



Economic Affairs Committee

Corrected oral evidence: Bank of England: how is independence working?

Tuesday 25 July 2023

3 pm

[Watch the meeting](#)

Members present: Lord Bridges of Headley (The Chair); Lord Blackwell; Lord Davies of Brixton; Lord Griffiths of Fforestfach; Lord King of Lothbury; Baroness Kramer; Baroness Liddell of Coatdyke; Lord Londesborough; Lord Rooker; Lord Turnbull; Lord Verjee.

Evidence Session No. 15

Heard in Public

Questions 260 - 269

Witness

I: Kevin Warsh, Former Member, Federal Reserve Board of Governors.

USE OF THE TRANSCRIPT

1. This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.
2. Any public use of, or reference to, the contents should make clear that neither Members nor witnesses have had the opportunity to correct the record. If in doubt as to the propriety of using the transcript, please contact the Clerk of the Committee.
3. Members and witnesses are asked to send corrections to the Clerk of the Committee within 14 days of receipt.

Examination of witness

Kevin Warsh.

Q260 **The Chair:** Good afternoon and welcome to this hearing of the Economic Affairs Committee. We have a person of great experience joining us this afternoon, Kevin Warsh, a former member of the Federal Reserve Board of Governors, who joins us from Manhattan. Good morning to you.

Kevin Warsh: Good morning. It is a pleasure to be with you.

The Chair: It is very good of you to join us. I want to kick off with a very broad question. When you look back from your vantage point, given your experience of central banking and of the Bank of England in particular, what do you think the strengths and weaknesses have been of operational independence since 1997?

Kevin Warsh: Again, it is an honour to be with you. I come to you perhaps more as an expert on the Federal Reserve and global central banking and monetary policy than the Bank of England itself. As you know, I did a report on the Bank about nine or 10 years ago, on transparency, so I will share my broad conceptual views with you.

First, I would say that the grant of operational independence to the Bank was essential. It was a necessary prerequisite for the sound conduct of monetary policy, but it is not sufficient. Independence granted by the Government demands a few other things. It demands that the central bank also acts independently without favour to any one side, calling it the best it can. On balance over this period, the experience has been a good one for the Bank and for monetary policy, but of course it has not been perfect.

The Chair: On the record of inflation, some have argued that if you look back to the noughties in particular when inflation was low, too much of the credit has been given to central bank independence and it actually would have just happened de facto. How do you respond to that critique?

Kevin Warsh: Inflation is a choice. It does not just happen magically. It is not just a function of a benign environment, although benign environments surely help. The central banks deserve some credit, both in the United Kingdom and around the world. The Bank of England is not unique in having quite a good track record for most of the period starting around 2000, in a period that we broadly think of as the "Great Moderation." The environment was conducive to price stability. The broad conduct of monetary policy around the world was also conducive to price stability. I think independence was an essential ingredient, but, again, it was not an end unto itself. The granting of independence does not guarantee good outcomes; it is just a necessary ingredient to have them achieved.

As we move from the period of the 2000s through the great financial crisis of 2008-09, where I probably still have some scars, to the period of the more recent years, the job has gotten tougher. The operational

independence has continued, but, again, that is another example of where the independence alone was not enough to guarantee good results.

The Chair: In the most recent period, the Bank of England has come under a lot of criticism and fire for its handling of inflation. Given your international experience—you are speaking to us from the States—how do you see that criticism? Is it founded or mis-founded? How has the Bank performed compared with other central banks?

Kevin Warsh: If we were to force all the big central banks on to a bell curve, I guess you would be able to force some that performed a bit better than the rest. To be candid, I think some of the emerging economies that did not have such great credibility or results on ensuring inflation did a much better job, frankly, than the sophisticated, developed economies such as the US and the United Kingdom. The evidence does not suggest that most of the western central banks, such as the Fed and the Bank of England, did anything at all like the job in the last several years than the scores they had put on the board previously.

I begin my criticism, though, with the Fed itself. All central banks have important roles to play, but the Federal Reserve—this might sound parochial coming from where I sit—is the most important central bank in the world. When the Fed makes a big error, and I have been on the record saying that the Fed has made the biggest monetary policy error in about 45 years, it is difficult for other, medium-sized, open economy central banks to avoid all the costs of that.

There are a few reasons for it. Of course, the dollar's dominance has something to do with it. The size and scope of the US economy has something to do with it. Something else might perhaps be of more interest to the group that you have assembled: intellectual leakages. When the Fed's theory of inflation does not hold, when the Federal Reserve's determination that the run-up in prices is purely transitory, it is also an intellectual leakage. The rest of the world's central banks can decide for themselves whether the Fed theory is right or wrong. During this period, I have seen that most major central banks more or less went along with the theory of the case of the Federal Reserve. I do not want at all to absolve other central banks from the mistakes they made, but the Fed mistake was big and consequential, and it would be very difficult for other economies to fully avoid its consequences.

The Chair: Excellent. Thank you very much.

Q261 **Lord Verjee:** Good morning. I would like to ask a question about the Bank's price stability objectives. Do you think they are suitably defined, and what changes, if any, would you suggest? For instance, is a 2% target the correct target in all circumstances, and, especially when inflation is rocketing miles ahead of that, is it a suitable target?

Kevin Warsh: It is a great question, and it is one that I hope committees like yours are thinking about, frankly, and the rest of the G7,

G10 and G20. My views on inflation targets like that might be a bit out of consensus.

The broad remit that we are all acting in should suggest that price stability is the objective. Price stability is the North Star. Without stable prices, it is almost impossible to have full employment. It is also almost impossible to have economies that are growing at their full potential. When prices are volatile, as you understand, it is difficult for households and businesses to make the prudent decisions that they might like.

The definition of price stability that I like, which might be a bit old-fashioned, is the one that former Chairman Greenspan used to talk about: You want the change in prices in an economy to be such that no one is talking about them or thinking about them. They get to think about their business; they get to think about their household budgets. Over the course of the last few decades, we [in the central banking community] have become more precise about what price stability means. It comes from a good place. In the United Kingdom, as in most other major central banks, we have now defined price stability as 2.0%. For my money, I would keep the focus to the left of the decimal point. I think there has been too much false precision that has come to our ability to measure inflation. The measurement error strikes me as being large and volatile.

