

# Treasury Committee

## Oral evidence: Bank of England Inflation Reports, HC 596

Wednesday 21 February 2018

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Watch the meeting

Members present: Nicky Morgan (Chair); Rushanara Ali; Mr Simon Clarke; Charlie Elphicke; Stewart Hosie; Mr Alister Jack; John Mann.

Questions 103 - 152

### Witnesses

I: Dr Mark Carney, Governor of the Bank of England; Dr Ben Broadbent, Deputy Governor, Monetary Policy, Bank of England; Andy Haldane, Chief Economist and Executive Director, Monetary Analysis and Statistics; Professor Silvana Tenreyro, Member of the Monetary Policy Committee.

Written evidence from witnesses:

– [Dr Mark Carney](#), [Andy Haldane](#) and [Dr Ben Broadbent](#)

## Examination of Witnesses

Witnesses: Dr Mark Carney, Dr Ben Broadbent, Andy Haldane and Professor Silvana Tenreyro.

**Q103 Chair:** Thank you very much for coming to give evidence to us again, this time on the February Inflation Report. I wanted to start by taking your views on the likely path of interest rates going forward. I had my attention drawn, Governor, to an interview you gave at Davos, when you told Mishal Husain on the “Today” programme that you have an ability not to answer questions. I am hoping that we might not have that this afternoon. I hope that you will all contribute to the session. There is quite a large panel, so not everybody has to answer every question, but part of the reason for having everybody here is to get a range of views from the committee, so please contribute if there is something you particularly wanted to answer.

Starting with the likely path of interest rates, in the November and February MPC Inflation Reports, it stated, “All members agree that any future increases in bank rate are expected to be at a gradual pace and to a limited extent”, but February’s Inflation Report also stated, “Monetary policy would need to be tightened somewhat earlier and by a somewhat greater extent over the forecast period than it anticipated at the time of the November report”. Perhaps, Governor, I can start with you. At what time and to what extent were rates intended to be increased back in November?

**Dr Carney:** Thank you, Chair. It is entirely a different issue answering questions at the Treasury Select Committee than even the “Today” programme, if I may say that, as you would expect.

**Chair:** I am glad to hear it.

**Dr Carney:** The precise answer is that we do not commit, and certainly I do not commit as an individual—obviously you will speak to my colleagues—to a precise path of interest rates at each decision. We do not commit to a path and we do not give guidance on a specific path, except in the most exceptional circumstances, which are not the circumstances that we are facing today and certainly were not the circumstances we were facing in November. The convention, as you know, is to use what the market curve is at the time, specifically in the 15-day average window leading up to the finalisation of the forecast. Use that market curve and that gives you a forecast. Then observers can tell something from that forecast. Does inflation go back to target? Is the economy back in balance? In other words, is there still spare capacity?

The important thing is that, in November and in February, inflation was above target. The important difference between November and February is that the economy was no longer back in balance by year 3, but it was



in excess demand. In fact, it was in small excess demand by year 2, so the orientation of the committee has evolved, because what had been a trade-off between slack in the economy and inflation above target has diminished quite substantially and actually goes away. It goes the other way by the end of the forecast.

To get to your question, the conditioning path used in November had two additional increases in interest rates over the forecast horizon. One could judge from looking at that forecast that it was not quite striking the perfect balance for the committee, but the committee must take a decision. The majority of the committee supported the rate increase in November, as you know, and that was the first of the potential process.

Fast forward to February and the conditioning path had effectively three rate increases over the course of three years, slightly less but effectively three rate increases, and that yielded a forecast, in our best collective judgment, where we would have inflation above target at year 3 and the economy beginning to go into excess demand by year 2. We all agreed that that February meeting was not the time to raise interest rates, at that meeting. We all agreed that we felt that further withdrawal of monetary stimulus would be required over the next few years and we signalled that we felt that the horizon over which we should return inflation to target was moving in from three years, not jumping all the way to two years—that was not the collective judgment—but moving in from three years. That implies something more than what was in the market curve, in other words something more than three rate increases spaced out as they were in the market.

I will finish with this, because I know you want to get to the others. The important thing is to recognise that it is not just the number of rate increases, but when they happen. That is why we used language that said, relative to November, not necessarily relative to that market curve but relative to November, the rate would be somewhat greater and somewhat sooner than we had expected, as you referenced in your opening comments.

Q104 **Chair:** Perhaps other members who were there in November and then in February could talk us through the differences between the two.

**Andy Haldane:** We had seen between November and February the news of a somewhat stronger UK economy and a significantly stronger world economy. We had had a Budget that had reduced the degree of fiscal consolidation somewhat and we had seen a pick-up in global asset prices. A combination of those factors and a few more besides was the key reason why our growth projection for the UK was revised up a little bit, not hugely but a little bit.

In parallel with that, we saw the expected path of interest rates in financial markets pick up too. That is why the conditioning path, as Mark mentioned, in November was for two rate rises, and by February it had become almost three. That is consistent and our projections in February



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are consistent with it being likely that we will need some further modest withdrawal of monetary stimulus, provided the economy fills in as we expect, and provided price pressures fill in as we expect.

In terms of what I would be looking towards to endorse that view in the period ahead, given that we all voted to leave rates as they were in February, it would be the economy continuing to hold up at around the rates we saw last year, which while modest historically are still running somewhat above what we are calling the new speed limit for the economy of around 1.5%.

A second key factor would be that we see a continuation of the upward nudge in underlying price pressures, particularly wage growth, during the early months of this year. This period from January to April is the key one for wage settlements. It is a key one to observe carefully and see where they are coming out in shaping the path ahead, and whether our forecast ends up being realised.

**Q105 Chair:** Professor Tenreyro or Dr Broadbent, do you have anything to add? Are there any other factors?

**Professor Tenreyro:** I generally agree with the description of the facts. Compared to November, we have a slightly stronger near-term outlook and this is what led us to think that we will need to move rates slightly earlier. The exact timing of any rate increase will depend on data outturns. Monetary policy is state-contingent and it will be conditional on those data outturns. At this stage, given the uncertainty around the forecast, I would not like to commit to a date, but the direction we all share is that there will be slightly stronger tightening than we anticipated back in November.

**Dr Broadbent:** I have nothing much to add except to emphasise that we are talking about pretty small margins here. I will say two things. One is that point: moving from two rate hikes over three years to three rate hikes is not a dramatic steepening. The second is just to keep emphasising the conditionality of all this. We cannot, and it is not simply that we do not want to, make firm commitments about the path of rates. We cannot, and the reason we meet eight times a year is precisely to react to unfolding events. We can make best guesses about the future, but we will always get unexpected things happening, so it is important that we have the flexibility to respond to those.

**Q106 Chair:** Given that, I suspect I know what the answer to my next question is going to be, but I am going to ask it anyway. Assuming the economy carries on as expected and continues to grow in line with the Bank's published forecast, we have three rate rises over the next three years. Is it possible to say when those rate rises are and what they are going to be? Are there no clues for the watching public?

**Dr Carney:** The watching public and those who want to watch closely can observe our forecast. As Mr Haldane just said, think growth around



1.75%. That is the first point and an important point of the forecast. Secondly, expect a further firming of wages in the economy this year, a return to real income growth this year and an expectation that inflation will continue to be above target, unless there is adequate withdrawal of monetary stimulus and unless there are sufficient and timely increases in interest rates. All of that information is out there, plus our best collective judgment that the speed limit of the economy—the sum of productivity and additional labour supply—is a little more than 1.5%, but just say around 1.5%. To the extent that the economy is growing faster than that, it is using up the extra spare capacity it has, domestic inflationary pressures will build and the case for withdrawal of stimulus will be there.

Different individuals will have different views about how strong the economy is going to be, whether certain shocks will come into place and what exactly the timing will be, but they will broadly be able to anticipate what we are going to do. We see households by and large anticipating some increase in interest rates.

Here is where it is important for me to say two things, if I may; then I will finish. First, it really is important to re-emphasise the point Dr Broadbent made that, with these expectations of rate increases, we continue to talk about limited rate increases and at a gradual pace. This is not a return to the long-run average of bank rate around 5%. We do not think that is what is necessary for the economy, and so the pacing of this is slower accordingly. The second point is, as we all know, there will be some very big developments over the course of this year around the future of our relationship with the European Union, which will have an impact on the expectations of households and businesses and, therefore, on the economic outlook. Monetary policy is nimble; it will react to those expectations. There will also be other developments that we cannot anticipate. If they are persistent and affect the inflation outlook, we would react to those as well.

Q107 **Chair:** I would point out that, in the September minutes, the committee explicitly used the phrase “coming months”. Do you think that, potentially at future meetings, there may be an opportunity as things develop to narrow things down to windows of months, as opposed to years?

