HOUSE OF COMMONS

Treasury Committee

Oral evidence: Office for Budget Responsibility Fiscal Risks Report, HC 573

Wednesday 21 July 2021

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Watch the meeting

Members present: Mel Stride (Chair); Rushanara Ali; Anthony Browne; Felicity Buchan; Dame Angela Eagle; Julie Marson; Siobhain McDonagh; Alison Thewliss.

Questions 1 - 44

Witnesses

I: Richard Hughes, Chair, Office for Budget Responsibility; Andy King, Budget Responsibility Committee Member, OBR; Professor Sir Charles Bean, Budget Responsibility Committee Member, OBR.

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Examination of Witnesses

Witnesses: Richard Hughes, Andy King and Professor Sir Charles Bean.

Q1 **Chair:** Good afternoon and welcome to the Treasury Select Committee's evidence session on the OBR's fiscal risks report. I am delighted to be joined by three witnesses this afternoon. I am just going to ask them to introduce themselves very briefly to the Committee.

Richard Hughes: I am Richard Hughes, chair of the OBR.

Andy King: I am Andy King. I work on the fiscal side of the committee at the OBR.

Professor Sir Charles Bean: I am Charlie Bean. I am the economy expert on the Budget Responsibility Committee at the OBR.

Q2 **Chair:** Welcome to everybody. It is always good to see you before the Committee. Can I start my first question to you, Richard, and then perhaps widen it out to our other two witnesses? The fiscal risks report states that 45% of the Government's debt liabilities "have an effective maturity of less than one year. As a result, much of the impact of higher interest rates on the public finances now actually comes through quite rapidly". Is there a counter-argument to that whereby, if rates were going up, and it was not solely for the purposes of controlling inflation, but indicated that the economy was growing reasonably rapidly, there would be offsetting beneficial effects of that growth to the public finances?

Richard Hughes: There are both benign and more malign scenarios for why interest rates might go up. One of the points that we wanted to make in doing this report and emphasising the maturity of debt as a relevant consideration for fiscal policy was that, even in the most benign scenario, your ability to benefit from both higher growth and higher interest rates is less if your interest rates catch up with that growth more quickly.

It is the case that, if interest rates go up in isolation, that puts a lot of pressure on public finances without the benefit of higher tax rates that come from higher real growth. But what we also showed in the report—and Charlie could talk a bit more about the scenarios that we present—is that, even in a more benign scenario where real interest rates are going up because they are reflecting faster real growth, the period in which you benefit from faster growth before interest rates catch up becomes a lot shorter. That grace period in which you are getting higher tax receipts from higher growth, but the interest rates are taking longer to feed their way through the debt stock, has got a lot shorter as well.

Even in the most benign scenario, it does not get the Government's debt stock down by that much over the medium term because interest rates mark growth much more in lockstep. The Government's ability to get breathing space from faster growth before interest rates catch up, or

indeed a higher inflation before interest catches up, is just a lot less than it has been in the past.

Chair: That is also a point that you make in the report on the inflation front.

Professor Sir Charles Bean: The thing I would reinforce that Richard has already touched on is that the reason why interest rates are rising matters a lot. If interest rates are rising because of a beneficial shock to productivity growth, which we obviously all want, that potentially has different effects from a rise in interest rates that is associated with higher global interest rates because of a shift away from safe bonds to riskier assets, much higher inflation pressure and things like that. You always want to ask, "Why have interest rates risen?" and not just ask, "What is the consequence of higher interest rates?"

Q3 **Chair:** What are the policy options that Government might have, given that we have this issue of sensitivity of the cost of financing the debt to interest rate changes? What are the kinds of levers and things that the Government might think about in that respect?

Richard Hughes: They need to be more alive to the factors that might drive interest rates higher. In effect, it means that they need to be nimbler with primary or non-interest spending if they want to be able to respond to a sudden rise in interest rates. In the past, the Government had more time to respond to rising interest rates when they had a median maturity rate of seven years than now, when they have a median maturity of two years. It means that the rest of public spending, or indeed tax, would need to respond more quickly if interest rates started to rise. There is a need for fiscal policy to be nimbler.

It also calls for clear and open communication between the Treasury and the Bank of England about where interest rates might well be going in the future, so that there is warning on both sides about what might be happening and co-ordination of potential consequences. A third thing is that the Treasury can look at the maturity of the remainder of the debt that remains in public hands. It has the option of extending that out further if it wants to in order to try to lengthen the average maturity of debt.

The final thing, which we also emphasise in our report, is that a large and growing proportion of the stock of Government debt is directly linked to inflation—about 23% is now inflation-linked. That is a very large proportion for an advanced economy. The second largest share is in Italy, which has 12%, so less than half of the share of debt in this country that is linked to inflation. The Government have been trying to temper their inflation exposure through index-linked debt in recent years.

One option would be to also look at that, to see how much of their debt stock they want directly linked to things like rising inflation, the risk of which we saw just in today's public sector finance releases. We had the

highest monthly interest costs since records began because we have seen a big spike in RPI inflation in the last few months. That has just pushed up the cost of inflation-linked debt by about £8 billion. It cost £8 billion just in one month. Reducing your inflation exposure through that variety of debt and looking at this composition is also an option.

Q4 **Chair:** I note that you make the point in the report that it is 23% today and it was only 14% back in 1990. There are clearly downsides to having that level of the debt index-linked, but, on the other hand, you are presumably getting keener pricing on gilts if you go that route. Are you saying that, on balance, we are in the wrong place and the Government should think about trying to get that 23% down as an active approach now?

Richard Hughes: That is very much a judgment for the Government to make. As you say, it is a cost-risk trade-off. Inflation-linked debt is much cheaper to issue initially because it basically provides inflation insurance to the purchaser, but it involves the Government taking on more and more inflation risk from the rest of the economy. There are also benefits to that because you tap into a market where there is a lot of demand for inflation-linked debt, and especially domestic pension funds with inflation-linked liabilities. They want a matching asset, and it makes sense to maintain and cultivate that kind of a market once you have developed it.

Our argument is just that you need to go in there with your eyes open and understand what risk you are exposing yourself to. You need to try to understand scenarios where, in particular if you see rising inflation in the context of stagnant growth, that is a potentially big risk to Government. They need to think about how they manage that, because it can have quite adverse consequences to a Government when their costs are rising but their fiscal levers are more constrained.

Q5 **Chair:** What are the risks specifically around who is holding the debt and overseas investors holding a greater portion of that through time?

Richard Hughes: It is right that the share of Government debt in foreign hands has gone from about a 10th three decades ago to about a quarter today. All of it is still denominated in sterling, so these foreigners are holding sterling-denominated gilts, and it is because they want to invest in sterling assets. The risk is that foreign investors have fewer innate reasons to invest their money in sterling. They are doing it essentially for diversification purposes.

In terms of the risk that the UK economy has faced, we have been hit by basically symmetric shocks that the whole world has faced, so you see a global flight to safety. That has benefited sterling assets as much as it has benefited dollar and euro assets, because all economies have more or less been hit by the same shock. The financial crisis and the pandemic were global shocks hitting all advanced economies. There was no reason particularly for foreign investors to worry or to fly away from sterling

assets. Indeed, they flew toward sterling assets like they did toward any safe asset in the economy.

