House of Commons

Treasury Committee

Oral evidence: Jobs, growth, and productivity after coronavirus, HC 150

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Watch the meeting

Members present: Mel Stride (Chair); Rushanara Ali; Harriett Baldwin; Anthony Browne; Gareth Davies; Dame Angela Eagle; Emma Hardy; Siobhain McDonagh; Alison Thewliss.

Questions 147 – 218

Witnesses

I: Dr George Dibb, Head of the Centre for Economic Justice, Institute for Public Policy Research; Sir Geoffrey Owen, Head of Industrial Policy, Policy Exchange.

Examination of witnesses

Witnesses: Dr George Dibb and Sir Geoffrey Owen.

Q147 **Chair:** Good afternoon and welcome to the Treasury Select Committee session as part of our ongoing inquiry into jobs, growth, and productivity. We are delighted to be joined this afternoon by two witnesses, who I am going to ask to introduce themselves to the Committee now.

Dr Dibb: Hello. Thank you for the invitation to speak today. My name is Dr George Dibb, and I am head of the Centre for Economic Justice at IPPR, the Institute for Public Policy Research.

***Sir Geoffrey Owen*:** My name is Geoffrey Owen. I am currently head of industrial policy at Policy Exchange, the think-tank. I used to be editor of the *Financial Times* and an academic at the London School of Economics. It is perhaps worth mentioning that, while I was at the *FT*, I left for five years and worked for the Industrial Reorganisation Corporation and then for British Leyland. I had a direct involvement with industrial policy at that time.

Q148 **Chair:** It sounds like you have seen a lot of good things and some less good things in your time. Perhaps we will come on to that. Welcome and thank you very much, both of you, for joining us today. It is unlikely but not impossible that there may be a Division while the Committee is in session. If there is, I will adjourn the Committee for around 15 minutes per Division. I would just ask our witnesses to stay with us, if that happens, and we will come back to you. It is unlikely.

For my first question, I want to really set the scene on industrial policy. I wonder whether you could tell us a bit about your view of what industrial is, how it works and why it is much better to have an industrial policy than it is to leave it to the market. Perhaps I could start with you, Geoffrey.

***Sir Geoffrey Owen*:** Industrial policy can get defined in all kinds of different ways, but a reasonable distinction would be that there are horizontal policies, which affect all industries irrespective of their technologies or whatever—these would be policies like skills training, access to finance for small companies, competition policy and those sorts of things—and these are distinct from interventionist policies, sometimes called vertical industrial policies, that affect individual industries or companies. My personal view is that the former set of policies is much more important than the latter.

Q149 **Chair:** Why do you say that?

***Sir Geoffrey Owen*:** Because, as perhaps will become clear, I am a little bit sceptical about what Governments can do in terms of identifying desirable industries or desirable technologies and helping them to grow. I am not saying it cannot be done, but it is very difficult to do it effectively.

Governments are better off concentrating on broad policies that affect the industrial sector as a whole.

Q150 **Chair:** That is interesting. If you think about the way you talk about the vertical approach, you have businesses like, for example, in your experience, British Leyland—the fashionable view would be that that was not a particularly successful approach to take—but you also have what seem to be part of the zeitgeist nowadays, which is clusters and sectors in which the Government might usefully invest. That might be looking ahead to artificial intelligence, for example, or building on our strengths in life sciences. Do you hold a similar view about both those types of vertical approach, or are they different?

Sir Geoffrey Owen**:** As far as clusters are concerned, there is a huge amount of research on American clusters such as Silicon Valley and so on. It is of interest that, on the whole, in the US attempts to replicate Silicon Valley in other parts of the United States through federal or state Government assistance have not been all that successful. In general, clusters grow more organically than under the direction of Government. I am not saying that clusters are not a desirable thing, but it is quite difficult to make them a target of policy and achieve all that much.

Q151 **Chair:** George, what would your view be on that? Should we be looking more at the broader horizontal approach rather than targeting sectors?

Dr Dibb: If I was asked to define industrial strategy, I would go with the broader end. It is the way in which Government interact with business. That could be either investing in the foundations of growth—for example, things like skills, infrastructure, research and development—or it could be more directional, trying to shape the type of economic growth we have. If you take a more expansive view of industrial policy it includes almost everything from taxation, regulation, standards, both direct and indirect investment, innovation and all of those sorts of things.

Whether or not the vertical or horizontal approach is best, you could also view those things in terms of whether they address the supply side or the demand side of the business question. I would characterise supply-side intervention as the sorts of intervention that address investment in R&D and universities and try to fill the gaps or market failures, the things that we know business will not do by themselves. A more desirable approach would be for industrial policy to also address the demand side. That would be to think about the types of growth that we have. Is it predicated upon household debt? Is it predicated upon investment and innovation?

We also have to acknowledge that growth does not just have a rate but also a direction. Our economy can be growing in a green way, in a way that fulfils and is heading towards our obligations under the Paris Agreement, or it can not be doing so. Industrial policy should be seeking to shape the direction of industrial and economic development so that it fulfils wider societal objectives and goals.

Q152 **Chair:** You said there that there is a role for Government where companies do not do certain things. Deep long-term research might be an example of that. If you think about companies in the distant past, such as ICI and others, that had the capacity to do some of that stuff, but we assume it is not around so much nowadays. Does Government's intervention at that point not necessarily lead you, therefore, into some kind of vertical approach? You are going to start to pick which areas of deep research receive university funding and what approach you are going to take, are you not?

Dr Dibb: In the UK system, we delegate that to UKRI, which does not make those kinds of specific decisions. Investments into the foundations of growth or far-from-market innovation is not in the hands of politicians. They create the funds that are then put in the hands of scientists themselves to decide how that should be invested.

There is a great scope for the UK to move more towards close-to-market innovation. Perhaps we will come on to that later, but innovation could be defined more broadly than simply the kind of things that you see in a university laboratory. Trying to shape the activities of business would take you more into the horizontal approach. This is thinking about challenges and trying to set a direction of travel. That is the kind of space that industrial policy should be seeking to fill.

Q153 **Chair:** Let us move on. Let us accept for a moment that the horizontal approach is the right approach. There is then a question about how that is best delivered by Government and the agencies of Government. In the last year, the Government have abolished the BEIS industrial strategy, as we know. It has published its plan for growth and an innovation strategy White Paper. It has created a new Department for Levelling Up and a new Office for Science and Technology Strategy. We have just had a strategy for net zero, and there is one on exports to come. Has growth strategy in this country started to fragment too much?

***Sir Geoffrey Owen*:** I was a bit disappointed at the scrapping of Greg Clark's industrial strategy, mainly because there did not seem to be any very strong reason for it. What has been tremendously regrettable about industrial policy and innovation policy in this country has been the constant changes from one Government to another, even Governments of the same party.

There were plenty of reasons for criticising Greg Clark's or Theresa May's strategy. Maybe it tried to cover too many challenges and too many things and so on, but that could have been said; it could have been looked at. The strategy was started in 2017. Admittedly, we have only had four years or so, but there was enough done, and quite a lot of money committed, during that four-year period for the Government to have said something about what they felt was unsatisfactory about the way the strategy was working out. I still find it a little puzzling. It is also a little puzzling as to why it was necessary to scrap Andy Haldane's Industrial Strategy Council.

One of the key things, which will perhaps come up later, is the importance of evaluation. What has been achieved? First of all, what are the objectives of the particular intervention? You cannot have an evaluation every year or whatever, but there must be a process of evaluating what has been achieved, what lessons can be drawn and, if necessary, whether a programme should be shut down because it is not achieving what it was intended to achieve. I felt that just describing it as a "pudding", or whatever the phrase was, was not really enough of a rationale.

Q154 **Chair:** We will come back to all of that in more detail. Thank you very much for that, Geoffrey. Do you have anything to add quickly, George?

Dr Dibb: I would certainly agree with everything that Geoffrey said. I would perhaps even go further. It was extremely disappointing to see the scrapping of the industrial strategy. It had been the product of years of engagement with academia and the business community. Businesses had bought into it and were generally aligned to the objectives of the strategy.

The ostensible reasons for replacing or scrapping the industrial strategy with the plan for growth was that it no longer kept up with the Government's new priorities of net zero and levelling up. That is entirely false. The Greg Clark-era industrial strategy had a specific pillar on place. It talked about place extensively. One of the grand challenges identified in the industrial strategy was clean growth, which obviously would require very little modification to speak to the aims of net zero. In fact, the real reason the industrial strategy was scrapped was because of a "not invented here"-ism within the new Government, which sought to distance itself from the leadership of Greg Clark and Theresa May. The damage that has done is extensive, because of the amount of engagement that different actors put in to the development of the industrial strategy through the Green Paper and then the White Paper process.

