to adjust even to that more gradual increase. How do I put this politely? I am not sure, in every single case, that they had actually completed that rebalancing before this very large shock hit. Now, it was always much smaller at that adjustment than the one that they ended up dealing with, but, if you start on the back foot, as it is possible some did, then the trigger, when it came, was even tougher to deal with.

Q116 **Kevin Hollinrake:** Harriett touched on this a bit in her question, but really it is about the unknown unknowns, which might be one rather simple factor—not particularly simple—or a combination of factors that cause problems. You have talked about the non-bank financial institutions being a concern. I do not even know how you can answer this, but are there some problems you have not seen that we should be looking for because of this transition to this different interest rate environment?

Sir Jon Cunliffe: By definition, the unknown unknowns are unknown. I do not think of it that way, to be honest. There are lots of things out there that I can never know. There is uncertainty. What is important is not that I know what is going to generate the shock. What is important is that I have tested against a shock of that magnitude. If I have tested against a 100-basis-point increase and it happens for a different reason, nonetheless that is the resilience that is there.

The example I would give is that the Financial Policy Committee had never really thought pre-Covid about a pandemic. We never really thought about shutting the economy down and all the things we saw. Of course, Government stepped in to cushion that, but before they stepped in, the banking system did not fall over. Actually, it was able to lend, and it was able to lend because it had been tested against very big movements in the economy, such as house prices or interest rates. You do not have to know what will cause it. You have to say, "If looking back, one in 100, the most that house prices have dropped is X, could you meet a one in 100 shock? I do not know how it will translate, but could you do that?"

In this world, it is a combination of our not being able to test it because it is big, diverse, very international and, unlike banks, we do not regulate it. Also, it is the size of the shock. The point I made earlier is that a lesson for us is that calibrating on history gets you so far, but when you are dealing with very long-dated things like matching long-dated assets and liabilities, saying, "That has never happened before, so I am safe to insure only up to this level," can be dangerous. It is the same issue with solvency and pension funds. Exactly the same issue is being debated publicly, which is how resilient they need to be and how much the past is a guide to the future.

Q117 **Kevin Hollinrake:** Should we therefore expect the unexpected? Will there be some other events like this? Is it likely there will be, as different parts of the economy adjust to much higher interest rate areas?

Sir Jon Cunliffe: There are a number of areas in which we have been worried, for a long time, about a liquidity stress rather than solvency. I mentioned emerging market bond funds, leveraged loans and some of the high-yield debt where we are seeing that happen. You would expect big adjustments in equity markets, but when equity markets adjust, it is a more natural adjustment. People just adjust and take losses. They adjust to a lower price.

When people want to redeem their investment in open-ended bond funds, where the fund promises daily liquidity, it is not that you get back the nominal value of what you put in. You have the value of that today. It is not like a bank. You do not necessarily get back what you put in, but nonetheless you promised daily liquidity. We know that corporate bond markets are highly illiquid, particularly emerging market corporates.

The risk is that, with illiquid assets, people suddenly want the cash, and then there is illiquidity. We saw that with Covid and the dash for cash. Those are the areas we talk about. Relative value hedge funds would also be one I would list, following some of the liquidity stresses we saw in the hedge fund industry in the dash for cash, but there are a number of them, yes.

Q118 **Kevin Hollinrake:** I know it is a slightly different liquidity issue, but should we be worried about what the Government are proposing in terms of Solvency II and liquidity?

Sir Jon Cunliffe: It is important to distinguish what is different and what might be the same. First of all, this was an issue of a liquidity demand driven by leverage, and the Solvency II issue, particularly around the matching adjustment, is not an issue of leverage. Secondly, this is an issue around the gilt market and long-term gilts, whereas the discussion in Solvency II has been much more about long-term illiquid investments like infrastructure and the value they get. They are different in that respect. Of course, that is in insurance and this is in asset management, although actually some of the insurance companies that have been very active in the Solvency II debate are also the asset managers and the risk managers in here, so I suppose there is a link.