**Dr Carney:** It is a good question. I am glad you raise it. Part of the reason we did that, and we had a long discussion about it, was that we felt that the data were consistently filling in a way that that trade-off between the slack in the economy and inflation above target was diminishing steadily over the course of last year. Therefore, the appropriateness of beginning to remove monetary stimulus was coming into view, but the financial markets particularly were not taking that view and were not reacting as much as they had in the past to underlying data. From our market intelligence and conversations, our sense is that they were not because they could not conceive of a tightening of policy during the Brexit negotiation process.



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Now, we have been at pains to say that monetary policy could move in both directions. It depends on the combinations, moves, exchange rate, supply and demand effects on the economy. You put out the framework on a trade-off, et cetera. By and large, we could not break that, and so it was a fairly direct message to get across.

**Chair:** The markets needed a message.

**Dr Carney:** What has happened since then is that financial markets have started to move with the underlying data. The expectations are moving with releases such as those today or those a few weeks ago, and so they are better able to anticipate what we can do. The need for direct pre-commitment, almost, to a rate goes away. That is not a situation we want to be in. My last point is that we got in it collectively because of the exceptional circumstances we are all dealing with.

Q108 **Chair:** The other issue is that the MPC had stated there was a trade-off between supporting jobs and the economy, and returning inflation to the 2% target. Do any of the committee members—perhaps I will throw this not to the Governor, but to others—have any views on how many jobs or what percentage points of GDP growth would be put at risk in the short term by a 25-basis-point rise in the interest rate?

**Dr Broadbent:** Our remit asks us to make this judgment on occasion. In the summer of 2016, the exchange rate fell very sharply. That pushed up inflation. We think those effects last quite a long time, long enough for us respectively to do something about them with monetary policy. We could technically have raised interest rates straight away and by quite a lot to get rid of that inflation quite quickly, but we explicitly made a judgment, and are obliged by the remit to make a judgment, as to trading off how quickly we bring inflation back to target and how much support we give the economy.

As the Governor just outlined, in the actual data last year we saw still quite strong jobs growth. That has brought the unemployment rate down. It has brought the overall level of spare capacity in the economy down. In that environment, it becomes more important in a relative sense to bring inflation back to target, which is why we raised interest rates. We do not always face that trade-off; it is not always there. Very often the events that move inflation around move jobs in the same direction. On this occasion, we faced the trade-off and have been trying to explain the resulting impact on policy over the last 18 months.

**Dr Carney:** Why the trade-off occurred is also important, which is the element of the exceptional circumstances. The trade-off presented itself because we had a very sharp move in the exchange rate because, rightly or wrongly, financial markets made a judgment after the referendum about the relative prospects for real incomes in the United Kingdom. The question was how that effect on relative incomes was going to be distributed. Was it going to be distributed on fewer people in work or more people in work and lower real incomes, by taking that temporary



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increase in inflation? We were very explicit about the strategic judgment we have taken and it is detailed in the letter to the Chancellor that I wrote on behalf of the committee. In fact, my report to this Committee goes through the evolution of that trade-off.

**Andy Haldane:** Historically, the thing that has really killed jobs has been central banks stepping on the brakes too late. As Janet Yellen says, recoveries do not die of old age; they die because central banks step on them, because they react too late. We are absolutely clear that we do not want to be back there again, because it is bad news for jobs. That means going in this limited and gradual way to head things off in advance to prevent having to step on the brakes, handbrake turn at a later stage. That is fundamentally at the root of our role as a central bank.

Q109 **Stewart Hosie:** Good afternoon, Governor. The Inflation Report forecasts GDP to grow by 1.8% in 2018 to 2020, but underlying productivity growth is set to lag behind at around 1% to 1.25%. Economic growth would therefore be inflationary, although modest. Is it not a pretty sorry state of affairs that underlying supply cannot now or is not expected to keep up with what is a pretty anaemic real growth rate?

**Dr Carney:** I will not add an adjective to it; it is the state of affairs in which we find ourselves. Productivity growth has been weak across the advanced world. It has been notably weak here, given the circumstances in which we found ourselves. By that I mean that, following the repair of the financial system that was effectively complete around 2013-14 with very supportive financial conditions, UK businesses have had very healthy balance sheets, by and large, certainly since that time if not earlier. Now we are seeing our largest trading partners, with an "s", in fact the whole global economy with the exception of Algeria, Morocco and Mexico, growing above trend. 90% of the world economy is growing well above trend and our largest trading partners, considerably so. We should be in a position where there is a big pick-up in investment and therefore productivity.

Q110 **Stewart Hosie:** I will come back to the comparators towards the end but, just to go back to what Mr Haldane said about this 1.5% new speed limit, for the UK, notwithstanding what is happening around the world, is this 1.5% or sub-1.5% really the new trend? What is the expectation of that being the long-term prognosis? Where are we with that?

**Andy Haldane:** The 1.5% roughly breaks down into 0.5% from the growth in labour supply and 1% from growth in underlying productivity. On the labour supply side, that is somewhat less than it has been over the proceeding five years, because it is expected that rates of net immigration will be somewhat slower over the next few years than they have been over the preceding ones. As to the 1% growth in underlying productivity, there are huge amounts of uncertainty around it. As it happens that number is around one percentage point more than it has been over the past decade and one percentage point less than it has been on average historically. We remain in hope, and indeed in



expectation, that that can be realised. There is some distance still to travel even to get back to 1% from where we stand today. It is the case that we have a strong global recovery now, which is rooted—this is a key point—in stronger business investment, which hopefully is a catalyst for improved global productivity. We live in hope and expectation that some of that will be imported into the UK, as and when business investment begins to pick up.

- Q111 **Stewart Hosie:** You make the point about labour supply impacting on this, as a result of reduced net migration as a result of Brexit. Although monetary policy is nimble, this is a matter that cannot be fixed by monetary policy. This requires fiscal or other policy to repair, replace or fix the labour supply issue, does it not?

**Andy Haldane:** That is quite right. Think of the last 10 years as those when demand in economy has sat below supply. In that situation, the central bank, in the UK the Bank of England, can do its bit by extending unprecedented degrees of monetary accommodation, as we have, to get demand back towards supply, to close what we call the output gap and to remove slack in the economy. We are now reaching the point where slack is small and close to being eliminated. At that point, the key to driving the economy forward to growth, the speed limit, will be set by the supply side of the economy, in other words by the structural factors you mentioned, be they labour supply or underlying productivity. Those are not things that we at the central bank can do very much about.

- Q112 **Stewart Hosie:** Let me just ask about that because, when we took evidence from Ann Pettifor from Prime Economics, as part of the Budget inquiry, she said, “The reason why productivity is as weak [...] is because of the overemphasis on supply-side issues and the weakness of robust demand. The weakness of robust demand explains falling wages, the deflationary impact of the post-crisis period and weak productivity. If we were to increase demand and investment, you would find there was no productivity puzzle”. It is not a new analysis, but how would you respond to that? Basically, it is a demand-led recovery with too much emphasis so far on the supply side.

**Professor Tenreyro:** Looking at the data on productivity, the biggest drag in productivity post-crisis has been the financial sector. Part of that is explained by the deleveraging process that the financial sector has gone through. As that runs its course, we would expect to see a pick-up from that. The biggest change has been from the finance sector, which was growing very quickly before the crisis and then saw a big slowdown in productivity. The second sector contributing to the productivity slowdown is manufacturing, which again was posting big gains in the pre-crisis period and then saw a fall in its productivity growth, but is still contributing positively to overall productivity. These are the two problematic sectors, in some sense, and the ones to which we should be paying particular attention.



The other sectors also had a big fall in productivity during the crisis but, since then, have recovered and are almost back to their pre-crisis trends, which were not high, as the big productivity growth was driven by manufacturing and finance.

- Q113 **Stewart Hosie:** That is fine, except, in the eurozone and the US, the economies are growing at a faster rate than the UK. Are they also operating above capacity? How have they managed to compensate for the deleveraging and impact on their financial sectors?

**Dr Broadbent:** I would make a general point in response to what you said earlier. I do not think it is the case that the productivity problem would have been solved here purely by policies designed to boost demand. In general, it is true that productivity is cyclical—in downturns it tends to weaken and in upswings it tends to grow faster—but the period since the crisis is exceptional and we have had demand growth. It is just demand growth that has been met, to a highly unusual extent, by more jobs rather than more productivity. This is exceptional. I do not think it is a problem of insufficient demand. You asked about the euro area. It has had a later cycle. The period of really fast growth in the eurozone began 18 months ago and it was starting from that position with more spare capacity than we had.

- Q114 **Stewart Hosie:** I shall come back to you, Governor, for the final question. The difference in the cycle notwithstanding, you made the point earlier that all bar a handful of countries are growing more quickly than the UK and above trend. What are they doing or what is holding the UK back, hence this new nominal speed limit of around 1.5%?

**Dr Carney:** One point of clarification is that 90% of the world is growing above trend. The UK would be included in that bucket; we are growing slightly above trend as well. The reason for making that point is Mr Haldane's point on just how broad and healthy the global recovery is, because it is an increasingly investment-driven global recovery. That is the first point of context. The UK is growing above trend.

