HOUSE OF COMMONS

Treasury Committee

Oral evidence: Bank of England Monetary Policy Reports, HC 123.

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Watch the meeting

Members present: Mel Stride (Chair); Rushanara Ali; Mr Steve Baker; Harriett Baldwin; Felicity Buchan; Ms Angela Eagle; Mike Hill; Julie Marson; Siobhain McDonagh; Alison Thewliss.

Questions 64 - 129

Witnesses

I: Andrew Bailey, Governor, Bank of England; Andy Haldane, Chief Economist, Bank of England; Professor Silvana Tenreyro, External Member, Monetary Policy Committee, Bank of England; Michael Saunders, External Member, Monetary Policy Committee, Bank of England.

Examination of witnesses

Witnesses: Andrew Bailey, Andy Haldane, Professor Silvana Tenreyro and Michael Saunders.

Q64 **Chair:** Good afternoon and welcome to the Treasury Committee evidence session with the Bank of England on the *Monetary Policy Report* that it published recently. I am very pleased to welcome our panellists, and I would ask them, please, to introduce themselves for the public record.

Andrew Bailey: Good afternoon. I am Andrew Bailey, Governor of the Bank of England.

Andy Haldane: Good afternoon. I am Andy Haldane, chief economist at the Bank.

Professor Tenreyro: I am Silvana Tenreyro, an external member of the MPC.

Michael Saunders: I am Michael Saunders, an external member of the Monetary Policy Committee.

Q65 **Chair:** You are old hands with the Committee but, just to remind you, if you are not being asked to comment on a particular question but would like to do so, just raise your hand and I will attempt to bring you in.

Welcome, all. If I could start with Andy Haldane, could you set the scene for us, particularly around the forecasting that there is within the report? Could you particularly comment on those elements, such as the recent lockdown and the apparently good news that we have just received on the virus, that are inbuilt within the forecasting and those elements that are not? That would be very helpful both to the Committee and those viewing.

Andy Haldane: Let me try to set the scene briefly. The story of this year so far—it has been a rollercoaster, of course—is the collapse in activity in the first part of the year, by around a quarter. We then staged across the UK a pretty rapid recovery from the spring right through until the end of the third quarter. That is where we have GDP data up to so far. That was the jumping-off point for the forecast.

As we enter the fourth quarter, there are already signs of some slowing in activity, which is partly the result of voluntary social distancing as the virus picked up pace and partly a consequence of the progressive tightening of, initially, the tiered restrictions. Therefore, even before the announcement of the national lockdown, we were looking at a slower fourth quarter of the year than we had seen in the third quarter.

The announcement of the national lockdown caused a further shading-down of our projection for the fourth quarter. You have seen from our November report that we are now projecting a small contraction in activity in the fourth quarter. Plainly, there are huge amounts of

uncertainty around those near-term projections, but the data we have had to far on the economy since the report has been consistent with that slowing or possibly stalling of the recovery during the fourth quarter due to that combination of both voluntary social distancing and the extra restrictions we have seen.

The forecast in November was built on the assumption that from December onwards two things would happen. First, there would be a progressive loosening of the restrictions and, secondly, moving into next year, there would be a gradual improvement in treatments for the virus. We were reasonably open on what form those improved treatments took, but those were assumed to come on stream during the course of, say, the first or second quarter of next year. The combination of the loosening restrictions and improved treatments was an important reason why we saw a relatively rapid pick-up in the economy during the course of 2021, taking it by the end of 2021 back to around the levels we saw before the Covid crisis struck.

The most significant piece of news since we closed the report, as you mentioned, Chair, has of course been the announcement of prospective vaccines. Of course, there is some way to travel before we know for sure that they will be 100% effective, but so far so good on that. We have not yet fully processed that news on the vaccine. Clearly it is positive for individuals, for businesses, for charities, for the NHS, for schools, and indeed for the economy and for our forecast. When it comes to February, that will be the point when we take all that news together and figure out what that means for the economy and the various subcomponents and sectors of it. I hope that suffices as a rough sketch.

Q66 **Chair:** That is an excellent summary. You said that in Q4 the lockdown caused you to revise the GDP expectation for that quarter downwards from 2%, but what is the actual drop?

Andy Haldane: All in, considering what we had had previously for the fourth quarter relative to what we are now assuming, it is a 3% or 4% shortfall in GDP. A chunk of that was already in the bag, even prior to the announcement of the national lockdown, as a result of both the voluntary social-distancing activities that people had clearly taken and the tiered restrictions. The combination of voluntary action, the tiered restrictions and the national lockdown gives you that roughly 4% drop in GDP.

Q67 **Chair:** If you were to try to isolate just the impact of the lockdown on that 3% to 4%, would you be able to have a guesstimate of what that might be?

Andy Haldane: It is quite hard to prise apart those three effects that I mentioned. Even before the announcement of a national lockdown, there was some anticipation of the effects of the national lockdown. In terms of rough orders of magnitude, I would say that, of that 4% delta change in GDP, a third or perhaps as much as a half was the incremental effects of the national lockdown. I would put some big uncertainty bounds around

that for the reasons I say. Differentiating these different effects is, at the moment, extremely difficult.

Q68 **Chair:** It is may be 1.5% or 2%, but with a big margin of uncertainty around it. Andrew, you are trying to come in; please do.

Andrew Bailey: I wanted to come in on that point, because there are two ways of assessing the answer to your question. One is about the change in our forecast caused by particular components of it, of which the lockdown, as you rightly say, would be one.

I just want to strike a note of care here. That is not the answer to the question of what the impact of the lockdown is in terms of a cost-benefit type of question. Of course, to do that, we would have to specify an alternative baseline counterfactual path, and we would have to do something that we do not do, which is forecast the path of Covid. I know the Committee has rightly focused on this question, but it is important to draw the distinction between those two ways of answering your question.

Q69 **Chair:** Yes, absolutely. I am very aware that I am dealing with just one side of an equation here. I was going to come on to that point, although I accept it is not your area to look at. Let me just chance my arm and ask the question. You must speak to epidemiologists; you must conjure with what the impacts would be if the Government did not make these changes, which in the event they did. You must have had some sense of what you thought might have happened in those circumstances. What does the other side of the equation look like, in terms of the counterfactual?

Andrew Bailey: There are two parts to that. First of all, yes, we are not medical experts, as you and we are very well aware, so we do talk to people. I talk to Chris Whitty, who has been extremely helpful in terms of giving his views. We do that.

On the broader question—I am sure my colleagues want to come in on this question—we are cautious here, because it is not just Government policy that would determine the course of this. An important point that Andy referred to is what I might call the natural caution of people. In thinking about a counterfactual that would have a different policy prescription in it, you also have to factor in how individuals would behave in that scenario. What we observe—we have seen this with a number of the announcements—is that people start to anticipate. If Covid is increasing in its incidence, which it has been, people's natural caution tends to lead them to behave somewhat differently. You have to factor that in.

There is also the very big question, which we are not experts in, about what the impact of the particular measures will be on the incidence of Covid going forward. There are some emerging approaches and models in economics—Silvana may want to come in at this point—that try to deal

with that, but that is not what we do in our forecasts. We condition our forecasts on announced and stated Government policies.

Q70 **Chair:** Perhaps I can bring in Silvana at this point. It is an impossible question to answer, I know, but I will ask it anyway and you can do your best with it. On balance, if you took a view casting out some months, in the absence of the lockdown, if nothing had been done, do you have a sense of what that might have meant economically? If you do, what does that tell you? What is that sense of what would have happened economically?

Professor Tenreyro: Again, as Andy and the Governor suggested, this is an extremely difficult question. There are multiple two-way causal interactions here, and they can also change over time.

The spread of the virus affects economic activity, because people reduce their spending on social goods and services. They do not carry out certain activities in order to reduce their health risk. In other words, there will be some social distancing whether there is a lockdown or not. In the other direction, economic activity itself, particularly in certain sectors, affects the spread of the virus. In turn, lockdown measures are responding to the spread of the virus and the spread of the virus depends on the lockdown measures in place.

Yet another complication here that I want to highlight is that there is scope for substitution and learning—substitution towards safer activities and learning of new technologies to carry on work and consumption. Because that learning improves over time, it is very likely that early lockdowns have a much bigger impact on activity than subsequent ones. Another issue that is very likely is that the second national lockdown was imposed at a time when activity was materially reduced, so the incremental impact of that second lockdown on economic activity will probably be much lower than otherwise.

To assess the effect of lockdowns on economic activity, researchers are now using what they call epi-macro models, which combine economics and epidemiology. I gave a speech earlier this summer discussing the huge amounts of new research on this issue. These models take into account the behaviour of people, their voluntary social distancing and their interactions with the economy. That allows them to pinpoint exactly, or more closely, the extra effect of a lockdown measure on the economy, which you really want in order to do a proper cost-benefit analysis.

In our forecasts at the Bank of England, we are just trying to forecast to predict what will happen given the mix of virus, restrictions and people's behaviour. We are not trying to compare what might happen with a different set of restrictions. Changing those restrictions would also imply changing all our assumptions on the virus and on people's behaviour. Otherwise, the forecast would not be internally consistent. To do what you want, you really need a model designed to track how economic

behaviour is affected by lockdown measures, taking into account all of these interactions.

