



Science and Technology Committee

Oral evidence: [R&D Policy One-off](#), HC 764

Wednesday 12 October 2022

Ordered by the House of Commons to be published on 12 October 2022.

[Watch the meeting](#)

Members present: Greg Clark (Chair); Aaron Bell; Dawn Butler; Tracey Crouch; Rebecca Long Bailey; Carol Monaghan; Graham Stringer.

Questions 1 - 84

Witnesses

[I](#): David Connell, Senior Research Associate, Centre for Business Research, University of Cambridge Judge Business School; Nicola Eckersley-Waites, Head of Innovation, Confederation of British Industry.

[II](#): Hetan Shah, Chief Executive, British Academy; Professor Sarah Main, Executive Director, Campaign for Science and Engineering; Vivienne Stern MBE, Chief Executive, Universities UK.

[III](#): Ms Nusrat Ghani MP, Minister for Science and Investment Security, Department for Business, Energy and Industrial Strategy; Alexandra Jones, Director of Science, Research and Innovation, Department for Business, Energy and Industrial Strategy; Harriet Wallace, Director, International Research and Innovation, Department for Business, Energy and Industrial Strategy.



Examination of witnesses

Witnesses: David Connell and Nicola Eckersley-Waites.

Q1 **Chair:** It is good to be back chairing the Committee. I am very grateful to my colleagues on the Committee and across the House of Commons for re-electing me unopposed to chair this Committee. Its work covers some of the most fascinating and important developments nationally and internationally. We have had a very stimulating first half of this Parliament over the last two and a half years, and I have no doubt that the next two and a half years will be no less so.

I am very grateful to my colleagues on the Committee, Carol Monaghan and Aaron Bell, for stepping in to chair various meetings of the Committee during the summer, and to our brilliant Clerks for their hard work as well.

I take this opportunity to thank Katherine Fletcher and Dehenna Davison, both members of the Committee who have been appointed as Ministers and therefore will be stepping down from the Committee. They have been much-valued members of the Committee during their tenure here.

This morning's session is a one-off inquiry looking at research and development tax credits and Horizon Europe, and the work of the Science Minister. It is very opportune because we have a new Science Minister, Nusrat Ghani, who will give evidence to us later today. In what have been contentious times, I think we can all agree in this Committee that any plan for growth must have at its foundation clear plans for science, innovation and technology, so today's session could not be more topical.

I start by introducing our first panel of witnesses. David Connell is the senior research associate at the Centre for Business Research at the University of Cambridge Judge Business School; and Nicola Eckersley-Waites is the head of innovation at the Confederation of British Industry, the CBI. Welcome, both of you. I should say for disclosure that David Connell wrote a report and kindly asked me to write a foreword for it, separate from his findings, and I was happy to do that. I am sure we will go into his thoughts today.

Perhaps I may start with you, David Connell, and ask you to summarise your analysis of how research and development tax credits do or do not contribute to driving businesses' investment in innovation in this country.

David Connell: Thank you very much. By way of background, most of my career has been spent with science and technology companies and venture capital, so as well as the more structured analysis that is in the report what I have to say also draws on the experience that I have gained over the years with those kinds of organisations.

Essentially, the idea behind R&D tax credits is that, if you make it cheaper to do R&D, companies will do more of it. They were introduced in 2000-01 initially for small companies, and now extend to large companies. The payments are no longer limited to companies that make



HOUSE OF COMMONS

a profit and can claim credit; they take the form of a cash payment, if you like.

The Treasury, which sponsors R&D tax credits, essentially, has done some very complex econometric analysis of the impact. This indicates that, for each £1 in R&D tax credits that a large company receives, it invests roughly that £1 and another £1.50 in R&D. The additionality, if you add the two together, is £2.50. For small companies, the additionality is £1, so, in other words, the company invests the £1 in tax credit that it receives, but no more. That is essentially the analysis on which the Treasury bases its case for R&D tax credits.

The cost has steadily increased; it is now about £7 billion a year. To put that in perspective, Innovate UK, which we tend to think of as the driver in innovation policy in the UK, spends about £600 million a year in grants for small businesses. So R&D tax credits are over 10 times as big in terms of money.

I started to be concerned about the effectiveness of R&D tax credits as a result of working over many years and having an interest in other policy, particularly procurement-based innovation, on which I wrote a report for No. 10 Downing Street about four years ago. Essentially, the argument did not accord with my experience of how companies make decisions on how to invest, or how much R&D to invest. I will give you two examples at opposite ends of the spectrum.

At the large company end, in 2013 AstraZeneca decided to move its entire R&D laboratory from Lancashire down to Cambridge. It did not get any tax benefits for that. It thought it was going to cost £300 million; it cost £1 billion. It made that move because it was interested in the recruitment pool—the links to universities and research institutions. That is a large company, and we could talk more about that.

At the small company end, companies financed by venture capital that have, say, £4 million in the bank can usefully boost the amount they spend on R&D with tax credits, which in turn makes venture capital more profitable. It has not been very profitable in the UK, so making it more profitable means there is probably more expenditure on R&D.

Many companies that do not have venture capital, having chosen not to raise it—perhaps companies founded by people from a commercial business who were not able to take IP to start the business as they would if they were in a university—often tend to start by selling what they can, which is their skills, consultancy, contracts around their expertise, and investing sweat equity: in other words, working for nothing.

If you do not spend any money on R&D, you cannot claim much in the way of R&D tax credits. That is important, because few of the most successful science and technology start-ups in the UK are based on academic IP, and in most cases the founders have been able to avoid, delay or minimise venture capital, thereby enabling them to retain control



HOUSE OF COMMONS

and go on to build a substantial business. They have done that through this soft start-up model from contracts. R&D tax credits would have had very little impact on them in the early days. By successful, I mean that they have significant numbers of employees—let us say over 1,000—they make good contributions to the balance of payments and tax revenues, and they have profitability and longevity. They are companies such as Arm, Dyson and Bet365, which is probably the most successful digital company that we have.

- Q2 **Chair:** Perhaps we could pause there, because my colleagues have some more detailed questions to follow that up. From what you have said—you have compared the amount that is spent through tax credits with the Innovate UK budget—is it your contention that money is better allocated for R&D through grants than through tax credits?

David Connell: It is, yes.

- Q3 **Chair:** Ms Eckersley-Waites, does the CBI have a view on that binary choice and whether it is better to do things through grants or through tax reliefs or, at least, tax credits?

Nicola Eckersley-Waites: Where that balance lies is quite a difficult question. Both play a really important part in the ecosystem of support in the UK for enabling businesses to invest in R&D. When businesses make investment decisions, they look at quite a lot of different factors. If you are a large company, you are looking at different countries where you might do your R&D; if you are a small company, you will be thinking about how much you can invest in R&D and how much you want to prioritise it. You will be looking at a whole range of factors that include the tax system, including R&D tax credits, and looking for public support for R&D through innovation funding.

You might also be looking at the academic base—the skills base—as David mentioned, and other levers that the Government have. Is there a market in the UK for your product when you have developed it? What is the procurement like? How is the regulatory environment looking? There is a whole range of factors that businesses take into account, and some will prioritise different parts of that system.

- Q4 **Chair:** Given that there is a range, and since the subject before us is R&D tax credits, would you prefer £1 of tax credits to be transferred to a grant-giving programme, or not?

Nicola Eckersley-Waites: Probably not, at least at the current time. The R&D tax credit system has a few particular benefits. One is that it has been very stable. Unlike a lot of other elements of the R&D support system, it has been in place essentially unchanged, with tweaks to it, for 20 years, and businesses can rely on that stability. They know that it is a stable part of the system and that they can look several years ahead and make investment decisions knowing that it will be there to support them. That is really important. It can be relied upon, whereas grant funding is



uncertain, it depends on your application process, and it is competitive, so it is not something that you can factor into your decision making.

That signal that it is a stable part of the system that businesses can rely on for decision making is really important, but not at the expense of grant making; public R&D support is incredibly important. We really value the Government's continued commitments to increasing that, particularly the increase in Innovate UK's budget, which is also important. But they play slightly different roles, and any signal to remove or reduce the R&D tax credit system would be counterintuitive at a time when businesses are really looking for stability in making investment decisions.

Chair: That is a very helpful uncovering of the issue.

Q5 **Carol Monaghan:** I have a question for you both. At the moment, the UK R&D tax credit scheme costs about £6.6 billion per annum. Do you think it is value for money?

David Connell: It is a good question. Going back 20 years, the UK had a very low level of public sector support for R&D in business. It was mainly in the form of grants, and it was very low, particularly for small businesses. There were small amounts—not much of it. That position has completely changed. We will perhaps not dwell on it now, but in my report there is a chart which looks at the level of support from different countries across the world and the balance of tax credits and other support. We are now pretty much top of the tree. We have a completely different approach to most other countries in that a much higher proportion of that total support is in the form of tax credits.

Q6 **Carol Monaghan:** What benefit does the UK see as a result of that? It is very different from how it is done in other countries, so are there specific benefits that we get from that?

David Connell: My colleague here has talked about the way that companies see it. Companies love R&D tax credits. Everyone gets them; you do not have to change your behaviour. Most companies do not think that they get much help from the Government, so, if you were to do a poll, R&D tax credits would come out ahead of the game, particularly among small businesses. Even if they are getting only £20,000 or £30,000, quite often you discover that the argument is that they have been saved from financial crisis by a tax credit payment—a bit like the unexpected postal order from the auntie in Australia.

You need to look at the impact on the economy, rather than what people say. In large companies, there will be lots of people doing R&D who think that tax credits are important, but the question is: is that the best way of providing the money? My argument is that it is not. It is not just because of the way companies make decisions, or the fact that most of the role-model companies, such as Dyson and Arm, went a different route which meant that they would not have had much in the way of R&D tax credits. It is also because of the role that venture capital—the primary source



that we think of for funding science and technology start-ups—plays in leading on to the acquisition of successful companies by foreign multinationals and the truncation of growth in the UK.

The real problem for the economy in this area is how we grow and retain substantial new science and technology businesses in the UK to replace the declining sectors. There are lots of economic factors which mean we are not doing that. That is the issue. As a country, we need to spend a good deal of money on supporting R&D in businesses to get where we want to be. It is a question of: what are the right tools and instruments?

Q7 Carol Monaghan: Nicola, what are your thoughts on that?

Nicola Eckersley-Waites: Businesses tell us that R&D tax credits are one of their priorities for support in this area. We regularly survey members on a whole range of things, including asking them, “What is the one factor that would enable your business to spend more on innovation in the UK?” Regularly, expanding R&D tax credits and further innovation funding come out as the top two answers—more or less evenly spread across businesses.

When we speak to businesses, we hear that R&D tax credits play an important part in that decision making. For example, for large companies looking at where they will invest in innovation, it is one of many factors, but it is an important factor. As you say, they see the UK as having quite a competitive R&D tax credit system, and that helps as one of the factors in their decision making.

Q8 Carol Monaghan: How would you respond to the ONS analysis that shows that business R&D expenditure is much higher than previously estimated?