Separately, I would also agree that the scrapping of the Industrial Strategy Council as a means for external engagement on the industrial strategy with external stakeholders was a great loss. Many people argued at the time, and still argue now, that the UK requires a statutory body to scrutinise industrial policy. The Industrial Strategy Council itself recommended that in its final report.

The bigger challenge here is not on specific policy, though; it is on long-termism in Government approach. Businesses cannot be expected to keep up with the whims of Government chopping and changing policy every year. The Industrial Strategy Council did not make it to its third birthday. It is an indictment of the kind of short-termism in industrial policy that has blighted industrial strategy policy for some time.

Chair: That is very clear.

Q155 **Dame Angela Eagle:** I wanted to ask a few more questions about this chopping and changing and the abolition of the industrial strategy and the council that went along with it. Clearly, neither of you are happy with that. Can you tell us what has been lost? Is it just goodwill or is it years of organisation and bringing together groups of people that have now been scattered to the four winds again? Will that actually set us back?

Sir Geoffrey Owen**:** I will say a couple of things on that. I am not sure how much scattering there has been in practice. This is one of the difficulties. One is not quite sure what has continued and what has not. For example, when I very quickly looked at the net zero document, I noticed a reference here and there to the industrial strategy challenge fund, which appear to be in place and appears to be continuing to do the things that it was asked to do under the previous Government. Again, I am not sure how much disruption has actually been caused in practice.

There has been concern within the various institutions. For example, the Faraday Institution, which does work on batteries, as far as I am aware—I am in touch with them from time to time—is continuing as planned. There does not appear to be any big change on that front. Again, we will see over the coming months how much is continuing and how much is not. It does not appear to be quite as disruptive a change as one might have thought.

Q156 **Dame Angela Eagle:** Dr Dibb, do you have the same view? You just expressed quite strong disappointment about the fact that those structures have been abolished.

Dr Dibb: First, it was a waste of time by Government. It took a year to convene the first meeting of the Industrial Strategy Council. It was first announced in November 2017 in the Industrial Strategy White Paper and it took a year to convene. If we were to try to build a new body again, it would take further time.

The Industrial Strategy Council was tasked specifically with developing metrics alongside the Office for National Statistics, and that has been lost. They did some good early work on that in their annual reports. The fact that there is no successor body that is taking on those jobs of external scrutiny evaluation and metrics development is a challenge. On the policy itself and what has been lost, the plan for growth is a bit of a step back in specificity from the industrial strategy.

Q157 **Dame Angela Eagle:** It is more general boosterism rather than more specific sector-led—

Dr Dibb: Yes. The sector deals and the grand challenges seem to have been lost. Although it reiterates many of the same challenges, it is a bit less specific on the policies that it seeks to use to address them.

Q158 **Dame Angela Eagle:** Will that lack of specificity mean that the whole approach will be far less focused? There are many who say that they do not know what levelling up means, for example. We seem to have gone from an industrial strategy with very specific sector deals and grand challenges and whatever else to more vague slogans.

Dr Dibb: Perhaps, yes. Many people are awaiting a definition of levelling up in the White Paper anticipated later this year. There is also a lack of clarity about responsibility, and I am sure we will come on to the Treasury's role. Who is responsible for the broad economic strategy of the Government? Part of the industrial strategy exercise was implicitly to build up BEIS to be that actor. Now that has been split somewhat between BEIS, which has responsibility for net zero, and the new Department for Levelling Up, which has responsibility for levelling up.

Q159 **Dame Angela Eagle:** Is splitting BEIS like that a deft way of the Treasury taking back control? If you look at the plan for growth, it seems to me that they are completely in control of that. It seems to me that, in a more explicit way than in the past, the abolition of the last Conservative Government's strategy by the new Conservative Government has meant that it is just a Treasury grab.

Dr Dibb: Potentially, yes. Geoff alluded to the industrial strategy challenge fund. It was quite a clawing of spending ability when the White Paper came out and that spending ability was transferred from the Treasury to BEIS.

The Treasury and its general view on economic growth and models of economic growth and development, coupled with short-termism, lead to negative outcomes for industrial policy in the long term. It is not the case that we should not be worrying about spending. It is absolutely essential that we scrutinise spending. The Treasury's penny-pinching or pound-pinching instincts are not coupled with an equal and opposite reaction within Whitehall, a Department that can really have long-term agenda-setting powers. There have been exercises in the past that do that. There was the Department of Economic Affairs in the 1960s.

Dame Angela Eagle: That is going back a long way.

Dr Dibb: They were trying to build up BEIS as an equal power to the Treasury, and that exercise has failed. We are likely to see again that same tension between the Department for Levelling Up and the Treasury as we see between BEIS and the Treasury on investment for net zero.

Q160 **Dame Angela Eagle:** Is this unfocused nature and the move away from independently measured outputs is a backward step? Would you like to see those reinstated in some way? The Government have indicated that departmental outcome delivery plans are some sort of replacement for what the Industrial Strategy Council was doing, which I must say I am somewhat sceptical about.

Dr Dibb: Yes, I am somewhat sceptical about that as well.

Dame Angela Eagle: I am being very polite. You do not have to be as polite as me.

Dr Dibb: We have to be clear about what industrial strategy is for. We have to choose things that we want to see. If we go back to how I choose to view industrial strategy, which is that we should steering the economy towards desirable outcomes and carrying out a transformation of our economy, we have to be clear about what that means and the outcomes we want to see. If we do not do that, we also fail to reap the benefits of that industrial strategy. We have extremely poor investment across the private sector in the UK, and we have done for a long time.

Q161 **Dame Angela Eagle:** We also have low productivity.

Dr Dibb: Yes, and low productivity. Businesses invest when they understand and see future opportunities for growth and profit. You can stimulate that by setting very clear outcomes that we want to see.

Sir Geoffrey Owen**:** I was just going to say, prompted by your use of the word "unfocused", that one of the criticisms that the Industrial Strategy Council made of the strategy was that it was too unfocused; there were too many things. If, as seems likely, the Government are reducing the number of challenges it had—I cannot remember how many it had; there were 100 and something—to a more manageable number, that would be good. If it is doing that, it would be following Andy Haldane's advice from the council. That was a weakness in Greg Clark's strategy, which perhaps is being put right.

Q162 **Dame Angela Eagle:** Are you saying, reading between the lines of what you both have said so far, that it is too early to tell whether this new plan for growth will be a reasonable successor to that which it abolished, the old industrial strategy, because we have not had it properly defined yet and it is still in the middle of being developed?

Sir Geoffrey Owen**:** I would say it is too early. I think I am right in saying that the council, in its final report, made a few comment about the plan for growth, which had just been unveiled. One of the comments was that there seemed to be too many ventures or too many projects and so on. It is too early.

Dr Dibb: It is too early, but it will also always be too early if we scrap every industrial strategy after three or four years.

Q163 **Dame Angela Eagle:** You will never get anything into focus because you will be constantly unfocused.

Dr Dibb: Yes, quite. In my view, the plan for growth is a step backwards in terms of specificity and in terms of how it will achieve those outcomes from the 2017 industrial strategy. In fact, there is very little delivery plan. The net zero strategy and yesterday's announcement is part of that. The innovation strategy that we saw a couple of months ago is also part of that. Those strategies themselves are full of hundreds of individual policy areas. I fear that we are not going to have a reduction of policy; it is going to be a further expansion.

Q164 **Dame Angela Eagle:** Were you surprised that certainly the net zero strategy had so little Treasury footprint anywhere in it? In other words, it is all very nice to have, but there is no obvious sign that the Treasury is willing to fund it.

Dr Dibb: The Treasury released its net zero review at the same time, and there certainly is a tension there between BEIS, which wants to seek longer-term opportunities, and the Treasury, which is more sceptical of them. That will remain a tension for the coming years.

Q165 **Dame Angela Eagle:** What should we look for in the upcoming spending review to check that BEIS is getting its way on some of this industrial strategy rather than the Treasury boot being put on the neck of any future industrial strategy?

Dr Dibb: The Treasury rightly recognises that it is going to be an extremely capital-intensive process to achieve net zero. It is going to require enormous investment across the economy. The split of that between the public and private sector is to be determined, but public sector investment can crowd in private sector investment if sufficiently directed. IPPR has called for £30 billion of investment towards net zero objectives in the coming year. We would be hoping to see a step towards meeting that to try to achieve the transition that we need to solve the climate and nature catastrophe.

Q166 **Dame Angela Eagle:** Finally, just for both of you very quickly, if there was one thing you would want to look for in the forthcoming spending review and budget to focus on the challenge of net zero, which we all have ahead of us, that would give you confidence that we were moving in the right direction, what would that be?

