Treasury Committee

Oral evidence: The UK's economic relationship with the European Union, HC 473

Tuesday 4 December 2018

Ordered by the House of Commons to be published on 4 December 2018.

Watch the meeting

Members present: Nicky Morgan (Chair); Rushanara Ali; Mr Steve Baker; Colin Clark; Mr Simon Clarke; Charlie Elphicke; Stewart Hosie; John Mann; Alison McGovern; Catherine McKinnell; Wes Streeting.

Questions 1011-1188

Witnesses

I: Dr Mark Carney, Governor, Bank of England; Ben Broadbent, Deputy Governor for Monetary Policy, Bank of England; Sir Jon Cunliffe, Deputy Governor for Financial Stability, Bank of England; Sam Woods, Deputy Governor for Prudential Regulation, Bank of England, and Chief Executive Officer, Prudential Regulation Authority.

II: Sir Tom Scholar, Permanent Secretary, HM Treasury; Clare Lombardelli, Director-General, Chief Economic Adviser, HM Treasury; Sam Beckett, Director General, EU Exit and Analysis, Department for Business, Energy and Industrial Strategy; Susannah Storey, Acting Director General, Department for Exiting the European Union.

Written evidence from witnesses:

– Bank of England

Examination of witnesses

Witnesses: Dr Mark Carney, Ben Broadbent, Sir Jon Cunliffe and Sam Woods.

Q1011 **Chair:** Good morning. Thank you very much to our panel from the Bank of England for being here for this, our third session ahead of the meaningful vote next Tuesday, particularly to talk about the *Financial*

Stability Report and scenarios published last week. I will ask very briefly, for those watching, not necessarily in the room, if you could introduce yourselves; then we will get straight into questions.

Dr Carney: Mark Carney.

Ben Broadbent: Ben Broadbent.

Sir Jon Cunliffe: Jon Cunliffe.

Sam Woods: Sam Woods.

Q1012 **Chair:** Thank you very much. Time is tight this morning; we have a second panel of Treasury officials joining us later in the morning, so I have asked Members to try to direct questions to specific witnesses but, if there are things you want to add, please feel free to do so. I want to start, Governor, with the two scenarios set out last week of a disruptive or disorderly Brexit. You emphasised that we should think of those as worst-case scenarios rather than forecasts. For the avoidance of doubt, can you explain exactly what the Bank of England means when it says something is a scenario and not a forecast?

Dr Carney: Thank you, and it is an important thing to start on. A scenario, first off, is not what we think is the most likely thing to happen, so it is not our central expectation. It is a depiction of what could happen to the economy, based on a series of clearly identified assumptions, which are laid out. We then use standard empirical economic relationships to map from those assumptions to potential economic outcomes. We discipline all of this by using the Bank's macro models, so it is consistent across asset prices and inflation. We then use reaction functions for macro policy, so there is no fiscal policy response, but there is a mechanical monetary policy response. That gives a set of outcomes.

Now, this is particularly relevant for the Financial Policy Committee, as you can appreciate, because the FPC is concerned with less likely, tail-risk scenarios. By design, it will look at a series of worst-case assumptions, because the position we need to be in—and I say "we" in the broadest possible sense, meaning the United Kingdom—is to have a financial system, the core of the banking system but the financial system more broadly, that can withstand a highly unlikely but worst-case set of events. That is what we have done for what we have called a disorderly Brexit. We have cross-checked that against an even more severe stress test, which was released in parallel with this. That more severe stress test also has a global recession and £20 billion of misconduct cost. If I may suggest, and certainly the FPC is suggesting this, what you should take away from the worst-case Brexit scenarios is that the UK banking system has the capital, the liquidity—separately detailed—and the overall resilience to withstand that and be part of the solution, not part of the problem.

Q1013 **Chair:** The probability of these scenarios unfolding is important, so what probability do you attach to either a disorderly or a disruptive Brexit unfolding?

Dr Carney: Tail risk is tail risk, so there is a low probability that all of these events would happen at the same time. It is a question of not just the formal trade barriers that come into play—tariffs, product standards and rules of origin—but also shorter-term disruptions of port infrastructure and other logistical disruptions, as well as a severe financial market reaction and a shock to confidence at the same time. These are low-probability events in the context of Brexit. As for the likelihood of whether there is going to be a no-deal Brexit, Members of this Committee are better placed to judge that.

Q1014 **Chair:** Mr Broadbent, the document talks about a supply shock and GDP decline. Can you give any precedents for a decline in GDP or a supply shock of this nature?

Ben Broadbent: It is hard to give one of this nature, because we have lived through a long period, since the Second World War, of deepening trade integration. That has been the direction almost monotonically, first between developed economies and latterly including developing economies as well. We picked out one particular episode of trade de-integration, which was when the Commonwealth preferences for New Zealand were withdrawn in 1973, ironically when the UK joined the European Union.

I will point out that this Committee and all of us are unfortunately familiar with the slower growth in productivity since the financial crisis. That is not a negative hit to supply, but it is very much a disappointment in the rate of growth. Some of the effects of that—that you nonetheless have inflation, weak real wage growth and so forth—we are familiar with qualitatively, but it is very rare indeed, so rare that we could only find one reasonably close parallel, to have an episode when you suddenly curtail international trade materially.

Q1015 **Chair:** What about the oil supply shock of the 1970s?

Ben Broadbent: That has some similar aspects. It pushes up input costs, which is one of the effects of reducing trade, so it bears some relationship, but the New Zealand episode is the closest we could find and even then it is not exact.

Q1016 **Chair:** Governor, your publication last week attracted not entirely universal praise. You might find that some Members of the Committee are less convinced by what you published as well. Andrew Sentance, for example, said that it was "highly speculative and extreme" and will "undermine perceptions of the Bank's independence and credibility". How do you respond to those criticisms?

Dr Carney: There are two classes of criticism, if I could generalise them. One is entirely unfair and the other is a matter of debate. The one that is entirely unfair is the fact of the publication. The fact of the publication is that this Committee asked for it.

Chair: We asked for it.

Dr Carney: The fact is that we are accountable to the people of the United Kingdom through this Committee and Parliament. We do not have the luxury of holding back material that we have produced, which is directly relevant to our responsibilities, from this Committee, if it is demanded. What is clear from the now unredacted minutes of the FPC, the so-called record of the FPC, is that we have been doing this for a couple of years. We have not volunteered this worst-case analysis. We have held it back. We have used forms of words to provide comfort around the fact that we have provided or built resilience in the core of the system. In other words, we have talked about an unrelated stress test, the so-called ACS of 2017, encompassing a hard or disorderly Brexit to give that comfort. The first set of criticisms around us releasing this information is, in our judgment, unfair.

There is a separate set of criticisms or points of debate around the analysis itself, which we absolutely welcome. Let me say a couple of things. The first is that the analysis needs to be looked at in the round because, as you rightly set out, these are scenarios and there is an "s" in "scenarios". There are different variants of a so-called hard Brexit, disruptive versus disorderly. The differences are clearly indicated. There is also a smooth move to WTO contained in the report after a transition period, so you can isolate issues that are short term, potentially quite topical and significant, around port infrastructure, readiness, familiarity of companies with customs declarations and a series of those types of issues. You can isolate those and, if you do not think they are issues in the short term, you can jump to the smooth WTO scenario, use that as a base and discuss off that. That is my first point on the substance.

My second point on the substance is that the core analysis is based on a gravity model. There are 6,000 underlying observations used to calculate the relationships. We disclose the elasticities in the report. If you are mapping from the degree of openness—all of the various restrictions on trade, whether they are tariffs, non-tariff barriers or other restrictions—to the degree of trade and ultimately the degree of productivity, there is a range of elasticities from the empirical literature between 0.16 and 0.75. We disclosed that we use 0.25. In other words, we use the low end of the spectrum, so it is well grounded and we are disclosing the key assumptions. We disclose the flows in the various relationships.

I have one other point on process. We had a core team of 20 senior economists who have been working on this for a couple of years; we drew in almost 150 professionals from across the Bank who have been working on it; and two senior committees, the MPC and the FPC, have reviewed the work. This was not an exam crisis. We did not just stay up all night and write a letter to the Treasury Committee. You asked for something that we had, and we brought it and gave it to you.

Q1017 **Chair:** We are very grateful and we know that a significant amount of work has gone into all of this over a couple of years. I have a final question for Mr Broadbent. We are going to explore a number of the assumptions made and the modelling in the scenarios. One thing that was noticeable was that, in the disruptive scenario, you said that sterling could fall by a further 15% and by 25% in the disorderly scenario. How did you reach those figures, bearing in mind that sterling has already significantly devalued, since the financial crisis and also since the referendum?

Ben Broadbent: My view is that the fall since the referendum represents the market's view of the average of a range of possible outcomes. Essentially, the larger the effect on UK trade of UK exit, the further sterling is likely to fall for various reasons. At the moment, what is priced into the exchange rate is a number of possible outcomes. If the eventual exit is towards the better end of that range, you would expect sterling to rise from here; if it is towards the worse end of that range, you would expect it to fall further. In general, the greater the economic dislocation, the worse it will be for the exchange rate. There is a direct relationship between the two.

Dr Carney: There is an equilibrium current account calculation. It is ultimately grounded in a sustainable current account position.

Q1018 **Rushanara Ali:** Good morning. Governor, last time you saw us you told us it would take four years to do a trade deal and approximately half that time for implementation. Does this make the backstop inevitable?

Dr Carney: I think I quoted that the experience of advanced economy trade deals has averaged four years, including the average implementation period, so four years in aggregate. I make no judgment. We are not party to the negotiations or any discussions the Government may have had with the European Union about a potential future trading relationship. We have read the political declaration, but we do not know what is beneath it. I take note that, within the withdrawal agreement, there is a possibility, not a requirement, of extending the so-called implementation period by one to two years.

Q1019 **Rushanara Ali:** It follows that, if it takes as long as four years, that would be the case.

Dr Carney: If our trade negotiations take as long as the average trade negotiation, it would use up the time of the additional two-year extension of the implementation period for both negotiation and implementation. If I may make a general comment, there is a very practical aspect to implementation, some of which is being discussed as we speak. There is implementation through businesses around the country getting ready for the new arrangements, changing suppliers if necessary and developing new markets if necessary. There are those aspects. Then there is the basic implementation, which is relatively unusual but necessary given our history, of new customs arrangements, new port infrastructure and other practical aspects to implementation.

My last point is that there are those practical aspects to implementation in the financial services sector. That is the one area for which we have direct responsibility and we have been working, over the last two years, alongside the FCA and others to make sure the financial services sector at least is ready.

Rushanara Ali: You mentioned in the last session that other services will have challenges and will take considerable time to adapt to the new arrangements.

Dr Carney: It is fair to say at this stage that a number of industries, both manufacturing and service industries, do not know what the new arrangements are going to be. It is difficult, because you can only start implementing when you know what you are implementing for or towards. At this stage that is not yet clear.

Q1020 **Rushanara Ali:** Given the length of time it could take to secure trade deals, why does the Bank analysis assume microeconomic uncertainty will fall back to average by the end of 2019 in the close economic partnership scenario, and by the end of 2022 in the less close economic partnership?

Dr Carney: The close economic partnership will be a new arrangement and our expectation is that there will be some uncertainty related to it. It is relatively modest; it is half a standard deviation increase in uncertainty, which is something but not that much. Given a big structural change, it would seem a reasonable assumption. It does not have a big macroeconomic impact on the scenario. To be clear, that order of magnitude of uncertainty is more directional, more a signal that there would be some. Given that, in the close partnership arrangement the basic modelling assumption is that there is an implementation period between now and then; there is a reasonable sense of where we are headed; and, once we arrive at that destination, those expectations are largely fulfilled.

If one disagrees with that and thinks that, actually, the negotiation of what the close economic partnership will be will not be known until the end of the implementation period—you could take that view—one would be in the lower band of that swathe. That is the point of having these scenarios: they allow you to take different assumptions and have a sense of the different potential outcomes.

Sir Jon Cunliffe: I was going to respond on the earlier question, but I did not press my buzzer quickly enough. Normally, if you have a trade deal, there are controls and then you dismantle controls. What is unusual here is that the spectrum of possibilities that would need to be negotiated for the future relationships involves some different things. In some states of the world, for frictionless trade and the customs partnership arrangement that the Government have proposed, you just would not bring in controls in certain areas, on the customs or regulatory sides, whereas in other states of the world you would. Those possibilities are there. For businesses to know which one they are preparing for is quite important, because you can spend a lot of money preparing for something that does not happen. Once the way this is going is set, businesses and others can start to prepare, but there is still quite a wide range of uncertainty around that.

Q1021 **Rushanara Ali:** Are we just pushing the uncertainty further down the line then? In a couple of years, even if the withdrawal agreement is agreed—a big hypothetical—we will be back to square 1 again.

Sir Jon Cunliffe: That depends on the pace of negotiations. The Government are in a better place to say how fast they will move.

Rushanara Ali: Are the last two years anything to go by?

Q1022 **Chair:** Jon Cunliffe, you are probably in quite a good position to know, having a senior role in Europe for the Government negotiating team. Are you not going to venture a suggestion?

Sir Jon Cunliffe: I do not do that anymore.

Q1023 **Rushanara Ali:** We have received evidence that the analysis of the impact of the UK leaving the EU has less uncertainty than general economic forecasts. To what extent do you agree with that, Governor?

Dr Carney: I am not quite sure of the evidence you have received, but let me comment on our scenarios on this issue. As I said to the Chair, we have clear assumptions and we map those to economic outcomes. When you vary the assumption, you get a different economic outcome. That is an obvious point. What we do not do is provide confidence bands for each of those paths. As you know, our latest inflation report forecast will have a so-called fan chart around it. That fan chart takes into account a couple of things. One is that, from a fundamental perspective, things will happen in the future. The global economy will grow a little faster or it will be a little weaker. Global financial conditions and commodity prices will change, and those variables changing will affect the central path of the economy. Then you also have historic error bands around the forecast. In this country, there are historic error bands around the historic data, just to make things even more interesting, which have a knock-on effect on the forecast as well, but we have not provided those error bands around the scenarios.

This is the point we would make, though, which again goes to scenarios versus forecasts. Scenarios are useful to give a sense of the relative level of impact of the different assumptions. To go back to the WTO scenario, if I can call it that, it matters how we get there to the Bank's responsibilities. In other words, over the horizon in which we have to bring inflation back to target and keep the financial system resilient, it matters whether the transition is smooth and the extent to which it is anticipated. I will leave it here.

Q1024 **Wes Streeting:** Good morning. Initially I want to talk about non-tariff barriers and then I will move on to some follow-up from the evidence we heard yesterday. Your less close economic partnership scenario assumes that regulatory and customs checks lower trade by 9% relative to the baseline, even though existing regulations are grandfathered and financial services can maintain access through equivalence. Could you elaborate on why you are making that assumption, given that both the EU and UK economies are already integrated and closely aligned? Where do you envisage divergence occurring?

Dr Carney: There are a couple of issues. Again, it depends on the nature of the partnership negotiated and you have to make assumptions around that. You get, for example, into a position where rules of origin become relevant. Then you get into important but technical issues around whether they are accumulated rules of origin or final-good rules of origin. In other words, do you pull everything up through the value chain that ultimately comes into the product being traded? That is something that has to be assessed. That is the first point.

The second is whether existing product standards are grandfathered. New products then have to be certified. Food products and services have to be certified. In a less close partnership, potentially everything has to be recertified, which has a cost. Depending where phytosanitary and sanitary requirements land, those are also effective barriers. Page 16 has a decent representation of what has happened in the European Union to those various types of barriers, over the last 20 years or so. They are some of the issues.

I will make one last point related again to financial services. One of the issues is that some of these so-called behind-the-border barriers are discrete. That is a fancy word for binary. You are either authorised or you are not. For financial services, in a non-passporting world, the potential autonomous equivalence world, the question is which financial services will have access from the UK into Europe. We make what I think is a clear assumption—it is detailed—that we lose about half of the passporting rights in the close partnership. We lose about three-quarters of the passporting rights in a less close partnership. You can apply similar logic to other services. You can challenge both of those assumptions, but they are the types of issues that have an effect on trade.

Sam Woods: Mark covered it well but, to illustrate the point on equivalence, there are 16 regulations and directives that currently include a notion of equivalence. Of those, only three really have anything to do with market access. We have looked at them in thinking about how much of a step down it would be from the passported business today to equivalence as framed today, and it is quite a significant drop-down, even if you are reasonably optimistic about it.

Q1025 **Wes Streeting:** This question ties into the discussions we were having with the FCA yesterday. There is obviously the likely possibility, in fact almost near certainty, that over time regulations and directives will evolve. How relaxed is the Bank from a financial stability point of view and more generally about the prospect of the UK being a rule-taker under any one of the options available to the Government and Parliament to determine the way forward?

Dr Carney: As you know, we talk a bit about this in chapter 5 of the report, and we talked about it in the submission we made prior to the referendum as well. We start from the position, and the FCA does as well, I believe—certainly the FPC starts from this position—that we have a huge financial sector in the UK. It is 10 times the size of GDP. It is the most sophisticated, complex and interconnected financial sector in the world. In all those regards, if you add all of that together, it is unique. To give you the basics, we would be uncomfortable not having some flexibility to ensure that it is appropriately regulated and supervised. We would not be comfortable—Mr Woods can speak to this—outsourcing supervision of this incredibly complex and incredibly important financial sector. As everyone knows, part of the reason that the Bank of England is structured like this, has a financial stability remit and has to release its analysis of risk to Parliament when Parliament demands is that, in living memory, that sector brought the country to its knees.

Sam Woods: We have all been clear in several hearings, including one I was at just a few weeks after the vote, on the level of discomfort about being a rule-taker in financial services. We can give you numerous examples but, to give you just one, as we sit here, we have literally just completed the ring-fencing of the UK banking system. Europe has gone down a different path. Our teams have made strenuous efforts over the last few years to make sure whatever path was taken in Europe did not cut across what we are doing here in the UK. It is impossible to do that if you are not in the room, with a vote. We have been cautious about that.