It goes to your points about demand, with respect to there being very little spare capacity in this economy. We use the term "speed limit" not just to be accessible, but because effectively that is what governing the rate at which this economy can grow. It is the reason why we are in a position where some withdrawal of monetary stimulus is appropriate, and it draws into sharp relief both the incredible nature of the recovery thus far, which has been very job-rich—and obviously we would all welcome that given the alternative—and the productivity challenge that we have.

It is time to say that there are two sided risks around that productivity forecast of 1% to 1.25%. There are downside risks because we have been disappointed before, there is a lot of uncertainty and investment has not picked up. On the other side, as Professor Tenreyro has detailed in a speech and referenced here, when you disaggregate the sectors that have been most affected, see that some of those level effects are



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dissipating, if I can put it that way, and see the overall healthier conditions that are in place, particularly if a degree of uncertainty is removed, you can see the possibility that productivity growth could accelerate more than we have forecast. The story of monetary policy now is not about crowding in demand in order to make up spare capacity. It is about finding the right balance for the economy relative to the speed limit. Structural policies, business decisions and much bigger decisions away from monetary policy are going to determine whether that speed limit adjusts over time.

**Stewart Hosie:** Given that money is still very cheap for businesses, this really requires fiscal policy to encourage the sort of investment to grow productivity.

**Dr Carney:** It is not for us to comment on fiscal policy. I would reference a speech Dr Broadbent gave a year or so ago around hurdle rates for business investment in the UK, which was both theoretical and empirical. It is entirely consistent with our meetings with businesses up and down this country, and Agent surveys. It is effectively no surprise. It is uncertainty about what the relationship is going to be with our biggest trading partner. This year, why would you not hold back if that is going to be materially affected? That effect is a short-term drag on this. That is part of the conversation. Then there is a much bigger conversation, which again is for Parliament, on broader structural policies that affect productivity in this country, irrespective of the trading relationship with Europe and/or the rest of the world.

Q115 **Rushanara Ali:** Good afternoon, everyone. Can I pick up on the point about broader structural policies and spare capacity? What would be the interventions that could be made? Governor, you may choose not to answer the question but, in the light of the introductory remarks, perhaps you would try. There are 500,000 young people who are still unemployed in this country. There are obvious issues around skills mismatch and so on. You have highlighted some of the challenges, but what would be the areas that our Government should be focusing on or Parliament should be focusing on?

**Dr Carney:** I will be totally upfront. I hesitate to wade too much into this territory, because it is outside of our direct responsibility. We have associated responsibilities, including through remits from the Chancellor to the Financial Policy Committee. As you can appreciate, monetary policy can affect productivity. If we want to have a big impact, we can have a bad impact. We can raise uncertainty and make mistakes, and we do not intend to do that. For the Financial Policy Committee, one of our secondary responsibilities is to think about productive investment. One of the issues in the UK, as in many advanced economies, is the availability of finance for small and medium-sized enterprises. The cost-effectiveness of that finance has been a perennial issue. Thinking through how financial innovation, fintech and other developments that are more than just conceptual possibilities can improve access to and



availability of finance, and cost-competitive finance, for a much broader range of this economy regionally and by business size, is something that we are not solely responsible for, but we have adjacent responsibility for and that could have a notable impact on productivity, not just in the financial services sector.

**Q116 Rushanara Ali:** Moving on to some other questions, on the Inflation Report, chart 1.2 shows, historically over the past 17 years, the UK has been among the fastest-growing economies in the G7. Why is the UK now at the bottom of this group?

**Dr Carney:** It picks up a bit on the discussion that we have just been having. There are two aspects to that. First, we had, at least initially in 2012 through to the early part of last year, an ability to use up the spare capacity that was in the economy. Not relative to the US or Canada, but relative to the rest of the G7, we had an earlier recovery, so we were using up spare capacity, growing above the speed limit of the economy with an ability to grow more rapidly. As we move through, we find ourselves in the position we are in now, as we have just been discussing, where we are around the speed limit. Our speed limit is low and it has not moved up. Part of the question is why the speed limit did not move up over that period of time and how you bring together the supply and demand sides.

We are in a situation where consumption was growing at 3% per annum in the first part of 2016. It is now growing a little over 1%. According to our Agent analysis and survey evidence of 2,800 companies, we see business investment at three or four percentage points per annum lower last year than it would otherwise have been, given the strength of the global economy, financial conditions and balance sheets. The uncertainty around the future trading relationships is having an effect on the demand side of the economy. I do not think that is controversial; it is pretty clear. That is probably affecting the supply side as well, the fact that we have this low track of investment. We have moved from the top of the pack to the bottom. I will reiterate that, as we all know, we are expecting, this year, to learn a lot more about those relationships and have the prospect of moving back up within that swathe of countries.

**Professor Tenreyro:** Besides uncertainty, there has been a sharp fall in real incomes following the depreciation of sterling and that contributed to the slowdown in consumption. Both consumption and investment are below what was predicted before the referendum.

**Dr Carney:** If I can put a figure on that, prior to the referendum, where real wages are today as we sit here, relative to where we expected them to be in May 2016 at this point, is about 3.5 percentage points lower. That drives that fall in consumption and we expect that that gap will widen over the course of this year, relative to the real household incomes we had expected pre-referendum. It will be about 5% by the end of this year.



**Chair:** By the end of 2018.

**Dr Carney:** Yes. We had expected from that point, broad-brush, a rotation of demand and consumption would slow. I gave the headline figures of 3% to 1% per annum. That is a big slowdown. It is an understandable slowdown given those overall shifts in income. What replaces it, to the extent it can, is net trade, which it has on the reported figures, and to a lesser extent investment. Investment has picked up. It just has not picked up as much as one would normally have expected, for entirely understandable reasons. We are in a transition period; a pre-transition period may be a better way of putting it.

Q117 **Rushanara Ali:** What do you anticipate happening after this year?

**Dr Carney:** Others will jump in, but our forecast is predicated on two assumptions: a smooth transition to an average of end states; and that that end state is far enough off into the future that there is not a jump to whether it is a WTO world, a Canadian world, a Norwegian world, to use the usual terms, or something in between. Given that, we see continued relatively modest real income growth and relatively modest consumption growth compared to historic averages. Think something around 1.25% per annum household consumption growth, whereas historically it would have been around 3% to 3.25%. Again, the economy is reliant on a bit of a pick-up in investment and net trade in order to grow above the rate of the speed limit. As Mr Haldane referenced earlier, it gets a bit of support over the forecast horizon from fiscal policy being a little less restrictive because that, in our judgment, was what the last Budget was. In terms of a rate of change, that provides support relative to what had previously been expected.

**Dr Broadbent:** Just to emphasise the points on investment, we have had this very large rolling survey of businesses that suggested that the Brexit uncertainty was depressing investment by 3% to 4%. That is in nominal terms, remember. As well as pushing up the price of consumption goods, the depreciation has pushed up the price of investment goods, many of which are imported, so the effect in real terms is quite a bit bigger than that 3% to 4%.

Q118 **Rushanara Ali:** How much bigger is it?

**Dr Broadbent:** The investment deflator has gone up more than 5%, so you would have to add that on. You could put it another way round. By the way, when we meet businesses, as the Governor said, we hear this effect directly. It is not so much that people are necessarily pulling out; they simply delay the big irreversible decisions they might otherwise have taken. Were that uncertainty to be lifted, there could be quite a marked rise in the short time. Some of these projects would then be more feasible.

Q119 **Rushanara Ali:** This is a question about the current account deficit, which has fallen from its peak at 7% in 2016 to just over 4.5%. The



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Inflation Report says that it is caused by “a narrowing in the deficit on primary income” rather than through increased exports. Given sterling’s depreciation since 2016, is it surprising that net trade is not contributing more to the reduction in the current account deficit?

**Andy Haldane:** To be clear, arithmetically, that narrowing is partly a result of an improvement on the primary income account and partly a narrowing on the trade side. The larger part is the primary income account, but there is contribution from both. There may well be a single explanation for both of those things, which is the world doing relatively better than the UK, which will have boosted demand for our exports and therefore helped shrink the trade side of the equation. It will also have meant that we earn more from our investment overseas, relative to what we pay out on overseas investments here, so it could be this common cause on both sides of the account for why the deficit has narrowed so far, from slightly north of 7% to around 4.5% now.

**Professor Tenreyro:** The trade account has also improved significantly since after the referendum. There was a big increase in the deficit and then, since then, it has been improving. Both have contributed, if you take a longer-term perspective.

**Dr Carney:** I have one point on the trade side. One of the questions has been, given the performance of investment, whether there would be capacity constraints on the export side. The good news is that there has not been thus far. The traditional elasticities or relationships between the exchange rate and trade, taking into account partner growth, have held. Just at the risk of repeating ourselves, what has not held is the accelerator effect back into investment, which is what you would expect given it is a pretty good time. Now, what we would also see, and others would see this as well, is that if a firm has no relationship to a European supply side and is an exporter to Asia but does not source products from Europe, Canada or wherever, it is investing, building and going great guns in this environment.

