

Science, Innovation and Technology Committee

Oral evidence: Innovation, growth and the regions, HC 538

Tuesday 6 May 2025

Ordered by the House of Commons to be published on 6 May 2025.

[Watch the meeting](#)

Members present: Chi Onwurah (Chair); Emily Darlington; George Freeman; Dr Allison Gardner; Kit Malthouse; Steve Race; Adam Thompson; Martin Wrigley.

Questions 187 - 274

Witnesses

I: Neil Lee, Professor of Economic Geography, London School of Economics; and Mathias Rauch, Director and Chair of the Board at Fraunhofer UK.

II: Louis Taylor, CEO, British Business Bank; and Kristen McLeod, Chief Strategy Officer, British Business Bank.

Written evidence from witnesses:

- [Professor Neil Lee](#)

Examination of witnesses

Witnesses: Neil Lee and Mathias Rauch.

Q187 **Chair:** Good afternoon and welcome to this, the fourth, session of the Science, Innovation and Technology Committee inquiry into innovation, growth and the regions.

I very much welcome our guests who are giving evidence for this session and ask them to introduce themselves when they first speak. I will start with a critical question. The UK is a globally acknowledged hub for scientific knowledge. We have fantastic research institutions. We have Nobel prizes for science coming out of our ears. We have everything in the science infrastructure that we might be proud of, yet we fall short in translating it into innovation. Why? I will start with you, Mathias Rauch.

Mathias Rauch: Thank you, Chair. I am very happy to be here. I am Mathias Rauch. In a former life, I was an econometrist. Then I went into research management. I have been with Fraunhofer in several senior management positions for almost 20 years.

I am not quite sure whether I fully agree with the failing part of your statement. Compared with other R&I systems, internationally the UK is still doing rather well. You mentioned strengths. If I may, from my humble position as an outside observer, you have excellent universities and excellent fundamental science capacities. Compared with other, for example, continental European countries, what I miss in the UK is a more vital sector of research and technology organisations that would exactly take on the role that you described as missing—namely, the translation part. How do you translate knowledge into more innovation activities? Usually, research and technology organisations like Fraunhofer do that in many different ways. One of those ways is educating young researchers, not only academically but professionally. They learn how to run projects with industry partners and then they are well trained to take all that knowledge into actual application cases. Another translation path for this knowledge is our institute directors. Our Fraunhofer institute directors also hold professorships at the local university. There, you have another transfer path of university knowledge into applied research and application cases in projects that we run together with industry.

In that close collaboration, we have, for example, internal programmes to support the activities of our researchers. One of the most successful programmes is where researchers from Max Planck—basic science: Max Planck is all about winning Nobel prizes—and Fraunhofer researchers collaborate closely together for the benefit of German and European industry. Those projects are so intriguing and so beautiful that I really cannot find another word. They exactly combine the best of two worlds.

My humble advice would be that whenever policy has the chance to shape something, it is about reliable long-term investments in institutions



that can take on the roles that you described as missing in your system. Thank you.

- Q188 **Chair:** Thank you very much for that. I note that public funding in the UK is approximately 80% deployed towards early stage research versus 20% deployed to applied research, whereas in our European Union neighbours and in South Korea, it is approximately a 50:50 split. You emphasise the need for more funding for cross-industry and university collaboration.

Mathias Rauch: Yes, I do.

- Q189 **Chair:** Professor Neil Lee, what would your response be?

Neil Lee: I have worked for about 20 years on UK regional local growth policy and for about 10 years on innovation policy across the world more generally, often focused on highly innovative countries such as Singapore and Sweden.

First, I agree with Mathias that in the UK, we are not bad; we are not bad internationally. I have talked to a lot of policymakers in countries like Austria or Singapore and they still want to come here; they still think we are getting some stuff right. If you look at the statistics, it is not terrible.