Nicola Eckersley-Waites: It is good news that businesses are investing more in R&D in the UK than we thought. We know that is core to economic growth, so it is really positive. There was a large discrepancy between the ONS and HMRC tax credit stats, so it is helpful that that reduces some of the large questions around why that existed.

It raises some interesting questions if we are investing more in R&D in the UK than we thought but it is not all being pulled through into increases in productivity and growth. Is there more that we need to be doing around the adoption and diffusion of technology, as well as supporting research and development? It is important to note that it only takes us up to around 2.4% of GDP; we are still not leaders when we compare with other countries. That is the OECD average, and it is probably higher than that.

Q9 Carol Monaghan: Is that why we should look at other methods of supporting businesses?

Nicola Eckersley-Waites: It is a good news story that things such as R&D tax credits are now public and that R&D funding in the UK is



leveraging more private investment than we thought it did. We have seen that increasing since around 2014-15. There has been a steady—not huge—increase in private R&D investment within the UK. It is probably time in the current environment to double down on those things. They are working and leveraging more private investment than we thought. We need to double down and focus on the things that are working and provide stability with that commitment to increase public R&D spend, so that the stability of the R&D tax credit system will continue to be there.

Q10 Carol Monaghan: David, how do these new estimates impact the proposals that you set out in your report?

David Connell: It is quite a change, isn't it? A 60% increase in R&D is quite a big number in business R&D, which is what was announced two weeks ago.

Can I say a bit about my involvement in the story? I started getting involved in looking at R&D tax credits and had a series of discussions with the Treasury and others over about the last five years, and that culminated in this report, which summarises some of those ideas. The key graph, which I would like to show you, is on page 12, which is the red flag right at the top.

Q11 Carol Monaghan: Can people who are watching this view your report online?

David Connell: Yes, it is online.

Chair: For anyone searching for it, the report is called, "Is the UK's flagship industrial policy a costly failure?" If people google that, they will come to your report.

David Connell: If you google that, and my name, you can download a copy.

Q12 Chair: Describe what this graph that we have in front of us shows.

David Connell: The graph shows a series of bars and data points from 1999 to 2019. First, they show the percentage of GDP that is invested by businesses in R&D in each year. That is the top of the bar. As you can see, it is roughly 1.1% all the way along. You will be aware that it is Government policy to increase total UK R&D to 2.4%. The goal has been 2.4% or 2.5% for the last 20 years, pretty much. In order to achieve that, business R&D needs to grow from the level of about 1.1%, which is where it was 20 years ago, to about 1.7%.

This graph shows the data for that number—business R&D as a percentage of GDP—and then, in the grey bars, I have taken off the cost of R&D tax credits. The blue number underneath is effectively self-funded R&D, funded from normal retained profits, if you like, and cash, by businesses. As you can see, that has pretty steadily declined over that



HOUSE OF COMMONS

period. In other words, the more we are spending on R&D tax credits, the less companies are spending of their own money.

Q13 Carol Monaghan: They are able to reduce their spend on R&D, so they increase profits.

David Connell: As a percentage of GDP. This is based on combining, essentially, the Office for National Statistics numbers on business R&D with the Treasury numbers on expenditure on support. Now—

Carol Monaghan: I am aware that the Chair will probably be getting a bit narky, so if you could—

David Connell: Obviously, this is a bit embarrassing for the Treasury. There was a bit of debate about what the reason was. Part of it, as we have seen from the recent ONS announcement, is a gradual divergence between the ONS figures, which are the official figures that have been the gold standard on which policy has been set, and the Treasury expenditure, which has steadily grown. The ONS announcement is an attempt to square that circle.

In the meantime, when this divergence began to appear, the Treasury offered various reasons for it. The first was expenditure by British companies on R&D carried out overseas. That is no longer allowed; it has been disallowed in the last year or two.

The second is expenditure on R&D by financial services, and possibly some other industries, which were not regarded as R&D spenders for the ONS standard statistic.

The third was revealed in HMRC's 2019-20 annual report, which was qualified because of the estimate of fraud and errors in R&D tax credits.

Put those together, and it is worth somewhere between £7 million and £10 million. That closed part of the gap between the ONS numbers and the Treasury/HMRC numbers.

Carol Monaghan: Some of my colleagues will come on to some of this, so I will stop and let you move on.

David Connell: I will just finish this before we go on.

That is part of the answer. There is a whole series of questions around the new ONS announcement, as you said. Potentially, if it is true, it is excellent news, but there are some questions about whether or not it is actually representative of what has been happening.

Carol Monaghan: Hopefully, you will have a chance to explain.

Chair: You will have a chance with our other colleagues, and the Committee may want to go into more detail on what is behind this in a further session with the ONS.



Q14 **Tracey Crouch:** David, are you thrilled, disappointed or somewhere in between with the proposed R&D tax credit reforms?

David Connell: It depends which ones you mean.

Tracey Crouch: Overall.

David Connell: The removal of funding of overseas R&D was good. Most of the rest are probably missing the main issue. The big issue is whether R&D tax credits are substantially the right way to support business R&D, or whether we should reduce that and increase some other instruments.

Nicola Eekersley-Waites: We were really pleased to see the expansion to include data and cloud computing. In part, it just better recognises what modern R&D looks like. The use of data and cloud is really core to that, so it better reflects what R&D looks like in businesses today.

The restrictions overseas reduce the competitiveness of the R&D tax credit system when you look at it in the round. We understand the policy intention to focus support on R&D that has most direct spillover benefits to the UK. We are also really pleased to see the exemptions to those overseas restrictions drafted quite broadly in the Bill, which should ensure that businesses can still carry out R&D overseas if that is the only option for geographical or regulatory reasons.

Overall, it is positive, particularly on the data and cloud computing. On the international element, we know that R&D and innovation are international endeavours. Half of our academic publications here are published by an author overseas. It slightly runs counter to making the UK a global hub for innovation. There are benefits to UK businesses working internationally, particularly in the R&D space. However, we understand the policy intent. Focusing that support on work that is done in the UK makes some sense.

Q15 **Tracey Crouch:** Have you done any form of impact assessment on those international changes?

Nicola Eekersley-Waites: Not a full impact assessment. It is really hard to do because, as we said, speaking to businesses, it is one element in their decision making, among others. They have told us that it reduces the overall competitiveness, but they are comparing that against a whole range of other factors when making decisions, so it is quite difficult to pick it out as a single factor.

Q16 **Tracey Crouch:** Do you think that companies have been given enough opportunity to give feedback on the proposed legislation?

Nicola Eekersley-Waites: Yes, I think so. From our side, we responded to the initial consultation earlier in the year and a lot of our suggestions, particularly on how to frame the international exemptions in a way that was hopefully future-proof and not specific or targeted to particular sectors at the moment, have been taken on board in the draft legislation.



HOUSE OF COMMONS

When we ask members about the draft legislation as it is at the moment, they do not have major concerns.

The main piece is about the guidance that goes alongside it to give businesses certainty about how that legislation will be applied in practice. A lot of that is contained in the guidance rather than the legislation itself. I know HMRC is working on it, but providing that guidance as soon as possible is really key, to give businesses time to plan and to make investment decisions with certainty.

Q17 Tracey Crouch: David, on page 38 of your report you put out a summary of proposed policy changes. Do you want to comment on whether any of your proposals tie in and marry up with the reforms that the Government have announced?

David Connell: Yes. In that latter section of the report, I tried to suggest a gradual—not a huge—movement of funding away, albeit not entirely, from tax-related policies, which I do not believe work very well, into measures which will address the key problem that I mentioned of growing substantial new businesses. They are to do with providing non-dilutive funding—bigger and better grants, which are slightly dilutive—increased procurement-based innovation through the small business research initiative, which is a very bad name, and some other measures. Lastly, it might be possible to create a new equity vehicle—a venture capital vehicle—in which the founders have a veto on change of control.

I should say that I have nothing against venture capital or founders making loads of money out of businesses; it is the right thing to do to sell your business in most cases as it grows, but how can we encourage the very small number of ambitious entrepreneurs with the ability and desire to build a significant business like Dyson and Arm? I do not see any of those coming forward in terms of policy, with the exception of the removal of funding for overseas R&D, which was taken out by the Chancellor a couple of years ago.

Q18 Tracey Crouch: Would you consider it a missed opportunity, then?

David Connell: I do not think the Government are on the same page. There is another major policy issue, if I can touch on that for a second.

Chair: Briefly, if you would, Mr Connell.

David Connell: We have a number of different bits of government involved in innovation policy. We have the Treasury, R&D tax credits, BEIS, spending Departments and the British Business Bank. It is virtually impossible to get a clear picture of the numbers involved and the nature of those policies.

For example, Innovate UK is officially the prime driver of innovation policy. Has anyone read the Innovate UK annual report? Here it is; it is two pages. It is a summary buried within the UKRI annual report. It does not tell us how much Innovate UK spends on businesses. I think it is



about 60% of its total budget. It does not tell us very much about the different instruments, and there are similar problems in relation to other spending. For example, you can find lots of very detailed statistics on R&D tax credits, but the Treasury and HMRC have refused to say which are the largest recipients, even though all the data is available in published accounts. We cannot easily zero in on individual companies to see what is working in practice.

My view is that we have a major issue for politicians in trying to manage the overall picture. I have heard politicians from 20 years ago—Lord David Sainsbury, who was Science Minister 20 years ago—and you, Chairman, talk about the difficulty of grappling with this overall picture. The question is how to deal with that. Various people have talked about the idea of a super-Minister to cover the ground. I do not think that would work; even if such a position were created, it would be changed in two years' time. I have a specific proposal that I would like to make today, which I have not previously set down.

Chair: May we perhaps come back to that at the end? We want to complete our questions on R&D tax credits, and then perhaps I will ask you to give the elevator pitch of your proposal before we conclude.

Q19 **Tracey Crouch:** My last two questions are to Nicola.

We talk about the Government's plans to increase the generosity of the scheme for larger companies. How do you think this will impact the support available to new UK-based companies and SMEs? Do you think the balance that is proposed is the correct one?

Nicola Eckersley-Waites: We think it is helpful that there are two different schemes. I know there were talks about merging them, and if they were merged it would be important that they maintained the best of both worlds. We think it makes sense, in some ways, that there is additional support for smaller businesses; we know that they struggle. David has talked about how scaling S&T-based businesses in the UK is a challenge, and those businesses need that additional support.

As it stands, both large and small companies tell us that the scheme works well. It is helping them to make investment decisions in the UK and it makes sense that there are two different schemes with slightly different levels of support.

Q20 **Tracey Crouch:** Finally, can you explain how straightforward the claims process is? Do you think it could be improved? Obviously, this Government are very keen on reducing burdens on businesses, and this is one area where they really can help.

Nicola Eckersley-Waites: An area which we think would be really useful is improving the guidance that HMRC and BEIS provide. There are two different sorts of guidance from HMRC and BEIS on interpreting the rules. We know that businesses struggle with it. I feel I have a reasonable understanding of the R&D system, but, as a lay person, reading the



guidance if you are not a tax expert is challenging. Particularly on areas where there seem to be differences of interpretation between different parts, setting out really clear guidance would make it a lot easier for SMEs in particular—and large companies—to understand what the aim of the scheme is, the sort of work that they can claim and how to go about doing it. That would be really valuable.