***Sir Geoffrey Owen*:** One of the key things one will look for is the impact of the spending review on scientific research and all that. The Government have placed a huge amount of emphasis on that. There is quite a lot of anxiety in the research community as to whether those commitments made for this very large increase are going to be maintained. I know one or two areas that I have looked at are anxiously awaiting the outcome of the spending review to see whether their programmes will continue or whether they will be cut back. The whole science-superpower rhetoric and so on is going to be an important aspect.

Dr Dibb: I would certainly agree with that. Again, the target to increase R&D expenditure to 2.4% of GDP was in the 2017 Industrial Strategy White Paper. We are four years into that, and we have seen quite disappointing progress towards it. The latest figures released from the ONS show the lowest increase since 2013 in R&D expenditure as a proportion of GDP. The Government absolutely need to set out how it is going to achieve that target, because innovation will be critical to achieving net zero.

As I alluded to earlier, businesses will invest when they have a clear understanding of areas of future growth and areas of future profit. It is not simply sufficient to say "net zero", because that is insufficiently specific for a business to understand, "Okay, if I invest now in this battery plant, I will reap the benefits in 30 years", because maybe we will focus on hydrogen vehicles. The net zero target has to be broken down into sufficiently specific targets. Public funding has to be put behind those to crowd in that private sector investment so we get the levels of investment across the economy to achieve net zero.

Q167 **Alison Thewliss:** I would like to pick up on some of the questions that Dame Angela started with there around the plan for growth. Given what you said, Sir Geoffrey, about being sceptical about what Government can do, do you feel that having the Treasury so involved in this is right? Do they have the right vision to make this work? Is having the Treasury so centrally involved in industrial strategy the right place for those strategies to be vested?

***Sir Geoffrey Owen*:** The Treasury, historically, has had the role of curbing perhaps some overambitious or unrealistic projects coming out of the Business Department. That is a very important role, because one of the dangers of industrial policy and industrial strategy—this is implicit in some of the questions—is the danger of lobbying and special interests pushing the Government to put money into particular projects. One can criticise the Treasury for intervention here and there, but that particular role is very important.

Q168 **Alison Thewliss:** To pick up on what you said, Dr Dibb, about the penny and pound-pinching instincts of the Treasury, could you expand a bit more on that? Will the Treasury's vision of growth be the correct one in order to make improvements to industrial strategy more broadly?

Dr Dibb: First of all, we should acknowledge that the Treasury will be absolutely critical to achieving the type of growth that we want to see. The Treasury has a culture of excellence, is agile and can be non-bureaucratic. During the pandemic, we have seen the benefits of having that. Some of the money that they have got out during the pandemic to support business has been excellent and much needed.

One of Sir Geoffrey's successors as editor of the *Financial Times*, Lionel Barber, wrote that the Treasury knows the price of everything and the value of nothing. The role they have, the role they have been set and their power within Whitehall to restrain and control spending means that, without a counterpart that will set those priorities and the long-term agenda of spending, those penny and pound-pinching instincts will dominate and we will never see the kinds of investment or strategic long-term direction that we need to see for models of growth.

There are also a myriad of ways you can find in the way that the Treasury operates that tend to hold back specific proposals for growth. To draw attention to two of them, the Treasury Green Book, which is the document that sets out how to do cost-benefit analysis and how to analyse whether a policy is worth pursuing or not, can be quite limiting in terms of industrial policy. It is impossible to evaluate many policies at the same time. For example, if you want to set up a car battery factory, you might need direct funding, indirect tax credits, tax incentives as well as regulatory change, and it is impossible to evaluate those simultaneously through cost-benefit analysis. If the Apollo moon missions were to go through cost-benefit analysis and Green Book analysis today, they would never get off the launchpad and we would never see the multitude of innovation spillovers that came from that.

Secondly, on investment, the way the Treasury and Government choose to look at national accounts is unusual compared to other developed economies and other economies in the EU, in that the total debt figures take into account the debt held by public corporations. That holds back investment by public corporations such as the British Business Bank and the Green Investment Bank, which was unfortunately sold off, and will no doubt hold back the investment of the new UK Infrastructure Bank. It will, because Ministers will be tasked with worrying about that debt. Other economies do not include those kinds of debt figures within their national accounts. That means they have a greater culture of investment across the economy. That is something we sorely need to see in the UK.

Q169 **Alison Thewliss:** That is interesting. Do you feel there is a risk of there being too much of an ideological focus being put on things as well? I would take as an example the decision to invest vast amounts of money into nuclear against not investing a relatively small amount of money in wave power. The potential for the results of that investment could be the same, but the ideology seems to be slightly different in terms of what gets prioritised.

Dr Dibb: Short-termism can skew all kinds of things, and certainly in that way. Lots of those long-term plans, whether it is nuclear, which has an extremely long lead time, have similarly failed to see investment. John Kay, the economist, has cited the Treasury's short-term thinking as being a contributor of ICI and GEC. The Treasury needs to have a counterpart in Whitehall that can set long-term thinking to match that short-term thinking.

Q170 **Alison Thewliss:** In terms of the plan for growth itself, it identifies three pillars of growth, which are infrastructure, skills and innovation, and three people's priorities for growth, which are levelling up, net zero and global Britain. Do you feel that is the right scope? Is there anything significant you feel is missing from there that you would have included?

***Sir Geoffrey Owen*:** I would find it difficult to interpret those six items into practical policies. It sounds good. It is good; we are in favour of those things. It does not take us very far. That is my feeling.

Alison Thewliss: It is too slogan-y, perhaps.

***Sir Geoffrey Owen*:** Yes, you need more than three words.

Dr Dibb: I would agree. They all sound like great things there. They are certainly the areas that any industrial strategy should be focusing on. In fact, they are the areas that the industrial strategy was focusing on. Although the plan for growth acknowledges things like productivity and low investment—they are all identified as problems—the problem is that the plan for growth does not really set out how to address them.

Alison Thewliss: It is short on solutions.

Dr Dibb: Exactly, yes.

Q171 **Alison Thewliss:** You talked about the issues around engagement. You had the Industrial Strategy Council. That was a mechanism to allow that engagement to take place. Who do you feel has that responsibility now? How will that operate?

Dr Dibb: No one has it, which is the great shame. We really do need an independent scrutiny body for any kind of growth strategy. Lord David Willetts has argued that all Governments have industrial strategies; the question is whether they are open to scrutiny and engagement or not. The concern is that removing that external scrutiny through the Industrial Strategy Council with no successor leaves the plan for growth with no external engagement. That means it will be poorer as a consequence.

Q172 **Alison Thewliss:** That is perhaps more susceptible to more ad hoc meetings or lobbying and other things rather than having that independence.

Dr Dibb: Yes. I am sure Sir Geoffrey will have something to say on this, but the criticism often levied against industrial strategies is about picking winners. If you lack external scrutiny not only is that exacerbated, but the bigger risk is that losers will pick Government and it will be more susceptible to lobbying efforts by vested interests and it will be less open to thinking about the long-term challenges that face our economy.

***Sir Geoffrey Owen*:** In a way, less important that institutions, committees, councils or whatever is the need for, as far as possible, public evaluation of what is achieved under these particular headings. For example, to go to the battery programme, the Faraday programme, which I have tried to follow a bit, it was envisaged as a 10-year programme and after four years there was going to be an evaluation. What I think is the case—I am not certain of this—is that there has been a preliminary evaluation of this thing, and they are now waiting for the spending review to decide whether the programme should continue.

Four years is not 10. It is not enough to make a final decision. Quite a lot of money has been spent under the Faraday programme. It seems reasonable that Government in some form or other, whether it is BEIS, the Treasury or whatever, should say, "Okay, we have spent £300 million or whatever on these various things. What has been achieved? Are we now getting closer to having a battery supply chain for electric cars in this country?"

I am less concerned about having a specific council than the principle of regular evaluation, learning from what has been achieved and being willing to close something down if it is not working. Those sorts of features are very important.

Q173 **Alison Thewliss:** That is interesting. If you say that something will be given 10 years and the rug gets pulled at four years, are the Government being patient enough towards projects to allow them to have enough time to be successful?

Sir Geoffrey Owen**:** That is a balance that has to be stuck. The battery thing is an example. Ten years was a perfectly reasonable vision at the start. There has to be patience. There has to be patience, particularly with everything connected with innovation. Innovation is unpredictable. You cannot forecast exactly what is going to happen. It is a balance, but mid-term reviews are appropriate.

Dr Dibb: Just to add to that, it is important to know when to turn the funding taps on, but it is equally important to know when to turn them off. The only way Government can avoid picking winners is to evaluate and to stop funding when it is no longer working. We cannot allow that to be a barrier to Government taking the big bets that we need to take to transform our economy.