What is similar is, when you match long-term assets with long-term liabilities, how do you take care of the risks and how do you actually size how much resilience you need to those risks? I suspect it is less a question of liquidity on the insurance side and more a question of credit and default risk. Nonetheless, how can you assure yourself that something that you are going to hold to maturity over a very long period actually will not fail in the process? Also, if you have to sell it, can you get anything? That is the liquidity aspect, and that is a risk management issue, which is a generic one. What level of resilience do you put in?

Maybe the last thing that is similar is that they are both about pensions. One is about people's annuities and the other is about defined benefit. It

is really about what level of pensioner protection is right against risk, but it is a different sort of problem.

Q119 **Anthony Browne:** My questions will obviously still be about the gilt purchases. You have touched on some of it, but there are some new areas. In terms of the final decision not to extend gilt purchases beyond 14 October, can you say when that final decision was actually made?

Sir Jon Cunliffe: The decision not to extend past the 14th was made when we launched the scheme, and it was not a decision that we reviewed. The market notice was clear that it would end. We did not say, "End subject to review". It was not a question that we had to take a decision to end it. You may be asking whether there could have been circumstances in which we would have extended it.

Anthony Browne: That was going to be my next question.

Sir Jon Cunliffe: I imagined it would be. The answer is that we were very clear that we wanted a temporary, targeted operation. We were not supporting the gilt market generally, because the gilt market has to adjust to economic policy, whatever that policy is at a given time, so it was not a question of review. In a way, that is why the Governor was quite clear and we put a timetable on it, because we thought that, if we did not, it was a specific liquidity issue that was starting to risk a much bigger thing going wrong.

Q120 **Anthony Browne:** I completely understand that you needed to put a deadline on it. Andrew touched on this point earlier, in that the focus on that deadline meant that they had to deleverage themselves and take what action was needed. As Sarah and Andrew said, you were in touch with the pension funds during this time, and so presumably you were monitoring how the LDI funds were deleveraging. I realise this a slightly hypothetical thing. You said you were not reviewing it, but presumably if they had not taken or had not been able to take appropriate action, there might have been circumstances in which you would have extended it.

Sir Jon Cunliffe: There are a lot of small pension funds and I cannot talk for all of them, but generally their liabilities were going down in value as well, so this should have been a liquidity issue. Had they not been able to do it, that would have been a solvency issue. Then it would not have been our job to address a solvency issue in the underlying pension funds. That is for the Pension Protection Fund. There is a whole set of regulatory mechanisms to deal with pension fund failure. We did not think it was that. It did not turn out to be that. They managed to do this. It was a friction problem.

If they had turned round and said, "We could not get it all done in time," that was one of the reasons why we extended the liquidity facility on the Monday the 10th, the day before. We bought the index-linked gilts because what we were hearing was that a number of them could not quite sell in time. The pension funds did not have the gilts because the gilts were sitting in the LDI funds, but they had corporate bonds, and so

the reason we changed our terms to accept BBB corporate bonds with banks was to allow banks to repo the corporate bonds with the LDI funds, and then the banks to repo the corporate bonds back with us.

There was a question that they might not make it for liquidity reasons, but they had some assets, and we also widened our liquidity facilities, as we have generally for other assets, particularly gilts. To the extent that this was a friction that they could not quite do in time, and became a liquidity problem, that is what that was there to deal with, but had it been that they could not do it because they did not have the assets, then that would have been a solvency issue. There are other ways of dealing with pension fund solvency.

Anthony Browne: It is not gilt purchasing schemes. Andrew, I think you are trying to get in here.

Andrew Hauser: Can I just make one point? I apologise, because this is obvious, but there are massive costs of running these operations as well. We were standing ready to buy £10 billion a day. That number is stunningly huge. We use these units as if they are just 10 bottles of water or something, whereas in fact we never operated at that size even during the heights of QE, so these were huge.