Q21 Rebecca Long Bailey: David, you mentioned the proposal about how we can better measure the success of the tax credit changes. Can you give us a brief summary of what you were going to propose?

David Connell: It is not how to better measure it but how to co-ordinate it. Would you like me to come back to that later?

Chair: I will ask you at the end, too.

David Connell: Will you forgive me if I answer a different question, which might touch on what you were saying, which I have not dealt with? It is whether the new ONS numbers are correct, basically. You said you might invite the ONS to come back and speak. The numbers are very interesting. If they are right, they are very good news, because they suggest that significant numbers of small companies are doing R&D for the first time.

By the way, of the increase in R&D in the last five years reported by the ONS, 80% is due to increased spending by small companies, and of that spending by small companies, 80% of the increase is due to an increase in the number of companies doing R&D. Only 20% is due to an increase in the average amount of R&D. That raises some questions which link to your measurement question.

First, it is not clear how fraud, error, overseas R&D and financial services—the areas over which there are questions about whether they are or should be included—are treated in the new HMRC and ONS data. It is extremely difficult to define R&D. I was a venture capitalist, I have a physics background, and I would find it very difficult to judge between what is real R&D and what is really just continuation of ongoing business in order to incorporate some new off-the-shelf technologies.

There is now a very large industry of advisers helping companies to make claims, many of them paid on a performance basis. The question is: is the increase real, which would be good news, or is it more a reflection of the growth in the advisory firms industry, more imaginative approaches to defining R&D, and the difficulty HMRC staff must have in unpicking a well-crafted claim? If it is real, and if our competitor nations—the equivalent of the ONS in Germany and France—were to carry out the same exercise, would they find that there is an equivalent increase in the amount of R&D being undertaken in other countries? The revision raises a huge number of questions about how real it is and whether there is anything new that we need to do as a result of that.



Q22 Rebecca Long Bailey: Thank you. Nicola, how should the Government measure the success of the tax credit changes?

Nicola Eckersley-Waites: Good question. It is tricky. Speaking to businesses is really helpful. The data and cloud computing expansions are relatively straightforward. We should see a bit of an increase in claims from them, and R&D is counted within them. One of the best ways you can get evidence is speaking to businesses and getting more case study-based data around whether it is enabling them to do more and to invest further in R&D, particularly in that digital innovation space, which was not included within that before. Is that enabling them to make decisions that mean they can do that in the UK, making it more cost-effective for them to do it here compared to other places? That qualitative as well as quantitative data is really important, because, as I said, it is hard to pick it apart from other factors. One of the best ways to do that is speaking to businesses.

Q23 Rebecca Long Bailey: Thank you. More generally, what impact do you both think the current economic climate will have on the UK's R&D sector?

Nicola Eckersley-Waites: It is a challenge for all business investment. As I said, it is key that businesses have stability and certainty to look ahead and know what the environment is like for all business investment, particularly for R&D investment where you are often looking even further ahead than for other business investment decisions. It is a tricky environment, and it is really important that the Government can provide clear signals for science and technology.

How we use and harness that for UK economic growth is a key priority for us, and the more they can send those signals strongly and back them up with funding programmes and policy that supports that, the better. It sends a clear message to business. This is something we prioritise—the stability that will be there.

Can I pick up on that join-up of different levers across Government? We would echo that it is a challenge, and it is the reason we are championing and are really enthusiastic about the work of the Office for Science and Technology Strategy that has been set up in the Cabinet Office and is doing some of that. It is looking at the levers for harnessing the power of science and tech from skills base through to procurement with R&D funding. That is a really important piece of work—shoring up these levers and making sure that they are all pulling in the same direction.

David Connell: I do not know that I have a very constructive answer. I wish I knew, but it is obviously going to be difficult.

Q24 Rebecca Long Bailey: I have one final question. In your report, David, you suggest abolishing the patent box, which is quite a contentious subject. Can you explain a little about why you think this would be necessary?



David Connell: I will refer to something, because it is complicated, and you need to look at case studies. If you turn to the light green tab, there are two case studies, but one in particular shows how probably the most significant new science and technology company to have been created in the UK in the last 20 years, which I think was acquired in 2006, is now part of a big US company. It shows you how a large multinational can use the way it structures its accounts, first, to take advantage of lower corporation tax rates and, secondly, to get very large subsidies from the patent box without what I would say is a commensurate investment in the UK.

A couple of years ago, I put it to a very senior person in the science and industry government structure who knows the company better than me. I said, "We've got second prize," and he corrected me. He said, "We got third prize." The patent box is supposed to encourage British and foreign companies to invest in IP and exploit it in the UK, and although through acquisitions of a company sometimes we get fairly sizeable businesses left, we do not get the full benefit. So the patent box is not really doing that job.

Nicola Eckersley-Waites: We have not done a lot of analysis on the patent box, and much less than on R&D tax credits. Again, it is an area that businesses tell us they value, that adds to the competitiveness of the UK as a whole, but it is not something that we have a lot of data on.

Q25 **Chair:** We have a bit of a microcosm of the current debate in our panel of two this morning. Nicola, you have been emphasising the need for continuity and stability in the arrangements—R&D tax credits—in order for businesses to continue to invest. David, I hope I am not mischaracterising you by describing you as a bit more of a disrupter; you think that things have not been going so well and that we need to reset. If that is not unfair, that is an interesting point of decision for Ministers. Would you accept that characterisation, albeit a grossly simplified one?

David Connell: Disrupter is maybe too strong a term. We need to move on. There are lots of reports being published at regular intervals that basically, based on the statistical data, are not really taking the argument any further.

Can I give you an example of the problem? Twenty years ago, in Cambridge, there were four companies, which had been started in the previous 20 years, that employed more than 1,000 people. Today, the Cambridge cluster is three times as big. There are still four companies roughly that size that have been formed in recent years. There is Arm, three of the others have actually downsized or disappeared, and there are three new ones. If we really had the right policies, the number of sizeable companies would have grown significantly, but it has not.

Q26 **Chair:** Thank you very much indeed. I did say that I would invite you to give an elevator pitch—in other words, a minute to describe your great reform of the arrangements in Whitehall, in Government. We may write



to you to ask you to expand on it.

David Connell: The question is how we ensure that innovation policy is probably better managed across Government—R&D tax credits, BEIS, etc. My proposal is that the Government establish something a little bit like the OBR—let's call it an independent office for innovation and industrial policy: independent; maybe 30 people—with the power to require spending Departments and agencies to provide the data it needs, maybe to provide an annual report, and monitor the progress not just of policy but of our understanding of what the policy issues are, and then look at the tools and how they are working to deliver against it. It seems to me that that might provide some higher-level thinking than I think we tend to have, and some longevity, without being partisan or self-serving, which I think is a danger.

Chair: That is admirably succinct and clear. Perhaps if you have some further elaboration of that you might write to the Committee so that we can consider it. It is obviously germane to many of our inquiries. I thank David Connell and Nicola Eckersley-Waites for coming to kick off our session here this morning. Thank you very much indeed.

Examination of witnesses

Witnesses: Hetan Shah, Professor Sarah Main and Vivienne Stern MBE.

Q27 **Chair:** I am now going to invite our next panel of witnesses to come forward, as our first panel departs, so that we do not need to suspend the meeting. If they will forgive me, I will introduce them while they are taking their seats.

We are very pleased to welcome back to the Committee Hetan Shah, the chief executive of the British Academy—welcome back; Professor Sarah Main, the executive director of the Campaign for Science and Engineering, commonly known as CaSE; and Vivienne Stern MBE, the chief executive of Universities UK. Welcome.

If we could start, briefly, by touching on the session that we have just had on R&D tax credits, this clearly is—with the new Administration having taken office and various changes taking place to possibly spending, possibly taxation—a moment in which changes can be considered. So perhaps I may ask Professor Main whether CaSE has a view on the relative desirability of R&D tax credits versus mechanisms for more direct support, such as grants through UK Research and Innovation.

Professor Main: Thank you. Good morning. I am the executive director of the Campaign for Science and Engineering. I want to start by thanking the Committee for holding this session. I think it is much needed and timely.

I do not think CaSE has a researched and detailed view on which of those two mechanisms is best to support innovation. I would say that we absolutely welcome the furtherance of metrics so that they are as



HOUSE OF COMMONS

accurate and informative as possible, and I think, as we heard in the last session, it raises a number of questions to better understand our innovation ecosystem.

I think that what is important is that we separate the principle behind the push for a more research and innovation-intensive society from the levers by which we achieve that. So I believe—and I imagine that you on the Committee also believe—that a more research and innovation-led UK is right for our future.

Thinking about how you stimulate that economically is an important part of that package, but so is a range of other policies around skills and infrastructure. I think that the UK's ambition has been, for many years, not just to be average, but to be above average. I think that is where we should set our sights.

Q28 Chair: Thank you very much indeed. Perhaps I may ask Hetan Shah—we heard from the previous panel that £6.6 billion is spent through R&D tax credits. If you were in charge of that £6.6 billion, would you spend it through tax credits or would you deploy that quantum of money in some other way? Do you in the British Academy have any perspective on this?

Hetan Shah: I don't think the British Academy has a strong view on this. In fact, our argument has been that we continue to undercount R&D through the tax credit system, because the Frascati manual, which is the OECD manual, says that social science and humanities research also ought to be counted, whereas the HMRC measure does not count that. In fact, if you look at the structure of the UK economy, which is 80% services, an enormous amount of R&D is happening, which is around behaviour, design and all sorts of things. So, actually, I think we are still continuing to undercount a little bit.

Q29 Chair: And finally, Vivienne Stern, I imagine that you will tell me that universities could make good use of £6.6 billion.

Vivienne Stern: No, I won't, actually. I can't pretend we have a well worked-out view of where the balance should lie between tax credits and interventions within universities or elsewhere, to encourage investment in R&D, but I would argue for the need for interventions on both sides. You need to be both reaching into companies, encouraging them and supporting them to innovate, but incentivising them to invest at the same time.

A crude answer—not a very well thought-out one—is you probably need a mixture of both, but I don't have a sophisticated sense of whether the balance is currently right.

Q30 Chair: Thank you for your candour on that. Perhaps I can stay with you, Vivienne, and ask about one of the things we want to concentrate on today, which is the status of negotiations for accession or association with Horizon Europe. As head of Universities UK, are you aware of the latest state of discussions? Are you kept informed by the Government?



Vivienne Stern: First, to echo what Sarah said, thank you for having a session on this. I think we are at a critical point. We have said that so many times during this long and sad saga, but it does feel that we are again at one of those moments where things could go in either direction.

I would like to credit colleagues in BEIS for having worked really diligently with us, to make sure that we understood what was going on, in so far as it is possible to do that, and that we had an opportunity to feed into the development of alternatives. So I feel, in so far as there is a loop to be in, we are in it.