There is a lot of progress being made on that. As I said, the UK has one of the leading researchers in the area, Ben Moll at the London School of Economics. It is still early days; even they are struggling. They have good qualitative descriptions of the different effects, but quantitatively those models still have quite a bit of uncertainty. It is extremely difficult, given all of the interactions and the changing behaviour over time.

Q71 **Chair:** That is a very helpful explanation. It would be helpful if you might be able to send something to the Committee on the modelling and the work you refer to. We would be interested in that.

Andrew Bailey: We can certainly do that, yes.

Q72 **Chair:** It would be very interesting to look at that. I am way over time, but I have to ask one very brief question to Andy Haldane. You mentioned factoring into the forecasting treatments, et cetera. Is the general course of progress towards vaccines that are going to be distributed and hopefully work broadly in line with the expectations that you factored into the model, or are you feeling a bit bouncy now that AstraZeneca has come forward?

Andy Haldane: "Bouncy" might be pushing it, but our forecasting assumptions had been for a gradual phasing-in of improved treatments from around the middle of next year.

Personally speaking, relative to that assumption, the news we have had is to the positive side on that. We have seen that already in some movements in financial markets and some measures of confidence and expectations. There is some evidence of the vaccines news having already provided a bit of an improvement at least to confidence and expectations, and hopefully in time to activity. We need to work this through in the context of the February forecast but, on balance, that news has been to the positive side of our assumptions in November.

Q73 **Ms Eagle:** Staying with the vaccine, I noticed that your report was finalised and agreed literally days before the news on Pfizer and Moderna, and now we have today's good news about the Oxford vaccine as well. To what extent, Governor, do you think that this is transformational, or are you still quite cautious?

Andrew Bailey: It is excellent news. Only speaking personally for a moment, it felt like, for the first time in eight or nine months now, there was some light coming at the end of the tunnel. I have to say that it is terrific news. I take my hat off to all the people who are involved in doing this work on the vaccines.

Ms Eagle: Dolly Parton has been funding some of it.

Andrew Bailey: Good for Dolly Parton as well. As Andy put it, our forecast is conditioned on an improvement in treatments. We use

"treatments" as quite a broad term. There was also some good news yesterday or the day before on treatments, with the news that the Oxford-developed treatment for those who sadly do get it would come through during the course of next year.

You are right that we did not have the news on Pfizer and so on when we finalised the forecast. We did have a broad expectation that we would be getting positive news. Our contact with the medical experts had certainly given the message that, as Andy said, certainly by the time of our February forecast, we would have news on the vaccine. That news seems to have come rather sooner, which is great. We are now looking to news on the manufacturing of the vaccines.

Q74 **Ms Eagle:** Yes, there is a huge logistical issue to get the vaccine out to everybody.

Andrew Bailey: Yes, it is about logistics, manufacturing them, transporting them and then setting up the facilities to vaccinate, all of which we can be reasonably optimistic are being addressed. That is obviously what we need to see.

Picking up on a point Andy made, we have had an unprecedentedly high level of uncertainty in our forecast for obvious reasons. I would expect this news, as it builds with further news on manufacturing and distribution, will start to reduce that uncertainty over time. That is entirely helpful from the point of view of policymaking in our world. There are grounds for optimism. We will be following it very closely and we will be looking for further evidence of it, but there really are now very encouraging signs.

In the financial markets, which Andy was referring to, there is a bit of a tussle going on at the moment, day to day, frankly, between what you call positive news on the vaccine front and then the news on the incidence of Covid itself. This is about the balance between the short-term news that Covid numbers have been going up, although hopefully we are seeing some levelling-off in this country at least, against the more positive news around some of the vaccines.

Q75 **Ms Eagle:** Playing devil's advocate, Andy Haldane, you have said it is fantastic news. Of course, all of us agree with that and we are all eternally grateful to all the scientists who have done the work in rapid time to produce vaccines, which we hope are going to be as efficacious as it looks like they are going to. Paradoxically, might the appearance of a vaccine on the horizon make people more complacent? Could it cause a third wave in quarter 1 or quarter 2 next year and do more damage?

Andy Haldane: I can certainly see the possibility of that risk coming to pass. It was always a difficult needle to thread when it came to eliciting the right amount of caution among households and businesses. Ahead of the vaccine news, my general sense was that, if anything, people were a little too fearful of the future and uncertainty was having quite a

significant dampening and damaging effect on their willingness to spend and their willingness to get out and about. I hope the vaccine news has helped offset some of that pessimism.

For example, if you look at the news we have had today, we have had an announcement on the economy; it was a survey of purchasing managers to get their views on activity in the economy in November. It told quite an interesting story, because the backward-looking views of businesses about activity for November fell and were quite gloomy, but some of the expectations looking ahead from November picked up and were more positive, reflecting that vaccines news. Overall, I would say it is a positive picture if some of that excess caution and excess gloom were being offset by the vaccine news. Plainly, you would not want that to give way to people taking any chances until a vaccine is fully rolled out, so there is a balance to be struck there, but I would say overall this is a real positive.

When I was speaking to businesses pre the vaccine announcements, the thing about which they were most fearful—this speaks to Andrew's uncertainty point—was that they were in an endless stop/go cycle as we had wave after wave punctuated by increasing restrictions. That is a very difficult basis for planning if you are running a business; indeed, it is a very difficult basis for planning if you are running a household. That is why that uncertainty was so acute and such a sticking point for businesses when thinking about hiring or investing.

The real significance of the vaccine announcements is that they can provide, I hope, a degree of assurance that the stop/go cycle will come to an end at some point in the foreseeable future. For businesses, that makes all the difference in the world in terms of viability and non-viability. That is why it is extremely good news for the economy overall.

Q76 **Ms Eagle:** Silvana, if things work well, we are likely to see a fairly thorough country-wide vaccination programme at some point next year. They are saying April, but I would suspect it will be the middle of next year rather than April; 60 million times two injections is quite a lot to accomplish. Given that there is some light at the end of the tunnel, would it be good if the Chancellor was to continue to support those sectors of the economy that have been particularly badly hit by social distancing—obviously, hospitality and leisure—throughout some of next year past March so that they can survive and still be there once the social-distancing issues, which have caused them such problems, are overcome?

Professor Tenreyro: I will try to skip the direct question on fiscal policy, because we try not to comment on fiscal policy, but let me make a general point.

Q77 **Ms Eagle:** Would there be an economic logic to doing it? Let me rephrase the question.

Professor Tenreyro: The confidence that there is a vaccine out there and there is light at the end of the tunnel gives a lot of strength and support to the argument or rationale for countercyclical policies. We know the end; we know this shock is temporary. We need to do as much as possible to avoid scarring effects from this crisis.

Q78 **Ms Eagle:** Would that be more effective if it was sectoral, given that there has been such an issue with particular sectors? One thinks of leisure and hospitality. Would that be an even better use of money, or are you arguing for more general countercyclical policies?

Professor Tenreyro: Given the very targeted nature of this shock, targeted fiscal policies could be ideal. Again, as you said, the fact we have the certainty that a vaccine will be there and eventually will be rolled out means we can have more confidence on countercyclical and targeted policies.

I wanted to add to what Andy said, because I agree this is fantastic news for the medium term. For the next few months, however, the virus will still be at large. I am not sure there will be so much complacency. The other worry is that there might still be social distancing, whether voluntary or mandatory, in order to contain the virus. It might be that we see weak spending and hence weak employment in the coming months, and we have to worry about that. I am very happy and optimistic with the news, but the near term is still looking difficult. The unwinding of those effects, especially on income and unemployment, will take longer than the direct effects of the virus.

Q79 **Harriett Baldwin:** Governor, I want to ask you about the upcoming end of the transition period. I know you are assuming that a free trade deal will be agreed before the end of the transition period. Even if that happens, your latest Decision Maker Panel reports that only a third of firms are still partially prepared for leaving and only 40% are as ready as they can be. I know you have downgraded your Q1 forecast by 1%, because, even if there is a free trade agreement, you do not think businesses will be able to adapt in an orderly way. Do you have particular intelligence on where the preparations are particularly lacking?

Andrew Bailey: We have, as you say, made that adjustment to the forecast. We spend quite a lot of time talking to businesses about this question. Our regional agents have been particularly focusing on it and will continue to focus on it in the next few weeks.

You have put your finger on something that we find quite commonly when we talk to firms, which is tantalising in a way. A lot of firms will say, "We are as ready as we can be", which of course leaves you wondering what "can be" really means, because obviously it can mean quite a lot of things. We have had to make assumptions from that.

We also use surveys that the major business groups do as well. We talk extensively to the major business groups. What comes through is that

large firms report that they feel they are more prepared than small firms. SMEs consistently tell us that they feel less confident and less well prepared than larger firms when we talk to them. That is one thing I would say.

We also detect some difference in the confidence of responses depending on how directly affected a firm feels it is. Those who feel themselves most in the firing line have probably at least spent more time thinking, planning and preparing because they can see the really direct effects.

I would note one thing here. Andy was referring to this a few minutes ago. One of the questions we are also interested in is the extent to which firms are preparing and taking actions to mitigate the effects of this. One thing we have been looking to see evidence of is whether there is the beginning of an increase in stock-building and the building of inventories. Andy referred to the flash November purchasing managers' index that came out this morning. We may just be beginning to see the first sign of that happening in that survey that was published this morning.