Public money was at risk here at great size. We had monetary policy almost queuing waiting to get back into the market, and we had a learning process early on that this was not QE. The longer that you are in the market, the longer you are buying, and not just from LDIs. There are hedge funds out there. There are other people out there, and if they see a central bank offering to buy at a price, there are some very clever people, as you well know, who are going to try to work out how they might get a piece of it. There are two or three quite powerful reasons why, in addition to needing to tackle the financial stability exercise, it was also in our minds not to extend those costs beyond a reasonable band.

Q121 **Anthony Browne:** You mentioned that public money was at risk. You obviously still have the gilts. You have not sold them yet, so you do not yet have any idea of what the cost to the public purse is overall.

Sir Jon Cunliffe: We have said that we will unwind in a timely and orderly manner. This is not QE. We do not want to hold on to these for a long time. The profit or loss, if I can put it that way, will depend upon the market conditions at the time.

Q122 **Anthony Browne:** Regarding the decision on the gilt purchases and the ending, as you say, you decided to end it at the point you launched it. Was this a decision just by the Bank executive? You did not come under pressure from the Treasury.

Sir Jon Cunliffe: No, not as far as I know. The Bank executive, to be clear, consulted the MPC. The MPC was clear that it wanted this to be targeted and temporary so it did not appear to be monetary QE or monetary policy. The FPC was briefed on the problem as it emerged and

recommended that we took the action, but from the Treasury, I do not think we heard anything.

Q123 **Anthony Browne:** You had no communication from the Treasury.

Andrew Hauser: Directionality was, I am afraid, the other way round.

Sir Jon Cunliffe: They needed to give us an indemnity to do this, which they had to do at speed. Treasury officials were very co-operative and engaged in this. They understood exactly what was happening. The Chancellor was obviously briefed on it. When we took the decision to go ahead, the Treasury had to decide pretty much on that morning of the Wednesday whether they would underpin this indemnity. We briefed them that they might need to, but they got that decision; without that, the risk to our balance sheet would have made it too difficult to do.

Anthony Browne: Because of the sums involved.

Sir Jon Cunliffe: The traffic went the other way.

Q124 **Anthony Browne:** As you said in your recent letter to us, and as you have been discussing, the intervention was not meant to prevent the markets from operating, but just to give time to the funds to deleverage themselves. Do you think that has happened now? Is it job done? You are confident that it is done across the market.

Sir Jon Cunliffe: I was asked the dreadful question, "Are you confident it is over?" I cannot give a guarantee that it is over. I can say that there is an awful lot more resilience in these funds. On average, the big fund managers say that they have enough resilience for a 200-basis-point increase in the yields of the weakest ones. Some are stronger. The segregated accounts are probably stronger, so there is much more resilience to an increase in yields. Of course, they have been going in the other direction for a number of reasons, not least fiscal policy, I imagine.

If the yield curve started to do again what it did, and it goes through that 200-basis-point cushion, then these things could happen. I would not rule out there being a fund out there somewhere—

Q125 **Anthony Browne:** That was going to be my next question. You have been talking about the conditions across the market generally and you mentioned some of the big funds, but are there some funds that are more vulnerable than others that could be at risk?

Sir Jon Cunliffe: I will ask Sarah to come in in a second. Obviously, I cannot talk about individual funds.

Anthony Browne: I am not asking you to name any.

Sir Jon Cunliffe: Some have struggled with this more than others, if I can put it that way, and some were further away from the resilience necessary. Some fund managers ran this policy with less resilience than others. It is not like banks. There is no Basel standard that says, "You

have to have…" In the fund universe, the fund decides what to test on. That may be something that the Pensions Regulator want to look at at some point. Yes, some are more challenged than others.

Sarah Breeden: There were two dimensions on which we saw a variety of experience. The first was how much resilience they hit this particular episode with. Some had greater degrees of resilience than others. Also, what came through in the process of our operations was that some were much quicker at being able to rebalance. The first best outcome here is for the pension fund to sell some other assets, bring that cash in and recapitalise the fund, avoiding having to sell gilts because the pension scheme wants to hedge its liabilities. Some of the LDI fund managers had that process operationally and legally done very quickly. Others took 10 days or more, and that was one example of how there was a variety of experience.