It does feel, though, that this is a very complicated moment. Who can say what the outcome of the current movement on the Northern Ireland protocol will be? It is also not entirely possible to read some of the soft mood music coming out from people around the Commission, if not directly in the Commission. It feels to me like everybody wants to find a way to make association happen. The tragedy of it is I still can't quite see that happening, so we are in this moment—it's the hope that kills you, isn't it?—where it feels like maybe there could be a breakthrough, but it is not clear to me what the path is.

Q31 **Chair:** How long do you think the Government should give it? As every year—every month—goes by, the advantage of association is being lost, because it is currently in flight, as it were. How much more time do you think should be given before the Government diverts to plan B, as it has come to be known?

Vivienne Stern: This is a question that we debate endlessly. In the last six months, that has become quite an intense subject of discussion. I can say to you that UUK is governed by a board, but we also have a task and finish group that brings together people from universities in a variety of different roles: not just the VCs, but people who are research managers, PVCs—all that kind of stuff. So we keep asking them this question.

It is absolutely clear that damage has been done by continued delay. There is a pot of money that should be being spent in research, which is currently tied up and not being deployed for the purposes it was intended to serve, and that is a big problem.

The guarantee does seem to us to be working. When you talk to universities they tell you that they are being successful in encouraging academics to apply. People are putting themselves forward. That is borne out, I think, by the Commission's latest figures. So there is damage, but at the same time, at this stage, it is not as though there has been a cliff edge. The guarantee is serving the purpose for which it is intended.

As I say, we have this period in which it is not quite clear how the movements around the Northern Ireland protocol—there may be a bit more creative thinking about whether there is a pathway to Canada plus that could be constructed for Horizon, given that, just to reiterate, it



HOUSE OF COMMONS

seems to me that everybody who knows about this topic wants the UK to associate, both on the European side and the UK side.

So I think our view, both at the board level and the task and finish group level, and my personal view, is that we need to hang on a bit longer—not indefinitely, but a bit longer.

Q32 Chair: Let me just press you a bit on that. If we have not made a decision by this time next year, will that be beyond what is tolerable?

Vivienne Stern: We have avoided, at all stages, putting some sort of artificial deadline on this, and I think that is wise, because we are in a fairly dynamic environment. All sorts of things are moving parts in this.

I also wonder whether this has to be as binary as we have all suggested. There are two paths ahead of us: one is association and the other is Horizon alternatives. There may be a way to keep the door open to association when the wind changes, if you can unbundle the alternatives package to some extent—so you can get some of that funding flowing into the system but you can still hold open the door to association.

It is complicated by the fact that the Commission would need to agree to renegotiate our financial contribution. I am sure, in the session you have with BEIS colleagues, they will be able to explain that better than I can, but, fundamentally, you cannot spend the money twice. If you promise this to pay into the Horizon budget, you cannot spend it on something else. Well, could we decouple that somehow? Is there an unbundling solution that would allow us to keep the door open when the wind changes?

Q33 Chair: I understand the reluctance to set a deadline. It is easier not to, and there is the hope that there will be resolution; but isn't there also a danger for your member universities that actually, in pursuing hope, it could be left months—years—and actually an important period of funding will no longer be available and will evaporate for no good purpose? However difficult and painful a decision, isn't it a required act of leadership on the part of the Government, but also the science community, to say "We are going to lose more than we gain if we continue in this stasis"?

Vivienne Stern: It is, and has been, a tortured discussion in our task and finish group and the board. There are people within our community who would say, "Get on with it. Just do it, now. Just be decisive. We can make something of this big budget." There are other people who say this is a very difficult moment to throw your hat in that ring.

We have just heard—I missed most of the last session, but I think you will have heard—about anxieties over the investment in research in the climate that we are coming into. Everybody knows that the Government is going to be under huge financial pressure, so there is an anxiety there about to what extent alternatives will be funded to the extent that we



HOUSE OF COMMONS

have been promised or the Government have committed in the spending review.

Then, of course, there is the longer-term perspective—the question that you have to try to make a judgment on, about whether in the long term our interests are better served by trying to stay part of the system or by getting on with it and doing something that would allow you to move faster. All I can say is there are differences of opinion on that. You could probably get people from the same institution arguing passionately from different perspectives. The consensus at the moment is to hold on for a bit, but not indefinitely.

Q34 **Chair:** Hetan Shah, does the British Academy share that view?

Hetan Shah: It is worth saying that the UK has done phenomenally well out of Horizon Europe and European programmes in the past, but the humanities and social sciences, in particular, have done especially well, so our community is really supportive of pushing for association.

Q35 **Chair:** Well, you have done well in the past. The previous circumstance when we were a member of the EU was you could get out more than we put in. That is now not available. It is literally the case that we will be able to do just as much as we pay in there. To pursue what was previously available is now no longer an option, is it? Isn't that a kind of romantic distraction from the decision before us?

Hetan Shah: I am explaining why my community is passionate about association, because they have been linked into this.

It is worth remembering that it is not just about the money. Research is a collaborative process. You just have to look at the state of the world at the moment. A war in Russia has led to an energy crisis, which has led to knock-on effects on the economy. So having those international links for research is incredibly important.

On the kitemarking of the scheme, the ERC peer review processes are held in very high regard and a plan B would not necessarily be able to replicate that at speed.

All these things mean that our community—and we check back with it regularly—is still of the view that we should be pushing for association rather than pivoting at this stage.

Q36 **Chair:** If in a year's time we still have not associated, and the money that was set aside is, because it is in the current financial year, no longer available, would you have to reflect back to your members that not taking a decision might have been at the cost of several billions of pounds of research funding that could have been deployed in an alternative scheme, however second best?

Hetan Shah: I think our fellows and wider community are cognisant that there are uncertainties in every dimension here. As you were saying, it is



HOUSE OF COMMONS

a kind of 3D chess, so, yes, you could posit it in the way that you have, but, as you have just said, the new scheme may also not be funded to the hilt, as has been promised. It may in a future spending review be cut back, if you find that the applications are not as high. So the lock-in that you get by being part of Horizon—there is value in that, as it were.

Q37 Chair: I do not want to take more time away from my colleagues, but could you do what Vivienne Stern suggested and have some sort of hybrid—in other words, get on with the UK scheme but, if the wind changes and it is possible to be associated in the future, you can then do that? Why wait and do nothing rather than get on with something that you could then use as a step in?

Hetan Shah: What we have been calling for is the next step, which is using the transitional measures that were outlined by BEIS now. Our view is that of course it would be made clear to the European Commission that if we associated late we would not expect to pay the full fee. Therefore, there is a pot of money that, in a sense, is owed to the research community now. We should use those transitional measures, which essentially uplift existing schemes in the system right now. That will help with the uncertainty that the community is feeling.

Q38 Chair: Thank you. Finally, Sarah Main—the same questions.

Professor Main: Many of you in the Committee will know that the Campaign for Science and Engineering has a very broad membership, which covers businesses, learned and professional societies, and trade bodies, as well as universities and research charities. Knowing that my colleagues on the panel have deep expertise in the academic field, I wanted to try to bring to you some of the more business and trade association-type perspectives.

I, and my colleagues in the office, have spent time checking in with organisations over the last two or three weeks, in order to be able to give you some sort of fresh and up-to-date views, as I have been concerned that we might drift away from what organisations are actually feeling on the ground. I have been genuinely surprised by the strength of the message that has come back in favour of pursuing association. It has come back loud and clear from learned and professional societies, professional institutions and companies large and small.

If I may, I wanted to share with you one anonymous quote from a multinational R&D company with a significant R&D footprint in the UK, because I think it helps us to step back and see the bigger picture while we are considering all the fine-tuning of the details. I need to say that this company is not significantly reliant on Horizon funding for income. They are a commercial business and most of their income is from commercial activity, so their view is not really as an organisation that is dependent on this income stream. However, they are very interested in the health of the environment for R&D in the UK.



They said to us: “We are very pro-association, both in terms of the scientific opportunity it presents for UK institutions, but also critically from a UK skills base perspective. As an organisation looking to recruit scientific talent in the UK, it is important that scientists feel the UK is an appealing place to base themselves.” I feel that is a much broader perspective on the whole issue that the Committee is considering today.

That quote is not unique. I have a number of similar ones from companies headquartered both in the UK and abroad, and that was a consistent message. So when you ask whether we should turn—should we pivot the focus from the UK Government?—given the strength of views I have heard over the last few weeks from direct recipients and indirect beneficiaries, I would personally say hold fast. I hope that the new Administration and the new cast of characters with responsibility for these negotiations might offer a fresh opportunity to reset relations and try to resolve any remaining issues that can lead us to a conclusion of this negotiation as quickly as possible. Horizon association sits there ready to go as soon as that is done.

Q39 Chair: Thank you. I am going to turn to Carol Monaghan, but it seems to me, from my vantage point, to be a matter of consensus that we would like to associate. Certainly, that is the Government’s preference, and it is very evidently the community’s preference, but that seems not to be the question before us, as it were. It is clear that there may be, with a different set of faces, an opportunity to reach an agreement, but we are now in flight, as it were, and every month and year that we are not admitted—not allowed to associate—we risk losing research funding.

The question, I think, on which the Committee will look to express views to the Government, is what to do now. Should we be accessing that money and deploying it for international collaboration now, or risk seeing it evaporate, accepting that we would prefer to associate? Does CaSE have a view on the timing of making that decision to implement some sort of domestic alternative?

Professor Main: I might offer a slightly different perspective from my colleagues on the panel in answer to that.

I think this relates to the approach the Government have taken to stakeholder engagement over the summer and this year. I think it is clear from the transitional arrangements—the Government has said that it has consulted with academies and UKRI and so on; I feel the network for consultation has somewhat shrunk, and I can understand there might be reasons for that. I actually think a fairly small community of organisations in the R&D sector has been involved in discussions to date.

I think that contributes to the difficulty that the Government finds itself in, in having a dialogue with the R&D sector about the alternatives. I feel that most organisations I speak to are not sighted on what those plans are, and therefore the question you are putting—let’s assess the benefits or risks—is very difficult to assess, for organisations individually and



HOUSE OF COMMONS

collectively. I would encourage the Government and the new Minister to set out a clear engagement plan for two important purposes: to help to develop the options for a longer-term alternative; and to communicate what their plans are, and assess the benefits and risks of them, with the wider community.

Chair: We will have the opportunity to put that directly to the new Minister very shortly. Let me turn to my colleagues, starting with Carol Monaghan, and then Graham Stringer.

Q40 **Carol Monaghan:** Sarah, you talked about the amount of consultation, which seemed to have shrunk. Were you consulted on the so-called plan B?

Professor Main: If I give a bit of colour to what I am saying, the Government, I feel, did take a very consultative approach post Brexit and, when Jo Johnson was Science Minister, set up a forum with stakeholders across the R&D sector, which met approximately monthly. That ran for four or five years and several Science Ministers. Whether the Government felt that that was no longer useful, I do not know, but that has dropped off. It has faded away, so there is not a forum for regular consultation.

Q41 **Carol Monaghan:** On their actual plan B that was published in the summer, did they come to you at all?