The only point to add to what Mark said is that we have also been clear in the submission we have made to you, and the FCA puts it in more or less exactly the same way, that that risk is manageable for the implementation period as currently described. Indeed, the net benefit of the implementation period in giving the country more time to get ready outweighs the rule-taker risk. The reason is that stuff takes a long time to wend its way through the European process. There are about 30 live files and five or six that we really care about. We have already been in there and managed to shape them in a way that is useful, so we are more sanguine about that aspect, but not the longer-term aspect.

Q1026 **Wes Streeting:** What about the hypothesis that Mr Bailey presented to the Committee yesterday that, because of the relative size of the UK's financial services and particularly the role of the City of London as a global financial centre, we may be outside of the room and we may not have a vote, but it is okay because we are so big that, effectively, the European Union should worry about the UK as a rule-maker and the EU should have to respond in some way, not as a direct rule-taker, but by recalibrating its own approach to rules and regulations in response to what we are doing here.

Dr Carney: I will start and hand over to Sir Jon, if I may. As per your previous question, Mr Streeting, it depends on the ultimate end state arrangement and whether we have the flexibility to make our own rules. We cannot have that dynamic of influencing Europe by making our own rules if we are not allowed to make our own rules. That is the first point.

The second point is a point of general application. As Mr Woods said, and as I have seen from the outside, the United Kingdom has had, and rightly so, a tremendous and very positive influence on the development of rules in Europe. That is why I am going to hand over to Sir Jon, because he has been there. It has done and that is right because many aspects of this system only effectively exist in the UK, and that is part of where the risk would come, not through any malign intent, but because of less understanding.

Sir Jon Cunliffe: I will make a number of points. As Andrew Bailey was saying, the UK is highly respected in Europe for our technical expertise. Because we have an enormously complicated and very large comprehensive financial centre, we have expertise that is not available to many other European countries. Our voice has been influential in the Basel Committee in setting standards internationally, precisely because it is a large and complex financial sector, and I would not expect that to change in general terms.

I have been in lots of European negotiations on financial services. I have sat in and actually chaired some of the meetings, when we had the presidency, with other countries in the EEA and the like, reflecting others' concerns. Quite naturally, when you legislate, you take technical advice, but you legislate to fit the structure of your industry and you see that across all sectors, not just financial services. As part of the legislative process, countries say, "Well, my financial sector works in a different way". I will give you one example from insurance. The famous matching adjustment applies to UK and Dutch insurance companies in a way that does not apply elsewhere. It took about 10 years to negotiate, because that business model did not exist elsewhere in Europe. Once the European negotiation process goes forward, technical advice on ways of doing things will play a role in international standards. Having the voice that Sam was talking about—saying it does not work for us, because the matching adjustment or something else is needed for our companies—is going to be difficult. I would not expect us to have a great influence on those things.

Q1027 **Wes Streeting:** It is almost as if we have been negotiating bespoke deals as members of the EU for all this time, is it not? Putting that to one side, I have a final question. In a scenario in which, next week, Parliament chooses to reject the Prime Minister's deal, there will be all sorts of scrambling going on and people trying to land on a way forward. Unfortunately, I cannot give you any predictions about what will emerge, but colleagues across the House and across party lines have made it clear that they see either Norway for now or Norway forever as the landing point to move beyond the political impasse. How comfortable would you be from a financial stability point of view, but also thinking about how important a vote around the negotiating table is? Is that a sensible compromise, or a risk too far to financial stability and having an effective voice, influencing the making of rules after we have left?

Dr Carney: This goes right between the two of us actually.

Wes Streeting: I will start with Sir Jon and give you the final word, Governor.

Sir Jon Cunliffe: Our financial sector is about 20 times bigger than Norway's. It is much more connected internationally and more complex. My understanding of how the EEA works is that, de facto if not de jure, EU laws are adopted by EEA countries and written into the EEA annexe. They have force of law, policed by the EFTA court, not by the ECJ. That scenario of being a complete rule-taker for a financial sector this large and complicated would be, as the Government say, quite uncomfortable.

Dr Carney: The risk of being a rule-taker goes up with time, as per Mr Woods's earlier comments. From a financial stability perspective, it is highly undesirable to be a rule-taker and to lose supervisory autonomy for any considerable length of time. We fully respect that whatever decision or whatever path is taken by Parliament will weigh a wide range of factors, but if you isolate them, as your question does, those would be the considerations.

John Mann: Our democracy is a little fragile at the moment, so it is worth repeating, perhaps in slightly stronger language, what our diplomatic Chair said at the beginning. This Committee, and you are appearing in front of it, is a key part of our democracy and this Committee, which has very different views on Brexit, unanimously requested that you assist in our deliberations. We might draw different conclusions individually. We might as a Committee draw whatever conclusions. We might not be able to reach any conclusions; who knows?

Chair: I am confident we will, John.

Q1028 **John Mann:** It is actually fundamental, because what Rees-Mogg did was contemptuous of Parliament in suggesting that you were not being straightforward with this Committee—contemptuous. That needs stating quite loudly. It is our role, without hiding away, to hold you to account on what you say and to challenge you. Perhaps a few fiery exchanges might emerge, but we requested that unanimously, and that needs stating. So I would like to thank you for providing your advice and information, and for being here today, because it is vital as part of this country's democracy.

I want to ask you about food and I am keen to get answers that the world can understand, because a lot of the debate on Brexit in here is quite technical, and my constituents scratch their heads about some of it. In a no-deal Brexit, are food prices going to go up? Is that your assessment? With the kinds of deal being mooted, are food prices going to go up in this country, also considering the derivatives market in Europe?

Dr Carney: Thank you for your opening statement. As per your request, we have provided a mechanical assessment of the tariff impact on food and beverages. The net effect of that plus a depreciation that could be associated, again depending on the type of deal that is struck, would increase the prices of food in the country. I am sorry; this is technical. One would expect that this would be a one-off or level effect. It tends to be that changes both to the exchange rate and to the commodity prices of food are passed through quite quickly to the consumer. Unfortunately, they hit the shops pretty quickly and then one would not expect to see further inflation beyond that.

John Mann: With respect, Governor, you are talking as an economist.

Dr Carney: The price of food is going up.

Q1029 **John Mann:** Could you put that answer as more of a human being? How much is food going to give up? What are some examples? If you are saying food prices are going to go up, people will want a feel for what that means. How is it going to affect them? That is what they want to know and what I would like to know, please.

Ben Broadbent: They will go up in these scenarios. They will go up for three different reasons, and you can tweak the size of each of these. They are different in each of the scenarios. They will go up because, within these scenarios, we would expect that the exchange rate falls. Currently we import from overseas a good quantity of our food, close to half, so that makes it more expensive when sterling falls. That is exactly what happened after the referendum when the currency fell; we had higher food price inflation for a while. Secondly—although this is an area yet to be determined; it is part of Government policy—in these scenarios, there are tariffs imposed on some of them. Thirdly, there are increased costs at the border associated at least with the harder forms of Brexit. Each of those will be of different sizes in these scenarios, but answer is that, for those reasons, yes, you would expect food prices to go up.

John Mann: That is still not telling me how much. Some people are saying food is going to go up 10%.

Dr Carney: That is consistent.

Ben Broadbent: Under some of these scenarios it is.

Dr Carney: Page 36 gives that disaggregation. Again I am talking like an economist. I will switch to human being. The tariff effect is about 5%. The exchange rate effect for each 5% depreciation is about 1.3%. For the food we would buy off the shelf at Tesco, we would add about 1.5% for each 5% depreciation. In the most extreme scenario, so to give an outer bound, on average your shopping bill goes up 10%, because we have a 25% depreciation in that. If you go to a more orderly scenario with a transition, it is around the 6% range. For individual food products it is obviously going to vary, but people will do what everyone does, which is that, if the price of something goes up more than the price of something else, they switch products.

John Mann: I am not sure that my constituents, if the price of meat goes up, would necessarily all go vegan.

Dr Carney: We would not all go vegan, but we might buy more local lamb, as opposed to imported veal.

Q1030 **John Mann:** Is there a risk that food prices in the European Union will go up?

Dr Carney: Yes. There is a risk of that for some products. Our exchange rate is likely to go down for a period. I should have said this right at the start on scenarios. All of these scenarios are just over the policy horizon of the two committees, so they just go out to five years. We are not saying anything about WTO relative to close partnership in their long-term impact, and of course the way people think about making this decision is the long-term impact. Over the horizon, over the next five years, it is likely for all these scenarios, everything else being equal, that the level of sterling will be lower relative to other major currencies including the euro. That will offset some of the costs to European consumers. They will get the benefit of their currency going up, while we get the added hit of our currency going down for a period.

Q1031 **John Mann:** The other thing people might be bothered about is if it costs them more to buy a car.

Ben Broadbent: Yes, it will for similar reasons, albeit to differing degrees, according to which scenario we have. As the Governor says, the currency effect over this period will affect anything that is generally traded, whether it is food or manufacturing.

Q1032 **John Mann:** Some people are suggesting, under WTO rules, if you buy a car from abroad it will be 10% more.

Chair: Page 35 says the price of new cars "is estimated to increase by 4%, clothing and footwear to increase by 1.3% and food and drinks in pubs and restaurants to increase by 0.6%".

Ben Broadbent: Then there will possibly be a separate currency effect. The answer is that the direction is clear, but the size will depend on the nature of the withdrawal.

Q1033 **John Mann:** Governor, are my constituents better off since you have been Governor?

Dr Carney: Yes, your constituents are better off in terms of real incomes over the last six years.

Q1034 **John Mann:** This is part of the problem of economic analysis, is it not?

Dr Carney: It is a precise thing. I am not saying your constituents feel better off, but according to the proportion of them who are employed, the hours they are working on average, and the real wages they are earning on average, as a group, they are better off. People in your constituency, and I would suggest every constituency represented here and across the House, would feel that the pace of real income growth, which has just started to pick up and accelerate in the last year, over the course of my time as Governor and, more broadly, since the financial crisis has been much slower than it has been in the past. In fact, we are still in a situation where, if you take the last decade, real income growth has not been this weak since the mid-19th century.

Q1035 **John Mann:** This is my final question. Would you accept, Governor, that the way the labour market is fragmented, with the rise of agencies and the fact that many people in my area do not know how many hours they will be working week by week, means that, when it comes to economic forecasting and its impact on people, there is a danger that in having national forecasts we miss out the disparities between different communities, in essence different economies, within the country? That can lead to cynicism about people saying you are going to be worse or better off. People say, "Actually, I do not feel any better off because, from my understanding of standards of living, I have not been getting better off".

Dr Carney: My brief answer is twofold. One is that I accept, as I think I just said, even though the labour market has been quite strong in terms of jobs, the pace of real income growth has been slower. Your point about the variability of hours and the precariousness of work sometimes has an effect. I will make one last point, though. We have seen in this labour market, more recently, that average hours have started to pick up, real wages have been picking up and consumer confidence about their own personal economic situation, not the general economic situation, has been picking up across the country. There has been an improvement in aggregate, but I certainly accept that that is unevenly shared between regions, sectors and age cohorts. That has always been the case, but it may be more pronounced at the moment.

Q1036 **Stewart Hosie:** Governor, what proportion of the downgrade to the economy, in both of the Bank's no-deal scenarios, is down to a loss of access to financial services?

Dr Carney: In the disruptive scenario, it is about 10% of the 7% to GDP, in other words 0.7% of the total. It is a lower proportion because we assume the same loss of financial services access in the disorderly, so GDP effects or other factors are driving that.

Q1037 **Stewart Hosie:** How many jobs in financial services and taxation revenue from financial services would be lost in those scenarios? Have you done that disaggregation?

Dr Carney: We have not done that specific mapping. I can ask Mr Woods to speak to the so-called day 2 or day 2.5 jobs expectations, in terms of movements.

Sam Woods: We have set some bands around that. The number of jobs that we expect to move and indeed are moving from the UK to the EU 27 on day 1, the end of March, for banks and insurance companies is a little south of 5,000. You might say around 4,000. That is a small number in the context of those sectors overall. You can think of the banking and insurance sector employing 500,000 people or the City employing 400,000 people. There are 1 million financial services jobs in the UK as a whole.

The question is where that goes from there. It is likely that that number will increase somewhat in a benign scenario. For a more extreme scenario, the way to think about it is through revenues. As Mark says, we have not attempted to model that in a precise way but, as an outer bound, you could think of £200 billion in financial services revenues in the UK, of which around £40 billion comes from EU 27 customers, of which around half or something less than £20 billion relies on passporting. If you map that across, which Oliver Wyman did a couple of years ago, into a jobs number and include all the other bits around the ecosystem, you come to a number of 75,000 jobs. That is the upper end, not least because there are other ways that firms can trade across the border and, if some form of equivalence is found, it eats into that considerably. Those are the outer bounds of the chart.

Q1038 **Stewart Hosie:** The biggest risk is what was said earlier: between a half and three-quarters of passports lost. Is that correct?

Dr Carney: The half and three-quarters were in a close partnership. We are assuming we are losing some of the passporting, which is a reasonable expectation, given where the dialogue has been and the reorientation of banks' business models. I believed you were asking about the more disruptive scenario, in which case there would be a full loss of passporting. Then you get to the issue that Mr Woods raised. Do you take the whole £20 billion of lost revenue for the City and Edinburgh, and wrap that together, or do you expect that some would be retained over time through other mechanisms of providing financial services? We have some expectation that some would be retained, but it would take time to develop the relationships that allow that type of activity.

I will stop with this. It is quite often blithely said that banks could "back-to-back" transactions into London. They will not be able to back-to-back transactions into London if there is no ongoing relationship in financial services between the UK and EU authorities but, with a co-operative relationship, elements of that type of risk sharing and risk transfer are entirely reasonable.

Q1039 **Stewart Hosie:** What would you say to those economists who disagree and suggest that it will never be as bad as a complete loss of passporting? It will never be £20 billion; it will never be 75,000 jobs. Indeed, there are opportunities that arise from a different sort of relationship. What would you say to them?

Dr Carney: I would say first, as we would say and have been saying to our European partners, that it is absolutely in the interests of both sides, Europe and the UK, to maintain a high degree of integration between these two systems, particularly in the areas that are most complex and centred in the UK. By splitting them apart everybody loses, in terms of costs and other things. There are forces that would support their retention.

I will make clear that this will be negotiated access. It is not just going to happen. This is now clearly on the table; everybody knows what the issues are; and discussions between the Government and the Europeans will determine what level and form that access takes. In that regard, what is in the political declaration, importantly, is access based on equivalence while respecting autonomy. Within those two concepts there are many different outcomes but, to re-emphasise the point, it is not something that will just happen out of sight of the authorities.

Sir Jon Cunliffe: I will elaborate on two parts of that. One does hear that it is fine. You hear two reasons given for it. The first is that, before we had the single market in financial services, there was trade and there were different ways of coming across. We had the overseas persons exemption and the like. The second thing one hears is that it would not be in the interest of European Union members to put up the price of financial services or cut themselves off from the things that can only be done here.

On the first point, to reiterate and emphasise what was just said, that was a different world and many of those activities were not regulated. If you look at the regulatory agenda of the European Union now, the investment firms review and the review of market infrastructure regulation that are going through, there are steps being taken to regulate third-country access in areas where it has not been regulated before, so this will be a negotiated and a regulated thing. We cannot go back to the way the world was 25 years ago.

The second point is that many European countries are concerned that the price of financial services will go up, but there is also, and I have spoken to this Committee before about it, a view in the European Union that it needs to have control of its own financial services and bring us much as possible to the European Union, so that it can have its own capital market. It is not at all clear to me that the higher cost of doing things through Frankfurt rather than London will necessarily act as an incentive.

Q1040 **Stewart Hosie:** Can I move on? Sir Jon, in your role as Deputy Governor for Financial Stability, what work has the Bank been doing to mitigate the risks of no deal? Can you update us on where we are and what has been achieved?

Sir Jon Cunliffe: We set out a lot of this in the *Financial Stability Report*. If I split the risk into three main areas, one is the general economic impact of no deal and no transition, an abrupt exit from the EU, on the general economy and the way that impacts back on the financial system. All I would say about that is that the reason for the worst-case scenarios that we have presented, the disruptive and the disorderly, is precisely so that we can test the financial system's and the banking system's ability to weather that sort of general economic pressure on firms, households and housing. We compare that against our stress test and it is clear, and set out in the report, that the financial system and the banking system have the capital, resilience and liquidity to weather that. That is one area that we can explore further, if you like.

The other area is whether there is cross-border trade between us and the EU in financial services where, if there were no permissions and equivalence and if passporting was lost, there could be difficulties. The FPC has been preparing and publishing a checklist of those issues for over a year now and we have isolated the largest issues. They were around cleared and uncleared derivatives, insurance contracts and data. I will take the conclusions we have come to on those in a particular order.

On insurance contracts, the problem has been mitigated over the period by a number of UK insurance companies that sell into Europe and European companies sell that into the UK having set up UK or European entities and transferred those contracts. In the UK, the risk is taken away by the ability that Parliament has now given us to have a temporary permissions regime, so that European insurance companies can operate in the UK. On the European side, we believe there is still a risk. It has gone down but, from memory, about 9 million policyholders in the EU may not be able to depend on their UK insurance companies, because companies will not have the permissions to do what they need to do to pay claims.

On the derivatives side, for derivatives that are not cleared, at the moment we have about £28 trillion notional of uncleared derivatives, of which about £13 trillion will exist after 29 March next year. That number is growing. We think the contracts will be safe after Brexit, but the ability to perform the so-called lifecycle events that firms use to manage their financial stability risks will be a doubt in a number of jurisdictions. There is no answer. The firms cannot move those contracts and, from the perspective of the FPC, there is a risk there that, were we to see a market stress in the event of Brexit, some risk-mitigation mechanisms that are normally available to companies will not be available to them.

The last one I will mention is cleared derivatives, where we are about £60 trillion notional with £40 trillion maturing after Brexit. That number of those maturing after Brexit is growing, as we have discussed in front of the Committee before. On the UK side, Parliament has given us temporary permission regimes that can deal with it. On the EU side, there is a recognition now that there will have to be temporary permission for UK clearing houses to operate in Europe. We have had some more details since I last spoke to the Committee about what is required but, as the *Financial Stability Report* made clear last week, the clearing houses need a bit more definition of the conditionality, scope and timescale. Those are the risks.