The final thing I will say, if you do not mind me saying so, is that, obviously, this question about disruption can also be mitigated by what I would call a spirit of goodwill on both sides in terms of the implementation of a trade agreement, should one be agreed. I have said so many times that I hope one is agreed, because open economies are better for quite a few reasons. It would be entirely beneficial if the implementation of whatever trade agreement took place within a spirit of goodwill, because that would ease some of these problems.

The UK Government have said they are committed to implementing the new procedures over a period of time and not fully implementing them until next summer in order to accommodate that point. If there were a common agreement to do that, it would mitigate quite a bit of this effect that we have.

Q80 **Harriett Baldwin:** Governor, are you picking up in your data any particular sectors that seem, to your analysis, to be less prepared? In my constituency, for example, it seems to be the horticulture sector that seems the most concerned about not being able to prepare, because they do not know what it is that they are preparing for.

Andrew Bailey: We are not getting a very strong message from a sectoral point of view in terms of particular hotspots. We are getting, in a sense, a broad range of responses that reflect the nature of the trade and the interaction that sectors do with the EU. A number of the things that we hear about are in the news, such as things like rules of origin.

You are right to point to a sector like horticulture, because, as I understand it—I am not an expert in that area—there are particular standards issues that will come into play when you do not have open markets.

Q81 **Harriett Baldwin:** You think potentially the effect will be 1% even with a good free trade deal that covers all these sectors. If there is no deal, what will the impact of that be?

Andrew Bailey: In a sense, no deal is World Trade Organization, or WTO, standards. At that point, we expect a larger effect both in terms of the impact on trade and the disruption to that trade that happens. I would also say, unfortunately, that it is a reasonable assumption that, if we end up in that place, the spirit of goodwill I was talking about would be less.

Q82 **Harriett Baldwin:** Do you see the risk to inflation being significantly different in either scenario?

Andrew Bailey: First of all, the question of the impact on inflation will depend upon how much of the shock to activity is a supply effect and how much of it is a demand effect. Broadly, if it is a negative supply effect, that would have an upward effect on inflation; if it is a negative demand effect, it would have the opposite effect. There are reasons to believe that the supply effect would be the larger one in that situation, so it would be more inflationary.

The other thing I will say at this point is that it also depends on what happens to the exchange rate, because that also feeds through into inflation. There are reasons to think that, broadly, the exchange rate would depreciate in the event of an outcome that is worse than is currently expected, and there may be some upside on the exchange rate if the outcome is a trade agreement with goodwill around it.

Q83 **Harriett Baldwin:** In your minutes, when you said the economy is "starting from a position of greater spare capacity and weaker price pressures", because of the Covid stuff, you are saying that it reduces "the likelihood of material trade-offs between the variability of output and inflation emerging". You could read that as saying that you are pledging not to raise rates under any scenario.

Andrew Bailey: I would not go that far. We are saying that we will evaluate very carefully whatever effects come to pass, as it were. We will evaluate them not just in terms of the raw movements in activity and inflation but also how we see the trade-off and how we see that feeding through into inflation expectations.

This is a very important element. In some ways, you can see that this is a one-off shock to prices. For instance, we have tariffs. One big difference between a CETA-style trade deal and a WTO trade deal is tariffs. You then have to make the judgment about whether that is going to be a one-off change in the level of prices, which does not feed through into inflation expectations, or whether it will have some effect on inflation expectations. We would have to make that judgment, and our policy-setting would have to reflect the judgment we make.

As you rightly say, we would also have to factor in the situation we find ourselves in going into this situation, with an output gap currently.

Q84 **Harriett Baldwin:** You must have done the analysis in terms of what the basket of goods would cost under WTO terms versus what it costs with zero tariffs.

Andrew Bailey: We have done a number of scenarios. There is no precise answer to this question, but I would just reiterate what I said. You are right to say that, in a scenario where you go to WTO terms, let us say, and you may have tariff effects and negative supply effects, you can see a positive shock to inflation.

Q85 **Harriett Baldwin:** Do you know how much that is?

Andrew Bailey: No. You can come up with scenarios and numbers around it, but it is hugely uncertain.

Q86 **Harriett Baldwin:** Can you give me a range? It is what you are in the business of doing at the Bank of England.

Andrew Bailey: You can certainly see a percentage point on inflation or perhaps somewhat more in some scenarios. You then have to ask whether that is going to be a one-off price-level effect that does not have second-round effects or whether it will have second-round effects. That is the key judgment.

Q87 **Rushanara Ali:** Good afternoon. I am going to pick up a couple of questions on Brexit before I go on to unemployment and scarring effects. Governor, you have already talked about deal versus no deal. Can you just say what you make of the LSE analysis that suggests that the long-term economic hit will be two to three times as large as the Covid impact as set out by the Bank of England's forecast? That would put it on a par with the 2018 numbers that the Government's analysis suggests, or slightly above that, at around 8%.

Andrew Bailey: The long-term effects would be larger than the long-term effect of Covid. We may come on to Covid and scarring, as you mentioned, but of course both are highly uncertain. I am at the rather more optimistic end on the Covid front. We are collectively more optimistic relative to, say, the IMF.

In terms of models of a no-deal outcome, you quoted the LSE model. The models would suggest that the longer-term effects of a WTO/no-deal trade agreement are longer term. The reason for that—this is pretty well established in the literature—is because it takes a much longer period of time for what I call the real side of the economy to adjust to the change in openness and the change in the profile of trade.

Going right back in time, if you remember, a long time ago I worked on the five tests—it sounds like ancient history now—for whether the UK should join the euro, believe it or not. In the Bank, we worked with the Treasury to develop a model for that. What it basically said was that,

over a long period of time—you could be talking 30 or 40 years—you will eventually get convergence, because the real side of the economy will adapt. You will get a change in activity in the economy, but it takes a long time.

It is hard to put a multiplier on it, as you say, but you are basically right to say that, in that scenario, you would expect a longer-term effect from the exit trade agreement.

Q88 **Rushanara Ali:** Following on from that, I am assuming that sleeping at night is a bit of a challenge, both for you and the Prime Minister, as the prospect of no deal looms with an 8% loss of GDP, if, as you have said, the LSE model is reasonably accurate. That is really worrying. Therefore, it is in our interest to get a deal. You were talking about implementation earlier. There has been a lack of preparedness, which we have seen in one of the sessions we have had. Businesses are showing huge amounts of frustration and anger, which has spilled out in the reports over the last few days as well as previously. Given that businesses have not been able to prepare, plus the Covid pandemic and the second wave, is there a case, even if there is some sort of deal—we are not expecting a completely frictionless deal with all this disruption—for a period of implementation because of the lack of preparedness? You touched on it earlier. Could you just confirm what your thoughts are on how we make that happen?

Andrew Bailey: First of all, you are right to say that there is no such thing as a frictionless deal, because we are leaving the customs union and the single market. Anything hereafter involves change; let me put it that way.

We are not involved in negotiating the trade agreement. I cannot comment on that. As a public official, very studiously I do not take a position on the substance of Brexit. You are right. I have said many times, and I will say it again, that it is in the best interest of both sides, the UK and the EU, for there to be a trade agreement and for that trade agreement to have, as I was saying earlier, a strong element of goodwill around it in terms of how it is implemented. There is no question about that.

In terms of my sleepless nights—fortunately I do not have any—Covid has a much bigger impact at the moment, in the short run, but, for all the reasons that you have given and that we have just discussed, it would be better to have a trade deal, yes. There is no question about it.

Q89 **Rushanara Ali:** Moving on to Covid, the unemployment forecasts came before the vaccine news. Is the Bank factoring in some of the hiccups we get in terms of, for instance, testing and tracing? The fact that we did not have that in place adequately has meant we increased our likelihood of facing a second wave and therefore we increased the economic knock-on effect. Andy Haldane's prediction of a V-shaped recovery looked very much the case until we ended up in the second wave. That process of the

response is undermining the economic recovery.

Is the Bank also thinking about whether there are mutations and new variants of Covid going into the future and how we make ourselves more resilient to coping with those sorts of threats? I am sorry to sound like a prophet of doom, but this is just in terms of thinking about how we prepare and anticipate so that we are not going back and forth. It is so frustrating for businesses but also those who face the spectre of unemployment or who have already faced unemployment.

Andrew Bailey: Going back to the answer to the previous question, we do need to see further evidence on manufacturing and distribution. It is well established that the Pfizer vaccine is more challenging on that front than the Oxford vaccine in terms of the temperature issues, which will certainly affect the distribution of it. We need to see that evidence, and we will be following that very closely. That is why, as Andy and I were saying earlier, we will remain very watchful of how this timeline maps out against the timeline we already have in the forecast, which goes across next year.

I am not an expert on mutating viruses. I have talked to people. There is an interesting point here; I cannot offer you any view on it, but I will state the issue. If it does mutate—I was told this in the context of the mink issue—the question is then whether the mutation is within the scope of the vaccines that are being developed, or whether it takes it outside the scope of the vaccines that are being developed. One thing the experts—I am not one—have said to me is that it points to the need to build on the terrific work has been done this year, to maintain that capacity to develop vaccines ideally as rapidly as they have been. Remember that a few months ago, certainly in the early days of this year, we were being told that vaccines take several years and sometimes never happen. If you think back to then, this is terrific news.