Professor Main: No. I hear from other organisations. What we pick up is that some organisations feel that they have been consulted on some aspects, but they have not had a clear sense of what they might be consulted on in future, and why. So there is not a sense of how that engagement is going to develop.

I think there is a sense of anxiety among the broader community that there might not be any consultation at all. I really think it is important that a clear plan is set up so that people can understand when they might have an opportunity to contribute and to help develop these ideas.

It is a great joy of my role that I hear from people who work in very different parts of the R&D sector, like, for example, agriculture versus mathematics. They each have really distinct views on what it is about the plans that is valuable to them. So, for example, an agriculture organisation was saying to us that the long timelines in some of the programmes are particularly helpful when you are dealing with growing cycles in an agricultural environment, where you have to engage farmers in large-scale R&D projects that take many seasons.

Breadth of consultation will really help to improve any alternatives the Government might be thinking about.

Q42 **Carol Monaghan:** Can I ask the other two panellists the same question: were you consulted on the Government's plan B?



HOUSE OF COMMONS

Hetan Shah: We have been. The national academies are involved in the delivery of plan B and therefore have necessarily been involved in the discussions around it, but we have been pressing at most meetings to say, “You do need now to start talking to a wider community.” It feels to me that the interregnum that we had, with the lack of a Science Minister over the summer, was a critical point. We had got to a certain point. BEIS had published its prospectus, and I think its view was that over the summer we would be doing some informal engagement. There was then no Science Minister. There has been a gap for all sorts of reasons, and I think that has not helped.

Vivienne Stern: We do feel that we have been consulted. We have had quite a lot of opportunity to discuss it at a quite granular level—particularly the short-term elements of the alternative package. We, though, agree—I absolutely agree with Hetan—about pressing the Government to get information in the public domain, and on Sarah’s point about making that sort of conversation possible to have across the wider academic community, because there is quite a closed discussion going on.

I also agree that the interregnum in which we did not have a Science Minister at a pretty critical moment was a bad idea, and it was just a mistake. It was worrying, as well, because it sort of sent a signal that this was not regarded as tremendously important. Well, from where we sit it is super, super important. I think that was a shame.

The other thing I would say is that I would make a distinction between—I do not know whether we are still using the language of “protect and stabilise”—the mechanisms that you would use in the very short term to get the system moving along, retain talent and do things relatively quickly that would get funding into the system, and the long-term measures, where we are still dealing with quite high-level proposals and ideas. I don’t think we are at a point where people are really talking about detail. So if we are really going down that road there is a need now to start exposing more of that detail to scrutiny and discussion.

Q43 **Carol Monaghan:** Are there any significant points that have been missed from the Government’s proposals for plan B?

Vivienne Stern: I would like to make a point that I hope is starting to be listened to. I think it refers to something that Hetan said. There is something about stability and predictability. If you want to put together a really great project, especially if it is collaborative, you need time. You need to know that a call is going to open up in a year and a half’s time, so you can start the discussions with people you might collaborate with. You build a relationship. You brainstorm what kind of project you might put together. When the call opens, there is a lot of work behind that that allows you to say, “Right, I’m going to put together a great bid.”

If you do what, frankly, we have seen in a lot of science funding in the last few years, and you do things at very short notice—short notice for



calls; they are here today but they never happen again—that is inefficient use of public funding. You will get lower-quality proposals because people cannot predict what is coming down the line.

Q44 **Carol Monaghan:** Can I ask about proposals? Are people generating proposals just now while they are in this limbo scenario in the hope that things are going to open up maybe in 18 months' time, or are things stagnating?

Vivienne Stern: It is a bit like looking at the stars. You can only see what happened in the past when you look at the number of bids that are being submitted, because the things that are being submitted now for either ERC or for collaborative projects were prepared in a moment when everyone was really optimistic; we just thought it was a matter of time. We were frustrated but we thought it was a matter of time. When you look at application rates now, you are looking back in time a little bit.

I am still told by people in universities that the research community still has the appetite to apply for these pots of funding. We have done everything we can to try to encourage them to do that. The guarantee was really important in trying to give people more confidence that, one way or another, you will have funding.

I apologise if I get into the weeds, but there is one element of the alternatives package that is critical: third country participation funding. A lot of the conversation about Horizon has been about the fact that we like to be able to collaborate with research teams in other countries. We can still do that outside of Horizon Europe as long as we have a cast-iron guarantee that the UK will provide effectively pay-as-you-go funding through the third country participation guarantee. That is there at the moment—people trust it—but there is already a signal in the alternatives package that it might not be there forever.

One of the things I would like to really underline is, whatever happens in the alternatives package, the third country participation guarantee should be there for the long term, not just until 2025. If that is there, I think we can get people to keep applying.

Hetan Shah: Could I add just on what is missing? In a sense, BEIS is trying to build a not quite like-for-like but is looking at what is provided at the moment and what can we replace it with. The bit on talent is relatively well developed and we can see how it maps on to what has been provided by the ERC and MSCA grants.

The bit that probably needs a bit more thought is around the international; there is an international pillar. There is a slight worry around whether it will be too bilateral, rather than very multilateral researcher-led collaborations. Will it be more Whitehall-led, saying, "We think you should be working with country X on technology Y"? That mentality works when you have a small international pot, which is what the current Government plans are for non-plan B, but if you then use that



HOUSE OF COMMONS

mentality for taking over a European programme that just will not work at all.

I very much echo Vivienne's point about third country participation.

Q45 **Carol Monaghan:** Sarah, is there anything missing from plan B at the moment?

Professor Main: I would agree with what the other panellists have said; I am supportive of that. I get the sense from the feedback we have heard that people still view plan B as a shadow of what is required; it is not meant to be and it is not a full replacement for advising Europe.

Q46 **Carol Monaghan:** Almost a safety net?

Professor Main: It comes across like that, yes. People still point to issues such as it may be that UK researchers can be part of bids, but can they still be a lead applicant and all the things associated with prestige and value to the UK—the influence piece, as well as the leadership piece.

I have said there needs to be more conversation and dialogue about what the long-term plan is. In some senses, that is missing from what we have heard so far, but I do not think it was intended to be a long-term plan yet.

I would agree that the three main areas we should be thinking about are the funding, the international collaboration and the prestige. The funding piece has elements to it such as the stability of the guarantee around the quantum: how sure are we that that will be maintained?

On the portfolio of divestment of funds, Hetan has already made the point about humanities and social sciences. It is true that European funds have supported a different portfolio of activity to UK-based funds in the past and it has supported, in a distinctive way, early career researchers, where we have heard feedback that they are more generously supported earlier in their career by European programmes.

The international piece is really important on a macro scale for our global international relationships, but it is also important for early career researchers to internationalise their own networks.

The prestige point is a challenge for the long-term programmes; that will be critical to set up an alternative programme that develops rapidly over the next few years and has sufficient prestige to give the UK that sense of appeal as a place to invest.

Q47 **Graham Stringer:** If I had to go out of here and explain why there is still uncertainty around this programme—what are the barriers to reach an agreement?—I do not think I could, because Vivienne says that there is good will on both sides. In two or three sentences, what is stopping the agreement?



HOUSE OF COMMONS

Vivienne Stern: Frankly, the Commission has decided to link two things that did not need to be linked. The Commission has decided that agreeing our Horizon association cannot be progressed while the Northern Ireland protocol is unresolved. That was a decision; they did not have to make that decision. They have, incidentally, done something very similar with Switzerland. I am not pointing fingers or apportioning blame, but that is why we are where we are.

Q48 **Graham Stringer:** I understand it better now, thank you. Is it possible to put a cost figure on the uncertainty?

Professor Main: That is a great question.

Vivienne Stern: I can take a stab at it.

Graham Stringer: We are scientists; we like numbers.

Professor Main: I think in time, as Vivienne was talking about earlier, looking back we might be able to see some of the effective uncertainty. In the present moment, you are trying to quantify things not happening—the telephone not ringing, the invitation not being issued or a sense of hesitancy about reaching out to a partner. Quantifying inaction is really challenging at the moment. I imagine that with a longer telescope you might be able to see some of the trends in broader data about research awards and numbers of participants.

Vivienne Stern: I do have an answer to the question. You could ask the next panel about the underspend on the guarantee, because in a sense what happened is a budget was put aside to fund the things that we thought we might be successful in winning—bids that were successful—and there is an underspend on it. That is one way of quantifying the damage.

The other is the committed but unspent budget. I suppose I should be very careful saying that in the current context, because committed budgets are super-vulnerable, but that is the other way of quantifying it.

Hetan Shah: Coming at it from the other end, if we knew how much we might have expected to be bringing in from Horizon in previous years, how much has been otherwise spent? Probably very little, as you say, other than the guarantee. That is the quantum, and that is what I have been arguing should be now unlocked for the transitional measures this year.

The other impact, of course, is around recruitment and retention of talent. I saw the other day a figure of 22 people having left; it might be higher than that. Clearly, they have 22 named people who have said, "I got my award and I'm going to Europe with it rather than staying here with the guarantee." When we talk to vice-chancellors, they are also finding it harder now to bring people to the UK. The exchange rate and all sorts of other things are not helping either.



HOUSE OF COMMONS

This notion of making the UK open for business, a place for science and research—there are all sorts of things that have been ticking away, which have not helped the case.

Q49 Graham Stringer: Thank you. It is a lot of money in the Horizon programme for science. You could build 20 CERNs for the revenue cost of the Horizon programme. What major scientific breakthroughs can be attributed to the Horizon programme?

Vivienne Stern: Shall I pick one? There is a very long-running programme of investment in clean aviation. It is no longer called Clean Skies, but it was called Clean Skies. That has brought together universities, research institutes, companies beyond Europe; it is beyond the geographical European continent. We will write to the Committee, if you permit me, with some facts and figures, but it has generated multiple innovations, new processes, products and technologies that are accelerating the progress towards clean aviation. It is this cloud of innovation that is only possible because you have this big team working together.

That is not quite the pithy answer to your question, but I will write to the Committee with some facts and figures on that.

Graham Stringer: That would be helpful.

Hetan Shah: I will give you a different example. Aditi Lahiri is potentially the most successful UK researcher in receiving these grants. Her field of work is linguistics. She has a language lab in Oxford and all the work is essentially feeding into how language works, which is what underpins all the work around artificial intelligence and language, providing the theoretical base for the UK being an AI leader around all these things, around voice recognition, and so on. Some of the theoretical stuff, which can seem a bit esoteric, has all these enormous applications for the UK.

Q50 Graham Stringer: This is my final question, if I may. It may sound somewhat controversial, but by and large universities within the European Union are not of the same standard as our very best universities and the very best universities around the world—the Harvards, Caltechs, Oxfords, Cambridges. Is it not better to start looking to build an international programme? All our witnesses and everybody who understands science are collaborative; that is a good thing. However, would we not be better, as a country, spending our money in collaboration with better universities than you find in the European Union?