The issue would be if we were ever hit by an asymmetric shock that was more UK-specific, which caused foreign investors to look again at sterling-denominated assets and wonder about the kind of risk-adjusted return they would get on them. Is there a danger that the flight to safety in that context would go in the other direction? Would they look for safe assets in other jurisdictions? That would potentially push up yields in the UK versus the rest of the world, rather than push them down, which Governments have very much benefited from during the last two big shocks we have faced.

We were hit by shocks, but Government borrowing costs went down. That bought the Government breathing space to respond to the shock with fiscal policy. If we had a UK-specific shock with lots of foreign investors in UK debt instead, and the flight to safety went the other way, you could be constraining the Government's fiscal room for manoeuvre at a time when they want to use it precisely to help manage the impact of the shock on the domestic economy.

Q6 **Chair:** There are lots of swings and roundabouts. You refer to the doom loop in the report—you would probably do better at explaining it than I would. Is this increased holding on the part of overseas investors something of a hedge against the risks around the doom loop? Can you just set out what exactly the doom loop is?

Richard Hughes: The doom loop is when you have lots of domestic holding of Government debt, especially in domestic banks, and the risk premium on that debt starts to rise and banks have to put more capital against it. That can both raise Government's own borrowing costs and reduce the financial stability of the domestic financial sector itself. That is the sort of thing that you saw in the eurozone economies during the financial crisis, where the question of the sovereign's own credibility also undermined the credibility of the banking sector itself, which in turn put more pressure on the sovereign because it might have to bail out the banks. We have not seen that, I should emphasise, in the UK. Indeed, we have seen the opposite.

To some extent, it is a hedge to have a more diversified investor base, but the vast majority of investors in UK gilts are not banks, but pension funds. They are longer-term investors. We are also domestically insulated from doom loops in the sense that longer-term investors and pension and insurance funds, rather than the banking sector, are the principal end holders of UK Government debt.

Q7 **Chair:** You mentioned pension funds. Pension funds and insurance companies are big holders of gilts. Are insurance companies pushing to be able to invest in riskier assets? If we went in that direction, would that cause problems in terms of the effect on the gilts market for the Government if that demand were therefore to reduce as a consequence?

Richard Hughes: I might bring Charlie in on this, as somebody who has looked at longer-run trends in demand.

Professor Sir Charles Bean: If you remove restrictions on pension funds that require them to hold a lot of Government debt, clearly they are going to shift some of their portfolio into high-yielding assets and so forth. In that sense, it becomes trickier for the Government to sell their debt. Because it is a big market for safe Government debt and we are classed with US treasuries, German bonds and so forth, as being a provider of high-quality debt, I would not anticipate that it would be really difficult for the Government to make up the smaller domestic demand by selling more elsewhere. That is one of the key things about having this foreign investor demand for bonds. Potentially, there are quite a lot of buyers out there. You may have to pay a little more at the margin to get them to hold your debt.

The key thing you do not want to lose is that market. Going back to your original question, it is an advantage in some ways to have these overseas buyers because it has expanded the investor base, but it does mean that if you lose the confidence of those investors, you might find that demand dropping away quite rapidly. That, of course, is what happens when you have debt crises and so forth.

The very important thing I would emphasise is that one reason why there is a good, strong demand for UK Government debt is the reputation of the UK Government in honouring its debt obligations, running sound macroeconomic policies and low, stable inflation. All of that leads to confidence in the policy-making framework. So long as you have that, it is likely that investors are going to feel confident in holding the sovereign debt. Things go wrong when that confidence gets destroyed.

Chair: Long may it be there.

Q8 **Alison Thewliss:** I have some questions about the official development assistance, the Chancellor's proposals and the vote. Richard Hughes, the Government succeeded in gaining approval from the House of Commons to return ODA to 0.7% of GNI when the Government are running at a current spending surplus and public sector net debt, including the Bank of England, is falling. When do you forecast that both of those conditions could be met?

Richard Hughes: At the moment, neither of them is met, based on the forecast that we did in March. Debt was falling in the final two years of the forecast, but the current budget was at a small deficit of a few hundred million pounds by 2025-26—so the end of our forecast horizon. At no point before 2025, which is when our forecast period ends, would those conditions be met.

Q9 **Alison Thewliss:** Has the fiscal position improved since your forecast?

Richard Hughes: I do not want to get into doing another forecast on the fly. We are gearing up for doing an updated forecast in the autumn. It is

fair to say that, so far, both the economy and the public finances have looked stronger than our March forecast in the recovery in both output and receipts with some slightly lower spending. Lots can change between now and the autumn, I should say. Also, what really matters is where we get to at the end of five years, and not really our in-year position, on which anyone would expect both the economy and public finances to recover pretty rapidly given where we started back in January.

Q10 **Alison Thewliss:** There is really no immediate prospect of meeting those targets.

Richard Hughes: We will see where we get to come the autumn. Based on our last comprehensive view of things, we will not get there within the next five years.

Q11 **Alison Thewliss:** Is it possible to look any further than those five years, or is that too far out to forecast?

Richard Hughes: We do produce longer-term forecasts. We have not done one since our last fiscal sustainability report last summer. The trends in the lines were heading in the right direction at the end of the forecast period we did in March. It was a very near miss that they did not manage to get the current budget back into balance or surplus in 2025-26. Whether we get there next time will depend not only on what the forecast says, but on what the Government do with policy in their next fiscal event. If they were to loosen fiscal policy, including in the context of the next spending review, maybe they would meet those objectives.

Professor Sir Charles Bean: Could I add a little addendum to that? Of course, Richard is talking about the central forecast here, and we know that central forecasts do not, or only very rarely, come true. Sometimes we have good surprises and sometimes bad surprises. Even though the conditions might not be met on our central forecast, there may be some outcomes for the economy in which the conditions, with some probability, would be met going forward. That is not something we currently attempt to calculate, or anything like that, but you should recognise that there may be good or bad shocks around the central forecast.

Q12 **Alison Thewliss:** Since the 1970s, there have only been seven years in which the UK has run a current surplus. Are they really the exception to the norm, or is it conceivable that it might become the norm for the Chancellor's rules to spend 0.7% on ODA to be met?

Andy King: The forecast for the current Budget is ultimately a policy choice. We forecast what we expect to happen on the basis of policy as it stands before the Budget that we are working on. The Chancellor gets to decide how he will change policy given what we say about the pre-measures forecast. Those years in the past—as you say, seven years since the mid-1970s, and every year between the second world war and the mid-1970s—were typically boom years for the economy. As I say, it ultimately depends on the policy choices made at each Budget.

Q13 **Alison Thewliss:** But if that is the marker for that policy choice, it is not going to be met, is it? It is pretty rare.

Andy King: It has been in the past, yes, but of course this condition on ODA was also new.

Richard Hughes: As this is a session on our fiscal risks report, we emphasise in the report that there are a lot of pressures, in particular, on current spending looking out over the medium term, from what seem to be underbudgeted-for pressures in the health service, education and transport that are not reflected in that path of current spending. At the moment, this almost gets them into current surplus.