Q174 **Chair:** Can I quickly follow up on Alison's section there? Specifically to you, George, the Treasury is described as penny-pinching, short-sighted and a bit curmudgeonly when it says, "You cannot spend all this money", but nonetheless it has an important role—I speak from experience as a former Treasury Minister—in terms of being the guardian of the finances, does it not? Would you accept that, if it backs off to too great a degree and everybody starts to get what they want at a departmental level, everything completely runs out of control? If you do recognise that, can you talk to us a bit about how you balance that duty of the Treasury with the kinds of things we have been talking about?

Dr Dibb: Yes, I absolutely recognise that. Thank you for the opportunity to clarify. What I am certainly not arguing for is a backing off of scrutiny on public spending. We have to ensure value for money for the taxpayer. It is essential for good operation of Government and good industrial strategy to have scrutiny of where the money is going and why.

What I do not want is for the Treasury's scrutiny and concern around the financial position to step back. I would like an alternative powerbase within Whitehall to step up at the same level or with the same parity of esteem, so that there was a constructive conversation about fiscal responsibility and long-term agenda setting. Through a conversation, or an argument even, between equals, we would end up with a better and a more optimal policy base. At the moment, the Treasury has no equal within Whitehall. BEIS has never stepped up to that position or has never been able to step up.

Q175 **Chair:** Would you recognise that some would argue that No. 10 has that role? There is always this tension between the two.

Dr Dibb: There are very few civil servants within No. 10. Equally, the Cabinet Office could act in that position but currently does not. We are worse off as a consequence. I would draw inspiration from the Department of Economic Affairs in 1965. It only lasted four years, but there is a model there of trying to separate out certain powers within Whitehall so there is a constructive conversation when it comes to setting these long-term agenda things versus short-term spending concerns.

Chair: That is very helpful.

Q176 **Harriett Baldwin:** I just wanted to pick up on some of those points and focus on innovation. There is absolutely no question that innovation and research and development are absolutely key to the UK economy and to our prosperity. There is so much research around that. I wondered whether, George and Geoffrey, you could give me your top three examples of where that innovation and R&D has come from the state sector. Could you focus outside defence innovations?

Dr Dibb: I am sorry. What is the question?

Harriett Baldwin: What are your top three examples of innovations that have come because of state investment outside the defence sector?

Dr Dibb: That is quite a question.

Harriett Baldwin: Can you think of three successes of this?

Dr Dibb: Yes. Certainly, I would take the example of solar power—photovoltaics.

Q177 **Harriett Baldwin:** Was that the UK Government?

Dr Dibb: Sorry; you want UK Government investment. Certainly, UK academia contributed to that. My PhD, for my sins, is not in economics; it is in physics. I worked on photovoltaic research in the UK. Certainly, the UK contributed to that. I would hazard against viewing innovation and R&D investment as a domestic success story; it is a success story on a global scale.

Q178 **Harriett Baldwin:** You must be able to think of three. Could you carry on with what the three are?

Dr Dibb: I do not think there are three scientific innovations that have been invented solely in the UK.

Q179 **Harriett Baldwin:** I mean innovations that have required UK Government backing outside the defence sector.

Dr Dibb: I would add the invention of the internet. The UK played a massive part in the development of the internet protocol called packet switching. It was pioneered in the UK in the National Physical Laboratory.

Similarly, I would highlight atomic clocks, which laid the foundation for the Global Positioning System that we use to hail taxis outside Westminster today.

Q180 **Harriett Baldwin:** Were they all taken from the science funding budget?

Dr Dibb: Yes, they were all contributed to by UK public—

Harriett Baldwin: They were definitely innovations that were done outside the defence sector. The atomic clock and the internet were not to do with—

Dr Dibb: No, they were all blue-sky scientific research outside of defence.

Q181 **Harriett Baldwin:** Geoffrey, what are your three?

***Sir Geoffrey Owen*:** The most important thing the Government do in relation to science and innovation is to support basic research. This is basic research that does not have a specific commercial or practical objective but is seeking to extend the frontiers of knowledge and so on.

I am not sure I can give you three, but one example that is a good example of what Governments can do and what our Government have done is the Laboratory of Molecular Biology in Cambridge, the LMB, which is run by the Medical Research Council. That has been an immensely productive source of innovation in the health and medical science field, one famous example being monoclonal antibodies, which are now widely used in biotechnology and so on.

Q182 **Harriett Baldwin:** Could I have two more, please?

***Sir Geoffrey Owen*:** I am not sure whether I have two more. Life sciences is one of our successes. Part of the success comes from consistent Government support for basic research. This is not just in the LMB, although that has been the jewel of that sector. I would need to think a bit more about two other examples, but it is that somewhat unpredictable outcome of Government-supported scientific research that can lead, and in this case did lead, to major medical advances.

Q183 **Harriett Baldwin:** The reason I am asking this question is because you have given some examples of where primary research led to innovations. Other countries do not necessarily put their incremental state backing into primary research. They might go to another country where the primary research has already been done and invest in the start-up that is taking that on and commercialising it to get the intellectual property that way, in other words once it has gone a bit further down in terms of research and development. It is one to nine, is it not, in terms of investment?

I wondered whether this incremental money that has been announced would be better spent doing that kind of thing. Geoffrey, I know you have specifically written on how you think this new ARIA agency's success could be measured. I wondered whether you would want to answer that question at the same time.

***Sir Geoffrey Owen*:** Yes. If you think of the United States, which is arguably the most innovative nation, you could think about something like the National Institutes of Health. It is huge; it is much bigger than the Medical Research Council and so on. The bulk of their funding goes into basic research. They do applied research and they support applied research, but it is mainly that. The division of labour there is between, on the one hand, Government-supported basic research and, on the other, a very large and vibrant biotech sector, which exploits the stuff that is coming out of it.

Q184 **Harriett Baldwin:** My point is this: would we not be better off putting this money in one of these biotech funds and getting the next stage of development?

***Sir Geoffrey Owen*:** Personally, I would be uneasy about that.

Q185 **Harriett Baldwin:** Why?

***Sir Geoffrey Owen*:** That is nearer to what the private sector can do. I am not sure the Government are particularly good at picking a particular technology that they think is promising. That is something that the private sector is probably better able to do.

Q186 **Harriett Baldwin:** How would you measure the success of ARIA's investment? I know you have thought long and hard about this.

***Sir Geoffrey Owen*:** ARIA is a slightly separate, different question. Do you want me to go on to ARIA a little bit?

Q187 **Harriett Baldwin:** How would you measure the success of the innovations it backs?

***Sir Geoffrey Owen*:** It is very difficult to measure its success until we know what it is supposed to do, what it is supposed to achieve. It is not at all clear.

Q188 **Harriett Baldwin:** How would you define what it should achieve?

***Sir Geoffrey Owen*:** Listening to the various proponents, including Dominic Cummings and others, I think it is tasked with identifying scientific technological problems that are outside the remit of existing Government funding agencies and not sufficiently developed to attract private sector venture capital or whatever. There is a gap, according to this view, which can be filled by an agency that can take a long-term view and is run in quite a distinctive way. It is supposed to choose projects that can fit into this unfunded gap and potentially have wide societal benefits.

It is very difficult to talk about it, because in America both DARPA itself and the various ARPA clones that have been set up, such as the ARPA-E for energy, all have a specific customer or a specific area that they are focusing on. In this country—the same is true of Germany, which has set up a similar agency—there is no such customer for ARIA. It is going to be up to the CEO of ARIA to decide what the priorities should be. It is quite an open-ended remit.

Q189 **Harriett Baldwin:** It sounds like a blackhole to me. George, how would you define success?

Dr Dibb: First of all, on that question about where we should be putting our attention in terms of R&D, whether it should be on basic far-from-market blue-sky research or closer to market, we do not need to be so strict that we should be aiming to plug one gap. You were talking about technology readiness levels when you mentioned one to nine. That is measuring from an idea in someone's head through to maturity and up to a product that you can buy in the supermarket. The progress of a technology from one to nine is what we should be focusing on. We should be making sure we have adequate and sufficient instruments in our innovation policy to support those technologies on that journey.

If we fail to do that, we will fail to reap the benefits. The UK played a great part in contributions to wind turbine and wind-power technology, but we failed to reap the benefits of manufacturing in the UK, because we had a gap between our funding for blue-sky research and close-to-market technologies. We have had a gap for too long. Since the early 1980s, the UK Government have stepped away from close-to-market research and funded more blue-sky research.