When we are thinking about numbers to the right of the decimal point, I think we are likely to make a mistake. Let me give one simple example, again showing my bias, I think, towards knowledge here in the US. In August 2020 at Jackson Hole, at a major Fed conference where international peers all assembled, the chairman of the Federal Reserve said that inflation was running at a dangerously low level of 1.7% and that in the US they were missing our inflation target by 3/10ths of 1%. From that, the Fed announced a new regime: we must get this inflation up 3/10ths of 1%. That sort of struck me then, and strikes me now, as false precision. Frankly, we would not know the difference whether inflation was running at 1.7%, 2.0% or 2.3% in the United States or in the United Kingdom because we do not measure it that precisely. Economics is not physics—at least not yet.

I share the sentiment of price stability. I tend to prefer ranges versus point estimates, in part because of measurement error and in part because I think broad price stability can never be that precise. We are trying to understand what is happening in a complicated economy, where millions of prices are being changed and set every day. We do not have command and control economies, thank goodness. I broadly think that the precision is what led many of the central banks to overly stimulate economies a few years ago, and it has now led us to inflation that is running so far above target that there is even some discussion, as you might know—I will end it with this—that perhaps the central banks need not get back to 2% but should get comfortable with a higher inflation target. Some leading lights in the field suggest that 3% would be good enough.

There is a huge asymmetry: We needed to throw everything we could to raise inflation a few tenths of a per cent, but now are we going to be comfortable with inflation on a persistent basis running at 50% higher? Not for my money. I broadly favour ranges. Price stability, in the numerical definition, will change in the times. The structures in the global economy are changing even as we speak. It strikes me that agreeing on some permanent basis to 2.0% is asking for trouble.

Lord Verjee: Thank you; that is very clear. Should the measurement of inflation take greater account of asset prices? For example, the effect of housing prices in our economy is huge. Should the measurement of inflation take that into account?

Kevin Warsh: It is another good and important question. We saw a run-up in asset prices in the period before the global financial crisis. Given all the free money and large stimulus in most of the major economies in the West, we saw a run-up in asset prices in many of our economies [more recently] as well. I think that tells you something about imbalances. The run-up in asset prices and the inflation in assets should have told us then that something was amiss and that there could be trouble coming to a basket of goods and services that UK consumers look at every day.

My hesitation is that you want the Monetary Policy Committee in the United Kingdom and the FOMC in the US to be accountable. If we are not able to measure proper inflation all that perfectly, and then we add those other [asset price] measures where we would be imputing values that were imprecise? I do not want the independent central banks not to have responsibility for objectives.

The way I would broadly think about your question is this. The asset price run-ups, both to the upside and the downside, are foretelling. They are telling you that something is amiss, and they should get you more focused on risks around price stability. Secondly, I would say that we want to do a better job of taking something like, as you suggested, housing prices and making sure that we are imputing the right change in housing prices in a basket of consumer prices. A large part of what consumers spend every day is not just food and gas. It is the implicit rent that they are paying for a house, whether they own it or not. I do not think the measures of that are good enough, frankly, for purposes of calculation by the MPC, or the FOMC in the US. More work needs to be done to make sure that those are more real-time measures. Other than that, I have no magic [formula] that I would use to suggest that the run-up in the FTSE ought to have some direct effect on what we are doing to judge the accountability of a good, honest central bank.

Q262 **Lord Griffiths of Fforestfach:** Thank you for being with us today. A word that we have heard in taking evidence from a number of witnesses is "groupthink". I wonder what you think about groupthink. First, we have heard it in terms of intellectual diversity and the kinds of models that they are using, hence the predictions that they have made. We have heard that they all seem to have a model in which inflation somehow mysteriously comes back to 2%. We have heard it about the kind of

people who are selected to sit on the Monetary Policy Committee and so on. We particularly heard about it in that there seems to be very little emphasis on the money supply in relation to inflation that we have seen in the past from the Bundesbank or indeed from the Federal Reserve. Of course, it also relates to appointments and the way appointments are made, so it is potentially a large issue, but given your experience we would love to hear what you think.

Kevin Warsh: It is a good and fair question. To be candid, I have been thinking about groupthink since my early days at the Federal Reserve in 2006. I have written and thought about it some. I will give you a few reflections.

First, there is more groupthink in the profession than there should be. In some sense, it is the nature of all guilds. We start as apprentices, we work up as journeymen, and we become leaders of the profession. The way that one is generally promoted and rewarded is to be clever, but not to think too far outside the box. After all, this is the guild of which we are a part. It is probably true in the law and in medicine. It is probably true in the blacksmith industry, for all that I know. We should not think that this is somehow unique to the economics profession; it is not.

This is a dated comment, but on the other hand, going back to 2014, when I spent some time thinking about the Bank of England and the Monetary Policy Committee, I went into it querying whether there was as much groupthink there as there was, frankly, at places like the Federal Reserve. While dated, I was surprised and delighted that the Bank of England I witnessed some nine years ago had much less groupthink to it than the profession at large. That is not to absolve it of where it stands today—you would have a better sense than I would—but there are structural theories or changes at the Bank of England that were made, some of which I recommended in my report guarding against.

I believe that there is a bit too much groupthink in the profession. One way to consider it is that virtually every major central bank is suffering from a similar fate. Inflation is well above any conceivable sense of price stability. In some ways, that is because many of the world's central banks made the same sorts of mistakes, starting with the Federal Reserve. If you ask most central bankers who are now in charge at various central banks, they will say that their country's suffering is somewhat unique to their situation and unique to their Government. I cannot help but think that maybe it is a great coincidence that almost everyone is running well above target! I think there is much more comparability to the inflation problem across the G7 and G10 central banks than most would acknowledge.

Being a good central banker is about being resistant to the seductions of being part of the club. It is about always having a reformer's mindset. You can grow up inside the profession and still be just enough of a sceptic to think, "How could we do better?" If everyone around the room of a Monetary Policy Committee or an FOMC all thinks the same, it should be the instinct of a prudent central banker to ask, "Well, what if we're all

wrong?" You do not want to be imprisoned by the prevailing ethos of a central bank; you do not want to be imprisoned by the model, but at the same time you want to be knowledgeable about it because the profession has made some great strides.

I will give a few examples and then proffer what I think might be a cousin of groupthink that is worthy of discussion. One example of the groupthink is that virtually all central banks now have something like the same 2.0% inflation target. It began as a theory of good practice of inflation targeting. I think it has gotten too precise. There has been too much consensus that it has to be true. Again, as I talked about earlier, I think that brought us to our current conundrum.

Secondly, almost all central banks thought that inflation that was just a few 10ths below target was a massive concern. As an American central banker said in August 2020, deflation is the greatest challenge for this generation of central banks and inflation could be at 1.7%. Well, history does not judge that comment too well.