Q126 **Alison Thewliss:** I have some questions, since we are at the final stage of the Committee, about the unwinding of the operations. In the market notice for the widened gilt purchase operation, the Bank has stated that all purchases will be unwound in a smooth and orderly fashion once risks to market functioning are judged to have subsided. Who takes that decision on exactly when to unwind? Is that the Bank executive or the Financial Policy Committee?

Sir Jon Cunliffe: The operation and the decision was the Bank executive. Sorry to delve into bank governance.

Alison Thewliss: I am just curious.

Sir Jon Cunliffe: No, it may not be generally appreciated. The Bank as a whole has a financial stability objective, and the FPC, as a committee of the Bank, has a financial stability objective. The executive can operate under the court on the Bank's stability objective, and that is how this was done. The committee recommended it, but the Financial Policy Committee does not in statute have any powers to command a balance sheet operation of the Bank, and you can see why, when you are committing the balance sheet, it has to go through the governance of the executive and the court, not the FPC.

The FPC has a number of powers of recommendation and direction, but it cannot direct the Bank to use its balance sheet. The decision was taken by the executive, but of course, we would not undertake a financial stability operation if the FPC said, "We do not think that is necessary". If the FPC says, "We do think that is necessary", we take that very seriously.

The unwind will be a mirror image of the wind, if I can put it that way. We will go through the same governance, and the governance was the executive, and then there is a process when the balance sheet is used to involve the court, and the Transactions Committee is there to advise the Governor on that. We went through those internal processes and we will

do the same on the unwind, but we will consult the FPC for its view, and we will obviously also consult the MPC, because this is not its operation but it impinges.

Q127 **Alison Thewliss:** Yes, it will affect them. That is useful to understand what that process is. What will you be looking for to know whether the risks to market functioning are judged to have subsided? What kind of signals do you pick up on there?

Andrew Hauser: As I mentioned earlier, we have a series of dashboards. There was a wag on my team who said it is not a dash for cash, but a dash for dashboards over the past few weeks. It is a bit of a dad joke, I think, but the sequence of questions is: how sharp are market movements? We obviously saw a very sharp movement. How are markets performing relative to others overseas? We have talked about that. Then three or four banks of measures of functioning, be it our spreads, the cost of round trips, in futures, in cash and the swaps markets. You can get an m-by-m matrix here quite quickly, so you obviously need ways to boil that down. That is on the numerical side.

Equally important is listening to people and asking them, seeing how markets are trading and taking a feel for it in the context of the data, but also taking the market intelligence. During this period of three weeks, we made about 250 calls, not just to LDIs but to market participants, and we will still continue that. That is not a mechanical answer. People have tried to write down algorithms that say, "When this number gets to 100, you are fine". That is unwise because you will always get hit by some risk or issue that you have not spotted. It is about a combination of those two, and keeping our eyes and ears close to the market.

Just to emphasise a point Jon made, this is a timely exit. Part of the whole point here, as our monetary policy-makers—I am not one; Jon is—are very keen to remind me of on a daily basis, is that a differentiator between this and monetary policy is that it should be temporary. That therefore means that we need to get out in a timely way. That does not mean a stupidly fast way, but a relatively rapid way, subject to not disturbing the market.

Q128 **Alison Thewliss:** Is there a political element to assessing that risk?

Andrew Hauser: Not on my part. I do not know if Jon wanted to add anything. I am a technocrat.

Q129 **Alison Thewliss:** In terms of the risks of any other political decisions that might come, are you looking at that in terms of a risk?

Sir Jon Cunliffe: We would look at market conditions. The question is about whether markets are reflecting political risk. We would not look directly to political risk. Some of those conversations that Andrew has, in which people say how they see markets, will have factored all sorts of things in there.