That is certainly something that experts—I am not one—have said to me: that it indicates that, globally, we have to maintain the capacity to do this work.

Q90 **Rushanara Ali:** Perhaps others could come in. I wondered whether there was a case for new ways of thinking about scenario-planning and analysis with the latter point in mind, so the Bank is, as you do with other risk issues, factoring this in. Climate was not on the agenda in the way it is now.

Andrew Bailey: Indeed, yes. Interestingly, that goes back to the point Silvana was making earlier about this new area of modelling, epi-macro modelling, on which, I have to confess, Silvana is umpteen times more expert on than I am. What that is trying to do is ask how you link together macroeconomic modelling with epidemiological modelling. It is interesting. When I talk to epidemiologists, there is quite a lot of common ground in terms of the challenges we wrestle with in terms of modelling. You are right: it is a very interesting area of development. As I said to

the Chair earlier, we will certainly send you something that summarises what we understand about that work to date, but it is moving along very rapidly.

Q91 **Rushanara Ali:** I have a final couple of questions for others to come in, which I will do in one go. This is in relation to the furlough scheme. Obviously, that has been extended. Earlier on, Andy Haldane, you talked about the uncertainties around business and preparedness and so on. What can we learn about ensuring that the support schemes that are in place do not end up being truncated and damage the wider economic outlook and employment?

Linked to this is the point about structural unemployment. The analysis seems to suggest that this will not happen but, when you take youth unemployment, which is expected to be at a million, would you say that we need to think about it in a more segmented way? Do we need better targeted intervention and not just Kickstart, which is short-term and only for six months, to address that particular aspect or other forms of unemployment and structural impacts on certain groups?

Andy Haldane: Rushanara, on my prediction of a V, of course I never did quite predict a V, did I? I described the economy as recovering in a V-type pattern, but I did not predict that it was going to keep along that path.

Rushanara Ali: Perhaps I should not have given you the credit, then, as I did.

Andy Haldane: I only ever uttered one line on this, which was, "So far, so V". The "so far" was backward-looking. That is just a small point of clarification.

To your points, the extension of the furlough scheme and the increased generosity of the furlough scheme relative to the job support scheme has been a real positive. Both extending the period of insurance and making that insurance slightly more generous is good news for workers in terms of lessening their degree of uncertainty and boosting their incomes. It is also good news for businesses, providing them with a degree of assurance. I would expect that degree of assurance and insurance would remain in place as long as the risks remain elevated. Certainly, those are all the indications the Chancellor has given.

To your point on youth unemployment, nothing weighs with me more heavily than that issue right now. We know that recessions hit hardest those who are youngest and those with fewest skills, and this one very much will be the rule rather than the exception on that front. We know the loss of income for young people that flows from entering the world of work in times like this can last for years, if not decades. Without going into the specifics of schemes, it is rightly a focus of policy attention to mitigate as far as possible those scarring effects, where the scars are plainly deepest and longest lived among younger people.

Michael Saunders: I am worried about the hangovers from the pandemic, even if and when an effective vaccine is widely rolled out. There will be effects on the labour market. We have already seen quite a sharp drop in employment among 18 to 24-year-olds, and we have the prospect of a more significant rise in unemployment across the whole population in the spring. There has also been a big rise in corporate debt. Corporate debt now is significantly higher than it was in previous years, and many households have also seen their savings depleted.

Of course, the overall household savings rate has gone up, but that is really concentrated at the top end of the income scale. At the bottom end of the income scale, many more households have seen their incomes weaken and their savings fall and so will come out of this pandemic in a worse financial position.

I also worry about the scarring effects on demand through risk aversion. Until this year, the idea that the economy might suddenly fall 20% was unthinkable. It was not something that firms would factor into their planning. Having gone through this experience, firms will look to have greater resilience in their balance sheets. They will be more cautious about overborrowing and they will want to hold higher stocks of liquid assets than they did going into the pandemic. That is likely to be reflected in greater caution over risk-taking, investment and hiring.

Obviously it is better to have a vaccine than not, but those are hangovers from the pandemic, even as and when there is an effective vaccine, that I suspect will weigh on the economy for some time.

Q92 **Rushanara Ali:** Silvana, did you want to come in quickly on any of these points or what we talked about earlier around resilience?

Professor Tenreyro: I agree with Michael. I am particularly concerned about the effects on employment and income, which will keep dragging on the economy even when the direct effects of the virus fade thanks to the vaccines. I am concerned about the longer-lasting effects.

The extent of scarring in some sense depends on the policy response. Supportive policies that help bridge across this period will reduce those scarring effects and help avoid unnecessary business failures and defaults and help support cash flows. There is a strong role for policy to play here in bridging across this period. With confidence in the vaccine, we can do that more forcefully.

In some sense, what I am saying is that the scarring effects are not written in stone. They can be affected by policy and we should be acting to avoid them, given that most of the businesses that were viable before should be viable post vaccine. The same is true for employment and the matches.

Q93 **Julie Marson:** I would like to carry on with the discussion about these issues but specifically how they relate to business investment, please.

Perhaps I could turn first to the Governor for his views. Business investment often tends to be one of the most volatile components of the economy in recovery or recession. In contrast to household spending, business investment has seen virtually no recovery at all in the third quarter. Is there anything that economic policy can do to restart investment, or are we totally dependent on resolution of the health crisis, so a vaccine and so on?

Andrew Bailey: That is a really good question. I have two things to say on that. First of all, one of the most important things we can do—this obviously affects more than one thing, and we have been discussing both of them this afternoon—is to reduce the level of uncertainty, because there is a well-established relationship, certainly in the economics literature, that the higher the level of uncertainty about the outlook for the future, the more negative the effect on investment, because in a sense it increases the benefit of waiting to make the decision to invest.

It is true to say—again, I say this with no comment on the substance of policy—that we have been living in a world of very high uncertainty in this country. Covid has obviously taken this to unprecedented levels, but we had higher uncertainty before that, to be frank. To a degree, that is related to finding a way through the implementation of Brexit. Reducing uncertainty on both of those fronts is a precondition of giving greater confidence for investments.

The second thing, which I spoke about last week in some remarks I made, is the pressing need to ensure that we have a financial system and particularly investment management that can support long-term investment. You may have seen that we, the Treasury and the FCA have set off a piece of work with industry to look at what needs to be done to encourage and facilitate that level of investment. I am thinking here particularly about the long-term holdings of equity investment in UK firms. There is no question that, coming out of Covid and implementing our new trading arrangements, we are going to need that investment. There will be firms that will come out of Covid with more stretched balance sheets, and we need to avoid a sector that has excessive degrees of leverage.

I am very focused and very determined to do everything that we can do—and this particularly falls into the remit of the Financial Policy Committee and its work on productive finance—to support sustainable investment in the economy. We have already identified and outlined various areas that we will be focusing on in that, particularly in terms of investment in pension funds, asset management vehicles and, indeed, our own prudential rules, by the way, as to whether there are aspects of those that are acting to deter investment, because it is so important. Those will be important issues going forward, because you are right in your diagnosis of the investment situation.

Q94 **Julie Marson:** When do you expect to have some kind of resolution or results from those considerations?

Andrew Bailey: I suspect they will not come along in one go, because I have just outlined quite a wide-ranging set of issues. We have been working on it for some time. We announced it last week. We have been talking to various bits of the financial services industry for quite a while, so it is not unfamiliar to them. You may remember the work that TheCityUK has been doing for a while as well in that field. I am hoping that we have, in a sense, a platform. We are certainly not starting from nothing.

We also have quite a lot of work internationally as well. Another thing that came out last week as well was the Financial Stability Board's publication on the so-called dash for cash or the instability that we saw back in March. That too feeds into this work, because it goes to the question of what are sustainable long-term investment vehicles and what are not sustainable long-term investment vehicles. We have some work internationally on that front.

I am very keen that we push this along, because, frankly, we have to be in a position where, if, as we all hope, this uncertainty is going to lift next year, we can move ahead quickly and support industry and investment.

Q95 **Julie Marson:** I do not know whether Andy has anything he would like to add to that, but I would also like to ask whether a lack of supply of credit has also contributed to that lack of recovery in investment in comparison with the fundamental lack of demand from firms.

Andy Haldane: I will try to pick that up. The question is very well placed, because it is clear that business investment has been the single largest missing ingredient from the recovery so far. The numbers make that absolutely clear, with business investment 20% or 30% down on a year ago.

We do a regular survey of credit conditions that asks about the extent to which this reflects a lack of demand for credit by companies or an absence of supply. I must admit that my sense so far has been that this has principally been a lack-of-demand story, for understandable reasons. With uncertainty being as high as it has been, as Andrew mentioned, and with uncertainty about future demand in particular being as large as it has been, it is understandable that businesses are not actively seeking out credit at least for investment purposes. Of course, companies have been borrowing in real scale over this period to tide over their cash-flow shortfalls. They have borrowed materially more this year than in any of the preceding four or five years.

It is principally a demand-side story rather than a supply-side story, although that is worth watching as we approach the recovery phase, because, as we have seen in the mortgage market, there is heightened risk aversion and concern about credit risk on the part of banks vis-à-vis mortgages, and this also might be true when it comes to making loans available to companies.