A third example of groupthink that I hear at the Fed, the Bank of England and others, is that we have to be data dependent. Data dependence is their mantra. There are two problems with that: both the data and the dependence. First, the data is not very good. It comes from a set of datasets that are not contemporaneous. They are built from models that do not tell us much about the economy at this moment. Dependence says, "We're going to make policy based on old data".

No. The conduct of monetary policy should be about, "Where's this thing going? What does the future look like?" I hear those same mantras from too many central bankers across the world. Those are examples.

Instead, my judgment is that we need to be open-minded to new data sources, new data analytics and new economic models, as you suggest, instead of being stuck in a model that was built in a different regime. We need to think about structural changes in the economy. The world will look very different in the next five years, I suggest, than it did five or 10 years ago. So what we think about monetary policy should be different. That requires a break from groupthink.

The version that is perhaps most germane to the discussions of your committee is a cousin of groupthink. I made reference to it in my report to the Bank of England in 2014. It comes from a bunch of psychology and organisational decision-making professionals who called it the "threat rigidity effect". That is intended to mean that in some organisations, they stick to old ways of thinking, even when confronted with new facts and new circumstances. That strikes me as, in some sense, the version that is afflicting the central banks more than groupthink per se.

At the Bank of England, I was impressed, then and now, by the theory of one person, one vote. My experience and knowledge of the Bank of England is that you stick to that quite well at the Monetary Policy Committee. I served on the FOMC in the Federal Reserve in the last

financial crisis. It would be hypocritical for me to suggest that we always abided by one person, one vote. The chairman at the Federal Reserve has an inordinate say over the final votes. In some sense, the Bank [of England] should be congratulated on that culture. You should be congratulated on instilling that.

The threat rigidity effect is when we do not recognise that the economy is changing significantly and are not open-minded to new ways in which monetary policy could be operating and in which the central bank needs to evolve its thinking. That kind of staleness strikes me more as the heart of the matter.

Lord Griffiths of Fforestfach: If you think that the threat rigidity effect is more significant than groupthink within the profession, as I think you are saying, what would be your advice to this committee if it wanted to make a recommendation to ensure that there was less of a threat rigidity effect because of the way the Bank was working?

Kevin Warsh: It is not easy. I do not have a magic bullet. Certainly in raising that question, if your committee chose to do so, where you say groupthink afflicts all professions, including economics, you will want to ensure that the culture, the personnel and structure of decision-making [at the central bank] are aware of that. Over the last 20 or 30 years, the world was moving towards a more integrated, global economy with more integrated trade flows, capital flows and data flows. At this moment, we are moving in the opposite direction, for reasons good or bad. The Bank needs to be aware of that. Some people might call it deglobalisation; others might think of it as re-segmentation of markets. By asking questions of the Bank and by asking how the model would change if the world looked different, the Bank is likely to take some heed from that. Simply by asking the question, I think you could get some progress.

Ultimately, the conduct of monetary policy is about the people you choose. You want to choose people with a diversity of backgrounds. You want to choose some sceptics. You want to choose some people who think a bit differently about the world. Committees can be much more successful in making good decisions than individuals alone. That is why we establish committees. The committee size that you have at the Monetary Policy Committee is, frankly, quite a good size. It is smaller than the FOMC in the US, and I think for good reason.

If I were to make one other suggestion, not a perfect one. The world's central banks have made a rather grievous error in the last several years. We now have prices that serve as a regressive tax, doing the most harm to the least well off among us. One way in which they, and you, could think about that is: what is the objective function of the Monetary Policy Committee; what is its job?

Historically, in the profession, we would say that it is to optimise the policy so that it achieves stable prices. That is certainly a good objective, but what if economics is not physics? What if we are never able to have the perfect policy? What if the objective function—I say this somewhat

bluntly—were to avoid big errors? The underlying economy is going to be a resilient economy unless we policymakers make big mistakes. In some sense, I wonder whether the objective function of the Monetary Policy Committee or the Federal Open Market Committee should be to ask, “What if the decision we are making isn’t right? What would the welfare losses be compared to the welfare gains if we were right?”

It is doing those sorts of simulations and understanding that policy and economics-- monetary policy-- is not capable of being perfected, but that we do not want to make big mistakes. I wonder whether there should be a range of simulations and whether, as they make big decisions, the central banks should have a red team and a blue team play different roles and ask the question, “If we’re not right, how wrong would we be here? Should we be taking some insurance?” Should we be in some sense having an economic version of the Hippocratic oath, which is not to do much harm?

From the story of the last few years and, if I am broadly right, the story of the next five years, it is going to get more difficult. The period of the Great Moderation is behind us. We are entering a new era for the British economy, the American economy and the global economy. The last thing we want to do is to make big mistakes. Again, if there is a broader message from my comments, it is keeping to the left of the decimal point and trying to make sure that we do a pretty good job, even if that comes at the expense of somehow trying to nail every landing.

The Chair: Thank you very much for that. Before I turn to Lord King, I want to ask you a brief question, just to come back to Lord Griffiths’ original question. Do you think that the central banking community took its eye off the ball, and it became groupthink as regards ignoring money growth and money supply in its thinking overall in the period post the great moderation? In other words, to challenge what you are saying for a moment, it rather forgot an old way of thinking and thought about the world being entirely new and entirely different. Is that a critique?

Kevin Warsh: It is a fair critique. It is not a critique I have made yet, but I will use your question as an opportunity to say something on it. In the 1970s and early 1980s, at least in the US, Chairman Volcker broke the back of inflation that had really done great harm in the US for almost a decade. Chairman Volcker picked up on what were then the new theories in the economics profession, thinking about monetary aggregates and credit growth. He used those tools to suggest that there would be a regime change in policy. Not only was he going to be somewhat more hawkish and raise rates, but he was thinking about inflation dynamics anew. That carried the day until, at least in the US and in other parts of the world, we broke the back of inflation and returned to price stability.

From that era, really through to the moment in which we are meeting today, the ideas of money and credit were relegated. I do not say that they did not find their way into some academic articles or even into some formal publications that would come out of the FOMC or the MPC, but

words like “money” and “credit” would be hard to find in transcripts over the last couple of decades of most “leading” central banks. They were replaced with the idea, which Lord King and others have talked about, that inflation is really going to be stable because expectations are stable; and expectations are stable because we central bankers made them so.

My broader theory is that being a good central banker is a resistance to fads and trends. It is also a resistance to certainties. For banks that are in the business of ensuring price stability, I do not know a comprehensive, theoretically sound, empirically perfected theory of inflation. There is the theory of inflation that is predominant in the guild today, which is largely about expectations, output gaps and a Phillips curve, which I think had its best days in projecting inflation a few decades ago.