The benefit of having a Government that want to increase our gross R&D expenditure from 1.7% to 2.4% is that we do not have to choose. You avoid those difficult political conversations where you have to take money away from one priority and give it to another, because we are aiming to increase quite significantly the amount of expenditure across the economy as a whole. Therefore, we can supplement our existing blue-sky research, which leads to the UK being a superpower in fundamental blue-sky research, and complement it with greater support for close-to-market research.

Q190 **Harriett Baldwin:** What you are arguing for, then, is somewhat different from what Geoffrey was saying. Geoffrey was saying, "Do not invest in ones that already look like they could be commercially developed, because there is a big private sector industry that does that". You are saying that there is a role for Government to do the much nearer-to-market-ready technologies. What you are also suggesting, because you are welcoming the larger amount, is that you are prepared to see lots and lots of failure in this landscape, presumably. That is quite difficult for politicians to answer.

Dr Dibb: It is hard for politicians to answer but we need to be better at it. Geoffrey highlighted that science and innovation are uncertain by their very nature. If we want to win those scientific benefits, we have to be prepared to fail. If we only put money on horses that are going to win, we fail to support those ideas that do bubble up and lead to success.

Q191 **Harriett Baldwin:** Again, what I am struggling to hear is how you are going to measure whether these things are successful.

Dr Dibb: Just on the other thing you highlighted, you quoted him on ARIA and not on innovation as a whole. What I said was that you have to have sufficient instruments. That does not necessarily mean public ownership of IP or direct funding. It could be a tax instrument; it could be indirect support for research and development; it could be patient capital supplied through the UK Infrastructure Bank or the British Business Bank. We need to have measures across that spectrum of one to nine.

When it comes to ARIA, we must avoid expecting ARIA to fix every problem in the UK innovation and R&D sector. That is not what it is for; its budget is not set up from that. It is designed to learn from DARPA. DARPA itself is a tiny fraction of the US's expenditure on R&D. We cannot expect it to fix every problem, but we can expect it to make big bets, the ones that the private sector is not going to make but in the long term may be transformational, like the internet or renewable technologies.

Q192 **Harriett Baldwin:** I will just ask about the Treasury's programmes, Help to Grow: Digital and Help to Grow: Management. Do you have any observations on those?

Dr Dibb: This is somewhat a shift of gear, but when it comes to UK firms and productivity, we have a long tail of unproductive firms. There are various causes of that. Andy Haldane has done an extensive amount of work on that. One of the problems that has been attached to the long tail of firms is that we have a large number of firms in the UK that do not invest in digitalisation, new technologies and innovation. The Government's Help to Grow: Digital fund is designed to help them do that, and that is extremely welcome.

At the recent Budget, the Government announced a policy to help train managers and managing directors of small firms. Again, the management of small firms is an area that has been identified repeatedly in the UK. Both of those things are very welcome

Q193 **Anthony Browne:** My questions are going to be about levelling up in a geographic way. It is well established that we have a greater variation in terms of GDP per capita between our regions than any G7 country, and we have taken evidence on that before. I am going to make a proposition, and I am just interested in your reaction to it and your thoughts on it, either agreeing or disagreeing.

The Prime Minister said recently in a speech on levelling up that one of the problems we have is what he called the Matthew proposition, which is "to him that hath shall be given". I was involved in the economic case for Crossrail when I worked for Boris when he was Mayor of London. It was very easy to make the case for Crossrail in terms of the cost-benefit ratio, because it was in the richest part of the country and it was easy to show investment returns. It is very difficult to do that in parts of the country where GDP per capita is a lot lower.

To contrast with that, I was also responsible for European social and development funds in London; it was about £600 million a year at the time. The EU has a completely different approach. It looks at parts of the country where GDP is less than 70% or 80% of the national average and targets funding at those areas. To those who do not have, it gives.

Do you share the analysis that the Prime Minister laid out about that approach? The whole structure of the Treasury Green Book rewards success and does not help failure, whereas the approach of the EU is to deliberately target things the other way around. I will come to Sir Geoffrey first.

***Sir Geoffrey Owen*:** I am not sure whether I have a clear response to that. My impression would be that focusing on the deprived is the right approach. I would have thought that was the right approach, but maybe George can say more.

Q194 **Anthony Browne:** It is quite difficult from a Treasury point of view. You can understand that the Treasury, as the guardian of the public finances, wants to make sure it gets maximum return for its investments. It does the cost-benefit ratios and it will only justify spending money on Crossrail or other projects if they show a return to the public purse. It is more difficult to do that in areas where there just is not so much wealth creation.

***Sir Geoffrey Owen*:** I understand that.

Dr Dibb: That is right. The Treasury's cost-benefit analysis is designed to get the most bang for your buck, but that means you are not going to spread those bucks around the whole country because you focus on areas where you are likely to get the biggest return. I understand the Treasury did a review of the Green Book over the past few years and has sought to address some of those issues; I cannot comment on whether that is sufficient or not.

The reason why the European Union specifically identifies areas of economic deprivation—the wording is around "poorer regions"—is because that is allowed under EU state aid regulation. State subsidy is allowed to address those regional inequalities. The UK should seek to continue that pattern of investment. What we would like to see in the forthcoming levelling-up White Paper is a thorough and rigorous definition of the basis on which that investment will be determined. There are plenty of areas that would benefit from an uplift in investment.

Q195 **Anthony Browne:** From history, are there any examples of policies aimed at levelling up that have been proved to work? All Governments are in favour of levelling up. I had a meeting recently with some people who worked for the last Labour Government; they did not call it levelling up but it was the same sort of thing they were trying to do. It is very easy to say but very difficult to do. The Government clearly want to level up. We have lots of different policies. Are there any policies that you think they should focus on because they have been shown to work in the past?

***Sir Geoffrey Owen*:** It is not something I really know much about, but my impression is that in America there have been a number of studies of successful regeneration strategies, the key element of which—maybe this is too obvious—is local leadership and local collaboration between different interest groups, institutions and so on. That seems to be an absolutely central feature of those. Pittsburgh and some other places have been successful on that front.

I sometimes worry that too much is expected from central Government and more emphasis should be placed on what happens locally. That seems to be one of the lessons. Andy Haldane has also referred to one or two European success stories of this nature. Those need to be looked at to see what lessons could be learned.

Dr Dibb: We have been having a conversation about innovation and R&D, and it is very hard to avoid comparisons with Germany in that space. Speaking about regional inequality too, there are case studies that we can look to. After German unification post 1990, the economic disparity between the east and west was greater than the economic disparity between the north and south of the UK today; now it is significantly smaller. They have achieved significant economic development in the east.

Q196 **Anthony Browne:** How did they do that?

Dr Dibb: There was significant investment; there were significant transfers from the west to the east. Whether that export-led model is what we should be seeking to do in the UK is probably a longer conversation that we might not have time for.

I would seek to highlight that, alongside being one of the most economically unequal countries in the developed world, the UK is also one of the most centralised in terms of its decision-making. I mean within Whitehall and Westminster rather than geographically. If you are a poorer council, even within London, it can be very difficult to get money for that support. We need to look at how we can spread power.

Q197 **Anthony Browne:** Devolution is mission-critical for levelling up.

Dr Dibb: Yes, I would absolutely agree with that.

Q198 **Anthony Browne:** Do you mean devolution of fiscal powers, like tax-raising powers, or something else?

Dr Dibb: We would advocate for devolution of tax and spending powers to places.

Q199 **Anthony Browne:** Geoffrey, do you agree?

***Sir Geoffrey Owen*:** Yes.

Anthony Browne: Your comments suggest the same.

Dr Dibb: Specifically on R&D, that has been recommended by other people as well. On innovation, the south-east receives a disproportionately large amount of R&D investment. I have the figures. Almost half, 46%, of public R&D expenditure is in the London-Oxford-Cambridge golden triangle.

Q200 **Anthony Browne:** To give you one other experience, I started the discussions for tax increment financing for the funding of the Northern Line extension, which has now opened to Battersea Power Station. It was a £1 billion project. I persuaded the Government to do it. It is the first big TIF project in the UK. I could only do that because I had direct access to all the officials at the Treasury and we went and had endless meetings with them about it. Normal local authorities just would not be able to do that. In America there are 3,000 different TIF projects, because individual states can make their own arrangements.

There is one other issue about levelling up that I am interested in. There are lots of different policies you can do, but, in terms of supporting businesses, from a fiscal point of view you can either give them money or you can give them tax breaks. Governments do both; you get grants to individual companies in certain areas. When George Osborne started up the enterprise zones—again, I was involved with this in London—he reduced business rates for companies that moved their businesses into those enterprise zones as a tax break for them.

Where should that balance be? Are there certain areas where sometimes a tax break applied to all companies would be more beneficial than giving companies grants?

***Sir Geoffrey Owen*:** I am not sure. Is there much evidence of how tax breaks have stimulated—

Anthony Browne: I do not know. I am asking you.