There are lots of different ways to deal with those pressures: you can ignore them, impose them on other services or raise some taxes to compensate for them. But even that path that gets the Government to close to current balance by the mid-2020s does not take account of the fact that they are essentially not budgeting for post-pandemic pressures on the health service, catch-ups, schooling, education or the fact that the transport sector may need ongoing subsidisation to deal with lower passenger numbers. There are certainly risks to getting there by the mid-2020s that need to be addressed one way or the other.

Q14 **Alison Thewliss:** Professor Bean, broadly, in policy terms, is there a fiscal rationale for procyclical aid spending?

Professor Sir Charles Bean: It is not obvious to me that you want procyclical aid spending. One can set it up as a proportion of GDP, which is how the original agreement was. Ultimately, it is for the Government to decide whether they feel they can always afford to meet that under all circumstances. Ultimately, this is a judgment for the Government; it is not really an OBR question.

Richard Hughes: There is perhaps an issue, though, for us as forecasters. This also comes to the question of being able to transparently assess the Government's fiscal plans. It is not just in the overseas aid realm, but across public spending, that we have lost the medium-term planning horizons. The Government have essentially gone back to annual spending rounds and annual budgeting in lots of areas of public life, in the health service, of course, because it is dealing with the pandemic, but lots of other Departments in Whitehall no longer have three or five-year plans for spending.

Traditionally, it is easier to plan, and leads to better efficiency and outcomes, to have a medium-term outlook for Government spending across a range of Government activity, including in overseas aid. Making things contingent on particular states of the world makes it more difficult for anyone to plan expenditure. It also makes it harder for us to forecast expenditure, because we basically do not have budgets to look at beyond the current year. You can have pressures hanging out there like the ones on health, education and transport, where you just do not know the

Government's plan for addressing them. You just have one big blob of public spending out there, and you do not know what flavour it is or how much of it is health, education, transport or overseas aid.

The lack of a medium-term planning horizon for Government activity is a big issue. The Government have had a good excuse during the pandemic, but we hope that they return to medium-term budget planning post-pandemic so that we can do a better job of forecasting and you can do a better job of scrutinising their plans, to see if you think that they are credible here.

Q15 **Alison Thewliss:** Finally, Professor Bean, how likely is it that the Government could be running a current surplus but still experience debt growing as a percentage of GDP?

Professor Sir Charles Bean: It is certainly possible if you are talking about a current surplus. If you are undertaking lots of investment that is financed by borrowing, that will potentially push up the debt-to-GDP ratio.

Alison Thewliss: That is useful. Thank you very much.

Q16 **Felicity Buchan:** It is great to see you all again. My questions are on our fiscal response to the pandemic. Obviously, I am asking you to opine not on the policy decisions, but just on the analysis. As you point out in your fiscal risks report, the UK spent a lot as a percentage of GDP. It spent 16.2%, which was the third most of any advanced economy, with the US No. 1 and New Zealand No. 2. Just for listeners at home, that 16.2% includes both the economic support and the additional spending on healthcare. Are there any reasons why the UK spent so much relative to other countries, over and beyond just policy decisions?

Richard Hughes: We were similarly surprised. We knew the fiscal response to the pandemic was big in historical terms, especially by comparison with the financial crisis in the UK. Looking across countries, we are also struck by how big it was in comparative terms, being the third largest among 35 advanced economies.

Part of the explanation was that we were worse hit by the pandemic itself. We had a higher number of cases and spent a longer time in lockdown. That just meant that we had to spend more money on healthcare to deal with the consequences of the pandemic for the health service. We also had a more severe recession. We spent more time in lockdown, and that just meant that we had to spend more on support to individuals and businesses to get them through the pandemic.

It is also the case—and there may be some connection between the two—that we went into the pandemic with less spare capacity in the health service compared with other advanced economies, including things like doctors and nurses per capita and ICU beds per capita, which meant that we had less spare capacity to absorb the inflow of patients into the health service. We also had a welfare system that was relatively ungenerous to

working people on middle incomes, which meant that we basically had to cobble together the furlough scheme to manage the number of people who had to temporarily exit employment during the pandemic. That also added to the costs.

In the composition of spending, we ended up spending quite a lot more on the healthcare part of the rescue package than other countries. Nearly everybody had some version of the furlough scheme and some version of support to businesses. In other countries, it seemed to be the case that the healthcare component from the public side was smaller than what we ended up spending, which for us turned out to be about 5% of GDP, or £90 billion. That was a much larger share of the total rescue package.

Q17 **Felicity Buchan:** It may well be that we had to spend so much on healthcare because we were running the NHS at close to total capacity. Over a long period, say five to 10 years, does it make sense to run close to capacity, unlike other European countries that take this additional expenditure year in, year out? Have you done that analysis? I must say I have not.

Richard Hughes: We have not done that analysis. One of the things that we tried to emphasise in this report, by looking not just at the pandemic, but also at potential catastrophic risks that the UK economy might face, including climate change and a big rise in interest rates, is that people who manage the health service and think about public health are best placed to decide what level of spare capacity you need to deal with pandemics or other pressures on the health service. It is almost certainly the wrong answer to just spend more money on the health service coming out of the pandemic and think that you are now insulated to risks, because the lesson of the last 20 years has been that shocks and risks come from all sorts of directions.

The Government also need to preserve some room for manoeuvre and be nimble in the deployment of fiscal policy. We do not know where the next shock is going to come from. Having a manageable level of debt and keeping borrowing under control enables you to spend money on the things that you cannot anticipate. By building up capacity in one area such as the health service, you will be well equipped to deal with the next pandemic, but what if the next shock is a cyber-attack or out-of-control climate change? You may well have spent a lot of money in one area and wished that you had some firepower left to spend money in another area. The answer is not purely to have more capacity in the health service.

Q18 **Felicity Buchan:** Your recommendation—and I know that you cannot give policy recommendations—just from an analytical perspective, is to keep the fiscal firepower because you do not know where the next risk is coming from, and you may need it in a completely different Department.

Richard Hughes: It is, and that for two reasons, really. One is that it appears that these severe shocks are becoming both more frequent and more expensive to Government. Also, when you look at the two tools that

Governments can deploy, monetary policy and fiscal policy, monetary policy is much more constrained now. Interest rates are at rock-bottom levels. There is not a lot of scope to use interest rates as a tool to support the economy in the face of a shock. That means fiscal policy has to do a lot more to support economic activity during any shock that you might face, and so keeping your fiscal powder dry, in order to be able to compensate for the constraints on monetary policy, is really important. You need that room for manoeuvre to deal with the next shock that might come along. There is an awfully long list of potential candidates that Governments might have to confront.

Q19 **Felicity Buchan:** Let me ask one final question. Are there any lessons to be learned from this analysis of our fiscal response in terms of how we spent the money, but also compared with other countries?

Richard Hughes: There are a lot of important lessons, and we set out 10 in the report. One that rings true across all three of the big issues that we looked at—the pandemic, climate change and debt—is that you have to weigh up what are oftentimes some quite modest investments in prevention against potentially much larger costs that come in later. We will perhaps come on to this in the context of the climate change discussion, but there are things that Governments can do now to get ahead of the potential long-term costs of climate change that probably make fiscal sense as an investment now that pays dividends down the road.