Q120 **Charlie Elphicke:** Dr Carney, for a long time you said, “I might raise rates. I might not raise rates”. You blew hot and blew cold. In November, you went for it and raised rates by 25 basis points, and then you are talking about possibly doing further rate rises. How can borrowers and markets have assurance as to the signals that the Bank is providing?

**Dr Carney:** I do not recognise the first part of your characterisation. What the MPC had said on a few occasions was, first, that we were not going to think about moving monetary policy unless certain conditions were met. The market was able to understand that meeting those conditions was necessary, but not sufficient. When unemployment happily went through the 7% level, nobody in the market was expecting rates were going to go up at that point, because they understood the pressures were not there. We and the market were forming a view that there was more slack in the labour market than one might have



expected, given the scale of longer-term unemployment and the shock of the post-crisis hit to demand. That was the right judgment to make—it was a judgment—and it was validated over time.

The only time, at least in my time as Governor, we have been in a situation where enough of the market was not responding to underlying data, taking into account the so-called reaction function of what it would expect the committee as a whole to do—since I am testifying, I would make clear that I am one of nine people on the committee; I form a view, but I do not determine when we take decisions in any direction—was this period post the referendum, post our initial easing of policy, when the view became that there would not be circumstances under which the MPC would tighten policy until there was clarity about the future trading arrangements with Europe. Since the decision in November, the market is now trading on data and the outlook for expectations of inflation.

**Q121 Charlie Elphicke:** Let me come to that. In November, you raised it by 25 basis points but, since July, the interest rates on unsecured loans have only gone up by four basis points. Five-year fixed rates have gone up by three basis points. Two-year fixed rates for 90% LTV mortgages have gone down by 20 basis points. There you are; you are raising rates but the market is ignoring you. Why?

**Dr Carney:** Having read the report, you will have noticed chart 1.11 on page 7, which shows where bank funding spreads have been and what has happened over the past year and a half. What has happened for UK banks, but it has been a global phenomenon, has been that wholesale funding costs have gone down quite substantially. Wholesale funding costs are the bigger determinant of the cost of fixed-rate mortgages and fixed-rate lending, and that is what has dominated. That is the first point.

Secondly, one of the other things we are seeing in the competitive dynamics of lending markets, but also competition for fixed-rate deposits, is that, at least temporarily, the prospect and process of ring-fencing is bringing greater liquidity, assets and competition into domestic lending. This is part of the reason that we are seeing quite intense competition in high loan-to-value mortgages. You quoted some figures. We have seen straight pass-through on trackers and SVR, as you would expect. On lower LTV mortgages, so 60% to 70%, pass-through has been broadly consistent with historic experience. On higher LTV mortgages, we have seen them come down, so there has been this flow-through of fixed-rate funding through wholesale markets and some competition in ring-fenced banks.

**Q122 Charlie Elphicke:** Professor, can I address the next question to you? Do you think that part of the reason that rates do not seem to be moving up in the market on the domestic side of the ledger is perhaps because there is just too much money sloshing around the system? We have too much QE, too much cheap money and, perhaps, we have too much money supply generally.



**Professor Tenreyro:** The pass-through we have seen so far is consistent with historical experience for this country, so there is nothing unusual there. It is normal to see more immediate pass-through in shorter-term instruments, because the risk-free rate is a bigger part of the cost of funding. All we have seen is very consistent. The only slightly puzzling result is a decline in rates on high LTVs, which, as the Governor just said, relates to issues that have to do with an increasing competition in those product markets. There is really nothing unusual in what is going on.

Q123 **Charlie Elphicke:** Professor, from your experience, what is the risk in the current situation of there being a rising inflation problem that we do not deal with quickly enough, because there is so much money in the system and rates are not being addressed quickly enough? Is there a risk that we are doing too little and we might have a bigger inflation problem down the track, or do you think that the current path is appropriate and you can give assurance to borrowers in the market?

**Professor Tenreyro:** We have seen inflation expectations well anchored, so I do not see a problem in that regard. As was said previously, we have had to grapple with the trade-off between spare capacity, jobs and inflation. Now, as that trade-off has shifted a bit and we see less spare capacity in the economy, as was said earlier, we will be moving slightly earlier. I am not concerned about excess liquidity or excess supply of money, as you said. Inflation in the forecast is going back to target and we will be there within the forecast period.

Q124 **Charlie Elphicke:** Mr Haldane, I had a look at the earnings forecast in the Inflation Report for 2018. In November, the OBR provided us with earnings forecasts that were like 2.4% or 2.6%, that sort of range. The Bank of England inflation forecasts suddenly seem to be 3% to 3.5%. Is the earnings backdrop improving dramatically or are you pricing in an inflation issue?

**Andy Haldane:** We think, and this has been news between the November and February reports, that the long-awaited—and we have been waiting a long time—pick-up in wages is starting to take root. We get intelligence from our agents that suggest that. We had a survey of companies in the field just a few weeks ago, which told us that wage settlements this year were going to pick up, perhaps to a number with a 3 in front of it rather than a 2 in front of it. We will wait to see. As I mentioned earlier on, this is a crucial time, the January to April period, for the wage-bargaining process.

It is very likely that we will see a pick-up in the official numbers for earnings growth from next month, from January. The reason I can have a degree of confidence about that is because in the early part of last year wage pressures were very weak. Arithmetically, given what we have seen over the past few months, it is very likely average weekly earnings growth will nudge up to have a 3 in front of it, which is our forecast for Q1, 3% growth. Thereafter, we see a pretty slow rate of ascent. If it hits 3% this quarter, we still only have wage growth of around 3.5%



three years hence. I do not think we are posting anything too topky there by way of wage growth, but we are seeing that build in our intelligence. We will see that build in the official data and we expect that build to continue, albeit pretty attritionally, over the next two or three years.

**Q125 Charlie Elphicke:** Could you also tell us where this leaves the Phillips curve with this trend?

**Dr Carney:** It is alive and well. That is part of the message. It is an important point that you are making. We are getting towards full employment, although we are not there yet. We have just made our judgment of equilibrium unemployment of 4.25%. The latest figures are above that. As we are getting there, we are seeing a variety of indicators that are consistent with the firming of wage pressures. I will add a few points, and then bring it to the bigger picture.

First, as Andy was just saying, and it is an important point, if you look at three-month annualised wage growth including the most recent figures it has been running at around 3% for more than half a year. You have seen a steady firming in private sector wages, ex-bonuses, including the most recent figures. We are still having high-quality job growth in full-time employment. Vacancies continue to rise and employment surveys are getting quick tight. That is all in a backdrop where wage growth has been very weak for some time and expectations may have shifted, and there is this uncertainty that may be weighing and productivity has been very weak. In the end, the ability of wages to outstrip productivity growth is not there. In the end, that will help govern us.

I wanted to draw together your two big strands of questioning, if I could. It is important to recognise the reason why inflation is at 3% today and was at 3.1% before, which is entirely pass-through from imported inflation. The vast preponderance of that is the pass-through from the fall in sterling. It is important to recognise, as I know you do, that that pass-through in the UK at least tends to take place over several years. We have not seen all of it; it will be with us for a few more years yet. We are probably about the peak of it right about now, in terms of the overall pass-through from imported inflation.

Domestic inflationary pressures are beginning to firm, but they are firming from quite a low level. The task for the MPC is to manage to bring those up as those imported inflation pressures come off and bring inflation back to target—not above target, but back to target—in a reasonable horizon. If we had taken the extreme approach that Dr Broadbent referenced earlier—I think it is a good thing we did not and would certainly support it—we could have brutally tightened policy after the referendum to squeeze out domestic inflation so that it offset imported inflation, but then the real income hit would have been taken in very many jobs.



Q126 **Charlie Elphicke:** Finally on productivity, since you have touched on it, I saw a report earlier that productivity seems to have strengthened quite sharply. Is that what you would expect to see?

**Dr Carney:** That would be the survey of average hours in the labour force. You would go mad if you put too much weight on the productivity numbers that come out from that data. It is interesting. We look at it, but we smooth it and we would want to see much more. Of course, you would rather have that result in terms of some signs of pick-up, but it needs to be persistent and sustained.

**Dr Broadbent:** Sorry for butting in. The only thing I was going to add was on the reference to the OBR forecast for wages earlier. One of the main reasons that its forecast is weaker is precisely because of productivity growth. It has a lower forecast for that and, as the Governor said, in the end that is what determines the rate of real wage growth. On that latest productivity number, the quarterly numbers are pretty volatile. There was a very small drop, but a drop nonetheless, on employment that looked pretty noisy in Q3. That boosted that particular number, but productivity had fallen over the previous three quarters taken together. That is why we smooth them out and look at longer-term comparisons.