I would add one last point on this. The uncertainty about demand will only resolve itself in the fullness of time, but there are some business investments that could be made right now on a no-regrets basis. We know that many businesses will need to make investments in the near future to improve their digital infrastructure, their digital kit, to prepare themselves for the new world of business. We also know that businesses will need to make some no-regrets investments when it comes to greening their business models. There would be great virtue in the current environment, as a way of adding some further strength to the recovery, if ways could be found to create incentives to bring forward those no-regrets investments in digital and green in particular.

Q96 **Julie Marson:** I will come to you in a moment, Michael, but, Andy, you used a really interesting phrase, "the economics of Chicken Licken". Were you calling on firms to take that leap and not take on the uncertainty, by addressing it head on?

Andy Haldane: That comment in particular was about what I sensed was a sometimes slightly imbalanced communication about the data flow we were getting on the economy. A little bit too much time was spent dwelling on the negative news and an insufficient amount on the positive. The general point absolutely applies that at the moment we should be doing all we can as policymakers to provide a degree of insurance and confidence to business, to encourage them to bring forward those investments that are otherwise at risk of being backloaded. The key point there is that confidence and activity will be generally self-fulfilling in its impact on the recovery. There is something important there as a matter of public policy about bringing forward investments that are otherwise at risk of being put on the backburner.

Michael Saunders: I wanted to highlight the extent to which, over the last few years as a whole, Brexit uncertainty has played a major role in dampening business investment. Since early 2016 and up until the end of last year, so before the pandemic got going, business investment in the UK was up 1% over that period. That is by far the weakest in the G7. This year, the pandemic has hit business investment in all countries. Coming out of it, a major issue—this is one of my worries—is the extent to which the fact that the corporate sector has higher debts now than it went into the pandemic with will make it harder for firms to obtain finance at relatively low borrowing costs or whether they will be penalised for this debt burden, which they have had to take on to carry themselves through the pandemic.

Julie Marson: That is most helpful.

Q97 **Felicity Buchan:** Hello, everyone. I am going to ask questions on monetary policy and specifically on quantitative easing. Clearly, at the November meeting the MPC unanimously voted for an extra £150 billion of quantitative easing. That was above market expectations. Why did you decide to go for £150 billion? Can you try to quantify that in terms of almost base-rate equivalence in terms of basis points, if I can express it

in that way?

Andrew Bailey: There are two things here. First of all, we critically produce, once a quarter, an inflation forecast, and we use that forecast to guide our policy decision on monetary policy. That is done with the intent of meeting the inflation target.

As you will probably have seen from the forecast we produced, after taking into account the announcement on quantitative easing, we do have a central forecast, a modal forecast, that takes inflation back to target around the horizon of the forecast, which is obviously the intent of policy. There is a lot of uncertainty around it and a lot of risk around it. The mean forecast incorporating the risk is on the downside somewhat, but the modal forecast returns inflation back to target, which is obviously what we are here to do. Doing that amount of quantitative easing was part of that judgment about what we needed to do to take the inflation forecast to target in the central case. That is the first point.

There is a second point I would add to that; these are points 1(a) and 1(b). In the run-up to the meeting, obviously we were in a world where, as we were discussing earlier, the incidence of Covid was increasing. The second wave was increasing rapidly even before we got to the lockdown, so we were having to factor in the economic consequences of that as we were doing the forecast. That is relevant to the judgment about the scale of quantitative easing that we had to do.

The second distinct thing I want to say is that, in terms of the way we structure the £150 billion, we also announced that it would take effect over most of the course of the next year, leading up to the latter part of next year, 2021. That is quite a long period. It is not unprecedentedly long, but it is quite a long period. It is longer than our previous recent announcements. Speaking for my own part on this, it was done with the intent of giving greater confidence to market participants and to the economy more generally.

What is important with quantitative easing is not only the initial announcement of the scale of the intervention but also confidence going forward on what people can expect us to be doing. Of course, we will judge it at every meeting, because we make policy meeting by meeting, so we can vary it, but it was done designedly, certainly speaking personally, with the intent of giving greater confidence in a time of great uncertainty.

Those were the reasons why I felt we had to do something that was a large and quite decisive intervention. I will finish by saying—I have said this a number of times of the course of this year; I said it in the remarks I made at the virtual Jackson Hole conference—we have had to use quantitative easing not only in scale but also quite determinedly as a demonstration, effectively, of our commitment to use policy actively.

Q98 **Felicity Buchan:** Is there a limit to how much quantitative easing we

can do? We are now up to £875 billion. How much more can you do?

Andrew Bailey: I would not want to say there is a particular limit. I will tell you why. I remember being asked this question at my confirmation hearing, which seems a bit like prehistory now, but it was back in February, or maybe even early March.

Mark Carney and I were essentially talking from the same script on this, to be honest with you, in saying what the headwind looked like in that pre-Covid world. Of course, that has changed a lot; it has changed a lot because the world has changed and, frankly, the amount of debt that we can buy has increased. In a sense, I do not want to give a steer on what the future might look like in that sense. It will be guided by what we need to do in terms of the intervention.

I would draw out two points about the remarks I made at Jackson Hole. First, we think there is an element of what I call state contingency to quantitative easing, i.e. the effect of it can vary in different states of the world. Certainly back in March it was probably at its most effective, because we were using it not only to counter macroeconomic effects but also market uncertainty. That does not mean to say that it does not have an effect in today's world. Fortunately, we do not face the same financial market uncertainty, but it does mean that whatever future interventions we make will be guided by that.

Secondly, in terms of the way forward from here—hopefully we do in short order come to the point when we are seeing a turn in the cycle—we are going to have to look very carefully at what the implications of all this are, because the Bank of England's balance sheet, as you said, is now heading to well over 40% of UK GDP. It is actually £895 billion, because there is £20 billion of corporate bonds as well, but £875 billion of Government debt is a very big number. This year's interventions are now at £450 billion of announced interventions. We will not execute them all until well through next year, but that is a huge intervention. The Bank of England's balance sheet is now at its highest level ever and highest level when indexed to GDP, so we are going to have to start thinking about, when we get to that point, how we adjust back. For the moment, we still have more tools and more things we can do, if we need to do them.

Q99 **Felicity Buchan:** Andy, in June, you voted against the increase in quantitative easing; in November, you voted for the £150 billion. Had you known about the good news on the vaccine front, would you still have voted the way you did in November?

Andy Haldane: It is tough to know for sure, because my November vote and everybody else's November vote came off the back of us having gone through a very long and very involved forecast round in which we evaluated all of the effects on the economy. I have not done that yet for the vaccine; none of us have done that yet for the vaccine. The time to true-up on all that stuff will be February, so it is hard to run the "what if"

experiment for how I might have voted had I known the vaccine news then.

I will just say two things. One is to try to answer more directly the question you asked at the beginning, which was about the marginal effect of the £150 billion. Roughly speaking, the ready reckoners we have historically used for QE have been that £10 billion of QE buys you the equivalent of 10 basis points in terms of interest rates, which would mean that the £150 billion we announced in November would have been the equivalent of 1.5 percentage points of Bank rate.

Truth be told, they were ready reckoners from a time when the world was a bit simpler than it is now. Certainly, interest rates were materially higher back then than they are right now. Our sense of the incremental effect of a dollop of QE now is somewhat lower than would have been the case in the past. A better way to think about the £150 billion extra of QE in November is as an insurance policy. It was a safeguarding device to prevent any premature rise in borrowing costs across the economy for companies and households that otherwise would have put at risk that recovery I mentioned earlier on.

That was really the motivation for me and maybe for some others behind voting for the extra QE in November. We had seen the risks realised for the economy as a result of the second wave and the accompanying restrictions. Extra insurance was called for to provide a bridge between now and those improved treatments and, prospectively, vaccines coming on stream. Was that judgment finely balanced for me in November? Yes, it was. I thought more insurance was needed, but I was weighing up a larger package and a smaller package. I went for the larger package on the grounds that the virus was picking up pace faster than anyone expected. We had just approached a national lockdown and we needed the bridge, therefore, to be somewhat longer than I had thought previously.

Q100 **Felicity Buchan:** Silvana and Michael, do you want to add anything on QE? In particular, do you have any thoughts about the fact that we are hearing that we are not getting the same bang for our buck from QE, if I can use that terminology? Should we be using it as much going forwards?

Professor Tenreyro: For me, the rationale for the recent QE expansion, as Andy said, had an insurance motive. It was a preventive measure to avoid any tightening in monetary conditions. Going back to your initial question, for me the appearance of the vaccine makes it even more essential that we avoid those risks. We need to bridge the economy to a time when demand is able to recover, so we need to support the economy to get there.

Again, QE was done as a preventive measure, and we should keep it in order to avoid any tightening in monetary conditions, which would be very damaging now that we know that those furloughed workers can

more confidently go back to their jobs, and businesses that were viable before should be viable post vaccine.

The context is very important. We are undershooting the target. You were asking about the limits of monetary policy. We are way below our target for inflation, so there is a lot of margin to stimulate demand there.

In terms of getting the bang, it is true that with long yields so low the effectiveness or the power of QE is much lower. For me, it is not so much the boost to activity right now; it is more the insurance motive to avoid any tightening in conditions that would damage the overall economy and get in the way of us achieving our remit.