It is really important that we try to think about and analyse these risks before they happen. We have to put hand on heart and say that we did not have pandemic disease as one of the risks we identified in our last two reports. Other institutions, including the Congressional Budget Office and the World Bank, looked into these things. People were ringing alarm bells about the potential public health and economic consequences of these kinds of risks and threats. The issue is that not everybody was listening. We need to do more of this horizon scanning. We hope that this report is a contribution to that kind of work that needs to be done, and we welcome the chance to talk to people like you about what it means for policy making.

Professor Sir Charles Bean: To follow on from where Richard finished, horizon scanning is useful. That was one thing that I learned during my time at the Bank. Equally, you should not expect to be able to see every risk coming, so preserving the room for manoeuvre to respond promptly is very important. Perhaps that is the biggest single lesson that I would want to take from this episode and the financial crisis. Policy makers need to be in a position to respond swiftly when circumstances dictate.

Andy King: I might just add to that the importance of being on the right side of the line between safe haven and not. The room for manoeuvre expands when you need it if you are on the right side of the line, and it contracts when you need it most if you are on the wrong side of the line. Of course, no one knows where that line is.

Q20 **Felicity Buchan:** Just to clarify that point, that is to be a safe haven for Government gilt investors.

Andy King: Exactly, yes.

Chair: Thank you very much. That was an extremely interesting discussion.

Q21 **Rushanara Ali:** Good afternoon. Richard, I have a follow-up from what you said to Felicity about risks and the frequency of the risks that you have talked about in the report. There were some warnings. I suspect that we are all kicking ourselves that we did not see the pandemic coming, not least because of what was happening with Ebola, for instance, but also in south-east Asia during the SARS pandemic and so on. We saw the signs, yet there was no one domestically shouting off the top of their head who was being listened to. Going forward, what will you do differently to register those signs? What should we do, as a country, as parliamentarians and as Government, to pick up these early warnings so that we can act quickly, given the massive economic costs to our society from this pandemic?

Richard Hughes: We are doing three things, starting with this report. One is being willing to think the unthinkable and look into the more catastrophic risks that countries might face. Previous versions of the fiscal risks report have basically documented a long encyclopaedia of small to medium-sized risks, but not gone in depth into some of these bigger ones. We have tried to rebalance this report by looking into some of these low-probability but high-cost events, such as the pandemic or unmitigated climate change, and to do some serious economic and fiscal modelling of it to try to get Governments to understand what they are confronting.

The second thing we can do is draw more from wider risk management frameworks. Things such as pandemics and cyber-attacks have been on top of the Government's risk register for a long time. Economists have shied away from trying to analyse and understand them because they do not fit nicely into our models, and they require us to talk to other experts and think about what the economic consequences might be, but we have managed to do that. We have now lived through a pandemic, so we understand what they do to our economies. With climate change, we have now tried to do the detailed work about what it means for our economy and public finances.

For us, the next things to bite off and try to chew on are cyberattacks, which are growing in both incidence and the severity of their consequences for economies. That has also been at the top of the Government's risk register for a while, but the economic and fiscal communities have not really engaged in what their economic and fiscal consequences might be.

The third thing we can do is talk to the experts and try to understand how these kinds of shocks interact with the economy and public finances, and what kinds of risks you might be exposed to. We can then help Governments to think about where it is worth investing to try to avoid those potential other catastrophes that you might face in the future.

Q22 **Rushanara Ali:** Another area that economists might perhaps shy away from is conflict. In the post 9/11 era, it was very apparent that terrorism, conflict and subsequently war posed major risks to the global economy. To what extent is that factored in? I was just in an earlier meeting and the numbers were in the trillions in terms of the impact from conflicts arising to the global economy. We are less good at conflict prevention and peacebuilding. I know it is broader than what you are doing, but how much does the risk analysis capture that? Is there a risk that we think in silos, and we must not touch the international agenda because we have this remit, or are we broadening it out much more now?

Richard Hughes: I have worked in post-conflict countries a lot in a previous life and seen the decimating effect that conflict has on economies. The only things worse than pandemics, in terms of consequences for output in a given year, are civil war and inter-state warfare. Advanced economies in the 21st century have been very fortunate in avoiding direct experience of conflict in most cases. They experience the consequences indirectly, however, in that they deal with migration flows and the instability that it creates. It is certainly an issue for global surveillance and people in the IMF, the World Bank and those sorts of places to think about the cost of conflict.

We have listed it as a risk, but it is not something that we have devoted a lot of time and analysis to. But we have to think about the spill-over consequences for advanced economies such as the UK of instability in other regions: the impact on things like oil prices if it is in the middle east, and the impact on migration flows if it is in other countries and there are large refugee flows out of the country, with potential implications for economies as well.

Q23 **Rushanara Ali:** Andy and Sir Charles, in the fiscal risks report there is no provision for virus-related spending beyond this financial year within departmental plans. Is it realistic for the Chancellor to make no provisions beyond April 2022?

Richard Hughes: We do not see a plan for dealing with them. We do not think it is realistic to have these pressures but not have a plan for how they are dealt with beyond the three years after this financial year. The Government are potentially going to do a multi-year spending review in the autumn, and that could provide us with the answer to how these pressures are going to be addressed.

For the moment, we see that the Government think that, for all pandemic-related spending, that entire genie is put back into the bottle by March 2022. There is no additional public spending beyond that, and

indeed the Government have taken money out of public spending beyond 2022. They have taken between £10 billion and £15 billion out in the face of those pressures. To us, that looks like a very risky proposition. The risks on spending are more on the upside than the downside coming out of the pandemic.

Q24 **Rushanara Ali:** The IFS said, "The Chancellor's medium-term spending plans simply look implausibly low". You mentioned this £10 billion to £15 billion. Earlier, you talked about the fact that there has been a slip back into annual spending rounds rather than comprehensive longer-term spending rounds. We are seeing the knock-on effect of that. Even in areas such as the NHS, where funding has been provided, they are saying to us that they are going to have to make cuts and they do not know what is happening with the next year's spending, while they are having to do catch-up operations and so on.

In your report, you mentioned three Departments that would cost about £10 billion a year. There are others that have been ignored, such as the criminal justice system. The former catch-up tsar talked about the need for billions compared to the £1.4 billion or so that was provided in education. The context now is that the infections are increasing again. How do we move forward? How plausible is it to go forward without any allocations of spending beyond 2022?

Richard Hughes: For us, there are more questions than answers about the path of public spending beyond this financial year. We hope that there are more answers than questions by the time we get to the autumn and there is a multi-year spending plan set out by the Government. We will have to wait and see. For the time being, we keep thinking up more questions, but the answers are in shorter supply.

Andy King: I am not sure I have a lot to add to Richard's answer. The way we forecast departmental spending is to take the Chancellor's totals and then think about what historically is always a small underspend relative to them, because accounting officers do not want to come to Parliament and explain that they have overspent. That framework works best when there are multi-year plans to look at.

Typically, we do not talk a great deal about risks to public spending plans. We did it once at the end of the coalition years, when both partners in the Government were distancing themselves from the numbers that they had agreed together. Obviously, we are doing it this year, just when it looks to us like the path is particularly challenging. Whether that then results in higher borrowing depends on a whole host of other decisions that Richard talked about earlier.