Q127 **Chair:** I cannot remember if we have raised this with you before, but I know we have in other panels. There is a debate, which we had at the Budget submissions, about how productivity is measured. I do not know if you have a view, Dr Broadbent, about the way that we are measuring productivity as a country. There may be something that we are missing.

**Dr Broadbent:** One of the things that has been suggested, and one of the many potential explanations that people have offered for the productivity puzzle, which does not only exist here—being economists we have more suggestions for the explanation than there are quarters of data—is that we have undermeasured output growth. The nature of output has changed. There are more services in the advanced world and less manufacturing. You can more easily count the number of widgets than you can the contribution of YouTube to output. What I have seen on this suggests that, although it may be true, it is very unlikely it is true to a sufficient extent and has changed sufficiently to explain the extent of the slowdown in growth we have seen. I think it could only be a minor part of the explanation.

**Professor Tenreyro:** There are margins for improvements in our measurement. One is double deflation that is not done in the country and that was part of the Charlie Bean review of the digital economy and how it is measured. These are important aspects that will have to be addressed, but again I do not think this will add a lot to the numbers.

**Chair:** It would not change the numbers significantly.

Q128 **Charlie Elphicke:** On productivity, Dr Broadbent, you sound slightly cool on these numbers. Well, you know, they are not really that reliable and



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yet Yael Selfin, the chief economist at KPMG, is quoted as saying the productivity figures are “very encouraging”. She goes on to say, “If stronger productivity continues into 2018, the Bank of England may decide to hold at least once on raising rates this year”.

**Dr Broadbent:** “If” indeed—there are all sorts of things on which one could say, “If this, then that”. Let me give you a couple of reasons for caution. First, as I say, this is a quarterly number and the denominator in productivity, the amount of employment, is quite noisy from quarter to quarter. One should in principle be slightly wary about quarter-to-quarter movements. Over time, of course, we have been serially disappointed in our forecasts for productivity growth. There are good reasons, as Professor Tenreyro outlined a moment ago, to be hopeful. Indeed, in our forecast we see a pick-up in productivity growth, one that is faster than the OBR forecast. If that happened it would be great, but we have learned not to count our chickens on this.

**Professor Tenreyro:** One other thing to add on the comparison with the OBR is its forecast is from November. Since then we have had some more positive data.

**Charlie Elphicke:** Your overall view is that things are looking rosier for the economy.

**Professor Tenreyro:** They are marginally.

**Chair:** Charlie, it is really good that you are going to say yes.

**Charlie Elphicke:** Brexit is a great success.

**Chair:** To be continued.

Q129 **John Mann:** Good afternoon, Mr Haldane. Your Inflation Report here identifies average earnings. Tell us about income distribution. What is happening with high earners as opposed to low earners?

**Andy Haldane:** As you know, our principal focus, given our remit, is the aggregate wage position.

Q130 **John Mann:** If you have calculated the average, then you have to have the higher and the lower, by definition. I am just asking what the situation is with high earners and low earners, since you have only given us the figures for the average.

**Andy Haldane:** We have given them consistent with our mandate.

**John Mann:** I know what your mandate is. I am just asking the question.

**Andy Haldane:** This is not something that we routinely go into in huge detail, the distribution of wage increases. We would and do look at patterns across different sectors. As Mark mentioned earlier, we have seen evidence of recruitment difficulties appearing in certain of those



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sectors, and that can be very interesting for revealing any build-up in wage pressures. That has been revealing. There are pockets and sectors where recruitment difficulties are particularly acute.

We have also looked, as a different cut of the cake, at the wage increases offered to those moving between jobs, relative to those who are remaining in the same position. There again, you will be unsurprised to hear, the largest increases have been among those who have moved between jobs, often to higher rates of pay. Taking those things in combination goes some way towards explaining why wage pressures, so far, have been relatively subdued, relative to many people's expectations including ours. That is to say that fewer people have been moving between jobs during the course of this recovery than would be typical of a normal recovery, and that has held back the pace of pay pick-up to some degree.

**John Mann:** If the wealthiest in society get huge increases, then that drags the average up.

**Professor Tenreyro:** Actually the biggest wage increases were posted at the low end of the distribution.

**Dr Broadbent:** We do not get detailed data for the most recent period, except in sectors. I think I am right in remembering, as you can see in today's numbers, the firming has been marked in areas, as Andy has suggested, where you have seen somewhat tighter markets, in construction and manufacturing. Over a period of many years, there has not been a great change in either direction in the distribution of wages, one way or the other.

**Dr Carney:** I have several points. One is that the national living wage and its effect, both on those who receive it and just above that cohort, is something that we are watching. We are seeing that flow through, which is helping to support some growth. I recognise it is a different category. Secondly, as Dr Broadbent just said, in order to get refined cohort data and to step back and look at what is happening, either regionally or nationally, by different occupation or income levels, we look at that from time to time.

At least three of us have spoken on this, in terms of the overall distribution of income and wealth in the country over the course of the last decade. Outside of the top—and one has to go to the top 1%; I recognise this is an issue—if you look across the whole, inequality has not increased in either income or wealth. There was a sharp increase in the run-up in the 1990s and early 2000s, and then it has more or less gone level. What has happened, as everyone knows and can feel, is that average household incomes are still not back at the level they were prior to the crisis. You have this juxtaposition. We can furnish you with the information but, in fact, I think we have furnished a previous incarnation of the Treasury Select Committee with some of this distributional data.



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**John Mann:** We are always happy to be updated. We love data. You know that, Governor, and that will be helpful.

**Dr Carney:** We will do that.

**Chair:** It might be helpful for our household finances inquiry. As you know, we are doing a separate inquiry on income, savings and debt, so it might be very useful for that.

Q131 **John Mann:** To come back to you, Mr Haldane, page 26 of your Inflation Report has a section on migration. In it you have impact on aggregate demand and inflation, where your one source is a 2015 paper by Professor Nickell, who we have the opportunity to question a lot, because he is on the OBR. Mr Haldane, are you satisfied that that particular paper is really up to date, considering the source material that it was using?

**Andy Haldane:** It is the one we quote, but it is by no means the only one we look at. There have been a number of studies now, both in the UK and internationally, looking at the question of the way in which migration flows may affect wage pressures in particular.

Q132 **John Mann:** Are there any more recent ones that you have taken into consideration, because Professor Nickell would have included previous ones in his?

**Andy Haldane:** There is work for example by the Migration Advisory Committee, which is more recent than that. By recollection, it reaches a broadly similar conclusion, which is that it would be wrong to say there is no discernible impact on wages from migration flows, but there are two things. First, that impact appears to have been very modest, which was the same conclusion that Stephen and Jumana's paper reached, which you referenced. Secondly, that has differed to some extent across different of the wage cohorts, so my reading of the evidence, not just the evidence you quote here but the UK evidence more broadly, including the most recent stuff from the Migration Advisory Committee, and my reading too of the international evidence on this, points towards this effect being relatively modest.

Q133 **John Mann:** Just to check out some of the data you have, what evidence do you have on propensity to move, to migrate, among different socioeconomic groupings?

**Andy Haldane:** I should not pretend that we at the Bank are the absolute experts.

**John Mann:** You have quoted it in your report.

**Andy Haldane:** We have looked at the question of what the determinants of migratory flows are, and they are the sorts of things you would expect, including the relative economic fortunes of the two countries between which labour is flowing. We have looked at that evidence and, indeed, we have looked at it as a way of making sense of



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what might have been happening most recently to migratory flows between the UK and the EU. We know that there has been a slowing there. There is no single potential cause of that. All matters Brexit are one. A relative pick-up of the fortunes on the continent versus the UK would have an effect.

**Q134 John Mann:** You cite in the Inflation Report that there is an above average number of EU migrants who have degrees, but there is an over average number of EU migrants who are in unskilled work. That might suggest, therefore, that the people who initially moved 10, 11, 12 or even 13 years ago now were the higher educated.

**Andy Haldane:** Initially, but I am not sure on the timing.

**John Mann:** I am asking what evidence you have in relation to that.

**Andy Haldane:** This is something that we have looked at across the skill distribution and my understanding would be similar to yours, which is to say the preponderance has been both at the higher-skilled end—

**Chair:** Finish the sentence. We are going to vote, but please finish what you were just saying, Mr Haldane, and then we will go and vote and come back. Wait for the bell. If you can, keep going.

**Andy Haldane:** It has been either end of the skills distribution where the migratory flows have been largest.

**Dr Carney:** I would just make one point. We update our outlook on supply every year. We just did one for this report. Part of what we do is update those equations about likely migratory flows, given relative economic performance, and then we adjust how we use the ONS's own range of data. It has a projected range of migration. That is one of the reasons, given the strength in Europe relative to the UK, why we have chosen the bottom end of the range, which has an effect on supply in the economy and therefore inflationary pressures. The second point, and then I will leave you to vote, is that you will need to look at the general equilibrium of this. It is not just the impact on wages, but what they spend and where they spend it.