Q101 **Chair:** I just want to ask one quick question of Andrew, just following on from Felicity's questions. You said earlier that there were circumstances in which you could imagine inflation spiking up, maybe around what would happen if there were no deal, with tariffs, supply-side constraints and also a depreciation of the pound that might be consequent on that happening. Is there any risk here that that and other factors combine to suddenly mean that inflation spikes up and stays up at the sort of level that starts to severely question whether any further QE is appropriate?

Andrew Bailey: That is the judgment we would have to make. We mentioned earlier the path of inflation expectations, because what we would obviously be seeking to avoid there, as you rightly suggest, is seeing any second-round effects where the initial spike in prices becomes embedded in inflation expectations, which then gets embedded in the labour market, for instance, into pay settlements.

We have been there before, as we say, so that is what we will have to be watching out for very carefully. That will be a judgment we will have to make, if we do have to make it. You can tell from history that it can be a very challenging judgment to make when you are trying to, in real time, sort out the difference between what is going to be limited to the first-round price-level adjustment and what is going to get embedded into expectations and become second-round. That would be challenging, but we would have to make that judgment.

Michael Saunders: I just want to stress a point. We start with an economy that has a significant amount of spare capacity. The level of GDP is 10% down from the end of last year. That was the position in the third quarter. The shortfall in GDP will be greater now in the fourth quarter, given the various signs that the economy has weakened. The labour market has plenty of slack. We see a lot of firms doing pay freezes or lower pay deals this year.

The economy is not on the cusp of higher inflation. If anything, it is the opposite. In the event of a no-deal Brexit, there are various factors that could cause a temporary rise in inflation, such as tariffs or exchange rates, but that kind of outcome would probably produce even more spare

capacity in the economy, which would give us more persistent disinflationary pressures going forward.

Professor Tenreyro: If I may add one more thing, in terms of tariffs, the effects from WTO tariffs are bounded. If you think about the range we have in WTO, the share of imported goods in the basket is around 30%. I would say one percentage point would be the absolute maximum. That is very bounded. We are starting off from 0.7%. The risk is that with exchange-rate depreciation there might be more there, but in terms of tariffs, this would be a one-off level effect.

Q102 **Mr Baker:** I refer to my shareholding in Glint Pay. I just want to pick up on the questions about QE and start to verge into some of the issues of MMT, modern monetary theory, as it comes up. You are heading towards £875 billion of QE. Governor, can you just remind us what the total amount of M4 outstanding is, more or less?

Andrew Bailey: I do not have that off the top of my head.

Q103 **Mr Baker:** It is about £2 trillion; I just checked earlier. I might have looked at the wrong series, but I looked at LPMVQXV. It is about £2 trillion, and that is what I expected it to be. That means you are doing quite a lot of QE as a proportion of the money supply, does it not? What does that actually mean?

Andrew Bailey: You are right. There is an interesting chart—I am happy to send it to you, if you want—that relates what you might call the stock of central bank money, which is the stock of QE plus notes on our balance sheet, to the stock abroad money. Over time it is pretty interesting. Here is the interesting thing: it takes it back to about where it was in the 1950s, if I remember rightly, but of course at hugely different levels. It is quite interesting from the point of view of the financial system, actually.

Mr Baker: I would certainly be very interested to see it.

Andrew Bailey: We will dig it out and send it to you.

Q104 **Mr Baker:** I was just really observing that the numbers and the proportions are now such that it seems to be stimulating all sorts of interesting ideas about how people think the monetary system ought to work. One idea that somebody brought to my attention earlier is this question of why you do not just write off the bonds when they have been bought by the asset purchase facility. Could you just remind people, Governor, why it is that we do not just write off the bonds when they have been bought by the asset purchase facility?

Andrew Bailey: You would have a huge hole in the Bank of England's balance sheet, if you do not mind me saying so.

Q105 **Mr Baker:** I am not proposing it as an idea. I am saying it is an idea. As I understand it, the modern monetary theorists seem to be suggesting that the central bank should inject money and then, when inflation comes in, it should be taxed away somewhere else. I am just trying to put on

the record, for them, why it is that we do not write off these bonds.

Andrew Bailey: As I read the modern monetary theorists, they basically say that you should go on using that mechanism until you get a sign of inflation and then you should, in a sense, stop. As we have just been discussing in the answers to the last set of questions, I am not saying I am an advocate of it, but if only life were that simple, if you are an advocate of it. Unfortunately, history tells us that life is not that simple.

You have seen a little bit of debate between Michael, Silvana and me on the question of inflation. This is not a straightforward question to answer, by any means.

Q106 **Mr Baker:** Professor Tenreyro, what is your judgment of modern monetary theory, please?

Professor Tenreyro: I should refer to Willem Buiter. He referred to it by saying that the good things in MMT are not new and the new things are not so good. There are many sensible ideas there. As a general rule, you expand demand until you hit inflation—they have in mind 2% inflation—but then the part that is harder to agree with is the bit about how you can do stabilisation of inflation later on by moving taxes. That is really difficult to implement in real time, as they suggest.

I also do not agree with the fundamentals behind why people work and the taxing that they have in mind. They think we work in order to pay taxes or something like that. This is based on Stephanie Kelton's book on the deficit.

More generally, the problem with MMT is that sometimes it is very difficult to pin down, because there is a lot of talk but there is no clear model with assumptions and implications. In some sense, there is no discipline that can guide us as to what is being assumed and what is being derived as a result of those assumptions.

Again, there are some good intuitions here and there in the theory and some helpful guidance. Do not withdraw demand too early if you have not hit the inflation target, for example. I would agree with that, but I do not agree with them in the tools beyond that, because I just do not think they are as helpful as monetary policy tools.

Q107 **Mr Baker:** Forgive me, Mr Saunders, but I will just give Andy the last word on this, because I know you are a very deep thinker. What is your take on modern monetary theory? Perhaps I should ask what your message is to the modern monetary theorists.

Andy Haldane: As Silvana mentioned, there are elements of this that make some sense. My problem with it comes in three forms: first, it is not modern; secondly, it is not monetary; and, thirdly, it is not really theory.

It is not modern because it is the oldest trick in the book. We have seen that trick repeated many times through history. Typically, it has not ended very well. It is not especially monetary, because in essence it is about the intertemporal budget constraint on the Government; in other words, it is a fiscal act dressed up as a monetary one through the consolidated balance sheet of the government sector. It is not really theory because this is a trick that can be pulled off once in a one-shot game, but, in a repeated game, you find that the good gets undone. That is why I am a sceptic.

Mr Baker: That is a huge relief.

Andrew Bailey: Can I make one more point?

Mr Baker: Of course you can, Governor. I am loving it.

Andrew Bailey: I am sorry; we are all going to pile in now, but this follows on from what Silvana was saying. I have said this before in previous hearings. What we have done on quantitative easing is only possible because we are a credibly independent central bank. I have read Stephanie Kelton's book as well. She does not believe in independent central banks. I cannot conclude from her book that she believes in independent central banks, so it falls apart on those grounds as well.

Q108 **Mr Baker:** For what it is worth, I have read a lot of Ludwig von Mises, and I am not sure whether he supports full reserve or fractional reserve banking, or indeed having central banks, but that is by the bye.

Mr Saunders, how is it all going to end? How is the Bank of England going to get out of this enormous amount of quantitative easing?

Michael Saunders: It depends on what the economy does. If the economy strengthens and is, for the sake of argument, stronger than expected in the November MPR, capacity use will rise and subsequently inflation pressures will increase. Under that scenario, which is not my base case, by the way, you would expect us to tighten policy. We have shown in the past that we are willing to tighten policy promptly if necessary. The inflation target is a symmetric target. It encourages us to loosen policy when the economy is depressed and has plenty of spare capacity, but it also ensures that, if necessary, we tighten policy in order to keep inflation low over the time. It is a symmetric target; we take that strictly.

Q109 **Mr Baker:** The point I am really making or trying to extract is that, as we work our way towards this big fiscal event we have coming up in the spending review, we should eventually expect QE to be unwound still. Is that right, Governor? Should we still expect these bonds to be put back in the market? You are nodding, for the record.

Andrew Bailey: Yes. QE will need to be unwound over time to the point where the level of central bank reserves is consistent with what I might call the stable continuous demand for them.

There is a reason I say that. Let me give you a bit of history. Pre the financial crisis, the Bank of England ran monetary policy with a level of reserves that was, if I am right in saying, just under £30 billion; it was very low. Unfortunately, it did not factor in the need for the monetary, because of financial stability. Financial stability is a whole second reason for central bank reserves existing. There is no question that post the financial crisis the level of our balance sheets and the level of our reserves is going to be substantially higher than it was pre the financial crisis.

We have not got to the point—we have never had to address this question post financial crisis—of finding out really what that level of reserves is. Interestingly, the Federal Reserve had an interesting experience a year or so ago, where they had a sudden spike in the overnight interest rate and it appeared that the combination of the level and distribution of reserves was getting to a point when it was hitting the target, even though it is vastly bigger than it was pre-crisis. The level of our balance sheet will be bigger on a sustained basis, but it will be lower than it is today.

Mr Baker: I thought this question was sufficiently important to have a good trot around it, but I have now used up all my time.

Chair: You have, but I think you enjoyed every second of that, Steve.