My encouragement would be that we should not cast any of these theories aside, but if your No. 1 objective is to ensure price stability, we should spend the thousands of man and woman hours we have in trying to come up with an integrated theory. I think money and credit have been relegated too much. It is not crazy to suggest that money might have something to do with monetary policy. As a result, I look both at the levels of money and credit and the rate of change of money and credit, and say that has something to do with it [inflation].

I should end your question with a bit of a bias. I started out in this business as a young, 19 year-old student learning under Milton Friedman and George Shultz. Perhaps that is why I am not so quick to relegate their theories. If I could say a final word, if Milton Friedman were alive today, he would not be insisting, in my view, that his theory in the 1970s for money and credit [should exactly be] the theory today. He would be open-minded about it. He would say, “We don’t count money very well any more, so maybe these monetary aggregates aren’t very good. Maybe we’re not counting velocity so well as there are new forms of money”. I do not want to say that there is an old theory that we need to dust off and use, and put that in the focus. But just because it is an old theory does not mean it is a bad one either. I think money and credit have something to offer.

In some sense, there is something to all these theories. There is even something to the Phillips curve, although it is not my preferred explanation for what can solve a period of high inflation. But if some of these theories shine a bright red flag and say, “My goodness, money and credit haven’t gone up like this in 100 years”, maybe that is a forewarning. Those are the sorts of theories that, even before we have a perfected theory, we central bankers should take, if not literally, seriously.

Q263 Lord King of Lothbury: Kevin, good morning. You have already mentioned your 2014 report. That was about the balance between transparency, accountability and the processes of the MPC in reaching its decisions. If you were asked to revisit that report now, is there anything that you would modify or change?

Kevin Warsh: Mervyn, or Lord King I should say, it is good to be with you. Part of the reason why I have been particularly interested in the MPC and the Bank of England's practices, going back to my days at the Fed, is because the relationship that was forged between these two great economies, which was forged in part in crises when Mervyn was sitting in his seat and I was sitting in mine. So it is an honour to be here.

When I was looking at my parish notes getting ready for this committee, I had to look back on the report. I wondered how well or how poorly it had aged. My sense is that the recommendations in the report were largely implemented and adopted, by both Parliament and the Bank. There are a few things where I would perhaps put more emphasis, with the benefit of the last nine or 10 years. There are a few other things that I think have held up well.

First, as you pointed out, the report was about transparency at the Bank of England. It was not giving a letter grade to the results and the soundness of decisions of the MPC at large. The report tried to highlight that transparency is a goal but it is not an end. In some sense, if there were a hierarchy of ends, the No. 1 end of a good central bank is to make good and sound policy decisions. I think the report aged well in saying that rigorous decision-making is at the core of making sound decisions, with good committee design, good deliberation and good inputs. There are three or four things that I would probably amplify more, perhaps if the scope of the report were a bit broader.

The first is the frequency of meetings. At the time I was asked to issue that independent report, the MPC met about 12 times a year. In the report I called for it to meet less frequently, suggesting that there was too much time preparing for meetings and not enough time doing hard thinking. I recommended eight meetings a year, so that about every six weeks or so there would be a new meeting. Perhaps in the back of my mind I thought that cadence at the Federal Reserve was a good one.

If I could do it all over again, I would probably say that is still too many. I want more thinking. I want less looking at the latest model inputs, coming up with forecasts and telling the world what we are doing. If I could do it again—I accused others of false precision and this might be false precision of my own—a meeting every couple of months might be just enough. Of course, a central bank governor can call a meeting whenever it is necessary. Exigent circumstances say that we could meet every week if we had to. During the Covid crisis and the global financial crisis that was perfectly appropriate, but fewer meetings, less talking and less communication, and more thinking, more rigour and maybe moving to a meeting every two months or so might be a better mix.

Moreover, if the Bank were to continue to meet the MPC eight times a year, as the Fed does, I suggest that some of those meetings be focused on special topics. What is happening to the supply side of the economy? That would be a fertile discussion for a meeting. As the world is reorienting itself and responding to a post-Covid move, has the supply side of the economy changed? Has the nature of products and services

changed? If you were to stay at the eight meetings, I would at least assign a couple of them devoted to full topics so that the entire Bank thinks about them intellectually. You could use that time asking some of the harder questions.

I do not think the hard question for a central bank is, "Should we raise 25 or 50 basis points?" I know that the journalists and the markets care about it, but the harder questions are: what is inflation and how do we measure it; what are the components here; what is the effect of policy made around the world? I want more discussion, in a perfect world, of the harder questions, so my first change for a recommendation might be fewer meetings, or maybe the same number of meetings but focused on special, hard topics: "If we're wrong on this question, we're going to be wrong on everything, so let's double down?" That is one area that may be worth more emphasis.

The second area is communication itself. The report focused on the importance of pulling back the curtains on some of the MPC's deliberations. Central banks need to be accountable and responsible. We should be sharing more of our thinking. If I could emphasise one other point in that report, the MPC, like the Fed, needs to resist the temptation to share its judgments as frequently as it does. Communications can help or hinder a central bank in getting the right answer.

Let me give one example. From 2014 to the present almost every central bank that you and I know, Lord King, puts out forecasts all the time. Every member of these committees is always answering questions: "What do you think right now? If the meeting were today, what would you do right now?" I do not think, frankly, that all that communication is that helpful. The way human nature is, the more we say what we are going to do in six weeks, the more we lock ourselves in intellectually. The more we tell markets in advance what we are going to do, the more we tie our own hands. I do not really like that as a practice. I think the MPC, like the Fed, should go into meetings without so many biases. They should be able to call it the way they see it and listen to what their colleagues have to say. They should be persuaded, even, that they have a better argument.

In the profession that you and I know best, Lord King, forward guidance is an important trait. In the Fed, in the global financial crisis, we took it to extremes. We chose to tie our own hands behind our backs in the darkest days of the global financial crisis to make a point. That is useful, but I do not like forward guidance for all seasons and all reasons. I do not like tying our hands behind our backs in a normal business cycle or financial cycle. If I could emphasise anything else in the report, I would say that communications are important, but we should not be talking so much. There can be a cacophony of voices that does not help.

If I could make a third and final recommendation, edit or emphasis from a report that, I think, has aged reasonably well, it is similar to what I said to your colleague a few moments ago. What is the objective function of

the MPC? What should the committee be solving for? Is it to perfect policy or to avoid substantial errors?