However, there are three things. First, our leading-edge science bases are often concentrated in London and the south-east, where we do pretty well, or in places that are too small—small clusters, Oxford, Cambridge, relatively small parts of the economy not well linked into the broader urban fabric. That is the first point.

The second point is that we are definitely good—I feel we agree on this—at the leading-edge science stuff. We are still quite good at producing leading-edge firms that go to scale in radically new technologies. We are not very good at the late stage funding. We are not very good at the applied research, the translational stuff. That is also the root of our regional failures. We have a system that works well for a small number of places, but not others.

The third thing is where we have not been great. Many of the problems we are talking about in the context of innovation are broader problems around local growth or around industrial policy. The fact that our science base is not always translating through to growth is often because of wider failings around industrial policy, rather than something else.

- Q190 **Chair:** You mentioned regional aspects, Professor Lee. Would driving innovation-led growth at the regional level make the UK more competitive or are we right to focus on a more national approach? What examples are there from across the world? Is the UK peculiar in having such a concentration of innovation investment in one region and the growth that follows from that?

Neil Lee: In the UK, we are relatively spatially unequal and a lot of that is because of our science base. We are not the worst, but we are very



bad. It is probably helpful at this point to think about innovation in different ways. We think about the leading-edge, frontier innovation-type stuff. We also think about more applied innovation stuff, taking technologies and applying them to the business models of particular companies. Then more generally there is the diffusion of technology more broadly among companies. We are very good at the first of those and we should rightly celebrate the fact that we are fantastic in universities like Imperial. I am an LSE professor, so it pains me to say nice things about Imperial, but these are world-leading universities. We should be very pleased to have them, but the fact that we are not so good at the applied, the diffusion, stuff, means that in the parts of the economy that are inevitably not going to be at the leading edge, the firms in those parts of the economy will not be quite as competitive as they would be.

Those two problems—the innovation problem and the regional problem—are very closely intertwined.

Q191 **Chair:** Mathias Rauch?

Mathias Rauch: Yes, I largely agree. Again, one should talk about what one knows best. In my case, it is the German case. I can tell you a lot about Austria too.

In Germany, of course, there are huge differences and a vast variety, regionally. For the non-university research organisations, such as Fraunhofer, Max Planck and Helmholtz, regional diversity is enshrined in our DNA, so to speak. We run, as Fraunhofer, 76 research institutes all over Germany with more than 120 research sites. Some of them are right on spot on the same topic, on the same research area and on the same technology that is the foundation of the institute. Why is that? Because the economy is so diverse and there are many local centres of economic activity. For example, there is a vast quantum and IT-related cluster around Munich, but there is also one around Berlin. Of course, those institutes are also there to serve the local needs of industry, particularly SMEs, and there are thousands of them. SMEs are a shy breed; they don't go thousands of kilometres to meet academic expertise. They need us just around the corner.

As research and technology organisations, we would like to see the link between those industry needs, the academic expertise and the technological knowledge that is needed to solve the problems and to give SMEs and industry in general the competitive edge they need.

Q192 **Chair:** We will come on to discuss the UK Catapults, which are our application of the Fraunhofer model, in more detail. I want to ask Professor Neil Lee this briefly. You said that the UK was not the worst when it came to spatial inequality. Who is the worst? Is there a dividend from having more equal innovation investment? Does it lead to more equal growth? Is that a link? Is there a dividend that we are losing out on that we see elsewhere?



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Neil Lee: I don't want to end up too academic here. I can feel that my colleagues would all be shouting at me and giving slightly different answers. Our evidence certainly suggests that the United States is more unequal. That is simply because it is a bigger place. You end up with scale effects, where companies move into different parts of the economy. Some evidence would suggest that Ireland is more equal and we would also—

Q193 **Chair:** Equal or unequal?

Neil Lee: Unequal. There is also evidence that suggests that some of the eastern European countries are more unequal. It is probably correct to say that we are the most unequal large country in western Europe. I think I feel comfortable with that, as a claim.