**John Mann:** We will come back to that.

*Sitting suspended for a Division in the House.*

*On resuming—*

**Chair:** John, you were asking about migration.

**Q135 John Mann:** I am happy to ask Mr Haldane, but I saw that Professor Tenreyro is also keen, so perhaps you both want to comment on this. The reason for the line of questioning is that, if it is the case that the early movers from the EU, those from 2004 onwards, are disproportionately better educated and graduates, which certainly is the



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anecdotal experience of many of us, then whether those people are more likely to move and their propensity to move and leave are important to assessing the economic impact of any change in migration. Similarly, if the reduction of migration into the country is particularly not of the higher-educated graduates, who have already had a higher propensity to move and therefore would already be more likely to be here, then the types of people not coming have a different economic impact. I am really trying to ascertain what knowledge we have about that and what knowledge we have about the propensity to buy assets, housing. Someone who has bought housing in this country is perhaps less likely to leave than somebody who has not.

I will throw it into one question. I could break it down and hammer away in different ways, but it is easier. What evidence do we have on the propensity to spend? For example, if food is easily importable from a country, say Poland, then what is the propensity to spend on imported food, as opposed to Africa, where the ability to import food is significantly more difficult? What is the propensity to import food? That is important in calculations of the numbers of people and changes in flows similar to the propensity to repatriate monies. The biggest earner in Nicaragua, Honduras and El Salvador is US-repatriated wages in their economy. What is the current propensity to repatriate and what that is among EU migrants, if it is presumed that EU migrants are the most likely not to keep coming or potentially to leave because of changes? Do we have lots of people, for example, who have been buying property assets in their country of origin and repatriating lots of money? They would have a much higher propensity to move back because there is something to move back to.

Finally, on housing, and this is the Governor's point about spending, there is a lot of social analysis that would suggest that new EU migrants are living in poor quality housing that is heavily overcrowded, be they farm labourers living 12 to a caravan, which I could easily document in my area, or people living in huge numbers per property. The social analysis has demonstrated that, but the economic consequences are that people are paying less for their housing and so are contributing less back, because of the nature of their housing. My question is not on what the implications of all that are, because some of those are fairly obvious. It is what the evidence base is that you are operating to and whether in fact we have a dearth of evidence that means that we, you and everyone, including policymakers, are somewhat guessing. This Nickell and Saleheen paper is very much using old analysis as its evidence base and that is the one that you are citing.

**Chair:** Your answer does not have to match the length of that question.

**John Mann:** That was five questions thrown into one.

**Dr Broadbent:** I am going to make some very high-level points here. While many of these things are interesting, it is not clear that they are directly relevant to what we are asked to do. The Governor said a



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moment ago that it is important to recognise that when someone moves country the supply of labour goes up, but so does demand because they tend to spend as well. Whether for that reason or not, the study you cite and many others indicate—if they are detectable at all—that there are only very small impacts of flows of immigration on wages and prices. That is what we are concerned with predominantly.

It is important for us to forecast overall flows of migration, because they determine one of the things we began with, which is the speed limit and the idea of what the overall potential rate of growth is. But if you get big changes in those trends, and then in supply growth, roughly speaking you will tend to have corresponding changes in demand growth. There will be fewer people spending money.

You are right that it was published some years ago, but it is not the only study indicating only very small impacts on the stuff we are charged with caring about, namely price inflation. That is not to say that many of the other things you mention do not matter; they do, but they are not really relevant to what we are asked to do. As Andy said right at the start, this is not the only study indicating similar results, whether in UK data or in other countries.

**Professor Tenreyro:** I share what Ben said. The study we are citing here by Jumana Saleheen and Stephen Nickell is one of a big wave of studies documenting very little effects of flows of immigrants on the wages of natives. This goes back to David Card's work for the US and more recently Ottaviano and Peri. The latter even found increases in the wages of natives, because there is a complementarity in the skills immigrants bring. It is far from clear that the inflow of immigrants would depress wages, which is the partial equilibrium effect that many sometimes have in mind.

**Dr Carney:** This complementary point is important and it is something we will discover in coming years. The second point that goes the other way in terms of impact on wages, which is potentially unique—it is very difficult to determine this—to the situation in the UK and Europe, is the extent to which there is a contestable effect of a very large potential labour supply that could come in and whether that has an impact on wages here.

We look at this from a macro perspective. We look at what the flows potentially are and the overall impact on wages, but particularly prices. I come back to what Dr Broadbent said, which is that we see a modest impact. These are big social questions. They are important issues. Regionally, they are important issues for certain industrial sectors, without question, particularly if there is complementarity.

Overall, at a macro level, we have not seen these effects. While we forecast lower net migration, not surprisingly, or—I should be precise—we are using the lower end of the ONS's forecast for analytic reasons, we do not see that having a big impact on the outlook for inflation in the UK.



Q136 **John Mann:** If net inward migration falls even more than the OBR is forecasting and the ONS, using the same statistics, is forecasting, you do not see a significant impact at all on the economy.

**Dr Carney:** You would see an impact on the overall speed limit of the economy, in other words the potential growth of the economy. The level of the economy would be affected, to be absolutely clear. As Professor Tenreyro mentioned, if there are complementarity effects, if there are bottlenecks that are caused because certain skilled labour does not come in, you could see a bigger effect. We are not forecasting that.

My last point is that I am not sure—at least in my reading of the data, which was a few years ago—about relative educational attainment in net migrants from the EU. It was still notably higher than the workforce in-country. They were in a situation, as you referenced, where they overfilled, relative to at least recorded skill level, the jobs they took.

**Andy Haldane:** I do not have much to add, beyond saying that you raised a point about whether our data on this is as good as it could be. I am sure the answer to that is no. The one thing we have been able to bring incrementally to that data is intelligence from our agency contacts. We have been relying on that quite a lot recently to try to see the extent to which there has been an impact on certain firms' capacity to hire. There are some sectors where there has been some evidence of that beginning to bite: in the agriculture and foodstuffs area. Of course, we look at that with an eye to how it might be impacting wage pressures in certain sectors.

Q137 **John Mann:** Those pressures may then lead to, for example, increasing use of robotic application and investment in capital, which will help with productivity. That is why the question of who the people are who are leaving potentially, and who the people are who are not coming in, would be very much in your terrain. If we are losing people who are skilled engineers or we are losing people who would have come who are skilled engineers, that is less replaceable than if we are losing people who are unskilled labour.

**Professor Tenreyro:** You are giving the glass-half-full version. It is possible that those firms move their operations somewhere else, and that would be a loss for the UK. If they cannot find the workers, say, to collect crops, they will have to give up on that or robotise.

Q138 **John Mann:** My final question is to you, Professor. Let us take Sports Direct at Shirebrook. Instead of bringing in 3,200 people, if Mr Ashley had set up a similar factory in Poland and repatriated the profits as a UK business owner with a UK business into this country, would that necessarily be to our economic detriment?

**Dr Broadbent:** If you are interested in the employment and wages of the existing population, there might have been some spill-over if he operated here. If it was literally the case that he employed no one who was born in this country at all and he did not buy anything else from this



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country locally supplied, there is very little difference between doing that and operating in another country, but I suspect that is not the case.

To come back to your original point, if it were the case that flows of migrants were very, very different in their characteristics than the indigenous population, you might see some effects on things we care about. But the evidence suggests that the difference is in the direction the Governor pointed to. The empirical evidence, whether it is the paper we cite or others, which is in the end what counts for us, is that there is no big effect on the things we care about: wages and prices. There is, as the Governor said, on the overall size of the economy, but not the things that we are charged with caring about. That is not to say that all the other social issues you raise do not matter; they do. We have looked at quite a lot of evidence, at what is available, and it does not suggest big effects on wages and prices.

**Q139 John Mann:** Governor, are you expecting to produce another Bank of England paper? This one was three years ago. I mean a research paper.

**Dr Carney:** We do a lot of research on the labour market. Three years is not that long ago, Mr Mann.

**Chair:** It just feels it.

**Dr Carney:** A lot has happened in three years, but fundamental economic forces should not necessarily have changed. As the professor has said, there is a very large body of analysis around these issues. There is serious, rigorous analysis out there. If you want us to carpet bomb you with a bunch of stuff from various places, we can.

**John Mann:** Thank you.

**Dr Carney:** The direction is pretty clear. I would say it is very clear, certainly in my reading of it. Plus the Bank has its own analysis. One of the co-authors of that paper is a Bank employee, but the Bank has its own analysis, which was referenced in an Inflation Report in the same year, 2015, as well. We have models that we continue to update, which help inform us about flows.

As a last point, we are obviously watching what is happening, because we have had a fairly sharp move, as you know, in terms of net flows in the course of the last 16 to 18 months. We are watching how that is affecting things, with our Agencies, but we will also do macro work. Yes, we will be updating that, but it would be surprising if the direction of the effect were to change.