***Sir Geoffrey Owen*:** I am not aware of any.

Q201 **Anthony Browne:** A lot of enterprise zones around the world do have fiscal incentives. Individual countries do it. You give tax breaks to people to move businesses there.

Dr Dibb: I would question whether that just moves around existing economic activity rather than seeks to induce new activity. This goes back to where we started this conversation about the UK's stagnant or very poor investment. The Government's position over the past 20 years has been to reduce corporation tax on the assumption that putting more of that into the pockets of companies will boost investment.

That has failed on its own terms. UK investment is still some of the worst in the OECD despite falling corporation tax levies from 31% to 19%. I would prefer to see direct investment rather than tax breaks to achieve that economic development.

Q202 **Anthony Browne:** I agree with your comment about tax breaks moving businesses from one part of the country to another, which is slightly pointless, but you can also have tax breaks for companies that are already there so that they might benefit from it. That is a different approach, which this Government have not done.

In terms of the grants to businesses, I have given billions of pounds to businesses through different part of my life. You do get a lot of companies that get very fixated on applying for grants and meeting the criteria for them. They suspend all normal business and they try to adapt their business model to meet the criteria for the grants. Sometimes they do not get the money and they then collapse. The public sector then has to try to work out how to make sure they do what they said they would do for that grant; they have to work out whether they end up doing something else or just spending it on buying fancy cars for themselves. That is a bit of cynicism on my part, but Governments do like giving grants to companies and small businesses or whatever. Are there ways you can make it work more effectively, or is it something that should generally be avoided?

Dr Dibb: I absolutely recognise the problem. Potentially you can avoid some of that through simplification of the system. The UK has an extremely complicated system of business grants. There are many different pots of money owned by different authorities for different purposes with different kinds of criteria. Some of them are not particularly well signposted and the awareness of them in the private sector is not great. As long as you have that system, you will always end up with companies that seek to milk as much of that as they possibly can.

I do not have particular guidance on that. We should try to simplify the system and make sure it is sufficiently signposted to the private sector so that it achieves what we want it to achieve.

Anthony Browne: I am out of time but I wanted to thank you for mentioning the Laboratory of Molecular Biology, because it is actually in South Cambridgeshire, which is my constituency. They have produced 12 Nobel Prize winners, and they do a lot of work that has led to commercial opportunities. They are not allowed to keep any of the intellectual property. If they had patents and they could license them, they would make absolutely vast amounts of money. I will leave that thought there.

Q203 **Siobhain McDonagh:** My questions examine the lasting implications that the pandemic will have on the workers, growth and industrial policy. The pandemic has resulted in huge economic upheaval, the recovery from which is not yet complete. Which parts of the economy are at most risk of not recovering? Can growth and industrial policy help with redeploying resources and jobs from sectors that will not recover into new growth opportunities?

***Sir Geoffrey Owen*:** I have tended to look, in an industrial policy context, at how we have approached the pandemic and what lessons we could learn from that, which is a different sort of question to what you are asking. I am sure there are lessons from the role of Government working with the private sector in the back seat of development and all of that. That is very important. It is something that Andy Haldane's group has brought out. In terms of who is going to recover best or worst—

Siobhain McDonagh: Yes, or who will not recover.

***Sir Geoffrey Owen*:** I do not know whether you have any views on that, George.

Dr Dibb: I would draw attention to three things. One would be that the more economically deprived regions of the UK—this definitely speaks to the last questions we were talking about in terms of levelling up—went into the pandemic with economic disparities that meant people were more likely to contract Covid and levels of mortality were higher. They were more likely to be unable to work from home, which meant they were more likely to lose their job or be furloughed. Because the most economically deprived regions of the UK also have the lowest levels of educational attainment, they are also likely to be the ones who struggle to bounce back economically. Certainly, the regions that are economically deprived need specific attention.

I would always draw attention to the experience of smaller businesses rather than large firms. Smaller businesses were more likely to take on debt. I mentioned earlier the efforts of the Treasury to get money out of the money in terms of bounce-back loans and CBILS. That was absolutely the right policy at the time. That was the lifeline that kept many businesses going. The challenge, though, was that the pandemic did not last six months; it has lasted 18 months, maybe longer. The amount of debt that some of those firms had to take on just to survive and to recover now is quite crippling.

How that money will be recouped and the level to which that is holding back the recovery is to be determined. Small firms certainly were more likely to go bankrupt or to have to furlough staff than larger firms. The larger firms were the ones who were more likely to receive bumper excess profits during the pandemic on the basis of their market position, so it is about smaller firms in particular.

One of the things IPPR has recommended is to give firms the option to restructure their debt to take it off their balance sheet, which would mean they are not struggling with debt repayments and maybe they are even able to take out further loans to invest. They could move that to either worker ownership shares, as has been recommended by the

Federation of Small Businesses, or shift it into public equity shares through mechanisms such as the Future Fund or the British Business Bank.

Q204 **Siobhain McDonagh:** The pandemic resulted in huge societal changes overnight, notably the reliance on technology for work, communication, entertainment and everything. These changes also shone a light on the digital divide in our society, with those without the kit and connectivity required to get online simply left behind. How can we ensure that opportunities arising from these technologies are embedded and widespread following the pandemic? What policy action is needed to close the digital divide?

Dr Dibb: You are absolutely right that what the pandemic has shone a spotlight on are some of these social challenges. The figure that I have in my notes that really points to that is that in Richmond, just down the Thames from here in London, 70% of people were able to work from home, whereas in Middlesbrough just 14% were able to work from home. That plays into lots of things. It is about the nature of the jobs in those places as well as digital infrastructure and the ability of people there to own the laptops or iPads that they need to work from home.

I do not have any easy fixes. Things like digital infrastructure and making sure that broadband connectivity is spread around the UK are benefits to both citizens and businesses in those places. A right to flexibility and working from home has potential benefits, in that it will allow people to shift where they work around the country. That could potentially benefit places outside London and the south-east. It would be a shame not to learn the lessons of the pandemic in that space and not to make sure we grasp those opportunities.

Q205 **Siobhain McDonagh:** Another lasting implication of the pandemic is the continued fall in the use of cash. In my constituency, Barclays are closing their town centre branch in Mitcham. Despite warm words to the Committee from the bank, Barclays are ridiculously suggesting that they will replace the branch with a Barclays bus operated by Barclays staff stationed on random unpublicised days outside their Barclays branch even though there are still years left on the lease.

It all accelerates our cashless society, and I want to ask our witnesses about the implications of this. What do you believe the implications are for industry and for individuals? How can Government act to avoid the negative consequences?

Dr Dibb: I recognise the problem. Where I live in Deptford in south-east London, there were four banks on the high street when I moved in three years ago. There is now none. Certainly, digital banking offers potential benefits to citizens, but we need to make sure we are aware of the impact that can have on people who are no longer able to access those services, for example the elderly and those who are not able to afford digital devices. I am at a bit of a loss as to what I can suggest in terms of Government steps to resolve that.

Q206 **Siobhain McDonagh:** Finally, does the development of vaccines during the pandemic hold any lessons for how to carry out innovation and industrial policies in normal times?

***Sir Geoffrey Owen*:** On that front, one has to try to distinguish a bit between the emergency nature of this particular thing and the wider lessons that do not apply to emergencies. There were some special features of this vaccine programme, most obviously the fact that the Government were the buyer of the vaccine. There was a guaranteed outlet for the product as well as support for the research. There were special arrangements made for the emergency approval of new treatments and so on that were specific to this case.

There are other issues relating to vaccines that have been highlighted by the pandemic, notably the shortage of manufacturing capacity in this country not just for vaccines but for other medicines. For various reasons, which I do not completely understand, although we have a very successful pharmaceutical industry, the manufacturing side of that industry has been relatively underinvested in. There is now a strong effort by the Government and the industry, the companies and so on, to work on that, not just in terms of vaccines but to look at what can be done in other areas where we have cut back on manufacturing too much.

There are certain lessons. One of the points made—perhaps this is a wider point that goes beyond medicine and all that—made in the Industrial Strategy Council report on this question that you have raised was the need, where there is a mission, to have a mission that is very clearly defined and very clear objectives that can be easily measured. There are some broader policy implications from this. They cannot be applied so easily to other areas, but they certainly need to be thought about.

Dr Dibb: It is a really good question. It draws together a huge amount of the conversation that we have already had today. What I take from the vaccine success story is that it has been a huge success of Government and the private sector working hand in hand together with a partnership approach, each doing what they are best at and bringing that to the table for a really successful outcome.