I would suggest that we think about a “monetary stress test” akin to the kind of stress test that we have put financial institutions to in the last decade or so. It strikes me that central banks are fundamentally in the risk management business. If our understanding of economics and inflation were perfect, we would not have to be in that business. We would be in the perfection business. We need a governance system and a monetary policy system more resilient to policy errors and economic shocks. There has been too much emphasis placed on modal outcomes and what we think is the most likely. There is not enough emphasis placed on what could go wrong or what could be the surprise. Perhaps it is about introducing a little bit of that game theory into the objective function of a central bank.

Those three recommendations come to mind. Some are probably outside the narrow remit I had a decade ago.

Lord King of Lothbury: Communication is about a more effective explanation of what the central bank has done, not speculation about what it might or might not do in the future.

Kevin Warsh: Yes.

Lord King of Lothbury: Can I ask one last question based on your experience of the FOMC? One of your recommendations in 2014 that was implemented was the creation of transcripts of the final MPC meeting. I do not believe that we have seen any of those come out yet. We have not reached the point when they will be released, but they are released of course in the US. Can you say something about the costs and benefits of publishing transcripts, given your experience in the US?

Kevin Warsh: It is a good question, and one that I, frankly, wrestled with in my 2014 report. I will begin with my experience at the Fed. Every discussion inside the four walls of the open market committee is transcribed. A tape is made and a transcript is created. In the US, five years later, that transcript is released.

At some level, we want central bankers to be accountable. If we give central banks this kind of broad remit of power, certainly there needs to be some accountability and responsibility for that. In recent years especially, it strikes me that central banks have taken on more power and more authority and the remits have become longer and larger. Some part of me says, “I want to know what they were saying to each other”, and a proper delay will allow that to happen.

On the other hand, back in my day, all 19 people in discussions in the FOMC were quite aware that the tape recorder was going. It struck me that some were pulling their punches on more than one occasion because they wanted the transcript not to read so clearly. After all, none of us has a perfect crystal ball. I worried whether the transcript was leading to

some groupthink, where we all sounded like perfectly hedged, two-handed economists so that we did not make that kind of mistake. In the US, the risk of that behavior was true during my service, and those policies continue to be true. That leads to a meeting before the meeting. I do not know if your group had a meeting before I zoomed in. When large groups meet in institutions, sometimes there is a meeting that precedes it. Sometimes that is the real meeting. I have worried about trying to strike that balance.

When I applied that bias or that thinking to the MPC nine years ago, the delineation I tried to make as I listened to the discussions of the MPC on one day, in one round of discussions, was that they were deliberating and doing the kind of blue team/red team discussions that I would hope for. They were trying out ideas and refuting others. There was a lot of blue-sky thinking. Frankly, it was a more robust dialogue than I expected and that I had heard for the most part in the early rounds of discussions in the FOMC, so I encouraged that. As a result, my recommendation was that there should be no transcript for that round. I want people to take intellectual risks, fight with each other and have a real debate. As the consequences of their actions matter to everyday citizens across the United Kingdom, I did not want them to be constrained. I recommended that there should be no transcript. Frankly, I thought there would be quite a bit of political pushback to that. I was surprised and delighted that there was not, and there is no transcript in the MPC, as I understand it, of that discussion.

In the second round, in what you call day two of your discussions at the MPC, people going into that round have made their decision: "This is why I favour 25 basis points or 50 basis points or nothing, and here's why". My understanding is that the MPC then transcribes that, and every one of those words comes out. I am not trying to convince my neighbour anymore; I will tell you what I am going to do and vote accordingly.

It strikes me that that is a pretty good balance. You have a better balance at the MPC than we do in the United States at the FOMC. I believe, under the recommendations that were taken, those transcripts get released eight or 10 years later. You might soon be getting the first examples, but it is not easy. If you were to force me to prioritise, the North Star, No. 1 objective is getting the right answer and making a sound decision. Everything, including transparency, should go in service to that end. If we get that wrong, then frankly nothing else matters.

Lord King of Lothbury: Thank you; that is very helpful.

Q264 **Lord Rooker:** Good morning. My questions are about the size, composition and structure of policy committees. In some ways, from your previous answers, I think you indicated that you were satisfied with the size of the MPC. You talked about scepticism and diversity. I want to ask you about internal and external membership. Could we have your views about the balance? Is there a case for having a majority of externals or not, or equality? It is that area that I would like you to address, please.

Kevin Warsh: It is a good question, and a hard one. My bias when I first approached the MPC as an independent observer was, "This seems like a curious make-up between the insiders and the outsiders". I was not sure what to think of it. Again, this is somewhat dated, but eight or nine years ago, I was struck by the curiosity. I was struck that the external members seemed to have some inherent scepticism of the career staff and of the models they produced. They were insiders to a degree because they were proud members of the Bank of England, but they had the scepticism of an outsider. I thought the mix that you had created was a pretty good one.

In the US, we have a slightly different model. We have governors, as we call them, who are appointed by the President and confirmed by the Senate. They largely sit in Washington. We then have a dozen Reserve Bank presidents who do not vote at every meeting but are participants. They come from what we think of as the broad diversity of the economy. We are trying to solve the same thing. How do you create some degree of loyalty, in that we are on a common team with a common mission, but have people with different perspectives?

I am not sufficiently familiar in the intervening years with how the external/internal piece has worked, but at least in theory it is a good make-up. I should add one follow-up comment. I have stressed the MPC in these discussions. The other structure that you have, which, frankly, I think is superior to what we have at the Federal Reserve in the US, is the other committees, a macroprudential committee and a microprudential committee doing bank regulation, both bottoms up and top down. You have a mix of insiders and outsiders on those too, but they all fly under a common flag. They all proudly serve the Bank of England. The culture of the Bank of England is quite impressive, with the tradition and the legacy and, to make one final point, the credibility.

The most important asset that any central bank is not actually the printing press. It is not the ability to dictate things to bank regulatees. It is its credibility. The most powerful statement that the Bank makes is, "Today the Bank decided X, Y and Z". It is the imprimatur of that. As I think about the committee structures that you have, both in the MPC and those other committees, not really much of a separation principle exists. They are each using the credibility of the Bank of England—credibility that had been brought for generations—and when they make decisions, they are choosing to use some of that credibility, to expend it. Broadly, I would say that those committees under a common flag are superior in the United Kingdom than in the US, where many of those decisions are made outside the Federal Reserve. Frankly, in the US we spend too much time fighting among people with different names on their business card, even though we have a common mission.

Q265 **Baroness Liddell of Coatdyke:** Mr Warsh, we are concerned about the central bank being asked to do too much. Do you think the central bank is at risk of becoming politicised?

Kevin Warsh: It is a tough and fair question. I will begin with the Fed because I know it best. I will be careful in wandering too far to the Bank of England on this.