Q130 **Alison Thewliss:** Can you tell us a bit more about the timescale that you have in mind for the bonds being sold by the Bank?

Sir Jon Cunliffe: We would like to get out of it in a timely way. As Andrew said, rapid but not stupidly rapid. I would not put a timetable on it, for two reasons: first, it is dependent on market conditions and I do not know what they will do in the future; secondly, if we put a timetable for this operation down, the market would expect that to be kept, and I do not have the certainty around that.

When we start the unwind—this is similar to the QT that we discussed earlier—we will obviously give the market plenty of warning. We will obviously explain how we will do it. We will explain the parameters for starting and stopping it. We have been through this on the QT side, so there is warning, and we would probably do it in a programmatic way. Andrew will not go out on Thursday and say, "I have decided to sell it all".

Andrew Hauser: Although I would not mind doing that.

Sir Jon Cunliffe: The governance of the Bank requires a number of people to agree to that decision, and we have done that with the corporate bond portfolio as well. When it happens, it will be ordered in that way, but I really would not want to put a time on it because I do not know, and it depends on market conditions.

Q131 **Alison Thewliss:** I appreciate that. I am just trying to get a picture in my own mind of how long the impact of this will last. Is this going to be months, years or that kind of timescale? I am not asking for particular dates.

Sir Jon Cunliffe: We would not expect this to have anything like the holding period of the gilt portfolio for monetary policy. That is the best I can say. That portfolio has been with us. It has been added to. We see a policy need to try to exit this as soon as it is smooth and orderly to do so.

Andrew Hauser: There are two things I would say. First, the amount we bought, £19.25 billion, though a huge number, is a small number relative to the QE stock. There is also something quite interesting about an operation for financial stability, as opposed to monetary policy grounds. If you are successful—and it is too soon to say we have been—you ought to bring yields down relative to where they had been, because you are taking out a liquidity premium.

In general, when you are exiting from QE, unfortunately, from some perspectives, rates will tend to be rising because growth is recovering and inflation is coming up. That may, under certain circumstances, make the exit from a financial stability operation somewhat more straightforward. I do not want to be quoted on that, because it might end up around my neck, but there are elements of the nature of the way you come in that may make the exit somewhat more straightforward. One of

the big countervailing points to that, in particular, is that us owning index-linked gilts is a relatively one-way market.

One point I would make—and it comes up in a couple of the other things—is that higher interest rates, if they are here to stay, actually improve, as we have said before, the solvency position of pension funds. It increases their demand. This is the deep irony of this whole situation. It increases their demand for gilts; it does not reduce it. They had to deleverage because they had a liquidity problem, but in the steady state, they may well demand more gilts. If that demand transpires over time, it would be quite a useful context in which for us to liquidate our holdings, but we will see.

Q132 **Alison Thewliss:** That is really interesting, thank you. Can I ask whether any increase in issuance from the DMO and commencement of QT will make it more difficult to sell the bonds?

Sir Jon Cunliffe: The DMO is going to revisit its target after the fiscal plan, but relative to the DMO flows, this is pretty small, and it will not be done on a single day. The DMO were actually able to auction throughout this period, particularly in other areas of the curve. Even relative to the QT flow that we are talking about for this year, this is pretty small. Obviously, you have to look at it all in the round. I think the last DMO plan I saw on the last fiscal plan was £200 billion.

Andrew Hauser: Yes. For the event on the 23rd, they only gave a short window update. They did not have a full remit.

Sir Jon Cunliffe: If the answer is, "Will this add? Will this be the last straw?" that, in a way, is the reason we will talk to the market and try to get assurance.

Andrew Hauser: Just as on QE, we work very closely, operationally, with the DMO. Neither we nor they have any interest in tripping up over each other.

Q133 **Alison Thewliss:** That makes sense. Finally, we are still in it and it is maybe too early to ask this, but will you be undertaking a lessons-learned review of all your operations and the way in which this happened after this is completed?