Vivienne Stern: First, people get obsessed with the idea of a good university and a bad university. What happens, particularly in the research space, is you get institutions that are very good at something very specific. Even in the UK context, if you take somewhere like Dundee, you would not hold up Dundee necessarily against an institution that has huge strengths in chemical engineering. However, if you are looking at



HOUSE OF COMMONS

life sciences, Dundee is one of the best in the world. The same is true across Europe. There will be places that do not necessarily achieve prominence in the rankings, but they are really good at the thing that you are super-interested in, or they have access to a particular technique, or a facility, or a dataset that means they are the people you want to work with.

I would not argue that we need to collaborate with the 27 European Union member states particularly. What I would argue is that Horizon Europe provides the only platform in the world for collaborating across geographical boundaries at massive scale, with Europe but also beyond Europe.

I mentioned the third country funding mechanism. That means that if you put together a collaborative project, yes, you can involve European partners, but if the person who is just absolutely the best in your field happens to be in Mexico, they can come as long as they bring their own funding. So, you end up seeing projects that go far beyond the geographical or the political structure of Europe, bringing in expertise from all over the world. Clean Skies is one example of that, but you have a platform that is just very, very hard to recreate; for us, in our little island, recreating that would be incredibly difficult.

The other side of it is we have had a period in science funding policy where we have underinvested in collaboration with advanced economies. That should be fixed irrespective of what happens with Horizon Europe.

Q51 **Dawn Butler:** I am very interested in your last response. Can you express again how important it is to have this collaborative working and technology transfer and how that affects the speed of progress in science and technology?

Vivienne Stern: My colleagues might be able to illustrate this using examples better than I can. Whatever question you are trying to answer, or discovery you are trying to make, it is really unlikely that on your own, with your colleagues that happen to work in the same institution as you, you are going to have all the best insights, all the best expertise to put to that question.

The more we can build teams that bring in expertise and insight, wherever that happens to be located—remove geographical boundaries—the better the research that we produce will be. You can see, evidenced by data on the impact of research as you measure it by things like field-weighted citations, that collaborative research has a bigger impact. My colleagues might be able to tell the story more compellingly, but that is broadly the way I would argue it.

Professor Main: Yes.

Hetan Shah: Look at the vaccine development and the way that built upon years of international collaborative research. Talking from our fields,



HOUSE OF COMMONS

a lot of work has been done in recent years around vaccine engagement: why did certain communities take up the vaccine and others not, and so on? We have helped look at that across the G7, in Italy and other countries. Understanding those comparative lessons has been critically important in feeding back to the UK.

We then had seminars. The US embassy wanted us to hold something, explicating those lessons. We are now living in a global world and we can't stand apart from that to understand the world we live in.

Professor Main: From a business or commercial point of view, it is worth remembering that the multilateral framework of Horizon Europe does not only support academic research; it specifically supports a crossover of academic, inter-commercial spaces, allowing people experiences, connecting SMEs, large businesses and academia, acting as a partnership broker in a really important way.

If you think about it from a commercial point of view, businesses looking to invest either in the UK or Europe will be thinking about not only the skills base and the quality of R&D that goes on that they can access, but also the market environment, the regulatory environment, what the customer base is for the products. There is simply a commercial advantage to having access to a globally significant market, with a unified regulatory and commercial framework for intellectual property, for considering regulation around new innovation and so on. That is an appealing aspect of that integration of academic and business environments.

In response to Graham Stringer's question earlier, where he was asking about the breakthroughs and the top universities and so on, we hear often from companies that are not only interested in the top flight breakthrough, the top flight person, but in the team that supports that work. We have companies that we talk to that support digital infrastructure and so on—essential innovation. Their whole team of people is essential to their success. You must not underestimate the value of the internationalising of relationships that this framework provides.

Q52 **Dawn Butler:** On 23 September, the Prime Minister announced the scrapping of the National Science and Technology Council. I do not know whether you guys are aware of this, but during our session today, the Government has announced it is establishing a new NSTC, to be chaired by the Chancellor. There were a lot of concerns when initially it was being scrapped—I am putting you on the spot now; apologies for that—but what are your initial responses to today's announcement?

Professor Main: That is terrific news. Had that not been announced today, I would have said to you that that is what is required. While I think people's nerves were rattled by that committee being disbanded, I did see it as something that was not taking aim at the science community



in particular; there was a reduction of committees across the Government's portfolio. That in itself did not concern me.

The Government needs an authoritative and senior-led cross-Government committee to consider the huge advantage that the UK's capability in R&D can offer to Government in their own activities and where Government can co-ordinate efforts across all Departments to make progress with these significant national missions that we will try to see improve. I would welcome a Chancellor-led committee and I would wish to see every success in their role in co-ordinating that effort.

Q53 Dawn Butler: Hetan Shah, how do you feel about that?

Hetan Shah: For a Government that cares about growth, it did not get off to the best start because science and technology and research were not mentioned or held up front. It took a long time to appoint a Science Minister and then this committee, probably accidentally, got corralled because they were trying to shrink the number of Prime Minister-chaired committees. After all that set of signals, plus the Horizon uncertainty and so on, it feels as if they are now getting their act back together again.

The vision behind this committee was Sr Patrick Vallance's view to try to embed science and technology and research all the way across Government and at that ministerial level, so it has a really important role to play. People did say, "What did the NSTC achieve in the last year?" It met three times, it was chaired by the PM and it definitely had a set of actions, although those were not necessarily in the public domain, but it was rolling. Let us just hope that you switch to a Chancellor-led committee, but it picks up from where it was before.

Vivienne Stern: I will give two examples of where that cross-Government co-ordination is super-important. This is me shoehorning in two things I would like to tell the Committee about.

At the moment, there is a write-around going on around Government about cutting student visas. That is not going to feel like a base problem until you recognise how much there is a cross-subsidy between the researcher and the universities and the income that international students' fees bring in. Suella Braverman is talking about reducing the number of students and the dependants they bring. These are, by the way, postgraduate students—PhD students and master's students—who are bringing in family members because they happen to be older. That will have a material impact on the amount of money that universities have to spend on research. You need BEIS to take an interest; you need the Treasury to take an interest.

Another example is that we have a problem—a little cliff edge—brewing around things that were funded previously by European structural funds. There are lots of facilities in universities that are designed to help companies access research expertise. There is no funding available through the UK shared prosperity fund to keep that going. We need the



HOUSE OF COMMONS

Department for Levelling Up to understand that it now has a real stake in the research infrastructure system.

Those are two areas where this Committee should be taking a cross-Whitehall view of how policy impacts research.

Q54 **Rebecca Long Bailey:** I have two very brief questions: first, what impact do you think the current economic climate will have on the UK's R&D sector?

Vivienne Stern: We absolutely understand that the Government are going to be under huge financial pressure and that there are people who are struggling to make ends meet. Making an argument for preserving the commitment to invest in research, looked at from a certain angle, is a tough sell. However, we would say you have to stick with it, because that translates into companies that do well and, therefore, can increase the number of employees they hire—better jobs. That seems something we have to try to continue to encourage Government to do, even though they are going to be under huge pressure.

Hetan Shah: I was heartened yesterday when George Freeman asked a question of a Treasury Minister in the Commons, and they said the money for science research is going to stay where it is. It feels that we have a situation where both main parties are focused on the issues of growth and productivity. They do recognise the importance of research as a long-term engine for this. Clearly, there are some pressures on budgets at the moment, but my sense is there is cross-party support for continuing to invest in long-term research, which, for the reasons that have just been outlined, are very important.

Professor Main: I agree with what the other panellists have said. I too was very heartened by that statement yesterday. In what feels like a volatile economic situation, what we hear from companies in the UK and abroad is that signalling is very important. Signals such as committing to the spending review trajectory are extremely important, as are signals from the Government about championing and celebrating our excellent university sector as part of the attractors to the UK—as an appealing place to do R&D.

What the Government could do to reaffirm their commitments and to encourage this progress to growth is to double down on that: take the spending review three-year commitments and set up a more detailed budget trajectory to make that public money work harder, so people can plan and predict off the Government's intentions of what they want to do with that money and the direction they want to go.

A hearts-and-minds statement about the Government's vision and ambition for R&D in this country would go a long way to enthusing and stimulating both the R&D sector in the UK and everyone else watching us and deciding where to deploy limited and finite resources for R&D in global boardrooms, thinking, "Is the UK the place to go this time?"



Q55 **Rebecca Long Bailey:** Finally, we are about to speak to the new Science Minister. What do you think is the biggest issue in R&D policy that the new Science Minister should focus on?

Professor Main: There is a confluence of opportunity that means the decade we are in has huge potential to transform the economy and culture of the UK; we could get to 2030 and think, "This is a significantly changed UK." That is possible because we have a confluence of cross-party agreement on a unified theory, if you like, for growth that research and innovation is part of that.

It does require co-ordinated and concerted delivery, not just from the Science Minister but from colleagues across Government. Much work has been done to detail what that would require. The Office for Science and Technology Strategy did some good work on that over the summer; many other organisations have, too.

Think about a skills mission, an infrastructure mission, a markets and regulation mission—that all goes alongside creating a science superpower, if you want to use that language—but a UK whose economy and culture is much more driven by our outstanding capability in science and innovation.

Hetan Shah: All the things we talked about today—stability, a clear operating framework, Horizon Europe—are very clear.

I will pick out two other things from my own patch. One is the importance of seeing all the UK's research assets on the science, humanities and social science side tackling the big issues we face, be that energy, security, productivity, growth and so on. The UK's strength around social science and behaviour and all of those sorts of things is really needed alongside science and technology.

Finally—this is more specific—there has been a really powerful signal about the UK on the international stage, which is the scheme that we have set up to support Ukrainian researchers at risk, which the Department has backed. We have now brought over 87 researchers, and over 100 dependants. We now have that in place, supported by the national academies with Cara. Can we make that scheme permanent so that whenever researchers are at risk around the world the UK can show a beacon for science and researchers?

Vivienne Stern: The big job is championing investment overall in research and innovation as an investment in the UK's future prosperity. It is a big responsibility in a period where I imagine the Treasury is going to be coming after everybody with big pairs of scissors.

This is something we all need: that the new Minister can be an effective champion for the long-term arguments for keeping the faith and investing in this stuff, because it will matter colossally to all of us in the future.

Chair: Thank you very much indeed, Rebecca. I can see the new Science



Minister waiting in the wings, so that is quite a build-up and set of questions for her. I thank Vivienne Stern, Hetan Shah and Sarah Main for their evidence this morning.

Examination of witnesses

Witnesses: Ms Nusrat Ghani MP, Alexandra Jones and Harriet Wallace.

Q56 **Chair:** I invite the Minister and her officials to join us at the table. As they are doing so, I will introduce, first, the Minister's officials, who have been very helpful to the Committee in the past. Alexandra Jones is Director of Science, Research and Innovation at the Department for Business, Energy and Industrial Strategy. With her is Harriet Wallace, the Director of International Research and Innovation at BEIS, and Nusrat Ghani, the Minister for Science and Investment Security at the Department for Business, Energy and Industrial Strategy.

Minister, welcome and congratulations. You certainly have one of the most important and, in my experience, most enjoyable jobs in Government. I hope you will enjoy it and I hope you will achieve great things. Thank you for coming so early in your tenure to the Committee today.