**Q140 Mr Jack:** Can I turn to the Inflation Report's assumptions on trade in relation to Brexit, which show a net contribution to GDP from trade in every year of the forecast? Does this mean the Bank is assuming a smooth transition when the UK leaves the EU and a future comprehensive free trade deal? Is that what you are assuming?



**Dr Carney:** We are assuming a smooth transition, absolutely, and we are assuming an average of outcomes. As I referenced earlier, those outcomes range from a WTO situation—leaving and being under WTO rules—to something more akin to a comprehensive partnership, which would be closer to the Norway end of the spectrum. That is a very broad range, as you will appreciate.

Q141 **Mr Jack:** You see a WTO arrangement as a smooth transition.

**Dr Carney:** You can have a smooth transition to autarchy if you take a long enough time for people to adjust to it. It is merely so that businesses and households have enough time to see where they are going and make necessary adjustments.

Q142 **Mr Jack:** Are you assuming that businesses are freely able to continue exporting to the EU in those assumptions?

**Dr Carney:** I have a couple of things to say.

**Mr Jack:** “Freely” is the word I emphasising.

**Dr Carney:** For the purposes of this forecast, think of it as not being that the UK moves to the new trading relationship on 1 January 2021; think of it that it gradually transitions. This is for forecasting purposes. This is not a comment at all about negotiations or desirability, but for forecasting purposes it adjusts over a period of more than a decade to this new trading end state, be it WTO, Norway, a comprehensive free trade Canadian-style deal or whatever. It is that average. It is a very long transition, which means it is orderly and, on top of that, households and agents understand that that is what the transition is going to be.

To try to bring it together, where it is relevant for the forecast is that there is not a sharp adjustment happening at the end of a forecast to a new economic relationship.

**Mr Jack:** You do not seem to be assuming a two-year transition period. You are mentioning 10 years.

**Dr Carney:** It is not a political statement. It is not a statement about negotiations. It is a forecasting convenience, which is that the transition is over a long enough time that there is not an abrupt adjustment. “Smooth” means smooth over a longer period of time.

The second point, which is crucial here, is that we’re heavily therefore influenced by the current expectations of households, businesses and financial markets about that end state. Financial markets, as you know, are pulling forward their expectations to today in asset prices. Businesses are using an average. Different businesses have different views. They are forward-looking, under some fog of uncertainty, and therefore they are not investing as much vis-à-vis Europe, as there is some presumption that part of that access could be at risk, to state the obvious.



Households in effect are consuming out of current real income, so they are not making a judgment about those future arrangements, again I would say understandably, because it is extremely difficult for them to make those judgments in the current environment.

**Dr Broadbent:** I would add one tiny thing, which is not to mistake movements in net trade balance for a measure of the effect of trade on an economy. If you will forgive me, that is a rather mercantilist way of looking at this. The Governor mentioned autarchy. You could close down trade entirely between the UK and the rest of the world, which I would suggest would not be a good thing, and our trade balance would improve, because it is currently in deficit. One should not imagine that the balance is anything like a sufficient statement of the impact of openness on the economy.

Q143 **Mr Jack:** I have two questions on that. Professor, you mentioned earlier that the OBR's forecast was in November 2017 and things have changed a bit since then. Its forecast is in line with government policy. It has assumed zero contribution from net trade from 2019 onwards. This Inflation Report is more optimistic than that. Maybe you answered the question earlier when you said that more figures have come to light since the OBR made this forecast in November.

**Professor Tenreyro:** Yes, one is the strength of global growth. We have seen more of a continuation of that. I do not know exactly how much that is factored into its expectations. I would assume some of the difference was coming from that. Then our productivity forecast is also slightly higher than the OBR's, so these two are probably what is behind our differences.

**Mr Jack:** Coming back to this smooth transition, my understanding of a smooth transition is different to yours, Governor, inasmuch as I am thinking about 2019 and the following two-year implementation period. At what point do you reassess your numbers as we get closer to whether or not we have a deal?

**Dr Carney:** You are putting your finger on a crucial point, which is that, as we get closer to a deal or get a deal, first it is important to lock down the implementation period, the transition period, at the March council. That is important for Europe as well as the UK. First it is important to have that; that is the next signpost.

Then the next signpost is towards the end of the year. Everyone would be very pleased if, in the November Inflation Report, we were adjusting our assumption because we knew what the agreement was for the end state. You would expect that to potentially have a material impact on the forecast, with the caveat that, because our horizon is only two or three years, we have to bring this back to how we think households and businesses will react to that.



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If I may, we have 18 months of experience using these assumptions. As is detailed in Dr Broadbent's report to this Committee, if you look at our forecast over the course of 2017, using this convention of smooth transition to an average, and blend in how households and businesses are thinking about this, it happens to be that we forecast the economy bang on or 0.1% above what the economy is reported to have turned out.

It is working in the short-term as a forecasting mechanism. We recognise, though, that we are going to learn a lot this year, which is going to mean that we are going to have to adjust it, as everybody in the country is going to have to make adjustments over the course of this year. Maybe there are some in the country who know exactly which direction those adjustments are going to have to be, but I will confess I am not one of them.

**Andy Haldane:** On trade, we should not underplay the improvement that has happened here. Fully half of the growth in the UK economy last year came from net trade. As Mark mentioned earlier on, as best as we can tell, trade has performed pretty much as we would expect given what we have seen in the world economy.

**Mr Jack:** You mean the weakening of the pound.

**Andy Haldane:** A combination of the weakening of the pound and a stronger global economy has worked its magic. That has meant net trade has been a significant contributor, and we expect those effects to continue over the course of the next two or three years. That has been part of this rotation—it is a rather healthy rotation—towards more net trade and somewhat less consumption than would have been the case pre referendum.

**Mr Jack:** It is always nice to hear good news.

**Andy Haldane:** It is easy otherwise to lose sight of the other side of the ledger.

**Mr Jack:** No, I agree.

**Chair:** That is very true.

**Andy Haldane:** Depreciations work, and that is how they work.

**Mr Jack:** You will know that in Argentina.

**Professor Tenreyro:** It did not work there.

**Chair:** It is a rather extreme example.

**Mr Jack:** They use it quite regularly.

**Professor Tenreyro:** Depreciations make people poorer.

**Dr Carney:** Depreciations do not work. They have an economic effect, but they are not a good economic strategy. They may be an outcome of



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various things, but I absolutely stand by that: it is how you make yourself poorer.

**Mr Jack:** This depreciation was, compared to Argentina, a relatively minor adjustment.

**Dr Broadbent:** What is true in our case in the last 18 months—we have touched on various aspects of this in the last hour or so—is that the depreciation reflects pretty clearly a pessimistic view in the foreign-exchange market about the impact of what we are doing. The market worries that we will be less open and more closed, and this will affect the ease with which we can trade. Those changes have not yet happened. One of the important things to remember is that, when you look at big depreciations, they usually happen because there is something no so good happening alongside that move.

We are in the situation at the moment where the move has happened, and it may be too pessimistic. The foreign-exchange market may well be too pessimistic. At the moment it is anticipating something bad, but the bad thing has not happened. These are pretty propitious circumstances for firms who produce exports—there is a strong global economy and a weak currency—but one should recognise that the pound is weak because of an anticipated bad thing. One hopes that the currency market is just wrong. If that is the case, of course, and we get positive news this year, one would expect sterling to go back up.

Q144 **Mr Jack:** Given the messaging running in to the referendum vote coming from the Chancellor and others, it is not surprising that there was a harsh reaction afterwards. Now we are seeing a slightly different story.

**Dr Broadbent:** It is up 2.5% in the last year. It is still 15% down on the peak in November 2015.

**Dr Carney:** We are probably all better off just being clear in the current situation. Across a range of financial asset prices, the UK has been marked down. The challenge is to prove the financial markets wrong, or to have them update their opinion of the prospects for the economy and real incomes in the country. That can be done through structural productivity strategy; that can be done through negotiation with the European Union and with other countries.

Having the real exchange rate down 16% on an undisturbed basis, which is effectively what it is, and having UK-focused equities underperforming by 30% are not the types of outcomes that one associates with this economy. They are not the types of outcomes one expects as this uncertainty is lifted over the course of this year. You will decide this. Parliamentarians will make those determinations.

Then we expect that asset prices would adjust to a new equilibrium. If it is a better equilibrium, yes, we will see sterling go up; yes, we will see UK equities go up; and, yes, we will see UK real incomes go up. We will



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have a new forecast that might look quite substantially different, and we will adjust policy accordingly. We will have some very interesting conversations over the course of this year, as this becomes clear.

Q145 **Chair:** I am assuming from what you are saying that the markets at the moment are pricing in the fact that, at the March EU Council, a transition period, whether it is time-limited to December 2020 or a two-year transition period, will be agreed. That is what the markets are doing at the moment.

**Dr Carney:** That is the central expectation of markets. We have that through market intelligence. You can see it a bit in option prices and other things.