Q1041 **Stewart Hosie:** I was going to ask about the 8 November ESMA press release on the UK's withdrawal and the ability to facilitate the novation of certain non-centrally cleared OTC derivatives. Does that not deal with this?

Sir Jon Cunliffe: No, it does not. It deals with a rather small aspect of the issue and not one that goes to the points I have made. If you want to novate across uncleared derivatives, certain European Union rules could make it more difficult. ESMA has said that it will waive those European Union rules to allow the legal transfer of those contracts.

Stewart Hosie: It does not deal with the whole problem.

Sir Jon Cunliffe: It does not deal with the overall problem and the whole stock could not be novated in that time.

Q1042 **Charlie Elphicke:** Good morning, Governor and everyone else. I want to ask you about preparedness for no deal. Representing Dover, I am always warned that there will be massive queues of lorries on the way to Dover, but then I look at ports like Felixstowe and Southampton, which trade with the world as a whole under WTO terms, and they do not seem to have any queues. This is my question to you: what evidence have you gathered on whether the UK's border infrastructure is or could be prepared for a no-deal scenario? From the evidence you have gathered, what steps have the Government taken to do that?

Dr Carney: Good morning, Mr Elphicke, on behalf of all of us. These are important questions. Let us be clear: we have gathered evidence, but we are not the experts. The experts are the Department for Transport, the port authorities themselves, Associated British Ports and other logistics companies. But, through our agencies and through direct visits by members of this committee, we meet with these ports and assess the situation.

One of the challenges, with which you will be familiar, and one of the many strengths of Dover is that it is highly specialised in roll-on roll-off ferry transport, so-called RORO ferry transport. One of the issues with the displacement in the short term of that capacity to other ports, to somewhere like Southampton, is that the infrastructure is not in place for those types of ferries. Some are container ports, LOLO as opposed to RORO, and these distinctions matter. It is not simply a question of the additional distance to travel to or from the ports to the ultimate customer of the materials. Our assessment, which is consistent with parliamentary testimony to this Committee and other committees, whether it is from the Department for Transport, HMRC, the ports themselves, the users of the ports or some of our major manufacturers, is that at this point in time the ports are not ready for a move to an administered WTO relationship. What do I mean by "administered"? I mean we move to a WTO relationship and there are customs checks consistent with that on both sides of the border.

I will finish with two points to reinforce that. The first is this. To be clear, our agents and my colleagues have gone to these ports and had these discussions directly with the ports in question. We have talked to the private logistics companies. We have gathered direct information on this. Of course, there are those who are better informed. They naturally testify on these issues to Parliament, because Parliament cares.

The last point I want to make is that there is an issue, which you would know from your own contact and discussions with people. It is sometimes said, "What if we just do not apply the new standards for a period until we are ready?" That would appear, in the crux, to be an attractive option, but the issue is whether the new standards are applied at the other side, because the truck that comes here has to go back. A truck that goes back empty or has to wait is not going to come here in the first place. That is something you learn in about five minutes when you start to have these conversations, whether it is with the logistics companies or the ports themselves.

Q1043 **Charlie Elphicke:** As you know, the European Union sells us twice as much in the way of goods as we sell the other way. I read in this document the assumption you make that there will be friction outbound to Europe and that we will continue to allow free-flowing goods to come into the UK. I am concerned about why that assumption is made. Nowhere in this document is the word "substitution" used, which I think is important. If there is any friction at the border, in a globalised economy markets substitute quickly, and you have not modelled, in any way, any kind of demand increase and fulfilment of demand by domestic production increase or from other areas, and the wider impact on the European Union. I want to ask about your views on the possibility of substitution.

Dr Carney: The first thing is that that is not accurate. It may be accurate if you did a search for the word "substitution" occurring, although I am not sure that is strictly accurate. Certainly the issue of import substitution is part of the modelling here and it is discussed in the report. That is my first point.

The second point is that a big element of trade modelling and what would happen is that there would be so-called trade diversion. As soon as you change the relative cost of exporting to Europe, which will happen in whatever form of Brexit we have, British entrepreneurs will sit there and say it is relatively more attractive for them to export to the United States, Canada, Japan or wherever. Even though the price of exporting has not changed, the relative attractiveness has changed. There are those elements of trade diversion in the modelling that we have done.

Let me go back to your core point on what we have done and why. I will re-emphasise a couple of things; one is scenarios. If you think that Dover is going to be ready, if you think this is going to be seamless, if you think it can be substituted to Felixstowe, Hull, Southampton and all the other great ports around the country seamlessly, you have a scenario that gives the pure economic effect of trade and non-tariff barriers in the best of our judgment, a smooth WTO scenario, which is located in this report. If you use that as the basis of your judgment, you can interrogate other aspects of those assumptions.

Charlie Elphicke: Indeed, there could be co-operation between Dover, Calais, Britain and the European Union, and an orderly trading scenario as happens with the WTO, which is not modelled.

Dr Carney: I am sorry; it is modelled. Do not assert what is not correct.

Charlie Elphicke: It is a possibility that it would be orderly within the WTO.

Dr Carney: My second point is the fundamental point. What is the core thing I would expect the Treasury Committee to expect of the Bank of England? It is to make sure that the one area over which we have the most influence is ready for whatever form of Brexit the country chooses, and that is the financial sector. When we look at the financial sector, we look at the potential impact of not being ready, in terms of port infrastructure and other aspects. Most of us would accept, but anyone who is actually going to the ports, talking to the ports and the logistics companies would accept, that at this time, on 4 December 2018, they are not fully ready.

Given that is a fact and that it may not be fully remedied by 30 March 2019, we then see what the potential impact would be on the economy and therefore the financial sector. We have made sure that the one thing you do not have to worry about is whether the banks have enough capital and liquidity, and are managing their risks. They are going to buffer this issue, if there is an issue. They are going to buffer it; they are not going to amplify it. That is an entirely different position than this country has been in for quite some time. That is what we do and that is why we look at that.

Just to reiterate, and I will stop here, based on your intelligence, information from the companies and expectations of when the Department for Transport is going to finish its 17 projects, HMRC is going to shift the 11 of 12 that are not ready to zero of 12 not being ready, and all of those things fall in place, if you expect that to happen, one can start the conversation on the smooth WTO scenario and the potential risk. We are already sleeping soundly at night, because the core of the financial sector is in the position that it needs to be in for the tough scenario. If it moves to an easier scenario, a fortiori, we are okay.

Q1044 **Charlie Elphicke:** Let me move on, Governor, to talk about the financial sector side of things. We took evidence yesterday from the NIESR, which looked at a disorderly bank rate rise to 5.5% interest rates. It has published an analysis that found that market expectations of interest rates were not rising in response to Bank warnings. Are markets not finding the warnings that you have put in your document to be credible?

Dr Carney: The markets have to make an assessment of what they think is most likely to happen. That is my first point, and that is expressed directly in currency and secondarily through interest rate markets. There has been volatility in sterling, but there have not been dramatic moves in sterling. In terms of the risk premium in the market for a more disorderly scenario, while there are some developments in options markets, there is less in the underlying price. That is the first point. I did not see the testimony yesterday, but I would agree that there are still relatively modest rate expectations.

Apropos of an earlier exchange about how unprecedented this is, the market has not experienced something like this. Probably a better way to put it is that very few in the market have experienced something like this. The market has been in a position, for the last decade-plus, where every time something difficult happens central banks provide stimulus.

Q1045 **Charlie Elphicke:** I have a final short question. Andrew Sentance, who used to work with you at the Bank of England, has given evidence to the Committee. He says, "The Bank of England analysis appears to have thrown in the kitchen sink to create the most negative scenario possible. In particular, the Bank analysis assumes the official bank rate would be raised to 5.5%, as the economy is moving into recession". He says he finds this "totally implausible". Particularly given you have a history of being reluctant to raise interest rates, what is your reaction?

Dr Carney: I stand by our record and my voting record in my time on the MPC, which did not include any overlap with Mr Sentance, in terms of the economic outcomes, including the balance of the path of inflation with activity and employment. The second point I would make is that it is not an assumption of the path of bank rate. It is a calculation. It is the sum of the squared deviations of inflation from target and output from potential that is calculated. The third point to make is that there was a time, maybe a simpler time but a less successful time, when all the Bank did was to focus on inflation and we know how that turned out.

The consequence of that was to bring a new committee in place and new responsibilities, which were to manage financial stability. The consequence of having the FPC in place is that the financial system is ready for Brexit. The reason that the financial system is ready for Brexit is that we have stressed the financial system to the kitchen sink, which is what you expect. If, by accident or design, we move to a situation in which, despite all expectations, there is some disruption in trade and in the ability of the economy to seamlessly adjust to a substantial change in the trading relationship, the financial sector would be part of the solution. On that day, you will rightly expect us to have done our job for the last two years. Doing our job for the last two years is not just about sitting there fixating on price stability. We are delivering price stability, but we are also delivering financial stability.

Q1046 **Chair:** I am going to remind people to keep their answers short, as well as Members keeping their questions short. I just want to ask you one question, Governor. At our request as well today, you have brought forward the publication of a survey by the Bank's agents of firms' level of preparedness for EU withdrawal. Thank you for that; thank you to the agents. On Charlie's questions about preparations for ports, can you explain how the agents' work feeds into or has fed into the report before the Committee today?

Dr Carney: Why do I not pass to Sir Jon, in part because he was in your constituency in the past few weeks?

Sir Jon Cunliffe: I had the fortune to go down to Dover and talk to people there about what is happening. What I heard in Dover set out the same picture that the agents have reported. How is it fed in? We had some of the agents' earlier responses. The survey was not completed when we started preparing the report for this Committee and we have tried to keep the report for the Committee in line with that survey as it went along, even though we did not have everything in. This is the final set of results.

It shows—and again this is what the agents are told when they visit the ports, logistics companies, haulage companies, et cetera—a number of different things. First, it is entirely right that a lot of trade comes in from outside the EU without going through lengthy checks. That is because it still needs documentation in a number of areas. It needs customs documentation around tariffs, duties and rules of origin. It may need regulatory approvals, depending on what is being transported. It needs security clearances and the like. All of that is done in advance.

You then ask whether, for the half of the trade that we do with the EU, that can be done in advance, so we could get to those systems. The answer is that I do not think one gets to the frictionless trade that we have with the EU, but you could get to a system where much or a great deal of this is done in advance and is computerised, but that is not done now. Some 92% of the 4.5 million trucks that go through Dover every year just roll on and roll off. There is no check that that documentation has been done. The 8%, as I was told by the port, that come from outside the EU go to a place outside Dover, where they wait between half an hour and 60 minutes to check that all that documentation has been done in advance. The first thing is that checks would need to be done at the ports. The question that was raised, which comes out here, is whether the physical infrastructure is there.

The second is, if these checks require documentation, certificates, permissions and the like, whether the firms have the infrastructure. Is an ecosystem of customs agents around to handle this new load? Will firms and small businesses know how and be able to fill out customs declarations in the short term? The HMRC estimate is that 250,000 firms may have to start filling out those things. Also, do the authorities, customs, DEFRA, et cetera, have the systems in place to deal with that? The answer that you get from this, when you look at what needs to happen at the border, what needs to be done by the authorities and where firms need to be to get to the smoothest transfer, what comes to the reports of the agents is that, at present, people do not have the systems in place to do that and they do not see them there. That is not to say that it cannot be done. We are not experts, so we are not making a point about how long it takes to do it, but that is what is played back and that is set out quite clearly.

Q1047 **Alison McGovern:** I want to talk about some of the impacts on jobs and sectors. Before I do, Governor, can I put one matter to you that is unresolved on the controversy around this report? You have dealt with the legitimacy issue well. You have dealt with the fact that economists disagree, which most people should be aware of by this time. The one accusation that is often made in front of this Committee, and was made again yesterday by Roger Bootle, is that, somehow, the work that you have presented to this Committee is made illegitimate or questionable by events after the referendum vote. The accusation is made that the Bank's forecasts were wrong before, so why ought they to be taken seriously now? Can you respond to that credibility question?

Dr Carney: On what we said before the referendum and what happened, we expected sterling to go down perhaps sharply, inflation to rise, real income to be squeezed as a consequence and growth to slow. That is what happened. The pound is down 18% undisturbed since the calling of the referendum. Mr Mann's and everyone's constituencies have just lived through a real income squeeze as a consequence. We are on the low end of the range; as an estimate of where the economy is relative to where it would have been, it is a little more than 1% below. It is detailed in the report; you will see the difference between the two lines. Many others, perhaps not Mr Bootle, who adjust for the strength of the global and the European economy subsequent to the referendum would put that number closer to 2%. We are on the record as a 1% difference between the two. Getting the direction right on growth, inflation and the exchange rate seems to me to be fairly accurate.

Can I make one other point, because you raised the agents' report? We rightly talked about ports, which is part of the agents' report, but the other part of the agents' report is a survey of 369 businesses across the country, £124 billion of turnover and 663,000 employees. The expectations for output and employment, both in a no-deal and in a deal scenario, are quite different views. The expectations on the output side are one data point, which is directional but, to put it in the mildest terms, they are not inconsistent with the scenarios that we have laid before this Committee. We did not have these results before we did the scenarios, so I would take them into account.

Q1048 **Alison McGovern:** I want to consider less the disorderly and disruptive scenarios that you have put out. They will draw a lot of attention and rightly so, but nobody is expecting that they will be the case. As you have said, Governor, they are worst-case scenario plans that we need to look at for preparedness, but I want to question and ask about your analysis that says that, as a result of leaving the European Union, "In some sectors and in some firms, jobs will be lost". Which sectors will be most affected?

Dr Carney: On page 27 we give a relatively high-level assessment of Brexit exposure to various sectors. Unfortunately, it looks like you have a black and white copy, so it is harder to see, but the ones at the top are those which are most affected: food and agriculture, chemicals and pharma, cars and transport, and construction. The nature of the agreement, if there is an agreement, will affect the degree to which these sectors are affected. Since a number of them are on the goods side, if there is a partnership and if that partnership is close, it remains to be seen where the effects would be greatest. Financial services would obviously be affected, but the extent is dependent on the nature of equivalence, if equivalence were negotiated.

Q1049 **Alison McGovern:** To be clear, the relative closeness of the partnership could make a positive difference to the size of the loss. What we are talking about is that for those top sectors—food and agriculture, chemicals and pharma, cars and transport goods—there is still a loss under any scenario that sees us leaving the European Union.

Dr Carney: I will make two points. One is that again I would remind you of the horizon over which we are talking. We look out over five years. This does not say what would happen to the auto industry in the fullness of time, 15 years out, after adjustment for other trading relationships or other innovations. We are on safest ground at the highest level of aggregation and our scenarios indicate that, even with a close partnership relative to the trend prior to the referendum, there would be some loss of output. With a close partnership, depending on how it is negotiated and what it means, there could be some additional growth relative to the path the economy is going on.

Q1050 **Alison McGovern:** We are back to economists versus human beings here, because the highest levels of aggregation may give us the most secure result in the economic modelling. In the end, I look at those top sectors and that is my constituency. To those people who are likely to be the losers, what is your recommendation, from what your results show?

Dr Carney: Our responsibilities are aggregate responsibilities. They are responsibilities for price stability—low, stable, predictable inflation, said a different way—and financial stability, a resilient financial sector, something which can withstand shocks and serve your constituencies and people up and down this country. That is the level at which we operate and those are the purposes for which we develop those scenarios and others like them. Those are the purposes for which we conduct monetary and financial stability policy, and that is the best contribution we can give to the country as a whole and your constituents.

Q1051 **Alison McGovern:** To come back to the sectoral analysis, if there are some clear losers, which sectors are the winners out of this?

Dr Carney: We are not looking at the longer-term implications of whatever form of partnership we have with Europe and partnerships with other economies. That is not within our responsibilities. The determination of the nature of any trading relationship or partnership with Europe versus someone else is, I am afraid, the responsibility of the Government and it has to take into account sectoral determinations, both for shorter-term impacts and longer-term prospects.

Alison McGovern: This sounds like quite a long answer that basically says, "We don't really know".

Dr Carney: It is not our job.

Q1052 **Alison McGovern:** To return to your job then, you say in your analysis that the changes that pivot away from exporting to the European Union will be associated with a permanently lower level of productivity. This is a point on which people have dissented. Why does your analysis show that?

Dr Carney: The first thing I would say is that we have not made a comment on the permanence of the change. Again, we are not saying what the relative long-term implications are. What we are saying and what drives the analysis, and people may have a different view—although this is well grounded and it tends to be part of the rationale of the overall strategy to step back from the European Union to open up to the rest of the world, which is at the heart of many rationales for Brexit—is that openness brings productivity. It brings competition, diversity of products and new ideas. It brings those dynamic aspects of productivity, but also just a very basic form—I am sorry for talking like an economist—of static productivity, which was invented or at least discovered in the United Kingdom. That is Ricardian comparative advantage, which is what happens when you adjust on the trade side.

Chair: You definitely lost John Mann's constituents there and probably everybody else's constituents as well. Alison, do you have one final brief question?

Dr Carney: I kept a few in Scotland.

Q1053 **Alison McGovern:** There are definitely one or two in Scotland who followed that. The central question I was asking before was about the impact of sectors within different regions. Governor, you have previously spoken about the stark inequality that exists in Britain and the economic consequences that it has, not least regional inequality. To what extent do you think leaving the EU risks making regional inequality worse? To be clear, my fear about the sectoral impact that you have detailed is that, for many who work in these industries, and the IFS has found this too, their skills are sticky, to use an economist's term. The job that they are capable of doing in a labour market, if we leave the European Union, may never be replaced with a similar one. They will never, in their working life, return to the level of income that they currently enjoy. Those jobs are concentrated in the regions of the north of England. To what extent, therefore, do you think that leaving the European Union will make the regional inequality that you have described worse?