Building on Mathias's point from my answer to your second question, I feel one of the problems we have here is that we have a science model, or an innovation model, where we tend to look at the UK economy as being a single economy. To some extent, of course that is true, but the problems faced by companies, as well as the industrial bases and the strengths and the weaknesses, are very different across the country. Certainly, all the places I look at, all the countries I have worked with, try to make their economic policy problems tractable in some way. The issues for a firm in Glasgow are very different from the issues faced by a firm in Southampton.

Our innovation policy, such as it is, definitely works better for some places than others. We definitely need to consider that. I urge the Committee to think hard about that and how it can be made more spatial. We tend to use a fairly academic term. We need a place-based innovation policy, as well as a national innovation policy, which reflects the specific needs of different local economies.

Q194 **Kit Malthouse:** I want to slightly challenge the issue about regional policy. On the one hand, you are saying that we are not particularly regionally spread out, yet, on the other hand, you are saying we are doing rather well in global science. One thing we know about science—in fact innovation of all kinds—is that the agglomeration effect of human beings tends to mean that the closer we get together and think about things, the more productive and innovative we are, so the cluster approach does not necessarily lend itself to a regional policy. If you even take it down to a micro cluster approach, you have single universities like Cambridge University which has more Nobel prizes for science than the whole of Germany. There is a strong cluster. Why would it be a positive thing to try to break up those clusters, if you like, or disseminate them or homogenise them throughout the UK? Wouldn't we run the risk of becoming less innovative if we did that?

Neil Lee: That is a useful challenge and it helps me clarify what I was, I guess, trying to argue. Essentially, if you think we have the leading-edge science-type research funding, it is vital that it goes to the centres of



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excellence and I think everyone in this room would totally agree with that.

However, there are some forms of innovation funding, around the type of more applied stuff, which need to be spread around and do not necessarily benefit from the same sort of agglomeration economies that you get at the leading edge. Agglomeration economies, we know, are more important the closer you are to the knowledge frontier, to use a very techy term. That is my—I hope that—

Q195 Kit Malthouse: For example?

Neil Lee: Cambridge is a great example. People who are doing leading-edge research will benefit from being located in Cambridge because they get access to the latest stuff. By definition, most firms are closer to average than the average firm in Cambridge, if I can put it like that. If it is an average firm in the north-east, or a firm doing something a lot less reliant on that knowledge, we need to provide support for that type of firm as well. At the moment, that is the type of firm the system does not work very well for.

If I could pick up on the Oxford/Cambridge point, we are very lucky to have Oxford and Cambridge. In 2001, Oxford was 0.9% of UK GDP. The last data we have is 2021 and it is 0.9% of UK GDP. We have this slight problem that we have focused much of our science funding on those two cities, which really have not been able to expand and have not been able to have necessarily clear spillover effects into the rest of the economy. Solving the problem of how we can maintain the excellence but try to get a bit more economic benefit from it is an important challenge.

Q196 Kit Malthouse: Final question. I understand all that and you made it very clear. In a world of finite resources, would you rather put the money in the existing centres of excellence and clusters or spend the money building new ones?

Neil Lee: That is a great question and, to some extent, I am lucky it is not my problem, I have to be honest. Probably it is a question of balance. At the moment, we probably have a balance that is slightly out. That would be my answer.

Chair: Thank you very much, Kit. You have raised the point that Cambridge has more Nobel prizes than the whole of Germany before. I would also say to you that Germany has more of the companies that my constituents would like to work for than Cambridge has. That is their view.

Q197 Steve Race: Thank you for your point around the economic impact of Cambridge. Do you have a quick view about why it has not increased? Is that physical space? Is it planning and infrastructure?

Neil Lee: Oxford.



Steve Race: Oxford, sorry.

Neil Lee: It is exactly the same with Cambridge.

Q198 **Steve Race:** Or is it around investment? What are the main drags on growth there?