Q25 **Rushanara Ali:** It is very helpful to get an indication of some of these points around where spending is happening. I suppose the question is where else there are going to be higher costs because of the legacy costs of covid. You have mentioned this already. We know that there are legacy costs for schools, hospitals and so on, and many of us would argue that

there is not enough allocation of funding yet. You mentioned courts, but what are the other areas? You mentioned transport as well. You have also hinted at the fact that local government could face funding pressures going the other way round. It has already faced major pressures. It has had to incur pandemic-related costs. Can you talk us through what other areas of spend there are where there are consequences related to covid?

Andy King: The IFS report this morning built on what we had done. Of course, the IFS is rather more free to speak about what should happen rather than what could. It listed courts and local government. There is obviously a big debate at the moment about social care reform. They seem like the large public service type areas, and then of course there are other things beyond there like universal credit, where there are challenging decisions again. The IFS described the list as a non-exhaustive shopping list, which seemed like a reasonable way of picturing it.

Q26 **Rushanara Ali:** In answer to Felicity's questions about why we have spent so much on the costs of the pandemic, Richard, you talked about how we went into this crisis with an NHS working at capacity, the generosity of welfare and the multiple lockdowns. We have opened up. We are looking at very mixed messages about what people should do, and so on, and we are seeing numbers going up.

What is your thinking as to what happens in the autumn or winter if we face some further restrictions again and closing of the economy? This time last year, some of us were talking about the second wave and hoping it would not come, but there are certainly fears about a third wave. What are the implications of that? What should happen?

Richard Hughes: You are right that we have seen false dawns before. In emphasising the uncertainty even around our near-term forecasts, we have tried to stress that our forecasts for the economic recovery and public finances are conditioned on a particular understanding of the path of the virus. Sometimes that has turned out better than we thought, and sometimes worse than we thought, over the last year.

Bear in mind that, in terms of its impact on the economy and the public finances, there are two things you have to take into account. One is the public health response to what is going on with the virus, whether the Government are tightening or loosening restrictions, and what level of economic activity that allows. Also, what are people's spontaneous reactions to what is going on with the virus in terms of their own economic behaviour? What we saw last year, and we have to be conscious of even at the moment, is that what matters for the levels of consumption and employment, the tax revenues you get out of that, and the amount of spending you need to do, is also how people themselves respond to things such as case and hospitalisation numbers.

Cross-country studies about how people respond to pandemics have shown that about 50% of it is the public health response, but another

50% is what the public are thinking, and their own mentality about how safe it is to go back to the shops, go back to work, or get back on public transport. If people feel unsafe, regardless of what the public health message is, they do not do those things. We have to keep an eye on what the public health policy is, what is happening with the virus itself and people's perceptions of how safe it is to engage in economic activity, in order to chart the path of the economy between now and the rest of the year.

Professor Sir Charles Bean: Obviously, in constructing our forecasts going forward, we will respond to whatever has happened on the virus front. It is not just cases that matter here, but also the feed-through to hospitalisations and deaths. Vaccination has obviously weakened that link, and that will also affect the strength of the feed-through into how individuals behave. We might well find ourselves, for instance, in a world where the health service is not under extreme pressure, but you still have quite a lot of absenteeism from work because there are just a lot of people who are off work suffering or have been in contact with somebody who has contracted the virus. That would have direct consequences on production and so forth. We have no alternative, really, but to respond in the light of developments.

Q27 **Julie Marson:** You mentioned in several parts of the report the trend during the pandemic of working from home. I am just wondering, bringing it together as a topic, what the fiscal risks are if we see a more large-scale, permanent shift to working from home as we come out of the pandemic and longer term. What assessment have you made of that risk?

Professor Sir Charles Bean: First of all, it looks like there will be a lasting change in the way work is organised. There is survey evidence available now for both the UK and the US that suggests that something like 70% of people, having experienced it, would like to work two or more days a week from home.

On top of that, there is quite an interesting piece of evidence from Barrero, Bloom and Davis for US workers that suggests that around 40% of those workers who want to spend some of their time working from home in future would be willing to move from their existing employer if they were not offered it. There is going to be quite a lot of pressure on businesses to offer some sort of hybrid working. The question will then be how they best manage it.

I should say that, in constructing both our forecasts and the scenarios in the fiscal risks report, we have not made specific assumptions regarding the extent of working from home in the future, but it potentially has implications, most obviously on things such as transport. We have touched on that with some of the figuring on the potential post-pandemic needs for spending on transport, but that is something that we will need to adjust.

Beyond that, there is a wider economic question about what this means for the supply capacity of the economy. Are people who are working from home just as productive as people who are working in the office? Again, there are starting to be some bits of evidence on this. At the onset of the pandemic, it was clear that people were less efficient while working at home than they were in the office but, as the pandemic wore on, so that gap disappeared, essentially because people got the right equipment to work at home, managers worked out how to operate when they had workers remotely, and so forth. There may not be that much difference in a steady state when it is adjusted.

The open question, on which there is no empirical evidence yet, is how working from home affects the rate of growth in productivity. There are good arguments that a lot of technical advances come by having people together, interchanging ideas and so forth. Frankly, it is not the same having meetings over Zoom, Teams or whatever. You need people around each other, talking to each other. I know that with my other hat on, as an academic, as I have missed that stimulation from talking to my colleagues regularly.

As far as our own figuring goes, we have not put anything in explicitly in this regard. We have, as you are probably aware, estimated the extent of scarring on the economy. There is a central estimate of 3% relative to the pre-pandemic trend, of which little over a third is due to the productivity element or the bit that is not related to capital investment or whatever. Implicitly, there might be a bit in there, but we have not made explicit adjustments. Andy will be able to fill in more on the specific fiscal consequences.

Andy King: The most important fiscal consequence is always what happens to productivity because that determines the income tax base, the corporation tax base and so on. If we then take the next step and think about how home working might differ from office working for a given level of activity, our feeling is that it would be somewhat less Government revenue-rich than office working, if you think about spending less on commuting, cafés and restaurants, and spending more on heating your home, or buying fans to cool it down during the hot week of the summer, and on your supermarket shop. All those things reduce the amount of Government revenue per pound of activity.

There are interesting questions about property where you could imagine the rateable value of offices falling and that hitting business rates. In theory, what you lose in one area you should gain back in another through periodic revaluations. Whether pressure on policy makers would come to bear at that point, I do not know. There is then stamp duty on the commercial property market as well. The key thing to remember is that those things tend to be second order relative to what it does to the size of the economy.

Q28 **Julie Marson:** The skills are quite interesting. I take Sir Charles's point

about the need, particularly for young people, to gain those skills. That might not be possible from remote, so that might have a lag in productivity. Higher-paid jobs also tend to be clustered in cities or large towns. There would potentially be a positive impact on levelling up from dispersing those kinds of jobs more widely in the economy through home working. Have you looked at that as an impact?

Andy King: No, we have not looked at that yet. We have seen quite clearly what it has done to the residential property market over the past year, which has been very tax rich, with the top end of the market outside cities becoming a bigger source of revenue than it has been in the past.