Sir Jon Cunliffe: We are still in the middle of it, but we will want to look at a number of things. This is the first time we have done a financial stability operation. We will want to look at how we did it and how we communicated it. We will want to get some feedback on whether people understood that this was not QE. There is a lot of talk about, "Monetary policy is doing one thing and now you are doing the opposite thing. You are selling with one hand and buying with the other".

We tried to distinguish them. That goes back to the point about it being temporary and targeted. We will need to see how that worked. We will need to review just the operational processes, not because they were

wrong. We have managed that so far, but we can look at what things we could improve upon. There are always lessons to learn. That is on the operations side, and there will be lessons to learn with the market as well.

There will also be important lessons to learn on the LDI liquidity side. There is a reason for LDI strategies. They are not subprime, if I can put it that way. Certainly the point that Sarah made about liquidity resilience is really important, as well as the point that was put to us about stress testing and how they are stress tested.

Yes, there will be lessons to learn. The Pensions Regulator is responsible for how the pension funds invest. The FCA deals with investment funds and the like, although the majority of these are in Ireland and Luxembourg, so it is overseas regulators as well. We will want to sit down with all of the people who have an interest in this and say, "We saw a risk. How should we manage those risks in the future?" There will definitely be lessons to learn.

Andrew Hauser: After the dash for cash, the Covid situation in the spring of 2021, one of the things that we set up was an international group of central bank operational people like me to look at the question of what it meant for central bank tools of the future. I chaired a group with Lorie Logan, who is the president of the Dallas Fed now in the US, to look at exactly this question. It turned out to be very timely, because we were able to build some of the lessons from that into our thinking about the tools that we ended up using.

One of the key messages from that report was that asset purchases are powerful but crude. I tried to compare them to steroids. I was told that was not a good comparison but I still think it is, in a way, because they are very powerful but quite crude, as drugs go. Central banks usually like to use repo or lending facilities. It does not put so much public money at risk. It allows us to manage the risk in a more effective way.

In this case, we tried very hard to try to put a repo tool into place. It was impossible to do so for all the reasons we have described. The firms needed to deleverage, not re-leverage, and they did not have the collateral, so it would not have worked. There is a much bigger set of issues for central banks globally, not just us, about how you develop that repo-based toolkit to deal with this non-bank situation in the future. We could never rule out doing asset purchases again. They are very powerful, as I say, but I am hopeful that there are better ways to do it once we have learned.

Sarah Breeden: If I might add just one thing, that then goes as well to the regulation and resilience of those non-bank financial institutions. Those things need to be thought about at the same time as what public insurance is and what the right amount of private self-insurance is.

Sir Jon Cunliffe: When I talked about non-bank finance and liquidity risks in non-bank finance, this is one example. There are other areas where this will come up. The dash for cash was a brutal example of what could happen in that dynamic. Obviously, the private sector cannot insure against everything, but we also need to think about how we get liquidity into markets.

Traditionally, we have done that through the banking system. We put it into the banks and the banks put it into the markets, but certainly March 2020 and some of this episode suggests that those pipes now do not work as well, with a much more developed financial market system. We need to think about new ways of doing that.

Chair: That brings us to the end. You have given us an awful lot to think about. Thank you very much indeed for coming here today. We have focused in some detail on this financial stability issue that arose as a consequence, in large part at least, of the mini-Budget of 23 September.

Jon, thank you for your correspondence as well, which was particularly useful in informing anybody who is interested in this particular topic as to what did happen and what did not happen, as well as the nature of the intervention and what that was all about. 23 September has been a father of much worry and misery in many ways, as I see it, and there are many lessons that this Committee will dwell on, probably for some time to come.

On the matter of independence, I can give you an assurance that, as the Financial Services and Markets Bill goes through, and indeed as and when independence and accountability rear their heads, this Committee is quite determined that your independence should be protected. We believe it to be very important to stable and well-functioning financial markets and a stable economy as well. Thank you very much for attending.