Neil Lee: It would be a number of different things. Part of it might be that some of the science we want to happen there should not be commercialised there. Maybe it is being commercialised in London, but it doesn't mean we should not be doing stuff there. There are definitely planning issues as well. The planning issues need to be considered.

I think I opened by saying that many of the UK innovation policy problems are not innovation policy per se; they are wider economic problems. We should probably consider that. Things like better transport links, allowing companies in Milton Keynes to benefit from the commercialisation of the science base in Oxford and Cambridge, are very important.

Chair: Very good. Emily is delighted that somebody other than her has mentioned Milton Keynes. You scored a great point there.

Q199 **George Freeman:** Thank you, both. I declare my prejudice, which is that I think there is an opportunity. The reason I am so excited about this agenda is that I think there is an opportunity to reindustrialise the UK and re-commercialise and industrialise some of our regional economies without indulging in some massively subsidised failure operation of the regional policy of old.

When we set up the Catapults, they were very much based on the Fraunhofer model. Hermann Hauser, for the record, the only person who has founded over 10 companies, all worth over £1 billion, came here as an Austrian student; I just make that point. I was very struck that the German economic model is very different. Mathias, we all know that, in Germany, we have the Mittelstand, very strong regional economies. Does the Fraunhofer model and, therefore, to some extent, our Catapult thinking, reflect that and really work in that ecosystem? Or are there Fraunhofers that have worked in new economies where there are no industrial partners yet, but the Fraunhofer is able to create that?

My second question is to Professor Lee. As you look at our regional ecosystem and these clusters evolving, what is the main lever that you want to see for Government, who have rightly, I think, said, "Look, we want an active industrial strategy. We want to support new economic growth in these clusters all around the country"? What, for you, are the Nos. 1, 2, 3 interventions, from your perspective, that would most drive that to happen?

Mathias Rauch: Thank you. That is a very good question. I think it is both. It is the heavy support of regional activities and the regional economies, I would say, to the extent of—ballpark number—90%; and



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10% is creating new industries, new activities. For example, in quantum, when we started with quantum technologies, whether sensing or computing, we were the first movers in Germany as non-university research organisations.

To a bigger extent, it is supporting the local and regional economy. Usually, a Fraunhofer Institute gets 90% of their contracts within a 50 to 100-km radius. That also explains why we have many institutes that are on production technologies; we have 25 of them spread around the country. Companies in Munich need them as much as companies in Hamburg. We really want to serve them locally as well. It is a tedious business, serving 10,000 SMEs with knowledge transfer and industrial projects, but it is worth all the effort because they heavily benefit.

As you very well know, research organisations always ask about their impact. One of the impact studies we did on Fraunhofer was the impact that we create when we work with local SMEs. There are several ways that we sustainably impact the SME. First, we raise the knowledge bar. Then usually the turnover and the revenues go up after the projects, because you have new products and services that you can sell as a company. The workforce are much better trained after the projects. There is knowledge gain and so on. There are a lot of transfer paths, as we call them, to really support the local economy to grow.

If you talk to small and medium enterprises in your constituencies, you know very well that there is a certain reluctance to go to a world-known professor in Cambridge and ask a supposedly stupid question. If you have a research centre next door, next to your facilities, you lower the bar for knowledge transfer in general. That is truly important.

Q200 George Freeman: How many Fraunhofer Institutes are there in Germany?

Mathias Rauch: There are, at the moment, 76 institutes with more than 120 research sites.

Q201 George Freeman: We have nine Catapults, which was our attempt to reproduce the German model. That is very helpful, thank you.

Professor Lee, can I ask you about the interventions point?

Neil Lee: Yes. I would be cautious about suggesting something that is going to work in Norfolk and Newcastle. I would start off with that as a standpoint, which leads me towards some way of letting local areas decide what works for them and what is the appropriate thing. I noticed in the English devolution White Paper, for example, some suggestions that there might be moves around R&D funding for that. Something like that, which allows local areas to address their own specifics would be what I would say, because it will be so different in Oxford from somewhere in the north-west of England. One thing that I would suggest can be done centrally is better evaluation. That is key.