Q146 **Chair:** If that were not to happen, talking about one of Dr Broadbent's bad things, and if that were not to be agreed in March, is the expectation that there may be another devaluation of sterling?

**Dr Carney:** It depends. There are lots of ways things can not happen. If it does not happen for technical reasons but it is going to happen still, then we could adjust.

**Chair:** If there were a total falling-out between the parties, would it happen?

**Dr Carney:** It is not in the interests of either party to have a total falling-out.

**Chair:** One certainly hopes not.

Q147 **Mr Clarke:** I enjoyed the devaluation study in the Wilson Room. The memory of the pound in your pocket not being worth anything less seemed somewhat on point. I am going to move on to the recent market volatility, which has grabbed the headlines and in many ways speaks to the fact that this is probably quite a healthy correction. Markets have got used to the idea that basically bad news meant that there would be exceptionally loose policy, and therefore markets have stayed pretty upbeat.

But it begs the question, I suppose, about whether that volatility influences how you communicate your MPC decisions going forward. If the markets are so hair-trigger sensitive to news, perceived good or bad, does that influence how or when you communicate news about rate rises?

**Dr Carney:** By and large, I agree with your characterisation. It was becoming quite unhealthy how little volatility there was in markets. Particularly, one of the seeming assumptions or expectations behind that low volatility was that the global economy and major economies would be in a sweet spot where there could be growth but no prospect of inflation, and that all tail risk could or would be taken out by central bank actions. Those are two separate assumptions.

It is somewhat encouraging that the apparent or the proximate trigger—it is always difficult to tell—of the adjustment in market expectations had



been more around economic fundamentals as opposed to a specific market event. What we are now seeing or have been seeing, which again is healthy, is that the correlation between bond and equity prices has begun to change, so you have a regime shift. These are all positive developments.

It is also important to recognise that the degree of volatility was extraordinarily low, so moving to a higher degree of volatility should not cause us concern, necessarily, and should not alter our reaction to the underlying economic fundamentals and our determination to achieve our inflation target in an appropriate manner. What has been and will continue to be incredibly important is that markets can understand our reaction function and how we are managing this trade-off during a difficult time.

These are exchanges as we just had with Mr Jack on what the assumptions underlying the forecasts are, so when those assumptions change people can update them. If people have different views on the likely March council outcomes or end states and how that could affect the economy, they can anticipate what we would do. I am moving to a conclusion. That is one of the biggest contributions we can make and the TSC makes: to draw out with clarity how we are thinking about the economy and how we could react.

To conclude on this, the pickup in the volatility—I will speak for myself—does not concern me in terms of the path of policy in the UK. To borrow from the president of the New York Fed, it is relatively small potatoes in the grand scheme of things.

**Mr Clarke:** They are expensive potatoes for some.

**Dr Carney:** They are cheap for others who are on the other side

**Mr Clarke:** Indeed, yes.

**Dr Broadbent:** In this context, it might be worth repeating something the Governor said earlier. In the particular markets we often focus on, expectations of what we will do shook the front end of the sterling rates curve. Something else that has changed in the last few months is that we have seen a little more sensitivity to economic news. That is another bit of a rise in volatility, if you want to call it that, that we welcome.

Q148 **Mr Clarke:** We are now seeing large fluctuations in equity prices. I suppose the last time we saw them was 2013, and that is the only time in a long time where we have had them. That is as monetary policy becomes tighter. Let us go two ways. Do you all accept that we are indeed in an equity price bubble? Is that bubble, if you accept it is a bubble, on the cusp of breaking?

**Professor Tenreiro:** Bubbles are always difficult to judge. We have seen a correction to the very quick acceleration at the beginning of the



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year. We might see more as interest rates move up. Whether it is a bubble or not is hard to say, for me at least.

**Dr Carney:** I would offer a couple of comments. Obviously, I am not going to call certain levels on the stock market or provide investment advice. But some of the characteristics of bubbles are new-paradigm thinking, extrapolative expectations—prices are going to go up because they have been going up—and quite often leverage is associated with them. One can judge whether or not those are the characteristics here.

In terms of new-paradigm thinking, just to bring that back to recent events and my earlier answer, what has been helpful—Mr Elphicke mentioned it as well—is some acceptance coming back into market participants' recognition that there still is a Phillips curve and, when spare capacity gets used up, domestic pressures begin to build. We are not in this golden era in the global economy where we can have everyone growing above trend forever and not see inflationary pressures.

Equally, we are still in quite unique circumstances, to bring it back to us and others in policy, where we believe that the overall equilibrium rates of interest are much lower than they have been in the past for a variety of reasons. When we are talking about the need to adjust policy, that is why it is still in the context of limited and gradual moves.

**Andy Haldane:** There are fundamental reasons that you point towards, and we should not lose sight of those either. As you said, the world economy is doing well. Earnings of companies are picking up, and their share of the spoils might also be picking up—their profit share.

We saw, in the immediate post-crisis period, the initial compensation investors need for holding equities, the premium if you like, picking up in all markets. Risk appetite dried up in financial markets as it did among companies and households. That we are seeing some return of that risk appetite in financial markets, among companies and hopefully in time among households is part of the process by which the global economy heals and investment gets started.

The fundamentals here have also been encouraging. You can point towards reasons why we have seen some of the rises we have seen at least.

**Dr Carney:** I would just re-emphasise that last point very quickly, which is that the widespread and deep improvement in corporate confidence in the real economy around the world has been quite striking, and that has the prospect of a self-sustaining, firming recovery globally.

Q149 **Mr Clarke:** That must be the key point, because in many ways we want to wean ourselves off QE as quickly as we can. I look at a constituency like mine in the north-east of England, where very few people will have substantial portfolios of equities; very few people will have properties that have inflated in the way in which they have in an area like central



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London.

In effect, would you accept that it has almost fuelled inequality between the regions of the United Kingdom as an inadvertent by-product? Would that be overstating it?

**Dr Broadbent:** I would not accept that. There is no evidence QE has affected relative property prices. It is worth remembering, if you look at the actual numbers on, say, house prices, in real terms we are still well below where we were in 2007 even now. The Governor mentioned that in the equity markets the prices of domestically focused UK companies have bucked the trend over the last 18 months. That is true. They have not gone up much. In real terms, the prices of those equities are still down by more than a quarter compared with where they were in 2007.

There is this idea that QE has sort of pumped up all these asset prices. I certainly do not see it in UK asset prices. I find it hard to believe, therefore, that there have also been very different regional effects.

Q150 **Mr Clarke:** I just look at the way in which central London housing has soared. There are potentially many other drivers of that, including net inflows of wealth from less stable economies where people want to park cash here. Would it not be a fair criticism of QE that it has in effect given to the haves at the expense of the have-nots?

**Dr Broadbent:** No. Let me mention something else the Governor said earlier. The inequality of wealth has not gone up over the last decade; nor has the inequality of income. That makes it a hard argument right from the off that somehow it has had big effects. For central London housing, I would point out that for the last couple of years it appears to have been falling. It has certainly underperformed the rest of the country, probably for three years now.

**Dr Carney:** It is an important discussion, because it really draws into sharper relief how unusual the real income path and the fact we are still below has been. This is slightly speculative, but I would suggest that it is in part for those reasons that inequalities—whether they are regional, in wealth or in income—are much more stark, because there has not been that overall progress for a variety of reasons, which brings us back to much of what we have been discussing today in terms of productivity and structural improvements.

Q151 **Mr Clarke:** Are European equities being driven higher at the moment by the continued existence of QE there? Is that a factor behind the fact they are suddenly doing so well? I am trying to work out how they are rebounding so spectacularly.

**Dr Carney:** Asset price changes reflect changes in expectations of future cash flows. Predominantly, what are happening in Europe—because QE has been going for some time without much impact, or it has been having an impact but it has not led to substantial outperformance of European equities—are revisions of expectations relative to previous expectations



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for European growth. They are having a very strong pickup after a very long period of underperformance. The test is going to come as that economy moves toward fuller capacity. We think it has a way to go yet, but once it gets there it will face what the UK is facing, which is a question of what your speed limit is and what you are doing about raising it.

**Q152 Mr Clarke:** I just have one final point. They are in effect just behind us in the cycle, rather than necessarily that there is something structurally better about what they are doing compared to what we are doing, in terms of the management of the economy.

**Dr Carney:** Broadly I agree with that. They have done some structural things, as the UK did immediately post-crisis. Europe as a whole has done some structural things that are improving the supply side, but everyone would agree that there are a lot of things it could do to further that, yes.

**Chair:** Can I thank you all very much indeed for coming in this afternoon, for your generosity in bearing with the vote, for giving evidence and everything else?

I wanted to say a particular thank you for the reports. I was particularly struck by all the external engagement you have been doing, and particularly, Mr Haldane, all the school visits. I am hoping that might help with our pipeline of economists for the future.

**Andy Haldane:** Yes, we hope so too.

**Chair:** Thank you all very much indeed.