The Prime Minister has said that it is a success of capitalism or even greed. That is not the lesson I take. I see huge long-term public investment successes behind some of the things, as well as the innovation and scale that the private sector can bring. Equally, I draw a lot on the excellent report by the Industrial Strategy Council that Geoffrey mentioned earlier. It identified six specific lessons that we can learn. First, choose a small number of clear measurable missions. The Government said explicitly, "We want a vaccine with this level of efficacy by this date", and the private sector was able to step up to that.

Secondly, map out a clear end-to-end path to success. Once you know you want to go over there, what will it actually take to get there? You can imagine how you would apply a similar approach to battery vehicles or building retrofit.

Thirdly, harness the public, private and voluntary sectors in co-creating and co-delivering industrial policy. What I take from that is understanding what the private sector can bring—scale, innovation and investment—that the public sector will never be able to.

Fourthly, use strategic procurement. One of the great successes was that the Government said, "We will buy this many cases". Imagine if they did the same thing with electric vehicles or solar panels. It would allow a business to ramp up production and make massive savings in terms of economies of scale.

Fifthly, provide long-term investment at scale. We have been talking for the last hour or so about long-term public investment in R&D. The vaccine is a massive success story, reaping the benefits of decades of investment in the UK life sciences sector.

Finally, build resilience as part of the industrial policy. It is not about putting all your eggs in one basket; it is about spreading your big bets far and wide in areas that could reap large transformational benefits. There are many lessons that we could learn.

Q207 **Rushanara Ali:** Good afternoon. My questions are on net zero. I know you have already touched on it a bit. In both of your assessments, are the UK's overall commitments to plan for net zero, as a country, a Government and a Treasury combined, seen as being strong enough and able to attract enough investment for investment into the transition?

***Sir Geoffrey Owen*:** Again, my impression is that private sector investment is being attracted to the programme on quite a substantial scale. It is interesting. We mentioned batteries a few minutes ago, but the hydrogen issue, for example, which is going to be part of the programme, is now attracting substantial private sector investment, stock market interest and so on. I would have thought that there were good chances of getting substantial private sector buy-in to this whole programme.

Q208 **Rushanara Ali:** Would you say it varies depending on the sector? The question is whether overall, as a country, we have done everything that needs to be done to achieve this to scale.

***Sir Geoffrey Owen*:** To be able to attract private sector investment, you mean.

Rushanara Ali: Yes, so that it is strong enough for firms to be able to invest in the transition.

Sir Geoffrey Owen: I would have thought so, but George might have a different view.

Dr Dibb: I would struggle to say that they have done everything. Again, it is challenging to comment on this, because the Government released about 1,500 pages of net zero strategy in the past 24 hours, and I certainly have not read it all. In the view of IPPR, we need to see significantly greater public sector investment designed to crowd in private sector investment.

If you look at where the Government used to be about a decade ago, the message was, "Government's role is to create a transparent framework within which the market will decide how we are going to generate our electricity in the future". That never worked and it was never going to work. Where we are today is that the Prime Minister acknowledges that we need to make specific interventions across 10 areas with specific targets on wind, solar and nuclear power. To step forward, we need to reiterate that and provide really clear delivery plans through the net zero strategy, but the public sector investment will be key.

We also need to make sure we are focusing on a just transition. It is not simply about transitioning our economy to a net zero one; it is that we do not make the same mistakes that we have in the past and leave people behind in that transition.

Q209 **Rushanara Ali:** I was going to come on to that. In a recent statement made by Lord Deben, the chair of the CCC, he said to an inquiry that, "We are not going to do the transition if it is not just, because society will not accept it. Of course, there have been other MPs who have talked about this recently. Clive Betts, the chair of the Local Authority Pension Funds All-Party Parliamentary Group, said, "Major industrial changes are rapidly coming down the track. To avoid repeating the mistakes of the 1980s, which left workers and communities behind, Government urgently need to be planning for an orderly and just transition to net zero".

There is quite a lot of tension already, and we have seen that even in cities like London. There are sectors where that transition is going to be pretty stark. We talked about levelling up. In fact, some of the areas where we need investment are also areas where there will be a need to transition, yet there is not a sufficient investment in skills and supporting the right mix of people who can switch to green jobs.

What needs to be done to ensure that there is a proper match between the transition to net zero, the levelling-up agenda and supporting the areas and sectors that are going to have to be part of that solution?

Dr Dibb: The quote from Lord Deben was around the citizen having a veto. We would definitely recognise that. That is a veto that can be exercised at the ballot box or on the streets. There is a massive risk if we do not take everybody forward in the green transition. That means looking at the kinds of sectors that will be affected in particular places, the impact of that on jobs and making sure that we do not needlessly close industries that could be supported by an adequate industrial strategy through decarbonisation.

IPPR analysis shows that if we were to sufficiently invest in net zero and the opportunities of net zero, if we were to seize them now while they are there, it could create jobs across the country. The significant challenges that we need to address with net zero, such as the retrofit of every single home and office in the UK, will clearly create skilled jobs across the country, which will not just benefit constituencies in London and the south-east. That also applies to industries, which, as we know, are clustered around different parts of the country. Agriculture and nature investment is also needed to achieve net zero. There are areas that can benefit the whole country.

The reason I draw attention to capturing the benefits now is that, if we fail to do that now, they will be seized by somebody else. To take an example of that, about 10 or 12 years ago the UK Government refused to give a loan to Vestas, which was a wind turbine manufacturer on the Isle of Wight. They were ploughing money into contracts for difference, which have led to the UK being a world leader in the installation of offshore wind, but were failing to support the companies that were going to manufacture those wind turbines. Now we are left playing catch-up a decade later because we did not have a joined-up industrial strategy at the time, one that could retain the jobs and the potential wealth, prosperity and economic benefits that the green transition would bring. It is not simply a matter of sufficient investment; it is sufficient timely investment.

***Sir Geoffrey Owen*:** This is completely outside the field of industrial policy, but my general comment about this net zero thing, having only just glanced at the document that came out yesterday, is that the Government need to do more explaining. They need to do more explaining and more elaboration on how we are going to achieve these objectives.

In that document there are various promises or objectives about 325 jobs here or whatever. Where are they going to come from? There is probably quite a lot of scepticism. I do not mean anti-climate change, but scepticism about how painless this transition is going to be. Apart from White Papers and Government documents, there needs to be a concerted effort by the relevant Ministers to explain, persuade, reassure and so on in a very fact-based and realistic way. That is important.

Q210 **Rushanara Ali:** I just have one final question. In light of these recent announcements, we will need to look at what the overall contribution to achieving the net zero target needs to be, what the Government are doing and whether the sum of those parts can lead us to where we need to get to. According to PwC, £40 billion of investment is needed every year for the next decade to meet the net zero target. As we have just discussed, there are these nuances in terms of the transition for regions, sectors and so on, and, I would say, to some extent the lost decade, in terms of it being stop and start; there are areas where there has been investment and it has been halted. Only a fraction of the £40 billion investment that is needed every year has been committed to by the Government. What would you want us to be saying to Government, going forward, in terms of that challenge and mismatch?

Dr Dibb: It needs to be about the scale of public investment. I said it already, but it is about making sure it is specific and structured in a way that will crowd in private-sector investment too. The PwC report, I am sure, will be making a division between public sector investment and private sector investment. Nobody is proposing that the majority of the investment needed to achieve net zero is coming from the public sector. It has to be very clear in the way that it capitalises and crowds in that investment.

IPPR ran an environmental justice commission, which reported in July. That made very specific recommendations around sectors and areas with job potential and where they are located in the UK. I would be happy to share those figures with the Committee as well. The net consequence of that in the next year and what we are looking for at the spending review is around £30 billion of public investment, with the four biggest-ticket items within that being the decarbonisation of transport; agriculture and nature; supporting industry specifically around the just transition for those places most affected; and the retrofit of homes and offices.

Q211 **Emma Hardy:** Thank you to both witnesses. You will be hopefully not too pleased that I am the last person to question you both this afternoon. You will have to excuse me, because I am going to go off on a small tangent. I hope I will take you with me on our tangent journey.

I want to ask you about something that is very close to my heart, which is this idea of regional inequality. I represent Hull, and I am from the area. One thing I am really keen to hear your thoughts on is the move towards remote working. I am defining "remote working" not as flexible working, where you go into the office once a week; this is where you predominantly work remotely through technology. Could a move to working remotely and promoting jobs that were previously never available in a city like Hull—they did not exist in that area, because we did not have the economy and the businesses there—help to address some of the regional inequality that we have? What would be the pros and cons?

Dr Dibb: I would certainly agree that remote working has the potential to bring plenty of benefits to places outside London and the south-east, where new job creation is particularly concentrated. London accounts for something like 40% of graduate jobs created in the UK.