We noted earlier in the summer that the Cabinet Committee, the National Science and Technology Council, had been disbanded by the new Administration. We learned today, this very morning, that there is to be a revived committee, the National Science and Technology Council, to be chaired by the Chancellor of the Exchequer. Is this going to be a Cabinet Committee in the way the previous committee was?

Ms Ghani: Thank you, Chair. Can I first of all congratulate you on returning as Chair? It is nice to have a constituency neighbour in the post. May I take a few moments to introduce myself, because I believe it may be the first time the sector has come across me?

Chair: Of course.

Ms Ghani: I know there has been some anxiety that there has not been a Science Minister about. I was very keen to come to you early, even though I have only been in post a few weeks, not only to make sure that I am available to you and to be the best champion for the sector that I can be, but to calm any jitters: I do exist; there is a Science Minister. Whether I was on the Front Bench or the Back Benches previously, I have always aimed to be the best champion that I can be for the sectors that I take care of. I hope to do the same for science, technology, innovation and R&D as well.

You have also taken a bit of my thunder. I was hoping to announce that any anxiety about the National Science and Tech Council was one I also had when I first arrived. I was going to say that I am pleased to announce that it has been—you used the word "revived". I would have said having a good Minister in place meant that I was able to pull all the



HOUSE OF COMMONS

right levers and make sure the committee was in place again. Who stole my thunder, I dare ask?

It will be led by the Chancellor. What is really important is I will be there; my Secretary of State will be there. It will be ministerially focused and driven. It is a great opportunity to get everybody in Government to be clear about the data on science and R&D, and to show why it is value for money, how it helps the Government deliver their agenda on being inclusive, greener, knowledge-driven, and for me to have an innovation-driven economy. That is hopefully what I can bring to the table.

I do not think it really matters whether everyone who attends is at Cabinet because I do not attend Cabinet. What is going to matter to me is that we have a really good programme of work and we deliver it for science and R&D.

Q57 **Chair:** Indeed. It is very good of you to come to the Committee with an announcement.

Ms Ghani: It was already taken before I got here.

Q58 **Chair:** Your Department released it early to help us. Is it formally a Cabinet Committee or is it an informal committee?

Ms Ghani: I am not sure what the difference is between a formal and an informal Cabinet committee.

Q59 **Chair:** Is it a sub-committee of the Cabinet, which it is perfectly normal for non-Cabinet Ministers to attend?

Ms Ghani: It is chaired by the Chancellor; it will be driven on the same principles as before. I am hoping that I can help set the agenda, because I want to make sure that we are focusing on the issues that matter, which are investment in R&D and value for money.

The term you could use is "inter-ministerial group". I did something quite similar when I was the shipping Minister and convened groups of Ministers. Previously, it was chaired by Theresa May, when she was PM, and then I chaired it going forward. It meant we were able to work on a long-term maritime strategy. I am hoping that this group, chaired by the Chancellor, will help us deliver a long-term strategy for R&D.

Q60 **Chair:** I do not want to get too much into the weeds of it on your very kind and generous initial appearance before the Committee. There is a difference in the sense that a Cabinet Committee can take decisions, whereas an inter-ministerial group can advise, as it were. Does Alexandra Jones know the answer to whether it is a Cabinet Committee?

Alexandra Jones: My understanding at the moment is that it is an inter-ministerial group, but we can write back to the Committee. It has clearly been announced this morning.

Q61 **Chair:** Right—and, Minister, you are a member of the committee.



HOUSE OF COMMONS

Ms Ghani: Agreed, and if the Chancellor is attending, it will almost definitely make decisions.

Q62 **Chair:** It will have powerful people, including the Science Minister. Thank you for that.

A couple of other financial questions, as you might imagine. The Chancellor, who is now chairing the Council, of course, was the previous Secretary of State for BEIS and, therefore, responsible for the science budget. One of the things that he did was achieve a settlement of £20 billion a year for the public research and development budget by 2024-25 and £22 billion for the following year. Does that remain the case? Do those budgets remain commitments?

Ms Ghani: Absolutely, and I believe, Chair, that you even asked the Chancellor on the Floor of the House a few weeks ago whether the commitment to £20 billion and £22 billion remains. That commitment was made then.

Yesterday, the previous Minister for Science, George Freeman, asked a very similar question and the commitment was made again by Treasury Ministers. We have the exact words somewhere that were stated. It continues to remain the case.

Q63 **Chair:** Excellent. It is very good to have it confirmed by the Science Minister. There have been one or two developments in recent weeks.

Ms Ghani: Indeed.

Chair: I was concerned, and perhaps other members of the Committee might be, that that might have some implications, but you have had conversations before coming here to satisfy you on that.

Ms Ghani: Absolutely. It helped that George Freeman asked the question yesterday, Chair, and that it was double confirmed, after you asked a few weeks ago, by another Treasury Minister, that those budgets were most definitely committed and in place.

Q64 **Chair:** Very good. Finally, we are going to come on to talk about Horizon Europe association; you know that that is of great interest to the science community. We are not associated yet with Horizon. The previous Chancellor made a commitment that the subscription was ringfenced and, were it to be the case that we did not associate, it would be used in its entirety to fund what has become known as plan B. Does that commitment still remain?

Ms Ghani: Absolutely. This is the £6.8 billion you are asking me about, Chair. Yes, so it is £6.8 billion, and that was either for the association, which is obviously what we are always hoping for, or the alternative. That is most definitely still the case.

Q65 **Chair:** Finally, there was a question that we were asked to ask by the previous set of witnesses, so I will do so. There has been an underspend



HOUSE OF COMMONS

on the guarantee that was made pending these negotiations. Will that underspend remain deployable for science?

Ms Ghani: This is the underspend after the allocation of the £340 million that has already gone out the door, which has been a huge success of the guarantee project.

Chair: Indeed.

Ms Ghani: I turn to my colleagues.

Harriet Wallace: UKRI has that guarantee up and running. The majority of those eligible have already taken it up, but they are continuing to process applications and the money is available still for anyone further who wants to take this up. The latest statistic, as the Minister said, from the end of August is that £343 million has gone out, but more is going out and we expect that to continue to increase.

Q66 **Chair:** Were it not all to be allocated, would that still be available for research and development?

Harriet Wallace: Yes, that money is all set aside.

Chair: Very good. Thank you very much indeed. That is a very clear and comprehensive answer to my question.

Q67 **Graham Stringer:** Thank you and congratulations, Minister. My apologies; after these questions, I am going to rush off.

Could you give us an update on ARIA? While you were taking a seat, I googled ARIA and nothing came up, which I hope is not an indication of activity on it. Tell us what progress has been made.

Ms Ghani: Mr Stringer, I apologise if nothing has come up. I am sure that will be resolved quite quickly. Within my brief, I take care of life sciences as well as being the traditional Science Minister, including ARIA and UKRI. So that people are aware, I also take care of critical minerals and supply chains, the shipbuilding strategy and the investment security unit.

ARIA has taken up a considerable amount of time since I have been in office. We do have an update, so it disappoints me that there is not much for you to google. The programme at the moment was to make sure that the management team were in place. Both the CEO, Ilan Gur, and the Chair, Matt Clifford, took up their posts on 15 August. I am really excited about the talent and experience they bring and the talent and experience they can attract to the organisation, too.

We have empowered ARIA's leadership to operate with significant freedom and strategic autonomy. Ilan Gur is responsible for defining the agency's research agenda, recruiting and inspiring the agency's first cohort of programme managers, and creating an environment where there is going to be a paradigm shift and discoveries will be made.



HOUSE OF COMMONS

We have been able to appoint some more people to the board. It is important that we do not become heavy-handed politically because we need this organisation to be as blue sky as possible; we do not want it to be directed by politicians such as ourselves. We need to make sure people out there who can come up with the solutions are given the space to do so.

It has moved on and, because there was no Minister in place over the summer, obviously there were a few delays, but we are back on track. It is back on track to reach its programme of work for early next year—spring 2023, I believe—when the funding will start leaving ARIA and start supporting projects that hopefully will be high risk but high worth to us as well.

Q68 **Graham Stringer:** Do you have an expectation of when there may be any results from these programmes?

Ms Ghani: It will depend on the projects as they come forward. The projects will be mission-driven and no doubt have a timeframe too. I cannot say at this point, “This is when we need a result by and what the result should be.” It has to be very separate to a UKRI or a traditional programme or research-driven project. We need to give ARIA the space to do so. I believe that is the correct response.

Alexandra Jones: Absolutely. As the Minister said, you would expect that the approach they are planning to take is that some projects will stop and start very quickly. They will have a view about what “good” looks like and the freedoms we have given them mean they will be able to stop things quickly if it is failing and go ahead. Significant results will take time.

Q69 **Graham Stringer:** Thank you. Minister, I would understand if you did not know the answer to my next question. I will be very pleased if you do, but could you write to us if you do not?

During the debate on Brexit it was often said—and it is true—that the Horizon programme had a net benefit for this country in terms of money coming in. We were also spending money, via the regional development fund, on other science projects where there was a deficit to the country. I cannot remember how many Science Ministers there have been, but the first Science Minister I asked was Jo Johnson, who said he would try to secure that money that we had been spending via the regional development programmes for this country. My question is obvious: have you managed to secure that funding?

Ms Ghani: I would have to check. I will turn to my team; otherwise, we will have to write to you and confirm.

Alexandra Jones: We would need to check the exact amounts to confirm. We have been investing £300 million, for example, in Strength in Places. We have £100 million going out to Innovation Accelerators, all



HOUSE OF COMMONS

dedicated to levelling up. However, we would want to come back to you to make sure we have the precise figures.

Q70 **Graham Stringer:** Could you relate it to the original spending via the regional development fund?

Ms Ghani: You first posed this to Jo Johnson, you said.

Graham Stringer: Yes.

Ms Ghani: Hopefully, we can get a response to you this time if you did not get a response previously. We will definitely write to you.

Graham Stringer: Thank you.

Q71 **Dawn Butler:** Congratulations, Minister, on your new role. I have a very quick question in regard to attendance at Cabinet meetings. Did you say it is not that important?

Ms Ghani: My response was that we have a Chancellor chairing the meeting; we will have Secretaries of State attending the meeting. I do not attend Cabinet, so I am a Minister who will be present. The focus of those meetings will be how we get results for R&D and how we share the impact that R&D has on our country, our country's growth, our country's ability to create jobs, and deliver the Government's agenda. I am hoping the Committee will be quite reassured.

Q72 **Dawn Butler:** It is important you do attend. Do you think that is something that we, as a Committee, should stress to the Prime Minister?

Ms Ghani: I am expected to attend, Ms Butler, but if you want to reinforce that with the Prime Minister, of course I would welcome that. If you want to reinforce to the Prime Minister that I should be at Cabinet, I would, of course, welcome that, too.

My network is pretty good. There are substantial funding streams and grants available across science and R&D. There is a huge understanding across Government that we do need to do a little bit more to make everyone understand the value that we get for it. If we want to be an innovative, green and knowledge-focused economy, we are going to have to start capturing some of that data and sharing it. For me to be a good champion and to get an even more incremental increase in money, I need to work with everybody around that table to show why it works.