Mr Baker: I certainly did. If I could have twice as much, I would certainly use it. In fact, if the Bank wants me to pop round for an extra session, I would be glad to do that.

Andrew Bailey: We would love you to come round; we can discuss von Mises.

Mr Baker: Fantastic.

Q110 **Siobhain McDonagh:** I would like to look at mortgage interest rates. Even though you are cutting rates and printing money, retail interest rates on mortgages have risen further since the summer, especially on low-deposit mortgages, which is throwing first-time buyers out of the market, but this is now spreading to higher deposits. Is this a sign of dysfunction in the mortgage market or an appropriate response to credit risks?

Andrew Bailey: I am happy to start on that one. You are right: what we have seen over the course of recent months are some quite different moves in the mortgage markets. The effects of interest rate cuts that we have made this year have come through in what are called low-LTV floating-rate mortgages. You are right that what has happened, though, is that for high loan-to-value ratios, particularly the 90% to 95% loan-to-value ratios, the market has tightened considerably, both in terms of the pricing of those mortgages and the products on the market.

Let me also just add that, by the way, there is no lack of supply of mortgage lending in this country. Actually, activity in the housing market

is at its highest levels since before the financial crisis, so the overall flow of mortgage lending is very high, but it has tightened, as you rightly say, at the high LTV end. That is important, because, as you rightly say, most likely you have a concentration of first-time buyers at that end of the market. I should say that we are beginning to see, in the last few weeks, some reappearance of certainly 85% LTV mortgage products.

Why is this happening? The reason is because there is such uncertainty about the path of house prices. Actually, the path of house prices this year has been much stronger than you might have thought it would be. In fact, in September we saw one of the fastest ever monthly increases in house prices that we have seen, but certainly when we talk to people in the market, they are very uncertain about the path of house prices, particularly once the stamp duty effect goes away. That will feed through into the supply of high-LTV mortgages because obviously high-LTV mortgages are the ones that are more likely to go into negative equity in the event of a correction in house prices in the future. There is a second area of uncertainty that I will come on to in a moment, but while that uncertainty exists, there will be a lot of caution at that end of the market.

The second area of caution goes back to what we have been talking about earlier, which is the outlook for the economy as a whole and the outlook for income and unemployment. That is highly uncertain. Lenders have had to make judgments on mortgage applications where there is greater uncertainty than usual on future income. If people are on the furlough scheme, for instance, lenders have to decide whether they are they going to return to their usual employment. The mortgage holiday has been an important device for smoothing the impact of the shock we have had this year. If there is a new application for a mortgage that indicates that there has been a mortgage holiday at some point in the course of this year, what does the lender conclude about that?

There is a lot of uncertainty around. Again, we need to move to a point where that uncertainty is reduced. I suspect then that the mortgage market will start to correct because there is no shortage of supply of mortgage lending.

Q111 **Siobhain McDonagh:** Unless you are a first-time buyer who needs a 90% or 95% mortgage.

Andrew Bailey: Yes, unless you are at that end of the market.

Q112 **Siobhain McDonagh:** Without your first-time buyer, you are just supporting second-property owners and buy-to-let landlords. For most of the MPs on this Committee, that is not really who they want to see most supported.

Andrew Bailey: I agree with that.

Q113 **Siobhain McDonagh:** Is the ongoing rise in mortgage rates hampering the transmission of monetary policy?

Andrew Bailey: It has to be set against the fact that the level of activity in the housing market and the level of lending in the mortgage market are at very high levels, so there is no shortage of activity in the housing market at the moment and therefore in terms of transmission of monetary policy. You are making a point that is correct and that somewhat goes back to the question that Rushanara Ali was asking earlier, which was right, which is that, unfortunately, when you look at the research on the impact of Covid itself, it is skewed towards those with lower incomes and the young. There is also a gender skew in the impact of Covid in terms of incomes, and there may well be an ethnicity skew as well. These effects are going on. Monetary policy has its limitations in terms of what it can do in response to that, I am afraid, but we observe those distributional issues.

Professor Tenreyro: There is no sign that the transmission mechanism is impaired. Risk has increased, as the Governor said, because there is house pricing risk, employment risk and income risk. It is natural that would be reflected in the pricing of higher-risk mortgages and that is what, in some sense, monetary policy tries to offset. There is no causality to be drawn from the higher risk premium in mortgage rates to the transmission of monetary policy. It is the other way around. Monetary policy is acting against those forces, if you will.

Michael Saunders: This is quite an important point. The transmission of monetary policy is working as normal, but recessions have hangovers and those hangovers partly take the form of wider credit spreads and caution over lending. You see that in the mortgage markets. You may see it, once the Government support schemes come to an end, also in the corporate loan market. Those hangovers from recessions are one of the reasons why, in recoveries, you do not usually bounce back immediately to where you were.

Q114 **Siobhain McDonagh:** This question is to all the members of the panel and takes onboard some of the points you just made. Soaring demand for housing and mortgages suggests that buyers are bullish about house prices, but rising interest rates suggest that lenders are concerned about the future in terms of price falls and possible defaults. Are you concerned about the disconnect between these, and who is right?

Andrew Bailey: It comes back to the fact that we were talking about earlier. This is quite a segmented market at the moment, so the strength of the market is in the lower loan-to-value end of the market, where house prices are raising. Therefore, I do not think people who are in that segment of the market are observing the same tightening of lending rates; they are not observing tightening of lending rates. At that end of the market, the transmission of monetary policy has worked pretty much as expected. The interest rate cuts we made earlier in the year have passed through. If you are in that part of the market, you are not observing the same effect.

The answer to your question is that it is a very segmented market. If you are in that mainstream part of the market, you are not looking at the higher LTV end of the market because that is not the market you are in. You are not in that position and you do not put yourself in that position. If you are trying to get a mortgage with a 5% deposit then you see it very differently.

If you look at higher LTV lending rates, we have seen a very strong increase in competition in the mortgage market over the last five years, which has brought rates down beyond any cuts in the Bank of England official rate. One reason for that was the ring-fencing changes, which have increased the supply of lending into the domestic mortgage market and so has increased competition in the domestic market. If you put it into that perspective, if my memory is correct, at the high LTV end, the increase in rates has taken us back to about where we were in 2015. It is also worth putting it into that perspective. The competition effects that go on in the mortgage markets are also a feature of driving the spread over the official rate.

Professor Tenreyro: Two forces have also been boosting demand in the housing market. One is people reassessing their housing needs and rebalancing their commuting needs through the pandemic, so there has been a surge in the demand for houses with a garden, for example. The other one is the stamp duty holiday and, because that is perceived as temporary, it would generate a bigger short-term boost in demand. Set against that, there are the supply factors that the Governor discussed. It is not about who is right or wrong. There is demand and supply, and these things are moving at the same time.

Q115 **Alison Thewliss:** I have some questions around the greening of the Bank of England. In your recent speech, Governor, to the Green Horizon Summit, you acknowledged that the Bank's short-term interventions did not discriminate on the basis of climate change. Can you explain a wee bit more about why you felt that was the right course of action, given the potential long-term impact of the financing involved?

Andrew Bailey: Yes, I am happy to do that. I felt two things back in March. First of all, as Andy said earlier on, we had a 20% fall in GDP, which is absolutely unprecedented in the economy, and that called for very big and fast measures, both from the Bank of England and obviously from the Government, in fiscal policy. Given that it was clearly putting many jobs at risk, we could not turn round to ordinary people and say, "I am sorry. You work for a company that is not really where it should be from the point of view of the green economy and climate change, so you are not going to benefit from support in this crisis". I think I used the word "unconscionable"; it really is.

I have had a lot of correspondence. We even had some protestors outside the Bank of England. It does not, in any sense, take away our support for the objectives of climate change, but I just felt that, in that situation, it would be unconscionable to say to people, "I am sorry. You are just

working for the wrong sort of company. I am sorry that the economy is going off a cliff, but we are not going to help you". That just does not seem fair; it fails the test of fairness.

Q116 **Alison Thewliss:** I would certainly agree from the point of view of having Aberdeen, for example, and the oil and gas investment there. Could there not have been more structured support to support both those jobs and the green transition into those new industries in future?

Andrew Bailey: Yes. I remember saying at the prehistoric hearing back in February or March that I want us to investigate and to move on. By the way, in our £20 billion corporate bond portfolio, which is the bit between the £875 billion and the £895 billion, we are neutral buyers, in the sense that we have bought, essentially, according to the index, the weighted average of corporate bonds in issuing selling market; we do not discriminate. I do want us to move towards having green, climate-change-related objectives. By the way, as we have announced, we have started work on that.

It is not an easy question and it requires some pretty careful thinking. Let me explain why. You can obviously take what I might call a rather binary view and just come up with a measure of greenness, for want of a better word, and allocate the portfolio that way. That does not get to what we want to achieve. A point that Mark Carney has made many times is that we want to support the transition of the economy to being consistent with the climate change objectives. To do that, we have to have a portfolio that enables and incentivises companies to make that transition. Just investing in companies that are "green" does not do it in that sense.

That is why, frankly, I am very cautious about some of the so-called taxonomies that are being produced. The European Commission has one. They risk this binary outcome and they do not support transition. I want us to think about how we can support transition. Then, of course, you have quite a difficult judgment in there as to who is able to transition and who is not, and it is not easy. That is the work we are doing, and we are happy to be very transparent with the Committee on what we are doing.