The question would be, "Do we want to make it easier for people to apply for remote working jobs that allow them to work in London, or do we want to invest in the places outside London and allow those places to develop their own economies?" The latter would be desirable, because different places have different economic characteristics. Sheffield has a steel industry, and parts of that could be built on for advanced manufacturing. Coastal communities, some of which have been hit worst by Covid, are based on hospitality. Different areas have different economic characteristics. One of the things that we lost from the loss of the 2017 industrial strategy was a focus on local industrial strategies.

To summarise, there are definitely benefits to remote working. It will allow people to be spread more around the country and allow them to get jobs that they would not have been able to apply for while also spending their income in places other than London and the south-east. I would encourage an approach of investment and local industrial strategies that developed those regional economies too.

Q212 **Emma Hardy:** We need both. If we continue to try to develop local industrial strategies, my fear is that we have been doing this for quite a while and so far we have seen growing inequality rather than lessening inequality. Sir Geoffrey, what are your thoughts?

Sir Geoffrey Owen**:** Are you asking whether remote working improves the standards of living or whatever in deprived areas? Is that the question?

Q213 **Emma Hardy:** Yes, more or less. For an area like Hull, if you wanted one of these top jobs, if you wanted to work for the civil service, if you wanted to work for PricewaterhouseCoopers, if you wanted to work in a top-level job in finance, you would have to leave Hull. That job would not be available where you were. What I am saying is that, with the introduction of remote working becoming more common, in theory you can stay living in your hometown and you can access that job if more was offered remotely. I wondered what your thoughts were on whether introducing more remote working could reduce regional inequality by making jobs available wherever people live in the United Kingdom.

Sir Geoffrey Owen**:** I would have thought it would only make a modest contribution to the objective you are seeking. It depends on how often you go to the head office or whatever. It depends on what kind of relationship you have with the rest of the organisation. I personally would be rather doubtful as to whether it could be all that helpful for a city like Hull, but I may be quite wrong; I do not know.

Q214 **Emma Hardy:** I was struck at the beginning, George, by your comments on the Government's need to look at long-termism and to have less focus on short-termism. I want to talk about skills. The thing about skills is that, whenever a Government try to introduce improvements to skills policy, they probably will not see the benefits during their time in office, which is why we tend to look for shorter-term solutions. The Prime Minister was talking very much about the move towards a high-wage economy. I just wondered what your thoughts were about whether this rhetoric of moving towards a high-wage economy was backed up by policy and strategy.

Dr Dibb: IPPR would recognise what the Prime Minister was alluding to. We would agree that the UK's economic model is broken. What we want to shift towards is an economy based on high productivity, high investment, and high wages. What I would really question is whether what the Prime Minister has set out to achieve that is going to work.

Job shortages and worker shortages alone are not going to get us to a high-wage economy. Just looking at where we were before the pandemic, we recently published a report called *Prosperity and justice after the pandemic*. We looked at the past 10 years. Even before the pandemic, 40% of people in full-time employment saw a real-terms fall in their wages in that decade from the financial crisis to the pandemic, which is quite a stunning amount of people. 40% of the workforce saw a drop in their real-terms income.

Pay is a massive problem in our economy, but to address it we need to address productivity. Again, it is something we talk about in the industrial strategy, in the plan for growth. The UK has had stagnant increases in productivity since 2008. To drive that change, what we need to see is an investment in skills, as you alluded to, and the adoption of automation and other innovations in the workplace.

Specifically on skills, we have seen quite a big shift during the pandemic. In terms of jobs lost and jobs created during Covid-19, the majority of jobs that have been lost were low-paid and low-skill. The majority of the jobs created during the pandemic—it has not all been lost—have been high-skill and high-pay. In some ways, that is a great opportunity because there are new high-paid jobs for those people to transfer into, but it is not a matter of simply saying, "Get on your bike and go and find one of those jobs". Those people need to skill, because the people who are wanting to move up needed to be reskilled. A long-term approach to industrial strategy would include skills training and skills budgets. That should be specifically around vocational skills and also, critically, not just for young people but for those already in the workforce to aid them to transition into these different jobs.

Successive Governments have operated on the basis, mistakenly, that simply addressing skills levels among younger generations will somehow move us to a high-skill and high-pay economy. That is not sufficient. You need to increase demand by employers for those skills in the workplace as well, and that comes with all the things we have talked about in terms of investments in labour-saving technologies, automation and the like.

Sir Geoffrey Owen**:** The only point I would make, perhaps following on from your last remark, is the extreme importance of lifelong skills training. If it is the case, which it may be, that there are going to be all kinds of turbulence in the labour market as new technologies come in and old jobs are eliminated and so on, it is vitally important that employees have the skills to move to other jobs.

There is a case for a stronger collaboration between the public sector and the private sector in making possible this lifelong learning. If a business collapses for some technical reason or because there is some new competitor, there has been an investment in the workforce that permits a not easy but easier transition to other jobs. Reskilling on a lifetime basis should be a high priority.

Dr Dibb: If I might just build on that point, because it is really important, you have to view that also through a sectoral lens and understand that the same measures that work for one area will not work for them all. Addressing skills and training for HGV drivers is not going to help someone in retail or help someone in a high-value manufacturing company. We need a sectoral lens. Car washes are a great example. When I was a child, a car wash was a machine. Now, you are more likely to have a group of low-paid labourers doing that. That is an example of reverse innovation, where we are taking steps backwards. That is because of a link between labour costs and investment in plant and machinery.

What we therefore need to do is to shift some thinking around industrial strategy away from industry. The trick is in the name. We also need to think about areas of the economy that are not industry and are not those high-productivity sectors. Particularly, the UK's growth or total levels of productivity are held back by certain low-pay and low-productivity sectors such as social care and retail. Specifically addressing poor productivity in those areas could mean more bang for your buck in terms of lifting the productivity of the country as a whole.

Q215 **Emma Hardy:** I am so pleased you mentioned lifelong learning, because it is something I could talk about for ages. I will not; do not worry, Chair.

This may be too specific, so please just say if you are not aware, but I am thinking about how well the Government's growth policies link up with education and further education policy and how well co-ordinated they are. I am not sure whether you are aware—do not worry if you are not—of the move to get rid of BTECs as a qualification. I do not know whether you have heard of that and are able to comment on that. There was also the Government's decision to remove the Union learning fund, which allowed adults in work to continue to access education. I do not know whether you are able to comment on either of those decisions.

***Sir Geoffrey Owen*:** I am not specifically.

Q216 **Emma Hardy:** As an alternative to the Union learning fund, which was a scheme designed to enable adults in work to continue to learn, would you foresee a similar organisation being part of an industrial strategy to enable this lifelong learning for people in work?

Dr Dibb: The three things that we would draw attention to in terms of vocational education would be making sure that we increase the investment in and utilisation of skills among employers, increasing the availability of high-quality specialist vocational training and supporting the industries and communities that are facing economic decline, to make sure those people are able to adapt and reskill in the workforce. I do not have specific thoughts on the Union learning fund.

Q217 **Emma Hardy:** Sir Geoffrey, do you think skills should be a greater focus for growth and industrial policy?

***Sir Geoffrey Owen*:** Yes, I do. The Augar report, whenever it was—a year or so back—set out a very plausible set of recommendations or proposals. That is the basis on which we should go forward.

Q218 **Chair:** That brings us to the end, but I have one final quick question out of that last little session. It is for both of you but for George particularly. George, you were talking about the importance of productivity driving up real wages, which I would totally agree with. The Prime Minister, in his recent conference speech, was putting forward the idea that you could put up the wages first and that in turn, presumably because the price of capital becomes relatively less as a consequence, would drive up investment in capital and therefore lead to higher real wages at some point down the line. Do you have a view on that?

Dr Dibb: I am not aware of that model working in the past or elsewhere.

Chair: It is unorthodox. I was just interested in what you think.

Dr Dibb: We draw some inspiration from what the Biden Administration are doing in the US. They have an extremely ambitious infrastructure Bill in terms of public investment to drive recovery from the pandemic. The President has said explicitly that, through that job creation effort, they aim to create enough high-skilled jobs in the economy that means, instead of employees having to compete with each other for a job, employers will have to compete with each other to attract workers; through that, they will drive up pay and conditions across the economy. That is a much more promising approach.

Chair: Thank you to both of you. That brings us to the end. That has been a very helpful and useful session. We have covered a lot around industrial policy and the various models. On that point, George, you mentioned the Department of Economic Affairs of the 1960s as a model that brought in the Treasury in a useful way. I wonder whether I could ask you to drop a note to the Committee as to your arguments around that, because that would be quite interesting for us to look at.

Dr Dibb: Absolutely, yes.

Chair: We also covered levelling up, net zero and many other things as well. Thank you both very much indeed.