I tend to favour clear, unambiguous remits for central banks, not roving remits. Central banks are not designed to be general purpose agencies of our governments. They are not designed to be appeals courts for broken fiscal policy, broken regulatory policy or broken climate policy, so I am inherently concerned when remits get too long. I cannot help but think that a simple remit of price stability is more likely than not to have everyone at the central bank focused on that No. 1 job: "That's what we are here to do". The scale of central bank power is massive. Over my adult lifetime, since I was a student of these matters 35 years ago, the scale of central bank power has grown. It is permissible in a democracy if, and only if, its judgments are sound, the scope is limited, and the accountability is assured. I begin with that bias.

With respect to the politics of an expanded remit, as you suggest, I think of it a bit as a hierarchy. I was not much of a student of psychology, but I think of it a little bit like Maslow's hierarchy, with price stability as the foundation. If we do not have that right and we are not doing that, we certainly should not be wandering into other areas. That is where I begin.

Much work has been done outside the United Kingdom and the US in thinking about remits of the ECB, and remits of the Bank of Japan and others. I do not want remits to become a convenient alibi for policy error. When we central bankers make mistakes, there is an inherent view, "Well, if only our remit had said X, we could have been focused on it". I cannot help but acknowledge that what our various legislatures and parliaments have told central bankers to do is very different-- across the ECB, the Bank of Japan, the Fed and the Bank of England, yet somehow we have all basically done the same thing. Somehow, we all thought that deflation was the great risk, and now we have almost all overshot to the upside. Remits matter, but they do not matter as much in practice as I would have thought when I was a student of remits 20 years ago.

Finally on the politics, I think the central bankers themselves in charge are the people who have to ensure that the politics stop at the gates of the central bank. You can legislate for all sorts of things, but it is the head of the central bank who might hear from the political class that they want X, Y or Z. The head central banker, he or she, has to say, "But we're going to do what we think is the right thing to do". For all that was made, certainly in the US, about politicians trying to tell central bankers what to do, ultimately the politics is up to the central bank itself. If the central bank said, "We're going to be not innocents but intellectually rigorous and call it the best we see it", that always struck me as the best protection.

Baroness Liddell of Coatdyke: When the Governor of the Bank gave evidence to our committee, he pointed out that the remit letter said "have regard" to a number of issues, one of which was climate change, which you referred to. Almost all our witnesses have argued that climate

change should not be a central bank goal. One or two have claimed that it should be. Where do you stand on that?

Kevin Warsh: If I take seriously Maslow's hierarchy, I want the central bank to be completely focused on price stability. If we get price stability wrong, what we have done is introduced the most regressive and unfair tax into our economies that does the most harm to the least well off among us. I do not want central banks to have an excuse to say, "Well, I missed my price stability remit, but I did such a good job on X, Y and Z". I begin with that.

On climate risks and climate change itself, I do not quite know what authority the central bank has to ensure that. I, for one, take climate risks very seriously. I take the necessity of buying insurance about risks from the climate. But just because it is important does not mean that it is the central bank's job to do it. Again, I do not like the idea of a central bank, even in theory, sitting atop as though it is an appeals court for broken policy that is made elsewhere. My rather unesoteric, simple view of economic governance is that there should be "one throat to choke." If there is a mistake, I want to know, if I am sitting where you are, who is responsible for it and I want to hold them to account. The longer we make remits, the more we have second, third and fourth order goals, and the less clear it is who is responsible for what.

In the US, bank regulation is divided among three or four government agencies. Whenever we have a bank failure, the first instinct is to blame the other guy. I do not think that is good. I want there to be clear accountability and responsibility. I want the agency responsible for price stability to have the tools and the power to do something about it. If you were to assign climate policy to an agency, it should have the authority to do it. Other than that, it looks to me as though we are trying to obfuscate. When what we really want to do in governance is assign clear accountability and give responsibility to those who can do something about it.

Q266 **Lord Londesborough:** Good morning. Could I follow up your comment on central banks being in the business of risk management? Can we get your thoughts on the Bank's two prime responsibilities: price stability and financial stability? To what extent should those be regarded as separate areas for consideration? What tension do you see between those two objectives, especially in an era of high inflation? I am mindful of events earlier this year, including the failure of mid-tier banks in the US and the takeover of Credit Suisse. The view of a number of our witnesses is that the Bank of England's reliance on a limited monetary toolkit has actually served to undermine financial stability, distorting the market and creating asset price bubbles. What is your view on that?

Kevin Warsh: When times are good, when economies are acting up to their potential, when prices are acting stably and when there is a benign environment in the US or around the world, there seem to be no tensions between those goals. Stable prices, a stable financial system and stable output work in concert. Stable prices help those other things. A stable

financial system helps the MPC to do its job. But those things are not always aligned. First, I will frame them a touch differently, perhaps a bit out of consensus, than you might hear from some of my colleagues. It is not obvious to me that financial stability is the goal. You could stabilise something so much that it was not dynamic and not providing credit. I do not love the language of financial stability.

The way that I think about the broad assigning of a financial stability remit to the FPC and your other committees is that they are in the business of mitigating risks of financial instability. They are in the business of maybe getting at tail risks. Failures happen in all businesses, including the businesses of banks. Failure is not to be outlawed or forbidden. But what we care about as central bankers and financial regulators is trying to mitigate tail risks. We want to make sure that really bad things do not happen or, if they do, we are prepared to make sure that we can contain those risks. That perhaps sounds too theoretical, as if it is about nomenclature. But I do not think that any of us should be in the financial stability business. We are in the business of mitigating tail risks in and around the banking system. That is point one.

Point two is that I do not believe there is a separation principle between price stability and financial stability. I think the set-up that you have in the United Kingdom might be about as good as one could have. You have some overlap in the membership of the two committees, as if to acknowledge structurally that they are not apples and elephants; they overlap with each other. I like the structural reforms that you have made. I think that also compares quite favourably to the US.

You saw the policies that one makes in the dark days of a financial crisis, and the tough weekends that the Bank of England had with respect to the pension scandals and with respect to periods of uncertainty during Covid. If you are going to start printing money or buying assets, ostensibly for financial stability purposes—buying gilts or some such thing—and you say, “We’re doing it with our financial stability hat on”, I do not believe that it is fundamentally different from growing the balance sheet in monetary policy. I acknowledge that there has to be some important overlap, and that the two committees need to be more than aware of what is happening in the other committee. Structurally, you have solved that somewhat.

To make a third and final point, in a period like the one in front of us and the period we have suffered in most places in the world in the last few years, we have entered a new period of price instability. There is a new era, which I do not think will be marked by hyperinflation for a decade, but it is not obvious to me that we will return to the status quo ante, where we return to a couple of decades when we are floating around 2% stable prices.