Dr Carney: Again, our overall macro responsibilities are price stability and financial stability. Sectoral analysis is not our job. I am sure the Treasury will be very informative on these issues. The general sectoral impact depends on the nature of the deal and if there is a deal. As a last general point, to bring it back to our responsibilities, is that in moving to de-integration, so moving out of a trade relationship that has existed for a long period of time, we have to make a judgment about how quickly those transition effects take place.

You give an example of people with specific skills in an industry that loses activity, because it loses a market. How quickly can they transfer into new jobs and what is the effect on productivity? We have different variants of that. In one it just takes as long as it would if we were to open up a new market. It is relatively seamless. If we look at the worst case, it happens more quickly. We do that transparently. We say what the worst case would be. This happens more rapidly, more people are out of work and the equilibrium unemployment rate goes up. That is one of the other factors that would be directly relevant to the conduct of monetary policy, which is why we look at the worst case in order to make that assessment.

Q1054 **Catherine McKinnell:** Dr Carney, you mentioned de-integration and I know Mr Broadbent referred earlier to the example of New Zealand, which is cited in the report as one of the only examples of de-integration after a long period. Given that was so long ago, and the circumstances were different—it was imposed on them and they did not choose that course of action—is there much we can learn from that experience? Do you have other examples, internationally, of where a Government have actively pursued a trade policy that will make the country poorer?

Ben Broadbent: You have to go back to the 1930s, the Smoot–Hawley tariffs and the surge in protectionism in the middle of the Great Depression to find an active attempt to reduce global trade. At the time, they did not believe it would make them poorer. They were acting in a mercantilist manner in the belief that it would make them better off. That was not the case but, nonetheless, what they believed. You have to go that far back to find a deliberate attempt to do this. New Zealand is the only one we can find since the war, during which time trade has almost universally been increasing, particularly over the last 40 to 45 years. You are right that it is not an ideal parallel. The circumstances were different, but we clearly learn, if only qualitatively, certain things.

The first is that there was an increase in exports. There was some trade diversion away from the UK. New Zealand concentrated on exporting agricultural produce elsewhere. Secondly, on the demand side, investment fell steeply and overall output growth was negative. In particular, it was much worse than in countries that experienced the same things that were going on at that time, like higher oil prices, but which had not had an interruption to trade. We learn that it had an impact, but the circumstances are not exactly the same.

Catherine McKinnell: The increase in trade that they experienced did not compensate for the loss of market access to the UK.

Ben Broadbent: That is right, so there was some diversion in trade. If you look long enough, and this is relevant to the long-run point, if you come to now, can you really say that New Zealand is permanently poorer as a result of that decision? That is much harder, because they will have done all sorts of other deals since and some of them will have been in compensation. If you at least look over the period of four or five years, which is our horizon, the implication is clear.

Dr Carney: I agree with that second point. One thing that is instructive from our perspective is that the New Zealand economy, for whatever reason, did not adjust that much in advance of a known loss of its largest trading market. It is only after it lost it that it began to adjust. The consequence was exacerbated by the oil shock, but you can adjust for that, which we have. I would not overplay it. It is there for that point of interest. The way we think about adjustment in this economy is grounded first in macro models, but then very much on the micro level, from what we know from businesses.

Q1055 **Catherine McKinnell:** In your document analysis, you have assumed there will be no new trade deals implemented before 2023 or within five years. That is your horizon. Some may consider that to be pessimistic, but the Government's analysis looks at a 15-year transition to new trading arrangements. Are you able to comment on whether the 15-year timeframe is realistic?

Dr Carney: It is for others to say. I go back to the exchange with Ms Ali. On average, advanced economy trade deals have taken four years from the start of negotiation to implementation. There are other extremes. The CETA, the Canadian/European one, took eight years in total, so there is a range around that. Certainly within 15 years one would expect trade arrangements to have been put in place. To be clear, one of the other considerations in these scenarios is whether we retain third-country trade deals that the EU has. For reference, currently about 10% of our exports go through those so-called third-country deals and there are deals pending for another 7% of our exports, for example Japan and CETA. Do we retain them? In close partnership scenarios, we retain those deals.

Q1056 **Catherine McKinnell:** That 10% and 7% is on top of the significant proportion of our exports that currently go to the EU market. In three of the Bank's four Brexit scenarios, including the disruptive no deal as opposed to the disorderly no deal, you have assumed that the UK will retain access to trading arrangements with the 90 third countries that have trade agreements with the EU. On what basis have you made that assumption?

Dr Carney: It is known that the Government are in discussions not just with third parties, but relatedly with the European Union, about those deals. As you are aware, one of the issues would be, if there are any quota elements to those arrangements, how that quota is split subsequent to our leaving. It is the Government's intent to do it. There are some discussions around that. Again, in the spirit of showing the relative impact of these various things, it is sensible to include that. The closer the partnership is, the more one would expect these to be put in place, by extension. To be clear, one could step back and say that we could leave Europe and use the existing arrangement that we have with Turkey via the European Union, for example, which is important, as the basis to accelerate a negotiation in a non-partnership arrangement. That is possible.

Q1057 **Catherine McKinnell:** Do you mean for a disruptive no deal?

Dr Carney: That is for WTO.

Catherine McKinnell: Is that what you would describe as a disruptive no deal?

Dr Carney: What we describe as a disruptive no deal is detailed in the various assumptions around it.

Catherine McKinnell: I am sorry; I am going for the human speak.

Dr Carney: Some of this is complicated and you cannot simplify it all. This matters. It does not matter as much in our policy horizon as what happens in financial markets and to uncertainty. It matters in the longer term for a trade strategy. In a disruptive no deal, third-country trade is something, but there is a bigger hit by labour supply, by the increasing gilt risk premia or the levels of uncertainty. Anything we can do to mitigate that makes a difference. I am sorry; for the record, in the disorderly scenario we do not have access, but in the disruptive we have access.

Q1058 **Catherine McKinnell:** To sum up, can you foresee a scenario in which the costs and disadvantages of removing ourselves from the EU and our current trading arrangements will be outweighed by the economic advantages of pursuing independent trade deals, within your forecast period?

Dr Carney: It is not a scenario we have looked at.

Catherine McKinnell: You cannot envisage that.

Dr Carney: No, that does not mean we cannot envisage it.

Q1059 **Catherine McKinnell:** Is that not a relevant question?

Dr Carney: It is a relevant question, but this is a relevant answer. For the purposes of the Financial Policy Committee looking at a worst-case scenario, taking something away helps cement the worst-case scenario and again the banks are resilient to that. A likely or plausible scenario for a close partnership, given the time horizon that it normally takes to have a deal, is that we assume that all the third-country deals stay in place, which is something. That is something. We have not assumed, for example, that a new trade agreement is struck with the United States. We would have to pick the United States, Canada or some other set of countries to make that judgment. The Treasury, which will be here after and has provided a report, has provided some estimates of that, so that is probably a better place to look. If you want to take the Treasury analysis and put it on top of our WTO or other analysis, you can do that.

My last point just for clarity is that you said four scenarios. We have six scenarios in the report. We have two WTO scenarios. In both of those we assume that the UK retains access to the third-country deals, just for completeness.

Q1060 **Mr Clarke:** Good morning, everybody. On migration, Governor, do you think it is likely that the immigration of skilled workers will rise and unskilled workers will fall, as a result of our departure from the European Union?

Dr Carney: Let me tell you how we have modelled migration. We have taken a basic assessment of what Government policy could be, in the tens of thousands, and then used an economic model that has fit the patterns of net migration pretty well. The model looks at relative GDP growth, unemployment and relative exchange rate. That has been quite a good predictor since the referendum of where net migration has gone, so we have modelled it in that way. We have not then said what the skill mix is for the net migration that continues under the close partnership scenario.

I will make one last point, if I may. For that economic formula, which is a formula and a reasonable predictor, the cap binds in the close partnership. In other words, based on the economic performance of the UK relative to Europe, depending on where other things are, net migration would be higher if there were not a cap, according to the formula. That leads to what the labour supply is and where per capita income goes.

Q1061 **Mr Clarke:** Would you assume that, were immigration from the European Union to contract, as it has done and is likely to continue to do, it would lead to an increase in the wages and economic welfare of low-skilled workers in our country?

Dr Carney: I have two points. As you know, and we had an exchange on this at the last hearing, there is interesting data on the stock of migration flows, but it is less conclusive about the flow. We will find out in the fullness of time but, directionally, what has been happening is what you are suggesting and the degree of net migration from the European Union has gone down. We would expect there to be differential impacts on wages and potentially on lower-skilled wages.

For the economy as a whole, and I will finish on this, for what we have to target, which is aggregate inflation and wage levels, we find that migration has a relatively modest impact on overall inflation, because one has a dampening effect, but then a supportive effect. There is a dampening effect because of the migration and a supportive effect because of the spending power here. I know Professor Nickell is providing some advice to you and I will just cite his research, which is related to something published by the Bank. "Infinitesimally small" is his net impact aggregate. You asked a subsector question, but the aggregate impact on inflation is ultimately what we have to focus on.

Q1062 **Mr Clarke:** I would preface that by saying that the squeeze on real incomes has been particularly concentrated at the lower end of the income scale. Is it fair to say that?

Ben Broadbent: The extent it has is partly due to the factors that Mr Mann was talking about, which is that import-sensitive or imported materials, like food and energy, are consumed in large proportion at the lower end of the scale. The rise in their price has been the squeeze. I will add that the Governor is right that we only look at the aggregate, and the effects of immigration on aggregate pay growth look pretty small, as far as we can tell. Even the relative effects, in the studies I have seen, are not big and certainly much smaller than any of the other influences that appear to affect relative pay. It does not look like a big factor.

Q1063 **Mr Clarke:** That is very helpful. To continue with you, Mr Broadbent, you raised the point about food and John referred rightly to that being a real-world concern. You referred to half our food being imported, which is incontestably right. I was looking at one of the reports of the IFS from 2017, which said that actually only 30% of the value of food is imported. That is to say that different foodstuffs have a different relative value. Some 30% of the value of food purchased by households in the UK is imported and, of that, only two-thirds comes from the EU, i.e. only 20% of the value of food in the UK economy is imported from Europe.

Ben Broadbent: My memory is that it is the nominal amount, but I will check that.

Q1064 **Mr Clarke:** Could you provide clarity on that, because it has a meaningful bearing?

Ben Broadbent: That is my memory, but I will check the amount. Overall in the economy imports are around 30% of what we spend and my memory is that food is relatively import intensive, but we will check those numbers.

Mr Clarke: It is 50% of food that is imported, not of its value.

Ben Broadbent: They were value numbers I was giving you about 30% of GDP. That is precisely value. The other thing to add is to remember that part of the effect of many of these scenarios, not of all of them—

because in some the close partnership builds in an appreciation of the exchange rate, which comes back to what I was saying earlier about what the market expects—certainly in the WTO and no-deal scenarios, the exchange rate falls. Where it is imported from is then immaterial. The cost of all our imports, whether they come from within or outside the EU, will rise. If we import corn or wheat from the United States the cost of that will go up. There are additional things to be brought into the cost of importing stuff from the EU, these border frictions, but the exchange rates, which are not permanent and may be a one-off change, apply to and raise the cost of all imports, regardless of where they come from.

Q1065 **Mr Clarke:** That is a fair point, well made. Are the worst-case scenarios, which are set out in the Bank of England's report, predicated on the EU observing WTO obligations on preventing technical barriers to trade? Obviously there are commitments in place under law for our European partners to maintain the maximum degree of friction-free access. Is that factored into the Bank's work?

Dr Carney: We should be clear about the obligations under WTO. I spent the weekend with the director-general of the WTO. The obligations under WTO are to treat all trading partners the same. It is sometimes asserted that the trade facilitation agreement, for example, puts a special legal requirement on a country to achieve a legal of frictionless trade and that is not the case. It is not a legal requirement; it is an aspirational requirement and the requirement is consistency.

A challenge that we have to recognise, which is a challenge for the UK and for Europe, particularly in a short-term arrangement that is not covered by some form of deal, is that we could, for example, decide to waive tariffs on European goods coming in. There are no tariffs on European goods today, so why make our lives more difficult, particularly with suppliers? As you would appreciate, we then have to waive tariffs on everybody else for those goods, so we should be doing an assessment of the relative attractiveness of doing that for things that we do not produce in the United Kingdom. For those for which there are no substitutes, that is attractive. For those for which there are substitute imports, it varies. We might want to take into account, and I will finish on this, what negotiating leverage we might give up with future trading partners if we, ex ante, waive tariffs across the board. To go back to the core of your question, the core most-favoured nation responsibility is common treatment. It is not best-in-class treatment.

Q1066 **Mr Clarke:** GATT article 24 has received a considerable amount of commentary in the last few weeks about the notion of zero for zero tariffs being a possibility while negotiations are ongoing, for a period of up to 10 years. What consideration, if any, has the Bank given to that?

Dr Carney: I would situate that in the context of the close partnership scenarios. There is a scenario in which there is a transition to a new arrangement. In the very close partnership or at the high end of that quite a substantial arrangement is put in place. You could look at that and decide that something more significant could be struck with the

European Union, in which case you would move closer to the trend line from May 2016, at least on the basis of our scenarios.

Mr Clarke: To press, you do not think it is impossible that GATT 24 could be brought in.

Dr Carney: We have not taken legal opinion on it. Then again, I do not work in the Department for International Trade.

Q1067 **Colin Clark:** I would like to turn to investment. The Bank has done an analysis that the Treasury did not include. What can the Bank's analysis therefore tell the Committee about what may happen to investment in each scenario that the Treasury's analysis did not?

Dr Carney: It is a fair question. Not surprisingly, it varies by scenario. From recollection, and I am just going to search for some background numbers, in the higher-end scenarios, so the close partnership scenarios, investment is higher than it is in the base case. I will back up. Take our current November forecast. The level of investment is higher in the close partnership. I am doing this from memory, and I am happy to furnish it to the Committee.

Colin Clark: We trust your memory.

Dr Carney: I would not on everything. It is in the order of 28% cumulative growth over the five-year horizon. You get an acceleration of investment with a fall in uncertainty and retention of access to the market. In the case of a less close partnership, moving to the WTO and certainly in the disorderly case, you have much tighter financial conditions and a higher level of uncertainty, and investment in the order of single-digit growth over that period.

Q1068 **Colin Clark:** Would it be reasonable to say from evidence that we have heard that investment is pent up and being held back at various levels of the economy? What would the reaction be to some sort of decision, whatever the scenario is? Is there not a suggestion that much of that pent-up investment in the economy would therefore be released or are you suggesting, in all scenarios, that whatever the outcome, and whatever the decision is, people would say, "I am simply not investing"? That is unlikely, is it not?

Dr Carney: It is unlikely. I go back to the current view of the Monetary Policy Committee, its last decision and the minutes associated with that. It is consistent with the agents' report that was just released today. We do feel that there is some pent-up investment. I will give you a number that I am confident in, as the counterfactual. Investment is now running at about 16% below what had been projected pre-referendum, but that is understandable. There is uncertainty about the arrangements, so people have held back despite the strength of the global economy and other factors.

We think that some of that will be recovered and that there will be a pick-up in the overall levels of investment. Balance sheets are clean. Financial conditions are strong. Capacity is very tight. We think the economy is basically operating at full capacity, so we think there will be a pick-up in investment. That is based on both the economic analysis and just talking to companies. I will say that, in other scenarios where there is certainty and a period of time for smooth transition to that certainty, one would also expect investment. When you talk to UK businesses, Mr Clark, you will hear that they are keen to get on with it.

Q1069 **Colin Clark:** That is exactly my point. I come from a constituency where oil and gas is dominant, and the oil and gas sector, as you well know, is reacting to a non-Brexit agenda—one of the few—and is trying to invest. We have the multi-billion-pound Clair Ridge project, which BP announced earlier. What I am trying to get at is that nearly everything we are seeing and hearing is pessimistic but, after nearly two years of people holding back because of Brexit, is there not an argument that we have pent-up investment? A lot of companies, and not just the small micro companies but the bigger SMEs and organisations, must be taking a view. I have spent a lifetime in business; is that not exactly what you do? You cannot remain negative and pessimistic forever, so is there not an upside of finally coming to a conclusion?

Dr Carney: I appreciate the length of the question, which has allowed me to find my table. The cumulative growth we had was for over five years' investment, for what it is worth, in our current November forecast, of about 23%. Our investment goes up by that much over that time. Some of that reflects a bit of this bounce because, in November, we said we expect investment to pick up, because that there will be greater clarity about whatever the relationship is over the coming months, then business will "get on with it", as you are suggesting.

In case of the close partnership, what the model gives us, what the analysis gives us, is a 30% pick-up in investment over that period, so a bigger bounce because there is a more immediate direct investment opportunity. In contrast, a prepared transition or a smooth transition to WTO gives us about half of that, 15% pick-up, because it is a period of time—and again, to stress, it is a relatively short period of time that we care about for our jobs—that business is losing the market in a prepared move to WTO. As per the earlier questioning, we have not put in other trade deals for which they were preparing to go, so they invest but they have to wait. There is still an element of waiting to see where the big opportunity is.

Q1070 **Colin Clark:** It is reasonable to say that domestic investment has pent up and there is potentially an upside of companies finally making decisions. Many companies will have made these decisions—

Dr Carney: It is reasonable to say a couple of things. One is that domestic investment has been quite weak in the last several years, two years particularly, because of uncertainty. It is also reasonable to say that, as we sit here right now, business investment is being held back. The real investment that is going on would appear to be in stock building, short-term contingency planning. That is entirely understandable, because businesses are waiting to see which type of Brexit the UK is going to have. Then it is reasonable to expect investment will pick up, provided the financial permissions are there.

Q1071 **Colin Clark:** I will move on to the other side of the equation, foreign direct investment. Recently, we have seen results that the UK is the second highest destination of foreign direct investment, in front of the US, Australia, and Spain, I think, was No. 8. What does that say about foreign direct investment? We heard evidence yesterday that was stock of foreign direct investment. What do you believe that says about foreign direct investment?

Dr Carney: First off, the UK is a very attractive destination for foreign direct investment for a variety of reasons, and has been for quite some time. Secondly, one thing that has shifted a bit is that there has been a sharp pick-up in commercial real estate investment in the UK. A greater than 50% proportion of commercial real estate investment, particularly in the south-east, is now foreign investment, as opposed to domestic investment. It has the happy consequence that domestic bank exposure to commercial real estate is at quite a manageable level. That is one of the reasons why, even though in our worst-case scenario you have quite a big hit to commercial real estate, the banks are in quite a solid position.