Q29 **Julie Marson:** Just to clarify about the railways, clearly the transport funding is really predicated on a smaller number of commuters in a smaller amount of time subsidising of a lot of funding for the rest of the network. That is quite a significant change that will have to be addressed, and there will also be a potential reduction in fuel tax from less commuting by car. That is quite a significant implication.

Andy King: Yes. We looked at railway income in the fiscal risks report, using some scenarios that the National Infrastructure Commission had published. The uncertainty is large. The direction of the risk looks pretty clear. These were in the low billions of fiscal risk. Our forecast assumes a modest hit to fuel duty from home working. Relative to the risk posed by a switch to electric vehicles, it is modest, in the way we have calculated it.

The other thing that we are a bit more confident about is the hit to air passenger duty from less overseas business travel. There is a decent amount of evidence to underpin that judgment.

Julie Marson: Thank you very much. My time is up but it is a fascinating area that I am sure we will all be keeping track of.

Q30 **Chair:** I just wonder if I could ask a quick follow-up to that. If, as you are saying, there is going to be increasing pressure on employers to provide home working, which seems to be what the surveys are suggesting, does that mean that there is an implication for labour costs for those kinds of businesses that cannot provide it? One thinks of manufacturing. Is there something in the marketplace now for labour that is deeply attractive, but which not every employer can provide? Is that likely to be a significant effect?

Professor Sir Charles Bean: It might well work a bit to their disadvantage, but the one thing that is worth saying is that there is a lot of heterogeneity in what individuals want. Some people do not want to work from home and some want to work from home virtually all the time. Certainly, for some of our younger staff at the OBR, working from home means sitting on your bed with a laptop. It is a pretty unpleasant existence. They want to be in a central place where they can meet

colleagues, whereas, for others, being at home and having the family and so forth is positive.

As you say, for lots of manufacturing roles—and lots of service roles, for that matter—you have to be physically present. You cannot do hospitality jobs, such as being a waiter, remotely. Over time, you will see an element of recompense for work that will incorporate the conditions—not just the amount per hour but the flexibility that you have in the way you organise your life and your work-life balance.

Chair: Thank you very much, Charlie. It is very interesting.

Q31 **Siobhain McDonagh:** I would like to ask about the financial position or balance sheet of the UK Government. My first question is with regard to the Government's net worth. What overall message would you want Parliament to take from your report?

Richard Hughes: Net worth is an area where both we and the ONS have been doing work to try to bring greater focus to, in a sense, both sides of the Government's balance sheet. We talked at the beginning of this session almost exclusively about debt as what is relevant when thinking about fiscal policy, but Governments, like any other entity in the economy, have assets as well as liabilities.

Thinking comprehensively about the sustainability of the public finances requires one to think comprehensively as well, and to think not just about what debts the Government have on the liabilities side but about what assets they have on the assets side and, indeed, what other kinds of liabilities Governments have that are not debt. Governments issue gilts and bonds, which are one form of liability, but Governments have other kinds of liabilities—in particular, in the UK, in the form of pension liabilities for public servants.

One of the main things that strike you when you look at the UK's net worth position relative to other advanced economies is that it is very negative. We have few assets relative to most other advanced economies. We also have relatively high debt but also relatively high non-debt liabilities in the form of unfunded pension obligations to public servants, which, when you stack them all up, leave us very much towards the bottom end of the league table in terms of net worth.

Some of that is the consequence of economic developments but some is the consequence of conscious decisions that the Government have made. For example, the sale of the student-loan programme sold assets at below their retention value; these were, essentially, net worth-destroying transactions. They reduced debt but also got rid of an asset that was worth more, measured as its retention value.

As a way of trying to bring more attention to net worth issues, we are, in the autumn, going to be forecasting, for the first time, public sector net worth to enable people to get a better and more comprehensive understanding of the balance sheet position of Government, as well as an

understanding of the impact of marginal decisions about assets and liabilities on the overall long-term sustainability of the public finances.

Q32 **Siobhain McDonagh:** You have already touched on and slightly guessed my next question. Chart 4.17 in the report shows that the UK has the worst net financial position of every country listed, strikingly even worse than Greece, which had a sovereign debt crisis in recent history. How has this come about? Do you feel that you have covered that?

Richard Hughes: In essence, we have fewer assets and more liabilities than the rest of the world. That is how you get more negative net worth. In terms of how we got here historically, a large part of the deterioration of our net worth happened in the latter part of the 20th century. The Government were selling assets to fund a current deficit. They were running an operating deficit, which was being partly financed through the sale of assets. In the long run, that reduces the net worth.

At the same time, the Government were building up liabilities—both debt and non-debt liabilities in the form of public service pension obligations to serving civil servants. All the doctors, nurses and teachers who were employed during the 1980s and 1990s and were given unfunded pension promises built up as liabilities that are going to need to be paid in the future. That dragged down the liabilities side of the balance sheet at a time when, on the assets side, the Government were essentially selling assets, not only in privatisations but also things like selling the social housing stock.

Andy King: Could I just add one other international factor? The UK's public sector investment as a share of GDP has been incredibly low relative to most other countries for decades, and so that will not build up net worth.

Q33 **Siobhain McDonagh:** The overall debt position of a country is often compared to that of a household. Is that a helpful way of thinking about the net financial position of the UK Government?

Richard Hughes: Charlie, do you want to have a go at household debt analogies?

Professor Sir Charles Bean: You want to be very wary of thinking in that way, because a key thing that is different about the Government from the household is that the Government have the power to tax in order to meet their debt obligations in the future. Why it is worthwhile looking at debt is that that, potentially, is the thing that might have to be refinanced over time, so issues over the maturity of the debt and so forth will come into play here. If you have a lot of debt that needs to be rolled over in the near term, that leaves you a little more exposed to the markets than if you do not have debt or if you have debt that is of a very long maturity.

Debt is certainly something that you want to take note of, but it is not the only thing to focus on. Essentially, as Richard has explained, you

need to look at the whole of the balance sheet—both sides of it and the individual components of it—to understand what is going on. As I say, a key difference with the household sector is that the Government have the power to tax to meet their obligations.

Q34 **Dame Angela Eagle:** I want to concentrate on the part of your report where you deal with unwinding quantitative easing. We have not got to that stage yet, but you have various scenarios in your report that deal with how some of this might work out. In box 4.5 of your fiscal report, you say that, "As of April 2021, selling all gilts in the asset protection fund portfolio at par would crystallise a trading loss of £114 billion". Can you just take us through what that means and what the Government ought to be thinking about watching for to avoid that kind of scenario?

Professor Sir Charles Bean: A key thing to remember to begin with is that the APF has been generating cash transfers to the Treasury pretty much since its inception—in total, about £113 billion. It is currently transferring about £17 billion a year.

Dame Angela Eagle: Just to explain, that is because the rate of interest that it pays on buying gilts is much lower than that people can get when they sell them.

Professor Sir Charles Bean: What is happening is that the APF has bought gilts and, in return, essentially, paid for them by issuing central bank reserves.

Dame Angela Eagle: New money, yes.

Professor Sir Charles Bean: It pays the bank rate on the central-bank reserves.

Dame Angela Eagle: That is 0.1%.