Dawn Butler: Thank you.

Ms Ghani: Ms Butler, do write to the PM.

Dawn Butler: Thank you. Thank you, Chair.

Q73 **Rebecca Long Bailey:** Congratulations, Minister, and thank you for coming to speak to the Committee so early on; we very much appreciate it. What is the status of Horizon Europe association negotiations at the moment?



HOUSE OF COMMONS

Ms Ghani: Ms Long Bailey, I am going to take my time to respond to this because I am speaking about it for the first time publicly. I believe there may be individuals watching from Brussels and I want to get the tone and the language absolutely right.

There is no doubt that the best-case scenario is that we are associated to Horizon, which is what we have been planning and preparing for for two years. That is what we would hope for. I am an optimist and I always want to hold out to the bitter end. At the same time, it will be irresponsible for us not to make alternative plans.

The reality is that the choice is not for us whether we are associated or not. That choice remains firmly with the EU. I know Ministers previously—Chris Skidmore, Amanda Solloway and even George Freeman—have channelled the same level of intent. The officials have been working, even though there have not been Ministers in place most recently.

The truth is that the EU is in breach of the agreement reached under the trade and co-operation agreement, the TCA, for the UK to participate in EU programmes. The EU has politicised scientific co-operation by, I would argue, inappropriately linking UK participation in EU programmes to the Northern Ireland protocol. There was no legal or practical basis for this linkage.

Our preference remains association to EU programmes. We have done everything we can to secure this, but the ball is not in our court. Officials most recently had a meeting on 22 September—a UK-EU specialised committee—which marked the end of the consultation period. We once again requested the EU fulfil its obligation to finalise the UK's association. We were very disappointed that the EU continued to decline this request.

We and I have to prepare for an alternative because at some point we need to end the limbo. I do not think it is helpful or provides the certainty that was requested by the previous witnesses if we carry on in many more months or years of limbo. We need to make sure there is an alternative in place. We have been doing work to ensure that, if we have to pivot, we can.

I remain hopeful that the EU will move, but at the same time we need to make sure that if we have to pivot we can do so quickly and provide the same level of support and assurances for UK R&D.

Q74 **Rebecca Long Bailey:** Thank you. Although the Horizon guarantee has brought some certainty, the ongoing issues with association are still of great concern to the research community, as you have just highlighted. Your contribution did not sound very hopeful, I will be honest. How would you reassure the research community that the Government are prioritising their interests in this regard?



HOUSE OF COMMONS

Ms Ghani: We are doing everything that we can through all avenues to make it clear that our preference is association. That was our starting point and that has been our point for the last—is it 22 months?

Alexandra Jones: Yes.

Ms Ghani: Twenty-two months. But the ball is not in our court; it is not a choice that we could make here. It is for the EU to make that choice and they have not budged for two years. Of course, we will do our best to continue, but at some point we will have to take a decision that we either carry on in limbo and take away the certainty the sector needs, or we pivot and give the sector the certainty it needs. That means we focus on ensuring our work is international, that we continue working with partners who are like-minded beyond the EU. It is also providing the financial and the timeline certainties the sector needs as well. That will be appropriate, I think—yes?

Alexandra Jones: Absolutely. We are looking at options to sustain investment in the sector, exactly as you are saying. With the transitions package, one of the agreements was third country participation, for example. About two thirds of Horizon calls are open to third country participants. They cannot lead the consortia, but businesses have said that matters.

We are looking at ways you can provide stability and certainty, and at how you might get investment into the sector in the interim. Certainly, some of the conversations with the EU have also been saying that it would not be appropriate to pay for calls that we have missed. That would be an opportunity potentially to look at whether we have some investment we can put into the sector.

Q75 **Rebecca Long Bailey:** On that issue, according to UKRI data, two thirds of the Horizon guarantee applications are yet to be processed. Do you know why this is so? Will the Government provide additional resources to UKRI so that researchers are able to access their grants sooner?

Ms Ghani: £340 million has already gone out through the guarantee, which is a substantial amount. Some would argue that has provided some success. But if the UKRI are behind—is this a normal pattern?

Harriet Wallace: It is a normal pattern. They are going through in a very timely way and those statistics are from August; more will have gone through since then. We are not having any resource constraints on this flagged to us by UKRI. They are just processing it in the normal way and getting increasing funding out of it.

Ms Ghani: Since you have raised this with me, I will go back to UKRI and ask them if there is a resource issue and if they can do this any faster while having the level of transparency that they need. We will write back to you, Ms Long Bailey.

Q76 **Aaron Bell:** Thank you, Chair. Congratulations to you—and to you, Ms



Ghani.

You said the preference is to stick with Horizon, but you also said that there is work going on about alternatives. Can you expand on that a bit further? How have you engaged with the research community to develop a more detailed plan for an alternative if we cannot secure Horizon? When would you publish such a plan?

Ms Ghani: I believe that the Department's officials have been meeting all the appropriate stakeholders throughout the period. There was also a stakeholder group roundtable or meeting that has fallen by the wayside. Now I am here, I will make sure that that stakeholder group meeting is reconvened so I can engage with the stakeholders as well. Do you want to share the programme of work that is taking place?

Alexandra Jones: We have been working with a number of stakeholders to understand what would be most important if we were unable to associate to Horizon Europe. In the 20 July publication, we set out some of the strands we were looking at around talent, around global, around discovery research through to innovation and the wider system.

We have been talking to a number of groups as we have developed that, including Universities UK, the Russell Group, the CBI and many others. We have a Science Minister. We are in a position to ramp up engagement to ensure that as we develop those detailed proposals, they have a chance to look at them. They are proposals at this stage. We are very keen that the sector both helps us make sure they work as well as they can, but also that they are really clear about how they can shape it in the months into the future.

There has been quite a lot of engagement. We are keen to ramp that up in the weeks ahead and set up the ministerial group, as the Minister said, to make sure there is a wide portion of the sector recognising what we are doing and able to shape and inform it. They have already improved the proposals through that process and we are really grateful.

Ms Ghani: Mr Bell, if I may, you asked about when an alternative programme could be launched. It was important that the Department had the alternative programme up to a level of speed that, if we had to pivot, we could pivot quite quickly and then also to make sure that we have longer-term programmes ready to start in January. Then we can launch further programmes from April 2023.

Transitional measures are the ones that have been discussed with the sector. They could be set up immediately if it was required, and that is important to note. That is because we want to make sure there is stability and continuity of funding for UK researchers and businesses. As I said earlier, it is not within our gift to make a decision on association.

Q77 **Aaron Bell:** If necessary, we could move into a transitional period right now, ahead of—



HOUSE OF COMMONS

Ms Ghani: If the circumstances required us to.

Aaron Bell: And negotiations required that flexibility.

Ms Ghani: Yes.

Q78 **Aaron Bell:** Similarly, there is no clear plan B for the Copernicus and Euratom programmes. If we cannot achieve association and agreement with the EU, how will you replace those programmes?

Harriet Wallace: There is work going on on both of those. Very high level details were set out in the July publication, but there is work being done to develop alternatives on both of them and we will be telling you more about that in the coming weeks and months.

Ms Ghani: Of course, the association to Euratom remains on the table. For Copernicus as well, a decision is all about Horizon Europe, but the Department has been working on alternatives, if necessary.

Q79 **Aaron Bell:** If we could just go back to R&D targets, obviously you will have seen the ONS re-estimates of business R&D spending, which suggest we may already be at 2.4%. What are the implications, and should we now, therefore, be setting a much more ambitious target going forward, given that we seem to have been under a misapprehension—or this Committee has been under a misapprehension—for some time?

Ms Ghani: I would not want the Chairman of the Committee to be under any misapprehension. We are still waiting for the ONS figures and it is an independent body. I see it as a positive: if we have reached the 2.4%, that is good news, but it also shows that we need to manage the data a lot better.

For me, it sets a challenge, which is: how do we incrementally get more funding and how do we also ensure that the whole of the country and all the different Departments understand the value of R&D funding? If we have reached 2.4%, it is a good moment but it is not an end point; it is a start point of how we do it better going forward.

Q80 **Aaron Bell:** The importance of a target is to drive everyone towards a particular goal.

Ms Ghani: Yes.

Aaron Bell: If 2.4% was having that effect, would you be willing to set a new target of 3% or even 3.5%?

Ms Ghani: We may have met the 3% already; we do not know, Mr Bell. It is not just about targets. We want to make sure we get the output assessed and shared appropriately as well. Let us see what the ONS comes up with, but the outputs matter just as much as the target. Obviously, if we have reached 2.4%, it is not a stop; we continue going for more.

Aaron Bell: Thank you.



HOUSE OF COMMONS

Q81 **Chair:** Thank you very much indeed. A couple of final questions from me. Going back to Horizon, will the guarantee that is in place continue to apply to third-party participants in the long term? That will be one for Harriet Wallace to address.

Harriet Wallace: On third country participation, we set out in the July publication that we are committing funding to support that for the spending review period at least. There will be a review of what happens beyond that in good time for people to plan.

Q82 **Chair:** I see. That is very helpful. Finally, you pick up a number of ongoing policy initiatives and reviews. We have been looking forward to receiving the review by Sir Paul Nurse into some of the research establishments and their structure. Minister, do you know when you expect to publish that?

Ms Ghani: I am going to have to stick to the line, which is that it is due to report this autumn, Mr Clark. I am just as impatient as you are.

Chair: That is good; we are in the autumn.

Ms Ghani: I am just as impatient.

Chair: Autumns in politics can get quite frosty.

Ms Ghani: There will be new data out in November; we have a number of significant announcements to make between now and Christmas in the portfolio. This is a review that I hope we can work with Paul Nurse on. He is to report this autumn, but hopefully it will be soon; sooner rather than later.

Q83 **Chair:** Forgive me for being cheeky in response to a helpful answer. Is it a question of finding a time to publish it or is Sir Paul still working on it? Have you had his report yet?

Ms Ghani: I think it is because Sir Paul Nurse is still—I am not sure of the word or the inappropriate language I may be using. Is it “working” or “reviewing” or still just—

Alexandra Jones: He has actually been using the summer to consult the stakeholder groups. As the Minister says, he has been refining some of those recommendations and, of course, there is new data from the ONS. He has a draft he regards as near final and I believe he is coming to see the Minister and the Secretary of State. He saw the previous Secretary of State in the summer. It is well in train. I think he is keen to reflect the wider context.

Q84 **Chair:** He has not delivered his final report to the Department yet.

Alexandra Jones: No, we have a near final report. In the Minister’s third or fourth week, I am hoping that—we are trying to put it in very early.



HOUSE OF COMMONS

Ms Ghani: It is not a publication timetabling issue; we just need Sir Paul to be ready to make it final and to hand it over.

Chair: That is very clear. Minister, we are very grateful to you for coming so early into what I hope will be a long and successful tenure. It is very good of you, very generous of you; you have been very candid in your replies and I thank your officials, as ever, for their support.

Ms Ghani: Thank you very much.

Chair: Thank you very much indeed.