Q1072 **Colin Clark:** I suppose what I am getting at, Governor, is this. You say in your evidence that trade barriers will make the UK less attractive. I am trying to get at the quid pro quo of that for the UK, outside the EU, without external tariffs, with a certain amount of regulation relaxation. Is there not a counterargument that it will be an attractive place to invest in because it is on the edge of the EU? Already 60% of our exports are non-EU and only 40% are EU. On the non-trade barrier, is there not anything that actually reduces the impact of the trade barrier?

Dr Carney: As we are today, the UK is a fully integrated member of the European Union. It is geographically obviously on the edge of the EU but fully integrated into the European Union. It has the rule of law. It has highly skilled people. It has all these other advantages. Depending on the form of Brexit we take, one of those things changes. At least in the short term, that makes it a less attractive destination for foreign direct investment. I am stating the obvious, but I guess I have to. That is by virtue that investing in the UK does not give onward access to the EU market.

Q1073 **Colin Clark:** How long would that last, or is that an impossible question?

Dr Carney: It is a difficult question to ask, or to answer. It is easy to ask, harder to answer. It would be a function of what the future trade relations are, what the future regulatory and tax environment is, and all these other factors, which are, ultimately, in the hands of Parliament. To finish, in the horizon over which we operate, those bigger tectonic moves, in terms of big meaningful new trade deals, big meaningful new shifts in the regulatory environment, fiscal environment, tax environment, we do not have in there. You could make your assumptions about those but they are not there. What is there is what is on the table, which is an adjustment of the relationship with the European Union to varying degrees.

Chair: Finally, we have our newest and returning member, Mr Baker. Welcome, Mr Baker.

Q1074 **Mr Baker:** Thank you very much. Good morning. I have listened very carefully to what you have said this morning. I find I have a lot more sympathy with the Bank than I expected to have. Listening to your presentation of what you have done, you have worked in an admirably dreary way, as I have understood what you have said. You can sleep soundly in your beds because your top teams have been imagining the worst-case scenarios, highly unlikely scenarios, tail risks, events with a low probability. As a consequence of your work, you are confident the financial system can withstand any shock of Brexit. Is that a correct characterisation of what you have told us?

Dr Carney: If you had to encapsulate in one, yes. The only caveats are a couple of the cross-border issues that Sir Jon raised, which we are working with Europe to address.

Q1075 **Mr Baker:** Of course, you have received a slew of disobliging commentary in the press, which I think arises as a result of the way your report landed in the press. Do you think your report landed as it should have done in the media?

Dr Carney: This country has a varied and vibrant media. It landed different ways in certain media than in other media. You may find, from time to time, Mr Baker—I know you are new to the Committee, welcome back—that your words and analyses can be used for different purposes by different parties. By parties I mean not political parties but individuals who have certain priors. That is life. The key thing is, first off, and I will just go back to where Mr Mann was, that you demanded it. You were not here but I am sure you would have agreed with the demand. You demanded it. We furnished it. That is absolutely right. That is accountability.

Secondly, if people take one thing away from the core of this analysis we have been doing and the follow on consequence of the analysis we have been doing for the last couple of years, the core of the financial system is resilient. It is ready for Brexit, whatever form it takes. That is what we want.

Q1076 **Mr Baker:** Sir Jon, is it in the interests of financial stability that the Bank's report should have landed in the press the way that it did, rather than the way it has done today? That is to set out very clearly that what you have done is to stress test the capacity of the financial system to survive any Brexit.

Sir Jon Cunliffe: The report makes absolutely clear what it is. It makes absolutely clear in the scenarios then in the chapter on financial stability, and in the executive summary, that these are worst-case scenarios that were produced in order to test the resilience of the Bank against the Bank's stress test. Also, when we produced the financial stability report on the same day, which laid out the stress test, it had the same logic. It is actually in the interests of financial stability not just that we do the work to make sure the banks are resilient, but that we set out why we are confident.

One of the things you find in financial crises is that confidence matters a huge amount. I do not know whether there will be financial market stress of disturbance around Brexit, but the thing one does not want is other financial market participants looking at UK banks and saying, "This could be a big hit to the UK economy. Can they weather it?" If you look after the referendum result, UK banks with domestic assets found their share prices going down precisely because people were saying, "What does that mean for UK banks?" It is in interests of financial stability not just that we make assessments but that we can demonstrate the assessments we have made. If there are people out there who say, "That is not really a worst-case Brexit; there is a much worse one and they would not be resilient", okay, they can take a view, but you can look transparently. You can see the assumptions made and you can form a judgment, so, yes, I think it is. I cannot take responsibility for the press. I will not take responsibility for the press.

Q1077 **Mr Baker:** No, indeed. That is a good answer, but it was not quite the question or the point I was making. If I was to look, for example, at Professor David Paton's coverage, he said, "In case there is any doubt, the idea that a no-deal Brexit would cause a crash of such proportions is nonsense, pure and simple. An 8% reduction in GDP in one year is the sort of outcome that might be expected after a major civil war, but certainly not from a shift to trading under standard and well-established World Trade Organization (WTO) terms". Having listened to what you have said today, I understand what you have done, and you were not seeking to suggest that Armageddon was imminent. What you have done is test the banking system. I am really asking you, Sir Jon, whether it is in the interests of financial stability that your work should be so misrepresented when it lands in the press. Can I ask Sir Jon, because it really is a matter of financial stability to see these threats laid out?

Chair: The Governor will have a view on financial stability as well, but let us ask Sir Jon first.

Mr Baker: I am keen to come to the Governor in a moment.

Sir Jon Cunliffe: We do the best we can to communicate our effort. We brief journalists. We took them through before. They had two hours being taken through this. People will misrepresent what the Bank says and what others say, as the Governor says, for their own priors. When that happens, I am not sure that is in the interest of anybody and in the interests of a sensible debate, but that is what happens. As once was said, we write; they have to learn to read.

Q1078 **Mr Baker:** Governor, I want to come to you but I am a bit short of time, so I will frame this in this way. I agree with you that it is unfair that you should be criticised for complying with the Committee's wishes, of course, but there is a question of timing, which Andrew Sentance raised. He said that the orchestration of the UK Government and the Bank of England presenting their Brexit assessments on the same day was not a good signal for the Bank's independence and credibility. How did it come to pass that the Bank of England brought forward this work, which you have told us was developed over a long period, and that it was presented on the same day as the Treasury's? Who decided that?

Dr Carney: Let me say a couple of things. One is just to re-emphasise and finish off what I was going to say on the last thing. It is incredibly important to act before a crisis, right? I am not saying we are going have that, but should you be standing up on the day and saying, "Oh, by the way, we did a bunch of stress tests and actually the system is strong"? No. It is better to get this out.

If anyone has any issue about the resilience of the UK banking system, the capital, the liquidity, the risk management, these are institutions, as it says in this report, as it said in the stress tests released on the same day, that could be out of wholesale markets for months. They have more than £1 trillion of their own high quality liquid assets. They have access to another £300 billion through the Bank of England. We can lend in all major currencies. They are managing their risk in an incredibly prudent way. We could be having an argument, or a discussion rather, about an excess of caution, but this is a resilient core of the system. We can have this discussion today in a calm way, with all the material behind it. If anyone has any questions, they are welcome to come to that. That is the first thing.

The second thing I would note, in the interests of financial stability, is the financial market reaction. Did you notice the financial market reaction to the release of this information?

Q1079 **Mr Baker:** I think we all know what was in the press.

Dr Carney: Financial stability is driven, first and foremost, through wholesale financial markets. Again, that is a lesson that I do not think was quite appreciated prior to the last crisis in this country, but one that has been fully taken on board by the Financial Policy Committee, which is doing its job.

In terms of the timing of this coming out, we made a commitment that we would respond to this Committee in good time, in advance of the meaningful vote and the debate for the meaningful vote. The timing of that became apparent on the Monday of last week. We had pulled forward our *Financial Stability Report* because, as you can tell, looking at both of them, they are totally interlinked. The judgment on the banks is based not just on the Brexit scenarios but also on a tougher financial stability scenario.

We knew the timing of the meaningful vote. We then knew, at the same time, the timing of our testimony here today and the fact that all this was going to be packaged together, not packaged together and released this morning, but released at the time we sent it to the Committee. It is market-sensitive information, so that is understandable. Once that was the case, we brought it, in discussion with the clerk—

Chair: To be fair, and I know you were not here last week, this is actually at the request of the Committee, the timing of this, to give us time to brief Members.

Dr Carney: It is at the request of the Committee, Mr Baker.

Q1080 **Mr Baker:** Did the Committee select the day?

Dr Carney: Yes.

Chair: We did not set the date but we selected the time period needed to prepare briefs for the sessions.

Dr Carney: We did not consult with the professor you quoted.

Q1081 **Mr Baker:** Did No. 10 decide when and how your report would land?

Chair: No.

Dr Carney: Absolutely not.

Chair: It was the Committee.

Dr Carney: The only dialogue was with this Committee, which is our form of accountability. No. 10 was not involved, not in sight.

Q1082 **Mr Baker:** This is my final question, Governor. How you respond to politically sensitive questions is a masterclass, as ever. You were asked about the EEA and you were exquisite in the care with which you responded. Given the way you all behave to ensure your words do not materially shift markets in ways other than you intend as part of your expectations management, are you concerned, as I am, about the way your report landed in the press and what it has done for the reputation of the Bank in this considerable amount of adverse coverage you have received?

Dr Carney: The short answer is no, in this regard. As I say, it is a vibrant and varied press. There is different reporting of this, different degrees of seriousness taken. The only comment is, and I will close with this, that while it may sound gratuitous Members of this Committee share a responsibility for how reports they request, that you request, land. You would do well to remind those in the press, those in Parliament, that you asked for it.

Mr Baker: I very much hope we will be able to present this report in the way you have, which is that you have drearily done your duty.

Chair: To be fair, as I have made clear, the reports, the report by the Bank of England and the Government's economic analysis, which we are just about to embark on a session on, were published at the request of the Committee. The timing was driven by the Committee, in terms of being able to prepare briefs for Members. We are very grateful to the Bank and those we are about to hear from for the work they have done in relation to that. I made very clear to the House last week, those who were there for the statement, which Steve Baker responded to, so he will know, that both sets of reports, plus the FCA report, were published at the request of the Committee. That is quite right.

As you say, Governor, this is a vote that matters, that MPs are going to be conducting over the course of the next few days. Thank you very much to our panel. I am sorry that time has gone on but this is an important session. We are very grateful to you for the time you have given to us today and the questions you have answered. Thank you.

Examination of witnesses

Witnesses: Sir Tom Scholar, Clare Lombardelli, Sam Beckett and Susannah Storey.

Q1083 **Chair:** Thank you very much to our second panel. My apologies for keeping you waiting, but, as we have just heard, and I think you know, what we are examining today really matters. We want to get to the heart of everybody's analysis that has been produced. We are being filmed by BBC Parliament today, so I am going to ask you all to introduce yourselves. Perhaps you could just say your titles as well. Then we will get straight into it.

Sir Tom Scholar: Good morning, I am Tom Scholar, the Permanent Secretary to the Treasury.

Susannah Storey: Susannah Storey, director-general, future economic partnership at DExEU.

Clare Lombardelli: Clare Lombardelli, chief economic adviser at the Treasury.

Sam Beckett: I am Sam Beckett, director-general of EU exit and analysis at BEIS.

Q1084 **Chair:** It is very nice to see you all here and very nice to see such a diverse panel as well. Moving straight on to the whole of Government analysis published last week, when I wrote to the Chancellor on 23 August, he wrote that he wanted to reiterate a previous commitment the Government had made: once we have agreed a deal with the EU, the Government will provide Parliament with the appropriate analysis of that deal, ahead of a vote on the final deal. I think it is right to say that what we have in the Government's economic analysis is the modelled White Paper, which means Chequers, and we have the modelled White Paper with sensitivities. I am going to direct this question to you, Sir Tom. What we do not have is a modelling of the deal the Prime Minister agreed with the EU in November and is what MPs will be voting on. Can you tell us why?

Sir Tom Scholar: Yes, I can. The analysis follows the nature of the agreement that was reached. As the political agreement itself says, it envisages a spectrum of different final agreements because this is, at this stage, a political agreement. Once we have left the EU there is a great deal of further negotiation to be done to turn that into a final agreement and a binding legal agreement. At this stage, we do not know where that will come out, including on some very central features that are very important for the economic impact, in particular how close to the UK will be in detail, in terms of regulation and the customs arrangements, to the EU. Without making a whole lot of assumptions about how that negotiation will conclude, it is not possible to provide a point estimate.

What we have done instead, though, is to take the Government's proposals from the White Paper in the summer and, as you have said, we have given a range of estimates for that. We have given a sensitivity analysis around that. If you look at where the negotiation will end up, it is going to be somewhere between what the Government have proposed in the White Paper and through the sensitivity analysis towards the modelled free trade agreement. Everyone looking at that will have to take their own judgment on where they think the agreement is going to come out. We have tried to give people the tools to understand the impact of different ending points on the economic analysis.

Q1085 **Chair:** Okay, but there is a draft withdrawal agreement, which is pretty certain in what it says, whether you like it or do not like it. It is particularly certain about the rights of EU citizens living here and UK citizens living in the EU, and obviously sets out a transition period. You have quite a certain document, 585 pages of it. What you are really describing is the uncertainty surrounding the political declaration, which at the moment is a high-level heads of agreement type document. Yet, the Government analysis really only has two scenarios, leaving aside no deal or EEA, i.e. either the White Paper, or, as I say, White Paper with sensitivity. Are you saying those two represent the spectrum of options under the political declaration?

Sir Tom Scholar: No. The White Paper is what the Government have proposed. As you have said, the agreement is a high-level agreement. It leaves quite a lot open. I think we can safely say, and also by construction of what is in the political declaration, that it would end up with an agreement at least as close as a typical free trade agreement, and probably closer. That, in a sense, gives you the bookends. The sensitivity is just an illustration of somewhere along that scale. As Government economists, we do not know where that will come out. It is not our job to predict where it will come out. Everybody looking at that has their own views on that. Our job is to give people the tools to understand the economic impact of different scenarios.

Q1086 **Chair:** I understand that. The White Paper is not going to be the final shape of the deal. We saw what happened at Salzburg in September. Donald Tusk, the President of the EU Council, said the suggested economic co-operation will not work, not least because it undermines the single market. I suppose what I am asking is this. I think we first discussed having an analysis like the one that has been published with the Chancellor in June. We are now in December. It has been pretty clear since September that the White Paper as is was not going to fly with the EU, which is why we have moved on to the withdrawal agreement and the political declaration. I do not really understand why the Government's economic analysis harks back to Chequers.

Sir Tom Scholar: That is the clearly specified proposal there is on the table from the UK Government. As you say, there has been reaction to that from the EU. As the Prime Minister has said, it is clear that not everybody in the EU is persuaded of some aspects of it. There is clearly a lot to be negotiated there. It is a clearly specified proposal, so it gives you an anchor that you can model in economic terms. That shows one end of the spectrum of the range of possible outcomes. At the other end of the spectrum you have a standard free trade agreement. Then in between you have the sensitivity analysis.

Q1087 **Chair:** Are MPs next week actually not voting on the political declaration? They are voting on the withdrawal agreement and the UK Government's position on Chequers.

Sir Tom Scholar: No, MPs are voting on the withdrawal agreement and the political declaration.

Q1088 **Chair:** But the political declaration has not been modelled in the economic analysis.

Sir Tom Scholar: We have given a range of possible outcomes. We cannot give a precise estimate, partly because of the inherent uncertainties in modelling and because, as of now, the political agreement does not give a precise answer to that question.

Q1089 **Chair:** The political declaration is not modelled in the economic analysis. The White Paper is modelled in the economic analysis. The White Paper and the political declaration are not the same thing.

Sir Tom Scholar: That is true, but from the analysis you can derive the range within which we would expect the agreement ultimately to fall. Obviously, different Members of Parliament, different commentators, have their own different views on what the outcome of the negotiation will be. We do not know the outcome. It is not our job to predict the outcome. It is our job to give Members of Parliament the information they need, so, depending on your view and other people's views of where it will end up, that will give you a sense of where the economic impact will be.

Q1090 **Chair:** One of the criticisms I think this Committee, which I was not on at the time of the 2016 referendum, formerly examined was that the Treasury's short-run pre-referendum analysis suggested that a vote to leave would cause an immediate and profound economic shock, and forecast all sorts of things that did not happen. Perhaps I can broaden it out to those in the Government Economic Service. What has the Government Economic Service learnt since the publication pre-2016 that has or has not been replicated in the document before us now? I do not know who would like to kick off on that.

Sir Tom Scholar: Could I take that first, referring back to the pre-referendum publications? Then I am sure others would like to add to the more recent work. Looking back before the referendum, the Treasury published two documents, a long-term and a short-term paper. The document we published last week is, if you like, the updated version of the long-term paper. My colleagues who actually did all the work and the modelling can talk about how we have developed the approach to modelling over the last couple of years, based on what we have learnt. The headline there is that, after two and a half years of further work and on the basis of a new and much more sophisticated model, with much more detailed sectoral analysis, the results we are discussing this morning are ones we have greater confidence in. They are more robust for that work. Having said that, the results of the pre-referendum long-term paper and the results we are looking at this morning are actually in the same ballpark.

Q1091 **Chair:** I was talking about the short run.

Sir Tom Scholar: The short-term paper we have discussed at this Committee before. I think Mr Elphicke asked me about it last time I was here. There are a number of reasons that the economy performed more strongly—

Q1092 **Chair:** I am just asking about lessons learnt really: what lessons were learnt for that short-run paper? I do not want to rerun exactly what has happened with the economy and all the rest of it. I am just talking about the lessons learnt. What has changed, I suppose? In terms of giving public confidence, MP confidence, what has changed in the modelling between the short-run pre-referendum paper and the paper we are looking at now?