Professor Sir Charles Bean: Yes, and it is earning, at the moment, an average interest rate of about 2% on the gilts. It is that interest margin that is, effectively, being transferred. If the bank rate rises—and it is reasonable to hope that, at some point, it will as the economy recovers and things normalise—that flow will diminish. If the bank rate got up to about 2%, the flows would reverse direction; that is the way the thing works. That is a consequence of the fact that the APF is indemnified by the Treasury. The Treasury owns the APF, even though the Monetary Policy Committee decides the purchases and sales.

The thing that you would want to add on as the additional element, which was where you started your question, was if it gets to the point where the APF is being unwound, and the bonds are either being sold or not being rolled over when they mature. Under the terms of the indemnity, if a capital loss is incurred on that—in other words, the Bank bought the gilts at a higher price than it eventually gets for them at the end—the Treasury bears the loss. If there were capital gains, it would be the other way round. You would have to add the capital gains or losses in.

You quoted the £114 billion number from the book. You could not imagine the Bank deciding it was going to sell all of the gilts within a year or something like that. That would not happen. If losses were crystallised, they would be crystallised over many years. Of course, a key issue will be at what prices bonds are sold, if they are sold. If they are sold into the market, they may still be sold at a high price relative to par. Exactly what the cost is there, we do not know, but the Government should be conscious that what has been a steady flow into the Exchequer in recent years—as I say, it is about £17 billion a year at the moment—could dwindle and change side in the future.

The one other rider that I should add is that you should not think of this as, "Was the APF a good thing to do or not?" because the total effect of the asset purchase facility on the public finances depends on its effect on the economy. The whole reason it was undertaken was to boost activity, and that will have benefited tax revenues. It will have lowered interest rates and the cost of Government finance in the past. The numbers that I have been talking about are not telling you an answer to the question of what the overall effect was of the APF on the public finances. That is a much harder question to answer.

Q35 **Dame Angela Eagle:** At the moment, we have not really got to the stage where we are thinking about unwinding any of the quantitative easing, have we? Is there a danger that might lurk in the markets as that decision comes closer to being taken? I remember that, when I was a Minister and the first bout of quantitative easing was undertaken in 2008-09, nobody thought that it would still be there in 2021.

Professor Sir Charles Bean: Indeed, I can remember when we started the APF and QE in 2009. I viewed it as an emergency policy option, which would probably be unwound in two or three years after the financial crisis.

Q36 **Dame Angela Eagle:** There are other issues about it. It does mean that it is very difficult for people to get a reasonable return on their savings. That is also because of monetary policy and the interest rate, of course.

Professor Sir Charles Bean: Yes, but one should remember that monetary policy is reflecting the underlying interest rate that is necessary to keep economies operating at reasonable levels of activity. That is, essentially, what the first part of chapter 4 of the risk report is about—this drift down in the underlying interest rate. You are absolutely right that it has distributional consequences. The way that asset purchases work is to drive up asset prices in general.

Q37 **Dame Angela Eagle:** That helps people who own assets and badly affects those who do not, which exacerbates inequalities in our society.

Professor Sir Charles Bean: Yes, if I was here with my old hat on of being on the MPC, I would say that you also need to remember that the purchases are raising activity and employment, so it is a much trickier question.

Q38 **Dame Angela Eagle:** Is there any way of assessing overall whether this has been good or bad, or is "the best that can be done" a description like we have just had from you?

Professor Sir Charles Bean: You can try to put numbers on particular elements. I did stuff before I left the Bank. I gave a couple of speeches on this that included estimates of what the overall effect might be, taking account of some of these effects, but you have to recognise that there are a lot of additional assumptions that have to go in, which hinge on how effective QE has been at boosting activity, employment and tax revenues.

Q39 **Dame Angela Eagle:** Richard Hughes, you have a whole table about it in your risk assessment, but are there risks that we ought to be worried about, associated with beginning to unwind QE?

Richard Hughes: It very much depends on the circumstances in which it is undertaken. As Charlie was alluding to, QE was introduced as a way of trying to support demand and to deal with a shock to the economy. Were it to be unwound, you might well be doing so as a way of trying to take some of the heat out of the economy. It depends on why it is happening.

From the narrow perspective of its impact on the public finances, we showed in the fiscal risks report that we did that, depending on the scenario, you can see a relatively gentle decline in the dividend that the APF is providing to the public finances, which is what we have in our baseline scenario, but you can also see a sharp reversal in the dividend that the APF is paying to the public finances, if you see sudden changes in the interest rate differential between the bank rate and what the Government are getting on the assets in the APF.

It underscores the need to do this kind of stress testing that we do, to look at different scenarios, because when the Government have lots of assets on one side of the balance sheet and lots of liabilities on the other, as you do with the APF, interest rate differentials start to matter a lot more than when you just have plain vanilla gilts out there as a liability.

That comes back to our point about looking at both the asset and the liability side of the balance sheet as a way of trying to understand the risks that Governments face, rather than just operating under the naive assumption that Government debt is in the form of plain vanilla gilts with an average maturity of 15 years, which take a very long time to react to market conditions. That is not true any more. That is not how UK public finances work any more. People and policy makers need to understand that, because things happen a lot more quickly to the public finances than they used to.

Q40 **Dame Angela Eagle:** In essence, the public finances or the Government are a lot closer to the edge of the cliff than they were in 2008-09, when the financial crisis struck. That has to be borne in mind.

Richard Hughes: Exactly, you used to get 10% of an interest rate rise hitting the public finances in one year before the financial crisis happened. Now, because of the way in which QE has transformed the Government's portfolio of assets and liabilities, you get half the effect of an interest rate rise in the first year hitting the public finances, because the average maturity of our net liabilities is so much shorter.

Q41 **Anthony Browne:** My questions are going to be about the cost of meeting net zero, which you address in your report, using the findings from the Committee on Climate Change. As a summary for the viewers' interest, it is an estimate of a £1.3 trillion cost and roughly a £990 billion saving, so the total cost is £320 billion over the 30 years between 2020 and 2050, which you calculate as being 0.4% of GDP in terms of extra spending, so it is affordable from that point of view.

What confidence do you have in that and what do you see as the main risks with that? It is reassuring that it is a figure that is vaguely affordable. I guess it is a question for Richard, but others should feel free to come in if they want to add anything.

Richard Hughes: If you do not mind, I might pass the buck to Andy, who did a lot of the detailed work on this and knows the answers better than I do.

Andy King: The numbers that you cited there are all from the Committee on Climate Change. As it happens, the net number of £307 billion is also the number we reached when we looked at the share of the investment cost—so the share of the £1.3 trillion—that might fall to the state. That was the number of 0.4% of GDP a year in terms of additional public spending.

That is very much a "what if" scenario number. The Committee on Climate Change asked the Treasury to produce a report on the share of costs that should be borne publicly and privately, which, as you know, is ongoing. There was an interim report and the final one is due before the COP26 summit.

Where there is policy already, we have looked at that. That is not in a great many areas. It is clear in something electric vehicles, where the subsidy system is already in place and where the cost relative to fossil fuel technologies is coming down. It is unlikely that the public sector is going to have a big role in paying for people's cars for very much longer.