Q117 **Alison Thewliss:** You have previously committed to working with the Treasury to ensure that corporate bonds that are bought as part of quantitative easing are not contributing to climate change, and Sarah Breeden repeated that commitment to us recently. Does there need to be more done to perhaps change the Bank's remit? If the Government did that to explicitly reflect climate change, how would that help the Bank in taking that policy forward?

Andrew Bailey: Yes. That is something we are talking to the Treasury about because it would be possible to make a reasonably straightforward change in probably the remit letter that we get from the Chancellor that would do that, but we are talking to the Treasury about that. Again, we will come back to you on that when we are making progress.

Q118 **Alison Thewliss:** Would there need to be further legislative change?

Andrew Bailey: I do not think so, no.

Q119 **Alison Thewliss:** I am just trying to seek out if there are any particular barriers.

Andrew Bailey: It is a very good question because, when we first thought about, we asked ourselves that question. We have not definitively concluded, but we have got to the point of concluding that it does not need legislation.

Q120 **Alison Thewliss:** Can you tell me a bit more about the climate stress test that you have said will go ahead in June 2021? Can you explain a bit more about what scenarios you will be using and what outcome you hope to get from the stress test?

Andrew Bailey: We are going to use three scenarios. The three scenarios are that change starts straightaway, as it were, in terms of a course of change towards meeting the climate goals that is consistent with meeting them. The second scenario will say, "What if that change is delayed?" The third scenario is, "What if it does not happen?" Those are the three broad scenarios. What are we going to do with them? It is not a classic stress test. It is not designed to adjust a capital ratio on a bank. It is far more about what I call risk management considerations, so we are really getting at how banks risk-manage their balance sheets and exposures consistent with those climate change objectives and—again this is a point that Mark Carney has made many times—consistent with transition as well as the static point in time balance of asset portfolios.

It is risk management. It is the impact of those portfolios under certain scenarios going forward to show to institutions the consequences in, frankly, the two less good scenarios if they do not risk-manage those scenarios. That is really the primary focus of it. It is a tool to ensure that banks are risk-managing and therefore taking investment decisions and asset decisions that are consistent with, frankly, beneficial outcomes to them but also consistent with achieving the climate change goals.

Q121 **Alison Thewliss:** What happens if they fail the stress test?

Andrew Bailey: It will not be strictly a pass/fail, but if they do not meet the terms, we will obviously have very focused discussions with them. By the way, it is a tool for them to use as well to ask how they reorientate their risk management and balance sheet management going forwards. For all of us, it will be quite an interesting show-and-tell, as it were, because this has not been done before. No other country has done this.

Q122 **Alison Thewliss:** It is very interesting in terms of what you are measuring and whether you are measuring the correct things and whether or not there is there is an effect in having done it.

Andrew Bailey: Yes. As Sarah Breeden said to you, we will learn a lot from this and it will no doubt cause us to adapt some of the things we do.

Q123 **Alison Thewliss:** Lastly, are you considering implementing a brown penalising factor or a polluting penalising factor for investments into the capital regime for firms?

Andrew Bailey: No. That is not part of this set of stress testing. We have not got to that point yet.

Q124 **Mike Hill:** I am going to talk about the *Sun* newspaper, not literally, but about the £150 billion indemnity increase and the alleged leak. Governor, in the early hours prior to publication of the latest Monetary Policy Committee minutes, the *Sun* newspaper, as you know, printed a headline, and it read, "Bank dishes out another £150 billion". It has been described in a Bloomberg article as "the Bank of England's worst leak in almost a quarter of a century of monetary policy independence". Do you agree with that sentiment?

Andrew Bailey: I take it very seriously and it is a very serious issue. I can tell you that we have an investigation going on to seek to get to the bottom of what happened. I take it extremely seriously. I cannot give you any information on that investigation at this stage, but I can tell you that it is very much going on.

You are right to use the phrase, "alleged". Let me say this: we have to assume that. I want to be clear with you that we take this as seriously as it can be taken. There is an interpretation, which some people have given me, which is that it was not a leak and that it was, frankly, based on two things. First, as I mentioned earlier, there were some people in the market who had shifted. The market as a whole, for some time prior to the meeting, had been thinking we were going to do £100 billion of QE. Every time we meet, the market has an expectation of what it thinks we are going to do. It is not based on anything from us; it is based on their second-guessing, frankly. There was some evidence in the days prior to the meeting that, because of the shift in the severity of Covid, some market economists would begin to shift their numbers upwards or thought we might do that.

The second thing, as you probably know, is that we moved the time of the announcement at quite short notice, the day before, to 7 am, from our usual midday announcement. The reason for that was because the Chancellor, at rather short notice, was making a statement in the Commons at the same time. You are the experts on this, rather than me, but, as I understand it, the Commons timetables are quite fixed, as it were. It was clear to me that having both me and the Chancellor making different statements at the same time is not a very good thing to do. We have certainly never done that. We avoid it as a normal course. In this situation, it was just an event that happened.

It is possible, therefore, that people read more into that than they should have done because it was not in any sense signalling anything other than avoiding a clash of statements. They may have put those two things together and concluded that we were doing something different. Let me

reiterate: I do not assume that, because we have to assume that it was a leak and therefore we have to try to get to the bottom of it.

Q125 **Mike Hill:** You confirmed that there is an investigation ongoing. Could you, by any chance, state when we would get to know the outcome of that investigation?

Andrew Bailey: Unfortunately not, because, like all investigations, I cannot give you a clear read on when we are going to get to the end of it, frankly.

Q126 **Mike Hill:** As a consequence, can you outline the kind of security protocols now around monetary policy announcements? How many people have prior knowledge, for example? Who know what, and when? I know you have just touched on it, but there must have been changes in those respects.

Andrew Bailey: We have very high security around it. As you say, we have had 23 years of operating and the Monetary Policy Committee has had a very high record. The Bank of England has a very strong record on leaks, which I and my predecessor, as you know, put enormous value on and take extremely seriously. It is a very small number of people involved in the process. For obvious reasons, it is not a very large number of people. Obviously, as you can imagine, we will also be looking at the processes to see if there are points there where, even if they were not the cause of anything happening, we can tighten them up.

Q127 **Mike Hill:** It has been noted that a Treasury official sits in all MPC meetings. What kind of security arrangements have you agreed with the Treasury as to what they are allowed to do with the information that they gain?

Andrew Bailey: By the way, that arrangement with the Treasury is provided for in the legislation and it is a very sensible arrangement. It has been there since the origin of the Monetary Policy Committee in 1997, so there is nothing unusual or new about that. Again, we have strong arrangements with the Treasury. Let me be clear: I am not pointing the finger at the Treasury, so please do not conclude that in any sense I am. Those arrangements, again, have been very robust over time.

Q128 **Mike Hill:** No, neither was I. We are conscious that, before this, you and the Treasury had a correspondence, that you have a very clear working relationship and that you personally were in correspondence with the Chancellor. We just needed to be reassured that those security protections and workings were in place.

Andrew Bailey: Yes, indeed.

Q129 **Mike Hill:** Governor, at the end of the day, your predecessor appeared before this Committee about two very serious leaks that had happened under his watch that flagged broader issues within the branch's handling

of market-sensitive information. Should we draw a link between these events? Is there a pattern, or are you on top of it and is your security now robust enough to minimise and prevent such occurrences again?

Andrew Bailey: It is absolutely fair of you to say that. I do not think there is any pattern here in terms of these two things. You may have seen—I know I sent it to the Chair—that we produced a report on the Encoded Media incident; we published that in late summer, if I remember rightly. Whatever went on in the latest incident, they are very different incidents.

I am happy to talk about Encoded Media for a small moment. That arose from, frankly, a lack of clear line of responsibility as to who in the Bank of England was responsible for the IT infrastructure that supported the press conference and therefore the communications function. The report laid that out and it laid out the steps that we have taken since then to correct that. It is, again, a very important matter. Again, you can be assured that, having inherited that particular situation—Mark had certainly gone a long way to dealing with it in his time—I put a lot of emphasis on that, but they are very different in terms of the nature of the issue.

Mike Hill: Governor, it was a serious enough occurrence for us to raise in this Committee. Thank you for updating us on lessons learnt. I assume that there will be some reporting of findings in terms of your investigation. I am sure that the Chair of this Committee would want a report back to the Committee in its own right on that point.

Chair: That brings us to the end of this session. Thank you very much indeed to our panellists for appearing before us today. Hearing from you and having the opportunity to question you is always an extremely interesting, very rich and quite productive experience. All of us would convey to you that it has been exactly like that today, so thank you very much indeed. We have covered a wide range of issues. We have covered monetary policy, a little bit of fiscal policy, QE, inflation, Brexit, business investment, jobs and many other things, all of which are cloaked in the modern economic epidemic of great uncertainty going forward.

One ray of hope that has illuminated our discussions today has been the very recent news that there has been yet another breakthrough on the vaccine front. Perhaps I can conclude by both thanking the members of our panel but also those many thousands of men, women and scientists across the world who have worked so hard on achieving what appears to be a remarkable breakthrough and brings great hope to all of us. On that positive note, that concludes this session.