Sir Tom Scholar: The two are completely different exercises, using completely different models. We have not repeated the short-term exercise. The Bank of England has. I know you have been speaking to them this morning, so it is a completely different exercise.

Q1093 **Chair:** I have two final quick questions. I do not know whether Sir Tom is the right person or others are on the panel. Who signed off on the assumptions in the modelled White Paper?

Clare Lombardelli: I can answer that one. The assumptions were set by Ministers and they signed them off.

Q1094 **Chair:** Who were the assumptions signed off by, the Chancellor, Ministers across Government?

Clare Lombardelli: By the Cabinet.

Q1095 **Chair:** The other question is about the backstop scenario, which I know everybody hopes is never going to be needed, but there is a chance that it might well be needed. Would it not have been helpful, again for MPs, to have had the backstop included in the modelling, or at least reflected in the paper?

Susannah Storey: The reason we did not include it is that it is obviously not the preferred policy position and it is not a long-term scenario. Also, in analytical terms, when you look at articles 6 to 8 of the protocol, it is clear that some of the details still need to be set by the joint committee and in subsequent negotiations. For those two reasons, we did not model it.

Q1096 **Chair:** Okay, I understand. Would the decision about it not being preferred and the decision not to include it also have been signed off by the Cabinet?

Susannah Storey: It was not in the four policy scenario assumptions they agreed should be in this publication.

Q1097 **Chair:** You are saying the uncertainty around the protocol, from a professional point of view, would make it too difficult or impossible to model.

Susannah Storey: Yes. When you read the protocol itself, obviously it is clear that it is under article 50, which is not a permanent basis. When you get into the detail of it, there are quite a few areas that are not sufficiently specific for us to model it.

Q1098 **Alison McGovern:** My questions follow on from the ones the Chair has just asked. I particularly want to ask about an analysis of the short-term macroeconomic impact of the withdrawal deal. Before the referendum, the Treasury published a short-term and a long-term analysis of Brexit, so how come no short-term analysis this time?

Sir Tom Scholar: With the one exception of that paper, although I think that paper at the time was not described as a forecast, since 2010 the Treasury has not published short-term economic forecasts.

Q1099 **Alison McGovern:** Yes, I know that, because the OBR exists. That is not what I am asking. Sorry, let us set aside the language of "forecast". We can talk about analyses if you wish, but why no short term scenario or impact assessment in this case?

Sir Tom Scholar: We decided the Government would do a long-term paper and the Bank of England, given its mandate, was best placed to look at the short-term, medium-term impact.

Q1100 **Alison McGovern:** Has anybody within Government investigated the short-term impact of Brexit on the economy?

Sir Tom Scholar: We have clearly studied the Bank work very closely.

Q1101 **Alison McGovern:** But, in terms of what the Government have investigated about what they know themselves, or what they could find out from the organisations that they work closely with, has anybody in Government conducted a short-term analysis of the impact of Brexit on the economy?

Sir Tom Scholar: The paper we published last week is a long-term economic analysis. We do not have a separate short-term analysis.

Q1102 **Alison McGovern:** I know that, but has anybody conducted that work, whether or not it has been published, whether or not it was in the report last week? Has that work been carried out?

Sir Tom Scholar: I am sorry; I am not being at all evasive. I am just trying to explain what we do. We routinely look at short-term economic developments. We look at indicators as they come out. In preparing the Budget obviously we look at the OBR forecast. We try to get a sense of what we think about that. We try to make sure we are prepared for whatever might come down the track, but we do not have a separate in-house short-term forecasting exercise specifically on that question or on any other question.

Q1103 **Alison McGovern:** Fine. Was that given as an option to the Cabinet that it could request?

Sir Tom Scholar: I am trying to recall at what point it was decided that the division of labour with the Bank would be long term Government, short term Bank. I think it was in fact back in the summer when this Committee wrote, but I am afraid I cannot recall precisely when that was decided.

Clare Lombardelli: I think the Chancellor wrote to the Committee in August, setting out how the Bank of England and the OBR were best placed to do short-term analysis, on the basis that in the Treasury and across Whitehall there is no short-term forecasting macro capability any more. I think it was around August time he wrote to you on that basis.

Q1104 **Alison McGovern:** Presumably the decision the Chancellor wrote to this Committee about was signed off by the Cabinet, along with the assumptions you just mentioned.

Sir Tom Scholar: The assumptions on the long term, which are all set out on page 25 I think, were agreed as part of the finalisation of this work for publication. That was a fairly recent decision. If I remember, the Chancellor discussed the letter he sent in August with a number of colleagues at the time. I do not think it went through a clearance process of the whole Cabinet, but it was an agreed Government position.

Q1105 **Alison McGovern:** There was basically an initial decision, an early decision, taken that, because the Government no longer has that sort of short-term analysis capacity, because of the OBR, the Bank would handle that, then the Government would carry out the long-term assessment, and then the Chancellor wrote to this Committee. That is the correct sequence of events, is it?

Sir Tom Scholar: I cannot remember the precise sequence of events, but it is a matter of record that the Chancellor wrote saying that the Government would provide a long-term analysis and that the Bank and the OBR were best placed to provide the short term.

Q1106 **Alison McGovern:** Would you be able to write to the Committee to confirm that is correct?

Sir Tom Scholar: What I have just said is certainly correct.

Q1107 **Alison McGovern:** I am asking what the internal workings were that led to the Chancellor writing that letter. I thought we had got clear that, between civil servants and Ministers, there was clearly an acknowledgement that the Government's capacity for short-term analysis of the impact of Brexit on the economy was not there. Therefore, the Bank would do that and the Government would do the long-term work, and then the Chancellor wrote to this Committee. Is that correct?

Sir Tom Scholar: I cannot precisely remember who said what to who when, but the position of the Government is set out in the Chancellor's letter in August. We can certainly go back and look at how we reached that decision. The Chancellor will obviously be here tomorrow and you will have an opportunity to ask him then. The position of the Government is the one the Chancellor set out in his letter.

Q1108 **Alison McGovern:** Just to move on to the model itself, according to the Government's economic analysis, markets adjust flexibly to the UK's new relationship with the EU and the rest of the world, assuming limited friction, but there could be real-world consequences for unemployment, and in fact, never mind the aggregate unemployment, a lack of jobs in particular sectors. Could you talk us through the limits to the model, with respect to why that assumption that markets adjust flexibly is not necessarily what we might see?

Clare Lombardelli: Let me talk about that. It is worth bearing in mind that this is an analysis of the long-term impact over 15 years. That provides time in which businesses, consumers and household would adjust their behaviour. It does not make any assumption about the speed with which that adjustment would happen, but it assumes a 15-year framework.

This sort of modelling basically takes all the data and evidence around trade patterns, and puts it through what is called a computable general equilibrium model. It is the standard tool that is used for trade analysis of this kind. It has some pros and cons. One of the advantages is that it allows you to think about second-round effects, how businesses and households adjust to those changes in trade prices, in a way other analysis does not allow you to do. In that sense, it can give you a picture of the economy after this change has happened and what it would look like.

The downside of it is that, as you say, it does not pick up the short-term impacts that may happen and the transition through those, and any issues where those short-term impacts have long-run effects, which might be the case. There are pros of using this kind of model, but that is one of the limitations of it.

Q1109 **Alison McGovern:** To be clear, in terms of the scarring impact, the hysteresis that might occur in particular localities, say localities where a particular trade dominated the economy of that area and the negative impact was profound, your model assumes the effect of that is smoothed, in some way, at some pace, through some function, over 15 years. It does not capture the lasting memory of that scarring event on that particular locality.

Clare Lombardelli: Yes, that is right. Broadly, and you can see the analysis in here on sectors and regions, it shows you what the long-term position would be. It does not tell you anything about the path by which you got to that long-term impact. That is where the short-term analysis the Bank and others will have talked about fits in. It is worth bearing in mind that this sort of model makes no assumptions about unemployment. It does not assume it would not exist. When you reach the new stage of equilibrium in the economy, to use an economist's phrase, it looks at a position where you are in neither a boom nor a recession. It tells you that all these relationships have settled down, but it does not tell you about the path by which you get there.

Q1110 **Alison McGovern:** To move away from the economist's jargon and to the real world, there might be towns or cities in Britain that are dominated by an economy that would be negatively affected by Brexit, where Brexit has a negative impact on them. People might be living in a place where there is one major employer, and Brexit is a massive risk. They know if that employer shuts down or moves away it will have a devastating impact on their town. The Government's model cannot really tell them how that is going to get sorted out, can it? Let us be honest; the Government do not really know.

Clare Lombardelli: This model tells you, basically, what happens to the sectors. It also tells you, if you look at how those sectors are placed, what the long-run impact on those sectors would be. You can see in areas that have a higher proportion of sectors that are more hit by trade barriers what those impacts would be in the long run. It is very much a long-run analysis.

Q1111 **Charlie Elphicke:** In terms of the modelling, it models the Chequers proposal, which the European Union rejected at the Salzburg summit. Is that correct?

Sir Tom Scholar: It models the Chequers proposal, yes.

Q1112 **Charlie Elphicke:** Is my recollection faulty that the European Union rejected it at the Salzburg summit?

Sir Tom Scholar: Lots of people have said lots of times lots of things during this negotiation, including at the Salzburg summit. The agreement that was reached 10 days or so ago envisages a spectrum of relations. The Prime Minister has said that she is determined to reach agreement on frictionless trade. She has acknowledged that not everyone in Europe agrees with that. There is a negotiation still to happen.

Q1113 **Charlie Elphicke:** The withdrawal agreement includes a very clear and specific protocol, the Irish protocol, now known increasingly as the backstop, as shorthand. That is not an aspiration. It is not a maybe. It is not a sort of fantasy forecasting. That is reality, and yet that is not modelled. Why not?

Chair: We have just been through this.

Charlie Elphicke: I want to go through it again. I want to understand this.

Sir Tom Scholar: I may pass over to Susannah here, but you are quite right; the protocol is in the withdrawal agreement, and so if ratified would then have the force of law. To that extent, it is in a different category from the political agreement, which will not have the force of law. It shares one feature with the political agreement, which is that, in some important respects, it is not detailed in precisely what the content of it would be, and in particular what the economic content of it would be. It is for that reason, as Susannah was saying earlier, that it is very difficult to model in economic terms.

Q1114 **Charlie Elphicke:** Have you done any internal modelling of it?

Susannah Storey: I am not aware that we have.

Clare Lombardelli: No, for the reasons Susannah set out. The sort of modelling that we have done relies on quite specific assumptions around tariffs and non-tariff barriers. That actually needs a level of specificity that we do not have.

Q1115 **Charlie Elphicke:** There is no internal modelling of the backstop and what the effect on our economy might be.

Sir Tom Scholar: If you look at the table on page 25, which sets out all the assumptions that were made for the different scenarios, I think I am right in saying it would not really be possible to fill in that table for the backstop because it would actually go, probably, in combination with one of these others. It is not something you can model separately, as things stand.

Q1116 **Charlie Elphicke:** So I am completely clear, leaving aside this document, there has been no Government internal modelling of the economic effect of the backstop.

Susannah Storey: Because the modelling is long term and because the backstop is explicit that both parties intend to replace it, it does not fit comfortably in this analysis, which is why this analysis does not cover it. Then, for the reasons I have said, when you read articles 6 to 8 it is clear that, in relation to the UK-EU customs union aspects of it and some other aspects, there is still further detail to be negotiated, some for the joint committee and some for the subsequent negotiations. There are two reasons why we have not done it: first, it does not fit into the long-term future and, secondly, as Tom says, there is not enough specificity.

Q1117 **Charlie Elphicke:** That is very helpful. I just want to say how much I appreciate that, because for us, in trying to work out the withdrawal agreement and its effect, it is incredibly important for us to understand what the effect of the backstop will be. I appreciate your confirmation that there has been no economic modelling of the backstop.

Moving on, Mervyn King, the former Governor of the Bank of England, says, "Preparations for Brexit based on trade under WTO terms should have started in 2016, immediately after the referendum, as I said at the time. Britain needed a fallback position—it is foolish to negotiate without one—and that was the form it should have taken […] But there was no such planning. Instead, the Government pretended that everything could be postponed until an imaginary long-term deal could be negotiated". Is that fair?

Sir Tom Scholar: It is not our job to comment on statements by the previous Governor of the Bank of England.

Q1118 **Charlie Elphicke:** He goes on to say, "This was naïve at best, and in the event has proven disastrous. And so Project Fear turned into Project Impossible. It is incompetence on a monumental scale". Is that unfair of the Governor, or a criticism that should be answered.

Sir Tom Scholar: It is not our job to comment on what Mervyn King has said. He has his views. We are here to discuss the economic analysis that we published last week.

Q1119 **Charlie Elphicke:** I understand. Moving on, the exit analysis assumes there will be large rises in non-tariff barriers between the UK and the EU, in the WTO and FTA scenarios. Why should that be, given that the UK and EU economies are already integrated and highly aligned?

Sir Tom Scholar: Let me say two things there, and hand over to my colleagues. First, although it is true that, as of today, we have a common legal framework and common rules, this is a scenario that looks over a 15-year period. Over 15 years, those things can be expected to change. Secondly, if we leave the EU and become a third country under WTO terms, we would expect the EU to treat us in the same way that it treats all other third countries, and with all those other third countries it has significant non-tariff barriers.

Q1120 **Charlie Elphicke:** In terms of customs, infrastructure, planning at ports and the other paraphernalia that goes with an undocking from the European Union into a WTO system, what investment, planning and preparedness has been executed, as a policy matter, by the Treasury and/or the Government?

Sir Tom Scholar: That is primarily a matter for HMRC. You have often had Jon Thompson here before this Committee to answer those questions. The Government are planning on the basis that the withdrawal agreement provides for an implementation period through to the end of 2020. The terms of the new customs arrangement we would have would only apply from after that point. They are not being planned for now, immediately. HMRC is working on future customs arrangements to that timetable.

Q1121 **Charlie Elphicke:** Under the White Paper scenario, there is little increase in non-tariff barriers for goods. Given that, in the political declaration, there are no reassurances that the EU will accept UK product standards after Brexit, is that an ambitious assumption?

Sir Tom Scholar: As I said earlier, White Paper sets out the UK proposals. We have all seen and heard the commentary on that. It is definitely an ambitious proposal for an ambitious economic relationship. That is all to be negotiated after we leave next March.

Susannah Storey: The political declaration is clear that there would be a free trade area combining deep regulatory and customs co-operation.

Q1122 **Charlie Elphicke:** But it does not say "no customs checks", does it?

Susannah Storey: No, it talks about a spectrum. It is clear that there would be a balance of rights and obligations. In the subsequent negotiations, we would have to work out where on the spectrum we are, which is why, analytically, we have tried to put out as much as information as we can, to help people appreciate the implications.

Q1123 **Charlie Elphicke:** Is there a risk that we are basing policy on the best-case scenario, rather than preparations for the worst-case scenario?

Sir Tom Scholar: As I said earlier, the analysis tries to set out the full range of possible options, so people can look at it, make their judgment about where they think the outcome is going to be, and work out from the paper what the impact is likely to be.

Q1124 **Charlie Elphicke:** Finally, the analysis finds that unilateral free trade in which the UK imposes no tariffs on imports from around the world increases GDP by 0.8%. What assumptions in your model limited the benefits from abolishing tariffs on imports? Did you consider any unilateral reductions to non-tariff barriers?

Clare Lombardelli: You are right that we have modelled, not in the central scenario but in a sensitivity, what would happen if you reduced tariffs to zero, if the UK chose to do that. You are right; it finds a 0.8% impact on GDP from doing that. We have made no assumptions in the model that would limit that effect. That is what happens if you take those tariffs and put them through the modelling. It is worth considering that this would be done on top of the existing model, which assumes the UK has already signed a set of free trade agreements. This is a marginal effect on top of that, which you would be seeing. There are no particular assumptions in the model that limit the impact of those free trade agreements. In the way the model works, it looks at data on how trade has worked across the world and what drives that trade, and uses that to predict the impact of that unilateral tariff liberalisation.

Q1125 **Rushanara Ali:** I am going to focus on questions relating to trade with the rest of the world. Despite a series of potentially optimistic assumptions, the Government's analysis shows almost no increase in GDP from new trade deals compared to today's arrangements. Could you say why this is the case? Is it related to the length of time it will take to secure trade deals? What sort of reasons are there?

Clare Lombardelli: It is related to a number of factors. First, the analysis assumes we roll over the trade deals we have with the EU and make a series of ambitious trade deals on top of that. It reflects the fact that there is already a lot of trade with the EU happening. It is worth noting that 49% of UK trade is already with the EU; another 16% is with the countries we have FTAs with. One thing that is very clear from economic analysis is that what matters to trade is a combination of the size of the economy you are trading with and the geography—how far away it is from you. When you look at the countries we are talking about here, you see that those two effects combine such that the impact on UK GDP, when put through, is smaller than the impact of the EU changes.

Q1126 **Rushanara Ali:** As the Governor said earlier, the average trade deal would take about four years. Some, as we have seen from our own experience, can take six or seven years. You are assuming successful trade negotiations with a number of countries: the US, Australia, a number of the BRIC countries, the UAE and so on. We know from sessions we have had with US specialists in trade that they are, rightly, going to drive a hard bargain—and they see us as being in a much weaker position than if we were part of a bloc—and that these negotiations will take a very long time. Given that in the previous decades the negotiations have been done through the EU, do you feel we are ready, with the right capacities within our own country in terms of trade negotiators, officials and the rest, to secure the trade deals that are needed, in order to make up for what could be lost?

Clare Lombardelli: Part of this work has been done with the Department for International Trade, which is a key part of the group of Departments that produce this. This reflects their interpretation of the Government's policy on trade. It is worth bearing in the mind that this analysis, like I say, is a long-term one, assuming 15 years' time. That is the judgment that has been taken.

Sir Tom Scholar: On capacity, in the last couple of years, the Government have set up the Department for International Trade and recruited from New Zealand a chief trade negotiator with long experience. He, with the Secretary of State and the Permanent Secretary, is building a Department with the capacity to take on this work. We are looking at a 15-year time horizon there. Once the Government start embarking on these negotiations, if there is a need to increase that capacity, that can be done.