The big issue is domestic heating and insulation, where the up-front cost is large, so it is a big outlay for individuals at the time they do it. It is disruptive to people's homes. The technology is unfamiliar, at least in the UK. There is no Government policy on how much the Government should bear. The heat and buildings strategy is another report that is awaited.

Our assumptions are very broad brush. Essentially, they say that the Government will meet the cost for poorer households, half the cost for middle income households and none of it for richer households. That is

about half of the total public spending in our scenario. There are huge risks around that, and they are policy choices in terms of the share of costs that are borne by the public sector. There are then uncertainties around the CCC's own estimates of the total cost.

It would be fair to say that there are greater uncertainties over those very large savings that you mentioned, which are quite sensitive to what you assume about fossil fuel car efficiency being the baseline from which you are moving. That does not really affect our modelling, because the public sector owns 3% of cars, so those savings do not accrue to the public finances.

More generally, though, in our modelling, the amount of public spending on net zero investment is small relative to some of the other things that we have taken into account. We have relied very heavily on the CCC for that element of it, because it has costed everything bottom up. There are tens of thousands of pages of research on its website that one could look through, if one had time.

The economic implications of going for net zero are another important consideration. There, we have rested on the giants of the Bank of England and a global network of central banks that are looking into this for financial stability reasons. In the early action scenario, where mitigation efforts are smoothly delivered over 30 years, the economic implications are pretty small; they find a small negative effect. If you wait and then rush for net zero at the end, the disruption could be quite significant. In that scenario, it is somewhere between the disruption of the financial crisis and the pandemic, when you jack up the price of carbon to get going.

We also looked at a couple of scenarios of our own that vary the productivity implications of net zero. If the technologies prove to be cheaper and more efficient than the dirty technologies that they are replacing, you could see economy-wide gains. If the degree of structural change is such that it is more costly, you could see a worse outcome.

Those effects are, in our modelling, of a similar order of magnitude to the direct public spending costs. Interestingly, for me at least—and this was the first time I had looked at it in detail—the biggest cost by far is the entirely predictable one of fuel duty going because electric vehicles do not use that fuel.

That cost is larger than any of the others. Because it is entirely predictable—and, indeed, the Prime Minister's 10-point plan says that we are going to have to look at motoring taxes because there is a predictable loss coming—if you set up your scenario to say that the Government can foresee this predictable thing and respond to it, and take that element out of the cost of getting to net zero, things are quite modest relative to some of the other risks that we look at, and certainly relative to the cost of the pandemic.

Finally, we looked at some of the scenarios in which net zero is not achieved. The Bank looked at a "no further action" type scenario. We looked at some of the really quite extreme, unmitigated climate change scenarios, and they are much more costly than paying to mitigate to get to net zero.

Anthony Browne: So not doing anything is more costly than doing something, because of the economic impacts of climate change itself.

Andy King: Precisely, and, in the more extreme scenarios, the costs are not just extreme weather events but mass mitigation and conflict due to loss of water and so on.

Anthony Browne: That depends on the rest of the world also pulling its weight with regard to climate change, because we contribute only 1% or so, but presumably that is the basis of your assumption.

Andy King: Indeed, yes.

Q42 **Anthony Browne:** You have answered many of the questions I had, so that was a good, full answer. As you said, you relied on the calculations by the Committee on Climate Change. I was just wondering why that was and how much you challenge them. You mentioned some of the issues around them there, but, given that it is such a big amount of money that we are talking about, should you not do your own estimates of it?

Andy King: We are not equipped to do our own estimates in the detail that the Committee on Climate Change has done. Often, when we are working beyond our core expertise, we will rely on the expertise of others. We have relied on the Bank of England more than once for stress testing in fiscal risk reports.

We looked at whether we could use the Government's own estimates, because the Government have estimates underpinning the impact assessment on the sixth carbon budget. In the end, they are not produced in a way that allowed us to manipulate them for fiscal scenario making. Essentially, they come out of an optimising model, so they give you one number rather than an annual path to get somewhere. They are not a million miles away from the CCC's own estimates.

Q43 **Anthony Browne:** Even if you are not making estimates, presumably you can scrutinise the basis on which they are made. There was criticism from the Global Warming Policy Forum—which I think I am right in saying is a climate sceptic group—saying that the costs are underestimated and the benefits overestimated, so you end up with an unduly optimistic figure, and that everyone around Government, including you, using the same figures leads to over-optimistic group-think about it. Do you challenge those assumptions of the CCC? Even if you do not have the technical capacity to redo the calculations, presumably you can stress them in various ways to see how much confidence you would have in them.

Andy King: We talked to the CCC several times in putting the report together. The area where I am aware of the Government and the CCC talking to each other is the baseline against which some of the operating savings are calculated, but that really does not affect our scenario work. It is definitely worthwhile varying any assumptions that go into a scenario. For those who really would like to see what it looks like with different assumptions, it is all on our website. You can put different numbers in and run some calculations yourselves. The thing that I would come back to is that the body of evidence that underpins the CCC's numbers is just very large. The CCC's research budget is about half the size of the OBR's entire budget.

Anthony Browne: And it is looking at one set of issues.

Andy King: There are literally thousands of pages of analysis on its website for each of the things that go into its estimate. It is certainly the most comprehensive estimate that facilitated us doing what we did in thinking about the public spending share of different parts of the transition that looked more or less susceptible to requiring the assistance of the state.

Q44 **Anthony Browne:** I have one last question that I will direct to Richard, because it is the big picture question. As Andy said, your estimate is that it will increase public spending by 0.4% of GDP over the next 30 years. Can you put that into context? I am right in saying it is roughly a 1% increase in public spending. How affordable is that compared to other areas of Government spending? Is it likely to lead to greater debt? Is it just small change down the back of the sofa? Sorry, I am using layman's talk here and I know you need to be very precise with what you say, but, for the public, what is the message here about the affordability of this?

Richard Hughes: If you think about it in terms of how we have had to deal with other potentially catastrophic crises and pressures on the public finances, we spent 16% of GDP on the pandemic in one year; the financial crisis cost us about 9% of GDP in terms of deficit in one year, although the policy share of that was smaller—0.4% of GDP is a lot lower as an annual cost, but that is an investment over a long period.

The other thing that came out of the work that Andy led on the report on climate change was that, if you act early, it is a lot cheaper than acting late. It halves the cost.

Anthony Browne: And it is cheaper than doing nothing.

Richard Hughes: Both are cheaper than doing nothing, which, in the long run, would have catastrophic consequences for the economy and the public finances.

Anthony Browne: So the comparison is somewhere between the cost of the financial crisis and of the pandemic, but spread over 30 years.

Richard Hughes: Yes.

Chair: That brings us to the end of this session. Can I thank our witnesses very much indeed for appearing before us? It is always interesting—I would go as far as to say fascinating—to have conversations with you, so we thank you very much indeed for your time.

It seems to me that the big, overarching issue that Government have to grapple with is how we are best prepared for the next crisis, which begs the big question, "What is that likely to look like?", to which the answer is, "We are not entirely sure." That leads to the conclusion that we need to have fiscal capacity and to be prepared and ready to be nimble in how we respond to whatever it is that comes down the track. There are important points for Government there.

Thank you all very much indeed for appearing before us. That concludes this session.