It strikes me that things we can control inside our own economies, such as interest rates and QE, are going to have a harder job because the world looks quite different. The global economy will be reshuffled in some important sense. The challenge for both of the committees is likely to get

more significant and is why we should continue to ask for a reformer's mindset as you think about these things. The risks of financial instability will find their way into the Monetary Policy Committee. The risks of unstable prices, and what that means for the banking system, will find their way into the other room as well.

Lord Londesborough: That is very clear. Thank you very much.

Q267 **Baroness Kramer:** Good morning. My question follows very closely on the previous one. Does separating the responsibilities of fiscal and monetary policy, while it may work in theory and may look as though it is part of the structure, actually work in practice?

We have taken evidence that presents some very different views. Stephen King, the senior economic adviser to HSBC, takes the very strong view that, when it is relevant, monetary policy enjoys primacy over fiscal policy. Some of the practitioners such as Sir Paul Tucker and Sir John Vickers talked about almost the timescale providing the relationship. To quote Sir Paul: "The Treasury moves first with its fiscal policy and the monetary policymaker moves second", as the kind of relationship mechanism. What are your thoughts in this area? It is certainly a question that has been asked by the public and by a lot of people who are sceptical about decisions that have been made by the Bank and whether it is truly independent.

Kevin Warsh: It is a hard one. The only good thing I can say is that it is not a new question. In the United States, coming out of World War II, any line we had that separated monetary and fiscal policy all but disappeared as the US was dealing with the debts that had come from World War II. It was trying to figure out how best to draw the line.

In 1951, our predecessors came up with what was then called the Treasury-Fed Accord, which tried to draw the line again between monetary policy and fiscal policy and say that they were fundamentally different. For some decades that line held quite well. In my time at the Fed before the global financial crisis, we had the view, and I had the view, that the fiscal policymakers would do what they would do, we would then make our understanding of what that was, and we would take our actions. They could, frankly, be contradictory to the fiscal policy impetus or they could be consistent, but we would take what the fiscal policymakers did as given.

Another historical artifact is quantitative easing. My own hands are sullied by it, so I should not sound as though I come to this discussion with clean hands. Under Chairman Bernanke's leadership we devised quantitative easing. I would say that we invented it in one of the darkest weekends of the global financial crisis. When we did that, when we said, "The Treasury Department will be issuing debt on Tuesday and Wednesday, so why don't we buy it on Thursday and Friday?", it seemed like an outlandish idea, but we were in a very hard position. As you recall, the global economy was racing away from us. The markets were falling fast, and it was a scary moment. I would argue that in some sense

it was scarier than during the financial implications of the Covid weekends in spring 2020. We were desperate, so we created quantitative easing.

In my recollection we said, "This is an emergency measure to be used only in exigent circumstances, and when the emergency is over we'll put it away and stop buying bonds from the fiscal authorities. We'll stop buying bonds from our own Treasury and we'll go back to how we were the day before QE". I am troubled to admit that from that moment until this moment that kind of quantitative easing, which admittedly blurs the lines between fiscal and monetary policy, has become standard operating practice, for all seasons and all reasons, among most of the large members of the G7 and G10 economies. We have to acknowledge that. We have to acknowledge that the monetary policy and fiscal policy measures have been blurred during this period.

If we are in a period of permanent quantitative easing, when the No. 1 buyer of the debt from His Majesty's Treasury or from the Treasury Department in the US is the central bank, I think, to your point, we have to ask ourselves, "Who's responsible for what here?" In some sense we are buying the debt from our own Governments in times of crises to keep yields low, and markets understand that. In a perfect world, in my view, quantitative easing and that blurring of lines would happen only in exigent circumstances and then we would put it away, but that does not seem to be the modern practice at central banks. I think we need to be quite up front about it.

It has two implications for the conduct of policy, and maybe for the recommendations that you are going to offer. The first, and again I go back to when I was a child learning under Milton Friedman, is that he famously said that inflation is always and everywhere a monetary phenomenon. If he were with us today, although I hesitate to put words into his mouth, and if he saw the linkages between the central bank and the fiscal authority that have now been going on for 15 years, he might say that inflation is always and everywhere a monetary and a fiscal phenomenon. He might wonder whether that distinction is really as meaningful as it was. He might say that inflation has more to do with fiscal policy, not just with monetary policy any more.

The second implication is the one you drove at, which is what it means for central bank independence. What does it mean for the Bank of England? I think it means that its credibility is essential. It needs to persuade itself and persuade the general public that it is staying on its side of the line. It ended up with larger balance sheets because of a series of crises-- the global financial crisis and the Covid crisis-- but I would feel better for its credibility, which is its most important attribute, if it said, "We would like to strive, and our goal is, to achieve a balance sheet no bigger, no more complex and of no greater duration than we need to run monetary policy".

The forecast that I would like to see from the world's central bankers is much less about what they will do at their next meeting, but about their

broad trajectory of how they go back to a central bank that is powerful but narrower in scope and in purchasing debt that comes from another part of government. I think that is probably as important to their credibility on inflation as almost anything we have talked about today.

Q268 **Lord Turnbull:** Thank you for that reasoned discussion, in particular for bringing out the way in which the separation of fiscal and monetary policy, which we set up and rather believed in 25 years ago, has not stood the test of time and the two have become blurred. Monetary policy affects people and prices. It affects the distribution of income. Fiscal policy does the same. They both affect demand. Given that there is now this blurring and that there is a player that owns 40% of the Government's debt, can we still continue with the same thinking that there is a separation of decision-making?

I was rather shocked when the Bank representatives told us that a decision on how much quantitative easing there would be is a decision for the Bank. That is pretty odd. It is a decision about how much of the government debt it is going to buy, with all sorts of effects on monetary conditions and the structure of that debt. Should we be thinking that, instead of these two bodies being independent and not sully each other's decision-making processes, we need a stronger visible process for co-ordinating the two? That is not simply that the Governor has a chat with the Chancellor of the Exchequer now and then. It needs to be something formal that recognises that we are now in a world where fiscal and monetary policy are deeply intertwined.

Kevin Warsh: It is every bit the challenge you suggest. As a central banker at core, I will make a few points. One is that I believe, in the exigent circumstances of the global financial crisis and the Covid crisis, that we need to do whatever it takes. In the crisis I knew best, the use of quantitative easing was necessary and essential. I would not suggest that it should never be used again, but it requires a regime that demands it.