Q1127 **Rushanara Ali:** Do you think we will have greater leverage to secure these deals outside the European Union than we currently have, as part of a bigger bloc?

Sir Tom Scholar: There are factors that go in both directions. As you say, we are not part of the bigger bloc; we are a smaller country, as just the UK, than as part of the EU.

Q1128 **Rushanara Ali:** When we go it alone, are we going to be better placed to secure those deals?

Sir Tom Scholar: As I was about to say, on the other hand, negotiating just as one country means we can tailor our approach precisely to the needs of the UK economy, whereas when the Commission negotiates it is looking at the interests of 28 countries. We have always done our best—

Q1129 **Rushanara Ali:** So it should not take as long as, say, four years on average. It could take less time. Could it be done within two years?

Sir Tom Scholar: I do not want to speculate—

Q1130 **Rushanara Ali:** People want to see results. A lot of promises have been made, and assumptions are being made, but people want some assurance that we are not in a situation where, in reality, we are a long way from securing trade deals.

Sir Tom Scholar: I cannot say for sure how long they will take. Normally, in these negotiations, it is important to take the time to get them right. Quite often, the party that is moving to conclude very quickly might have to concede something in order to get that. We would need to take time to get them right. Having said that, it is reasonable to assume that, over a 15-year time horizon, which is what we are talking about here, we would be able to reach agreement with the countries that we have assumed in the modelling.

Q1131 **Rushanara Ali:** Do you think we would be able to make up for any losses from leaving the European Union through the trade agreements that we agree with those countries?

Sir Tom Scholar: The paper sets out our best estimate on that, which is that the addition to GDP from the new trade agreements is smaller than the cost of greater trade barriers with the EU, depending of course on what those barriers turn out to be. If there are fewer and lower barriers, the cost of leaving the EU is correspondingly lower.

Q1132 **Rushanara Ali:** On the rollover of EU free trade agreements, is it realistic to expect that all these countries will freely allow the UK to roll over the existing trade deals? Should we expect them to want to renegotiate and want something more from us than they get at the moment? I know we do not have anyone from DIT, but what is your assessment? You are making that assumption, so you must be basing it on having conversations with colleagues in DIT.

Susannah Storey: There is a whole programme of work on rolling over those agreements. Here, we were trying to show analytically the assumption that they are rolled over, as well as an ambitious set of new agreements. It is difficult when you do not have the whole consortium represented.

Q1133 **Rushanara Ali:** Do you know how that conclusion was arrived at? Was it because they spoke to the relevant countries in order to come to that assumption? Do they have some sort of in-principle commitment that this would happen, or is it just an assumption?

Sir Tom Scholar: They are speaking to all these countries. Let me go back to what I said before, though. This is an analysis of what happens over a 15-year time horizon. It is reasonable to expect that, over that timeframe, it would be possible to roll over these agreements.

Q1134 **Rushanara Ali:** Yes, but in this case, though, it is about existing countries with which you are expecting to have a rollover process, where those conversations might or might not have happened. It is easy to get an answer from those countries, is it not, in principle, to understand whether they are comfortable with this assumption? Did we find out before we made the assumption? That is the question.

Sir Tom Scholar: This is not the Treasury's responsibility, but my understanding is that, in those conversations, DIT has established that the countries are interested in a negotiation to roll over the agreements, that in principle it is possible to reopen them and get an agreement that is better tailored to the precise needs of the UK economy. I do not think they have the timeframe for that yet, but over a 15-year timeframe it is reasonable to assume that would happen.

Chair: We can always ask the International Trade Select Committee that question, or rather see what the Select Committee has done, and ask the Department about the assumption, which is a very good question.

Q1135 **Rushanara Ali:** I have one final question, and maybe the 15-year horizon will answer it. The Government's analysis has not included changes to global trends such as the rise of global value chains, the importance of the service trade, changing demographics, technological advances and so on. What impact would including those changes in the model have had on the outcomes of trading with the rest of the world, or is that something you feel you have already covered?

Clare Lombardelli: You are right; the analysis does not cover any of those things. The reason it does not cover them is that it is incredibly hard to specify what the impact of those would be as inputs to this sort of analysis. You are right that those things are likely to be changing, but estimating exactly how they are changing, which you would need to do in order to put them into this analysis, is not something we can do on a robust basis.

Q1136 **Rushanara Ali:** You are looking at a 15-year horizon and leaving this aspect out. How confident should we be in your analysis, or is it not a significant aspect of what we are looking at, so it does not matter?

Clare Lombardelli: We looked at some aspects that are related to this. For example, the OECD has a long-run forecast of changes in growth across the economy. If you put that through, it has very little difference on this, but that does not pick up some of the things you have talked about, the changes in global value chains and others. The reason we have not included them, so I cannot tell you, is that we do not have a robust basis on which to estimate those changes.

I can tell you that these are the standard tools used in economics for trade analysis. Those tools have stood up very well to the test of the evidence on what actually happens with trade and how trade has evolved over time. To an extent, you would have to believe something was very different about the future to how it has been in the past, for you to think this analysis could not tell you something useful.

Q1137 **Catherine McKinnell:** The Government's analysis shows that every region and nation of the UK would forgo growth under every Brexit scenario. I appreciate you are being directed by Ministers as to the assumptions and the need to produce this analysis, but can you think of any other example of a Government, either in the UK or elsewhere, actively pursuing a policy that their own analysis showed would make them poorer?

Sir Tom Scholar: As a number of people have said, this is a rather unique situation. There has been a decision, in a referendum, for a major change to the policy framework.

Q1138 **Catherine McKinnell:** Sorry, would you just answer the question? Are you aware of another example?

Sir Tom Scholar: Another example of what, sorry?

Catherine McKinnell: I am not asking you to explain or justify the orders you have received from the Government. Are you aware of another Government doing so?

Chair: Are any of the panel, given their expertise?

Sir Tom Scholar: That question goes a long way outside the economic analysis that we are talking about here.

Q1139 **Catherine McKinnell:** It does not. If you are supposed to be undertaking this analysis, surely some precedent, some examples, some international knowledge of how this is undertaken would be relevant to the work you are undertaking.

Clare Lombardelli: It is worth bearing in mind that this work is based on a huge amount of evidence and analysis of international trading patterns. This is really a question about trade.

Q1140 **Catherine McKinnell:** Is there an example of a Government that have pursued a trade policy that their own analysis shows will make the country poorer?

Clare Lombardelli: It is worth bearing in mind that it is based on statistical observations of what actually happens, not what Governments have set out and intended to do.

Q1141 **Catherine McKinnell:** Okay, so are you aware of trading policies that Governments have pursued internationally that have made their countries poorer?

Sir Tom Scholar: We cannot answer that question on any Government.

Q1142 **Chair:** Are you aware of any trade policies that have done something like this, in terms of taking a country out of major trading bloc?

Sir Tom Scholar: If you look at the Bank of England analysis, one of the things discussed there is the experience of New Zealand in the 1970s and 1980s, as a country that also suffered a serious—

Q1143 **Catherine McKinnell:** Is that the only example?

Clare Lombardelli: We have looked at a lot of the literature around trade economics, and there are other examples where you can see countries departing or customs unions breaking down. The former Soviet Union would be another example. There are a few of those things, and of course we have looked at them, but none of them are directly comparable to what we are doing now. We have looked across the world at what examples might be relevant and how, if at all, they should be factored into this analysis.

Q1144 **Catherine McKinnell:** It is relevant in terms of how you plan for the various scenarios. Having some precedent and example would help you in that role. Given the analysis, the sectorial and regional analysis, that is within the report, what sort of job losses—I know Alison touched on this earlier—would be associated with each of these possible analyses that the Government have undertaken, by sector and by region?

Sam Beckett: The regional and sectoral analysis will not you give job-loss figures, because, as we have said before, this is when the economy is back in full employment. You go straight from today to—

Q1145 **Catherine McKinnell:** This is the 15 years.

Sam Beckett: Yes, in 15 years' time. The assumption is that it is approximately 15 years, but the model takes you back to a full-employment position for the economy, so people have found new jobs.

Q1146 **Catherine McKinnell:** Yes, and I heard you give that answer. I wanted to know what happens in the interim period. What do we tell 15 year-olds in the north-east is going to happen for the next 15 years?

Sir Tom Scholar: I can appreciate that this is not an answer you will find very satisfactory, but the model cannot tell us that. The model cannot tell us about the adjustment process. I think, in your hearing yesterday with other economists, you asked them questions and discussed some other episodes of reallocation of jobs between different sectors in the economy. What does come out of the model is that, if some sectors and regions are affected to differing degrees, it implies movements of jobs from one sector to another, or from one region to another. The model will just tell you that that is what you will get to at the end; it cannot tell you how it will happen.

Q1147 **Catherine McKinnell:** Do you not think that is information that the Government should have or should publish before this decision is made? Should there not be some kind of analysis of where those jobs may have to shift to? Are people going to move from regions that will be most impacted? Where are they going to go? Where are they going to find those jobs? Should 15 year-olds in the north-east today not have an idea about what is going to happen over the next 15 years so they can plan for it?

Sir Tom Scholar: We would not have a robust way of giving a reliable forecast of the path of adjustment. It is extremely difficult. The Bank has tried to do it at an aggregate level, which is difficult enough. I do not think we can get beyond that to the precise consequences over time, for particular regions or sectors, in a robust way.

Q1148 **Catherine McKinnell:** How are the Government going to support regions and sectors to transition during this period, to get to the 15 years, when we know we are still going to be worse off, but not as badly off as we are going to be in the period in between?

Sir Tom Scholar: Over those 15 years, we will no doubt have 15 Budgets and half a dozen spending reviews. The Government have the industrial strategy, which is precisely directed towards supporting an active regional policy and industrial policy, which Sam can certainly talk about. Governments, I am sure, will want to look very carefully at what is happening in different parts of the country and different sectors, and react to that. That is out of the scope of this analysis.

Q1149 **Catherine McKinnell:** I have to say, as someone from north-east, and representing constituents in the north-east, that fills me with some anxiety about the Government's ability not just to react, but to plan for a brighter future. Does the strategy that is currently being pursued, and the economic analysis of it, not indicate that we risk undoing quite a lot of the work that has gone into rebalancing our economy, in terms of investing in particular regions of the UK that have had structural imbalances in employment and investment?

Sir Tom Scholar: It is precisely to try to minimise that effect that the Government have set out in their White Paper the proposals for keeping the UK economy—

Q1150 **Catherine McKinnell:** Which White Paper is that—the Chequers paper?

Sir Tom Scholar: Yes.

Q1151 **Catherine McKinnell:** It is based on that, which we know cannot be delivered.

Sir Tom Scholar: In the negotiations, as the Prime Minister has said, the UK will seek the closest economic relationship, particularly on goods. It is goods, as opposed to services, that is particularly the issue in the parts of the country that you are talking about, including the north-east.

Q1152 **Catherine McKinnell:** But, as you said yourself, you are not able to model any of that, because the future partnership agreement is so non-specific. We are voting on this next Tuesday, supposedly. We are supposed to be voting on it, on the basis that we know it will make certain regions of the country poorer; we know it will impact certain sectors of the economy more significantly. The Government do not appear to have any analysis of what will happen between now and 15 years' time, when they project that we will have recovered some of the lost ground. Could you just clarify what the analysis is able to show us, to give some reassurance that this will not totally unbalance the economy once again, in terms of certain regions and sectors?

Sir Tom Scholar: If you look at both the charts that set out the impact on different regions and sectors, you will see that the impact under the scenario in the modelled White Paper—I have heard what you have all said about your views on how close we will get to that, but the objective is to get as close to it as possible—that minimises the impact across regions and sectors.

Q1153 **Catherine McKinnell:** What are the conditions for that mitigation?

Sir Tom Scholar: That the UK will retain a close economic relationship, with minimal cost to trade, particularly in the goods sector.

Q1154 **Chair:** Sam Beckett, I know you are from BEIS. Industrial strategy was mentioned, and you nodded there. Can I just confirm this? I do not think there are any assumptions about the industrial strategy, and the successes or otherwise under it, in this modelling at all.

Sam Beckett: That is right. The policy response in terms of industrial strategy is not modelled explicitly or implicitly in this model. The industrial strategy looks to improve the supply side of the economy, and has particular deal structures for sectors, towns and regions. That is part of the policy response and package for the UK leaving the European Union, but it is not in the modelling.

Q1155 **Mr Clarke:** Sam, as a fellow north-east MP who does not share Catherine's bearishness about the outlook for the post-Brexit economy, you have just conceded the very point that is crucial here. Domestic policy responses will shape the outcome that ensues. Therefore, to be clear, nothing about our regional policy, for example, is in there; nothing about potential free ports is included in this analysis whatsoever.

Sam Beckett: There is nothing in there on free ports or anything as specific as that. The model is taking you from one equilibrium situation to another. It has assumed that things have adjusted to a position where you have full employment, so the UK economy, 15 years hence, is restructured to best serve the trading patterns that will exist beyond Brexit and trade deals with the rest of the world. It has that sense of everything having readjusted, but there is nothing on top, in terms of the aims and objectives, work on the ground, challenges, sector deals and so on within the industrial strategy.

Q1156 **Mr Clarke:** To be clear, this is about relative rates of growth, under all scenarios, however good or bad they are deemed. In the long run, the economy will continue to grow and therefore be larger than today under every scenario. That is the base case on which the analysis is founded.

Sam Beckett: Yes. These numbers are all compared to where the economy would be otherwise.

Q1157 **Mr Clarke:** Yes, but in all cases it is positive rather than negative, insofar as net growth. Over a 15-year time horizon, all things are positive.

Sam Beckett: Over a 15-year time horizon, we would expect the economy to have grown.

Q1158 **Mr Clarke:** That is helpful, thank you. In terms of regulation—because this is something I picked up at the evidence session yesterday—and the impact that deregulatory policy can have in terms of yielding a growth dividend, table 2.1 on page 25 of the analysis assumes some flexibility for regulatory divergence, but then only says that this leads to a 0.1 percentage point increase in our GDP. Is that overly pessimistic?

Sam Beckett: We have used that 0.1 percentage point benefit for deregulation in all the scenarios, except for the EEA scenario, where we assume there is total alignment, so no room for regulatory divergence. We have looked at a huge range of studies on how much deregulatory benefit you might get, and there is quite a range of figures out there. Generally, to get much higher results than that, assumptions are made in that analysis that we would be deregulating quite significantly in areas like employment law, climate change and consumer regulation. Those are all areas where the Government have committed to continuing high standards.

Mr Clarke: And rightly so.

Sam Beckett: It tends to limit the upside on a deregulatory basis. Our analysis focused quite a lot on work some done by Oxford Economics, which looked at the OECD's comparisons for how efficient economies are in terms of their product regulation. The UK is only second after the Netherlands in that analysis. The space to do hugely better is pretty limited.

Q1159 **Mr Clarke:** We have already done quite a lot, indeed. I do see a lot of what you are saying there but, to counter that, Roger Bootle was in front of the Select Committee yesterday afternoon, and he made a written submission. I will read out paragraph 25 of that: "In the Treasury's study the gains from introducing a different regulatory framework are nugatory. Not only that, but on casual inspection they seem to be almost the same as the gains to be secured from this source by implementing Mrs May's agreement. Given that the latter relies on a good deal of regulatory alignment, this seems scarcely credible". How would you respond to Mr Bootle's point on that?

Sam Beckett: Underlying the Chequers modelled White Paper result here is a lot of regulatory alignment for industrial goods and agri-food, less so for services. There is a little degree of flex allowed there. As I say, it is more that we are already at quite an efficient frontier, in our regulation. Without cutting things the Government have already committed to, it is hard to stack up much larger figures.

Q1160 **Mr Clarke:** In terms of an overall analysis of the UK economy, which parts of it are relatively highly regulated at the moment, and which are less highly regulated, I suppose? I am just trying to understand it by sector.

Sam Beckett: It is quite difficult to answer that question. Most of the areas where people see a lot of upside from deregulating are in employment, climate change and related environmental regulation. Those are areas where some studies show there are big gains to be had. But, as I say, those are areas where the Government have committed to maintain high standards.

Mr Clarke: Finally, and this may be a question for you, Sir Tom, there seems to be a paradox lying at the heart of not just the Government's analysis, but indeed much of the rest. There is minimal benefit from eliminating tariff and non-tariff barriers with the rest of the world, and yet it is a catastrophe for those to come into place vis-à-vis the EU. Both cannot be true simultaneously. There must be either a pronounced upside to being able to liberalise and deepen access with the rest of the world, or vice versa. They cannot both be true simultaneously.

Sir Tom Scholar: The explanation for that, which Clare may want to pick up, goes back to what she was saying earlier. If you look at the trade economics literature, it finds that, overall, trade links are strongest between countries that are relatively close in geographical proximity. It depends also on their relative size. You see that in the data anyway. It is either the case or was the case until last year that our trade with Ireland was bigger than our trade with Brazil, Russia, India, China and South Africa, the BRICS countries, combined. You can look at other small but close countries such as Belgium, which is also a significant trading partner.

There are a number of issues there. It is a standard feature of the trade literature, and that is incorporated into our models. It is also true that the UK economy is, not surprisingly, oriented towards the countries on its doorstep. As I have said, our trade with bigger but much further away economies is just much, much smaller. It is not surprising that there is a different relative effect.

Q1161 **Mr Clarke:** This is the broad tilt that is underway, I suppose. It comes back to that argument about the changing balance of UK trade with Europe, relative to the rest of the world.

Clare Lombardelli: There are two things going on here, when you are comparing the rest of the world trade and the effect of the UK leaving the EU. There is the point Tom talked about, on the importance of the size of the economies and the geography. The other thing worth being aware of is that a free trade agreement is different from being in a customs union and a single market. In a customs union and a single market, economies integrate to a much higher degree. For example, you do not have tariffs at all; you do not have to consider them. You have a common external border, so you are not interested in things like rules of origin costs. You have a lot of alignment on non-tariff barriers, particularly on goods but also some on services. You are slightly comparing apples and pears, if you are comparing a free trade agreement with being in a customs union and a single market, because of this degree of economic integration. You see that when you look at the evidence on how European countries in particular have integrated.

Mr Clarke: That is eminently fair. Thank you very much.

Q1162 **Wes Streeting:** Can I begin by asking this? In terms of the scenarios and what they say about the debt-to-GDP ratio increases, in each scenario it goes up. I want to understand the mechanisms through which this occurs. Clare, maybe you want to speak to that point.

Clare Lombardelli: Yes, sure. The best place to look on this is figure 4.9 on page 72, which decomposes what is going on here, what the increases in borrowing as a percent of GDP actually do and what the various components are. It is the case that the largest effect here is the one that comes from the economics, not the direct fiscal costs. You can see that by the size of the bars around the non-tariff barriers and the tariffs being larger than the offsetting changes that you see from budget savings, for example. What is going on here is that you have various sets of components that are all moving; some are positive, some negative, but the overall effect is net negative, because of the impact of the economy being smaller. The scenario you look at affects the size of that change.

Q1163 **Wes Streeting:** It kind of puts paid to this myth of a deal dividend or Brexit dividend, though, does it not?

Clare Lombardelli: It is important to think that what this analysis looks at is in 15 years' time. This is just looking at the change in the size of the economy and the fiscal payments in 15 years' time. The conversations around the deal dividend or Brexit dividend are much more around what is going on in the short term and whether investment has been held back, which would come forward. I know you discussed this yesterday, and I would expect that, on the short-term analysis. On the long-term analysis, there is a slightly separate question.

Q1164 **Wes Streeting:** Treasury is very busy, preparing not just for the response to whatever Parliament decides in the coming days and weeks, but thinking ahead to the next spending review. Can we look forward to a Brexit dividend reflected in increased expenditure on public services in those fiscal events?

Sir Tom Scholar: At each fiscal event, we get a new forecast from the OBR. Based on the last one and in the Budget, as you will know, we have set out plans for public spending that show non-health public spending constant in real terms, which is a slightly stronger set of numbers for public spending than were in there previously. At each fiscal event we get a new forecast, and the Chancellor will have to look at that when the time comes.

Q1165 **Wes Streeting:** That does not sound particularly optimistic. Just to pick up on a point raised by other Members of the Committee this morning, the Government's analysis has not sought to consider the potential impact of future domestic policy responses that the UK and devolved Administrations may implement, including in a no-deal scenario. I just wondered why Treasury, and working with other Departments, has chosen to consider these scenarios in a vacuum, assuming no action on the part of Government. Let us put to one side the total implausibility that any responsible Government on this side of the channel, let along on the other, will allow a no-deal scenario to come about. In the event that things are a bit bumpy, as they look set to be, over the coming months, you are not going to be sat back with your feet up at the Treasury and across Government, are you? There will be a Government response kicking into action. Why is that not factored into your scenario planning? It does not really help us, does it?

Sir Tom Scholar: It is the same answer as to some of the earlier questions. This is not an analysis about the short term; it is about the long term. We do not even talk about no deal; we talk about WTO terms. That is a deliberate choice of words. We are looking way beyond the time that there might be whatever short-term consequences would follow in the kind of situation you are describing.

The reason, more generally, that we have not tried to model any policy response, whether macro, micro, further development in the industrial strategy or the regions and devolved nations, is precisely because the purpose of the analysis is to separate out just the effects of trade barriers, to get the clearest possible answer to the question of what different relationships with the EU would do, always accepting that Governments will do lots and lots of things over that timeframe. In a sense, we just wanted to make it simple and bring out for people what the effects of the trading relationship would be.

Q1166 **Wes Streeting:** I understand the rationale you have chosen to use in terms of presentation, in the context of this document. What preparation are the Government doing for a range of scenarios, whether a no-deal scenario or some of the other models that have been kicking around, such as Norway-plus-plus—however many pluses you want to add? The broad thinking in terms of different responses is out there. We know who the no-deal gang is. We know who the Norway gang is. If they are prepared, at this stage, to say they are willing to vote for the deal, we know who the deal gang is. What are you doing in Government to prepare for a range of different scenarios that Parliament might choose to pursue?

Sir Tom Scholar: As you know, the Government's central objective is the proposal they have set out. At the same time, we are preparing for the possibility of no deal. In the Treasury, that means thinking through what the economic consequences of that might be, what the proper policy response would be. That is partly macro and partly micro. We are doing a lot of work on that.

As for the other scenarios you talk about, to take the EEA scenario, in the short term, that would be very similar indeed to the Government's proposal, which is that we have an implementation period of a couple of years. It would have important differences relating to the nature of the legal agreement, sovereignty, rule-taking, length of time and all that. In terms of short-term economics, which is what we would primarily be looking at, it would look quite similar. We are focusing our alternative contingency work on no deal, and I think that is the case across Government.

Q1167 **Wes Streeting:** The focus seems to be primarily on no deal, then. Are you actively looking at other scenarios? The reason I ask is that your predecessors and previous Chancellors came in front of this Committee, ahead of the referendum, and we were told almost ad nauseam that the policy of the Government was that there should be a referendum, the Government's position was to remain, and therefore we were not doing preparation for the aftermath. I just want reassurance that that naivety is not infecting current Ministers, and therefore preventing the Civil Service from doing the job you should necessarily be doing to prepare for a range of scenarios. Forget the Government, assuming the Government are still there; you should be preparing for options that Parliament may wish to pursue, or indeed alternative Governments, with different personalities or political persuasions. How are you actively preparing for a whole range of scenarios that Parliament might choose to pursue?

Sir Tom Scholar: We are doing very active contingency planning for no deal. We are preparing directly for the Government's proposed way forward. Those two sets of work mean—I am just speaking for the Treasury here—we will be ready to deal with whatever happens.

Q1168 **Wes Streeting:** I am sorry, Tom, but you cannot say, "We are actively preparing for no deal; we are working to the Government's objective"—I accept both those things—and then gloss over all the other options and say, "Do not worry; we will be prepared". How can you reassure us that, if Parliament chose, for argument's sake, the EEA Norway option—Nick Boles has gathered his troops, MPs are pulling their hair out looking for compromises, and they say, "Oh, we will just land with that"—you would be ready for it?

Sir Tom Scholar: To take that particular example, that would raise big questions across the Government of policy, where the end objective was, big debates about sovereignty, rule-taking risk and so forth. In terms of the short-term economic impact, there would be a question about what customs relationship would go alongside EEA. Sometimes, when people say "EEA", they mean it as shorthand for EEA plus some kind of customs union proposal but, in a sense, that is not a question for us; it is a question for other people. If you ended up with some combination of that, it would be, observationally, very similar to what we are planning on in terms of an implementation period. That is all I meant.

Q1169 **Chair:** Can I check if the Norway or the EEA option, as you have modelled it in the economic analysis, is without a customs union? It is just a straight EEA, as Norway has at the moment in its relationship with the EU.

Sir Tom Scholar: That is correct.

Q1170 **Wes Streeting:** Susannah, turning to you, as this has already veered very much into DExEU territory, how much of an appealing compromise would the Boles/EEA option be, from the point of view of not just a political compromise that people could land on, but a practical one? To what extent would we be smoothly slotting into a Norway-style deal? To what extent would that require, effectively, a reopening of negotiations? How long do you envisage it would take to negotiate such an option?

Susannah Storey: We have not thought about that in DExEU, because our work is to support the Government in landing their ambitious proposal, as set out here. We have been very clear in the analytical document that, while we have included other reference points, for analytical purposes they are not consistent with Government policy, for a number of reasons. Obviously, EEA would not end free movement of people. There are different customs arrangements and so on. All our work is thinking about the phase 2 negotiations of this deal and all the things we would be trying to get through by 2020.

Q1171 **Wes Streeting:** I accept all that. That is perfectly right, but I just wondered how long you think it would take to negotiate such an option. Would we be effectively going back to drawing board with our negotiating partners to negotiate such an option?

Susannah Storey: I could not answer that question. It is just not something I have thought about.

Chair: We are straying off the economic analysis, although they are very interesting questions.

Q1172 **Colin Clark:** I will perhaps try to explore what Wes already mentioned, the Brexit bonus. I will start by asking this. The Government's analysis has not included changes in foreign direct investment. Why not?

Clare Lombardelli: It does not include foreign direct investment for a couple of reasons. In the CGE-type model, it is a lot less well understood how you would go about estimating foreign direct investment and including it in this kind of model robustly, so we have chosen not to do it. Some other organisations have given it a go. The LSE in particular has given it a go and found that it would fall, and the amount it would fall depends on the scenario. We have not chosen to include that. We have looked at investment overall. One development of this model is that it allows you to think about how investment would change overall. We have modelled that as a sensitivity in this analysis; it is on page 76. As you can see there, overall investment falls as GDP falls. Exactly how much it falls depends on the scenario you are looking at, as between 0.1% and 2.3%. We have looked overall at investment, but not at FDI specifically.

Q1173 **Colin Clark:** Before we leave FDI, NIESR suggested that it could drop by between 8% and 24%. Assuming we land the deal you are working on, and the Government have asked you to work on, and we are free of external tariffs, does the UK not potentially become a more attractive place to invest in? I would like to draw you back to the first half of 2018, when the UK was the second highest FDI destination. Businesses are often thinking five, 10 or 15 years ahead, particularly if they are making big capital investments. I am from the north-east of Scotland, as opposed to the north-east, where oil and gas is making 15 to 25-year investment ranges. Would it not be reasonable to say that the UK could be more attractive for FDI? Why does that not come through in any of the modelling?

Clare Lombardelli: As I say, we have not included FDI in this particular modelling, for the reason I set out. We wanted to base our modelling on very robust relationships that are observable in the literature or elsewhere, and this is less so. It is important to think about the flow of FDI as well as the stock of FDI. You discussed this yesterday. There are all sorts of reasons that that could go in either direction.

Q1174 **Colin Clark:** The Governor made the point earlier, did he not, that the UK is attractive for a number of reasons; hence it is the second biggest in the world? It seems a leap by NIESR to say it is going to drop quite so dramatically. I can see how they can compare it to GDP; if there was no deal and there was a particularly difficult supply shock, you could correlate it to GDP. But something does not seem quite right. Part of the reason for this was supposed to be regulation and getting rid of external tariffs. Take the New Zealand example. That is what New Zealand tried to do; it got rid of its barriers and grew its economy.

Clare Lombardelli: I cannot speak for the NIESR analysis. I think you had Professor Chadha here yesterday. Their estimates are broadly in line with what other analysis has come up with. As I say, I think the LSE had a 22% fall. The OECD looked at this and came up with a 30% fall. Their analysis is consistent, but I cannot really talk to the specifics of their results.

Q1175 **Colin Clark:** To finish up, because I am conscious of time, you were speaking about business investment. We asked the Governor earlier whether it could be argued that there is pent-up investment in the economy, because companies have been holding back for the last two years, looking to see how Brexit lands. You must know from returns from companies how much capital they have built up. Is it not reasonable to say that there is pent-up investment? Why is it necessarily going to drop, as has been modelled, rather than the possibility that pent-up investment is going to come through in the next two or three years, whatever the deal is?

Clare Lombardelli: I am afraid I will give a similar response to a number of the questions asked, which I appreciate is quite boring. This analysis looks over 15 years at how specifically the trading relationship will impact on businesses and households. That shows, when you look at reaching that new, long-term position, that investment could be lower.

Colin Clark: That is lower than the status quo.

Clare Lombardelli: Yes, but that is very different from talking about what might happen in the short term, which as you say is affected by a range of factors, including what has happened in the recent past. This analysis does not get into that. It just looks at what might happen in the long term, as trading relationships adjust, and businesses across different sectors adjust to that.

Q1176 **Colin Clark:** That assumes greater trade barriers with the EU, as opposed to some liberalisation of the economy.

Clare Lombardelli: It assumes greater trade barriers with the EU; that is correct, but we also have assumptions in here that show what happens if you liberalise some of your trade externally.

Q1177 **Chair:** Both Alison and Catherine have talked about sectors that might be struggling due to leaving the EU, for a variety of reasons, mainly because of the trading relationship, presumably. Does the political declaration allow the Government to give state aid to sectors that are struggling during the transition or implementation period? Do you know this at all? If not, feel free to write to us. I do not know if anybody knows or has examined this.

Susannah Storey: During the implementation phase, the existing rules apply, so the EU state aid regime would apply.

Q1178 **Chair:** Okay, so you would have to apply that for state aid.

Q1179 **Mr Baker:** Tom, you may know that I was briefly, for a year, the junior Minister responsible on behalf of the Government for domestic preparedness, reporting to the Cabinet sub-committee. Would you agree with me that it is just not possible for the Civil Service to find the capacity to prepare for every possible outcome of the negotiations? You have to narrow in on the selective deal and no deal.

Sir Tom Scholar: It is fair to say that it has been difficult for a number of Departments to hit several targets all at once. I cannot speak for every other Department. Certainly, as I tried to suggest earlier, for the Treasury, we feel that if we are well prepared, both for the agreement that the Government are hoping to each and, at the other extreme, for no deal, that puts us in a good position to cope with anything in between. I think similar judgments have been applied elsewhere.

Q1180 **Mr Baker:** You mentioned the degree of confusion about the EEA and the customs union. Could you name a precedent for EEA plus customs union membership? I can think of one.

Sir Tom Scholar: It is one of those questions where you know the answer and you want to see if I do.

Q1181 **Mr Baker:** I just wanted you to put it on the record, so it is evidence, rather than me giving my statement. It is the European Union, is it not? The way to be in the EEA and the customs union is to be in the EU, is it not?

Sir Tom Scholar: In economic modelling terms, that is correct. Of course, it is not just a question of economic modelling.

Q1182 **Mr Baker:** Of course. When the Government say “frictionless trade”, what is meant?

Sir Tom Scholar: What is meant, in terms of this analysis, would be no additional non-tariff barriers or other costs to trade beyond the baseline.

Susannah Storey: I was going to add "at or behind the border". The rationale, as you know, for a lot of the proposals outlined in the White Paper is that the Government heard from businesses about the implications for them, with their integrated supply chains, of frictions. The frictionless trade ambition is very important at the border, and you can see that through the numbers, but also behind the border.

Q1183 **Mr Baker:** Would you say that means no customs declarations?

Susannah Storey: The political declaration is clear that there is ambition for a free trade area, with deep regulatory and customs co-operation. The precise details of that will be worked out in the final leaving agreement.

Q1184 **Mr Baker:** So it is clear that we are aiming for a single customs territory. It is paragraph 23. The reason I am asking about customs declarations is that I am trying to establish whether the Government's definition of "frictionless trade" means trade without customs declarations. If it does, that means trade within a customs union. That is what I am trying to get at in asking you about this definition of "frictionless trade".

Susannah Storey: The modelling of the White Paper, as you know, was looking at a particular customs arrangement. As for the benefits of the political declaration, as it sets out, there will be an ambitious arrangement with a balance of rights and obligations, where the precise details will be for subsequent negotiations.

Q1185 **Mr Baker:** It was a great way of ducking that question, if I may say so. Do the Government consider Intrastat declarations and VAT declarations on exports to be frictions?

Susannah Storey: We are getting into HMRC territory, but, when we look at the barriers, there are lots of different barriers, at and behind the border. We have tried to show here the difference in the long term between different types of barriers. We have tried to break it down as clearly as possible, to show how they would apply in different analytical models.

Q1186 **Mr Baker:** I am trying to understand why the Government think continuing to make, say, Intrastat and VAT declarations on exports is so much less burdensome than making a customs declaration. Is that something you have modelled in the analysis? If so, where do you draw the distinction between the burden of an Intrastat declaration, which is required across borders in the EU, and a customs declaration, which would replace it in the event we left the customs union, as per the manifesto pledge?

Susannah Storey: I do not know if you know, in terms of the specific NTBs at the border.

Sir Tom Scholar: We have used HMRC estimates for this. They have estimated the new additional compliance burden that would be implied, in particular for firms that currently do not have any compliance in this area.

Q1187 **Mr Baker:** As a final question, because I am very conscious of time, do we think CGE models are well understood, in terms of their strengths and weaknesses, among parliamentarians and the public? I am afraid I know the answer to this question too. Are CGE models well understood by parliamentarians and the public?

Chair: Who are you asking?

Mr Baker: Well, Susannah, you and I discussed this many times while I was a Minister.

Clare Lombardelli: Do you want me to answer this one? A CGE model is the standard model that economists use to model the impact of trade. They choose that because it is the best suited to the task in front of them, not because it is necessarily the best-understood technique. It is right that you pick your techniques and models based on how well they do the job, in this case understanding the impact of trade frictions on the economy. It does necessarily follow that it is particularly well understood. Hopefully this process is better understood than it was before we started discussing this analysis, but the test of the best model is not necessarily how well understood it is; it is how well it does at answering the question.

Susannah Storey: As you know, one of the reasons we set up the joint approach was genuinely to try to get expertise from different Departments, and to make sure we had expertise not just in the Treasury, in terms of the modelling; we have also tried, through both the analytical document and the technical annexe, to be as transparent as possible in plain English, to help people understand. I am sure you are right: a lot of people on the street would not know what a CGE model was, but we have really tried to explain it as clearly as possible, recognising how many variables there are.

Q1188 **Mr Baker:** Are you satisfied that that clarity is equivalent to, say, HMRC's model documentation for the CGE model, which is fairly clear about what the model can and cannot achieve?

Susannah Storey: I think we all feel fairly happy with the document's level of clarity, in terms of both what it is doing and what it is not doing.

Clare Lombardelli: They are complicated models, but what we have put out here is as Susannah says, with the two documents we have published. For those who are really interested, there is a working paper that sets out more of the features of the model, which you can look through. I think we have put out as much information as anyone has on how these models work and apply. There is quite a lot out there, for the particularly interested reader, on the specifics of the model.

Chair: The particularly interested readers hopefully include 650 Members of Parliament, at the very least, before next Tuesday evening. Can I thank you all very much indeed? I apologise again for starting so late. We are very grateful to you for your evidence. Perhaps you would pass on our thanks. Regardless of what people think about what is in the papers, I know it is the result of much hard work by people through the Government, so thank you for that.