The way I think about economic policy, which is perhaps a bit outside consensus, is that what works in one regime does not have to work in another regime. I do not think inflation has to work on a linear basis. I think we can go from a low-price regime to a high-price regime, and we need to get back to a low-price one. The same thing is true here. I am sympathetic to the Federal Reserve and the Bank of England in times of crisis for needing to go to the edges of their authority and to do extraordinary things like quantitative easing, but there needs to be symmetry to it. There needs to be a path back. It does not have to be overnight. It does not have to be immediate, but, for credibility, there needs to be an explanation and clarity around the secret power or the secret sauce.

If I were to grade on a curve, I think the United Kingdom has handled this situation better than the United States. The letters that are sent between the Chancellor and the Bank of England chief are transparent; they describe what is happening and give the rationale for it. I am even, frankly, comfortable that a representative of His Majesty's Treasury sits

at the Bank of England and listens at the Monetary Policy Committee meetings. My bias was, "Boy, that must be quite the intrusion. The Treasury Secretary doesn't sit at the Federal Reserve", but I was surprised and delighted at how well the culture works. The central bank still called it the way it sees it. I know a lot of people who still serve on your Monetary Policy Committee; they are a great talent with integrity and perseverance.

The question is whether they can resolve the situation to get back to the right side of the line, so that they can make monetary policy decisions for monetary policy without having to think about what the implications will be for the rest of the Government to fund itself. If the markets, households and businesses perceive that the monetary policy they are making is really to fund the Government, we have lost the plot, and inflation and inflation expectations will continue to run well above any sensible definition of price stability.

My sense is that the leadership at the Fed and the Bank of England understands that. It knows that it needs to be on its side of the line, and I think it is endeavouring to do it. My modest recommendation is clarity over the direction of the balance sheet. The goal of the balance sheet should be that it gets clearly to the right side of the line. That would be credibility-enhancing. That is a judgment that the independent central bank needs to make on its own in furtherance of the No. 1 objective you have given it, which is to ensure that we have stable prices so that households and businesses can worry about everything else.

Lord Turnbull: Is it realistic that that should principally be a decision of the central bank, given the huge effects it has on income distribution and the level of demand in the economy? Should it have that decision and all the Treasury can do is to say, "We're not going to give you an indemnity", but once it has made that decision it has to do that, because it cannot allow it to be uninsured, so to speak. There is a decision for the central bank to hold 40% of the Government's debt. Is it really right to say that that should be a decision of the Bank and not a decision that is made jointly in some structure?

Kevin Warsh: I do not mean to wander into a subject on which I am not an expert, which is the nature and tenor of the discussions between the Chancellor and the Governor of the Bank of England. I do not mean to wander into that and how they carry that on. However, it is unrealistic for me to suggest that you need to race back to your side of the line and do it overnight. It is unrealistic to suggest that by year end the central bank purges itself of the gilts that it has. It is unrealistic to suggest that the Federal Reserve will go from its \$8.9 trillion balance sheet back to the \$800 billion balance sheet that I knew the day I became a governor at the Federal Reserve.

It is realistic to say that this is where we want to go. We want a balance sheet that is no bigger than necessary to conduct the core business of monetary policy. We do not know the trajectory of the Government's finances with any perfection. Nor do we know the state of the economy.

But over the medium term this is where we intend to go and this is why we intend to do it. I also think it is realistic for the heads of the prominent central banks to explain why it is not in the interests of men and women on the street for the head of the central bank to spend his time thinking about fiscal policy and about what the right fiscal policy decisions are. That is a blurring of lines and a blurring of responsibilities.

In the United States, we want our Treasury Secretary and members of our Congress to be making decisions about taxes and spending. We want the markets ultimately to say, "What's the price of that? What's the price of a 10-year Treasury when a willing buyer meets a willing seller?" That is how these markets should work. That is how our Government would know whether they are spending too much or whether their deficits are too high. When the Federal Reserve weighs into that and decides that it is going to set that price, you might think that you are helping the Government by lowering the financing costs, but I wonder whether you are not just adding to the tail risks. My sense is that the leaders of most of the central banks appreciate that and are trying to move back to the core business of monetary policy, but I take seriously your view that at some point you become so entwined that we should not be innocent about what the path looks like.

The Chair: Thank you very much.

Q269 **Lord Davies of Brixton:** Thank you for those views. You have been very clear and helpful. I agree with you about false precision, which leaves the idea of having a range rather than a point target. Have you, or has anyone else, thought through the practical implications of that such as, obviously, how big the range should be and whether the range is about a target in the middle or there are trigger points? Has thought been put into the practical application of that objective?

Kevin Warsh: I have given it some thought, I must admit, most concretely when I served at the Federal Reserve. When Chairman Bernanke and his new colleagues like me joined, he thought that it would be wise to establish some kind of quantitative price stability objective. Markets had come up with their own views. So during the Bernanke Fed, the FOMC, and ultimately the Federal Reserve Board, agreed on 2.0% as the inflation objective. I should admit that I was somewhat of a conscientious objector. I favoured a range then, in part because of what you heard me say about decimal points and in part because I thought stable prices might be one number in one state of the world and another number in another.

There has been much discussion in more recent years about establishing a range of something like between 1% and 3%. I think that sort of range, in theory, makes some sense, but at a time like now, though, I think it is quite risky. If the world believed that central banks had missed their targets by so much for so long, if the world's central banks put out a target range and it had number three in it, for example, I would worry if I were inside a central bank at this point, instead of opining from the bleachers as I am, that the markets might say, "They really don't want to

get back to anything like 2%. They are really trying to get to 3%, and 3% is good enough for them". In the period in which we find ourselves now in most places in the world, where inflation is so far above target, I worry that that would erode the Fed's credibility at this time for price stability.

And if inflation were to grow at 3% per year for the next 10 years because of the nature of compounding, that means that prices a decade from now would be something like 134% higher. You try telling the man on the street in the United States or the United Kingdom that that is still consistent with price stability. They would look askance at that sort of academic theory. So I favour ranges; I do not favour point estimates. Given the credibility that is being questioned by households and businesses around the world, I think it would first be best to achieve price stability under some sense of an old definition, whether I liked it then or not, before the academics came up with a new theory of the case. Price stability needs to be earned. People like Lord King and I are not always the biggest fans of expectations being the guiding theory for inflation, but I think this is a funny time to change the rules of the road as the inflation target is being missed by so many across the world.

The Chair: Thank you very much, Mr Warsh. This has been an excellent session. You have covered an enormous range of subjects in great detail, with very good insights and very comprehensive answers. I speak on behalf of the entire committee when I say that we are very grateful to you for joining us today. Thank you very much indeed. 7