Q202 **Chair:** Evaluation of?

Neil Lee: Better evaluation of innovation policy in this country more generally, in that we spend a lot of money on it so we should know better what is working and what is not. I extend that right across the whole of innovation and industrial policy more generally. Before today, I had a look in the new Evaluation Registry to see what was working and what was not. It was not particularly illuminating. I imagine that if you are a civil servant or if you are in your shoes, it makes it hard to deal with questions about trade-offs.

Q203 **Martin Wrigley:** I am intrigued by your better evaluation. I have been listening to what you have been saying. One of the questions I want to put to you is: what does “good” look like?

Neil Lee: In terms of evaluation?

Q204 **Martin Wrigley:** In terms of many of these areas. There are lots of things where you are saying we are not as bad as them and we are better than them. I represent a Devon constituency. We are miles away from Martlesham Heath. We are miles away from Oxford and Cambridge, and fairly close to Exeter. What does “good” look like? What would regional changes of the sorts that we are discussing actually do to improve innovation somewhere like deepest darkest Devon? How do we evaluate what “good” looks like?

Neil Lee: “Good” would look to a situation like Mathias is describing, where a small firm in Devon that wanted to incorporate a new technology or improve their processes in some ways would be able to go to someone locally, where they could say, “Right, we know there is a technology in Austria or a technology somewhere else which we think we could economically benefit from.” They would be able to get help to integrate it into their production processes. In the long term, that should increase their productivity or allow them to open new markets and benefit incomes in your constituency. Does that answer your question?

Q205 **Martin Wrigley:** Sort of. It doesn’t imply anything regional. It implies communications more than regionality.

Neil Lee: Most firms would prefer to deal with a relatively local or relatively regional support offer. That would be my prior—I don’t know. Mathias might have views as to how it works in Germany.

Chair: To the point you are making, Martin and Professor Lee, as regards evaluating it and how you would measure that those local companies were going to local sources of expertise, we don’t have a way of doing that effectively right now, apart from the Catapult measures, which we will no doubt come to. The regional development authorities, long gone now, had some kind of data-collecting function. Perhaps the Committee needs to understand what data we have about the success of regional innovation systems.



We need to move on. We will go to Adam and then to Emily.

- Q206 **Adam Thompson:** Thank you, Chair. Good afternoon, both. Thank you for joining us today. Building on the questions that George was asking, we have talked quite extensively about regions and nations and different set-ups. We have talked about how the Catapults have been quite heavily based on the Fraunhofer model. I worked with both Fraunhofers and Catapults in my previous role. My feeling was that it was very clear that one was based on the other but not necessarily translated perfectly into the British system. That speaks to how, as we talked about, our economies are very different; we are very different nations and they are set up in different ways. Given that, how useful do you believe it is to compare country strategies for driving innovation? Within that, should we be drawing on international examples or should we be designing our own system?

Mathias Rauch: I remember that one of my professors at uni always talked about heuristic frameworks. You might want to use examples from other countries as heuristic frameworks or inspirational, thought-giving experiences. However, I personally very much agree with your approach. Not in the strict sense of local—I am not a native speaker; excuse me, please—but you have a concrete problem that needs a tailored solution. Solutions from somewhere else, from other research and innovation systems, other national frameworks, other legal frameworks, on another economic foundation, can only do so much. They can give you food for thought on how you would go about solving your problem. That is how I would see it.

- Q207 **Adam Thompson:** Given that response—I am grateful—how would you assess the way the Catapults have been designed in reference to the Fraunhofers? How do you think they perform?

Mathias Rauch: Many people say that the Catapults are a copy of Fraunhofer. I would say, not very much so. We were the heuristic framework. Let's put it like that. There are vast differences between Fraunhofer and the Catapults. Only a few come to mind.

I think most of the Catapults were set up to transform sectors. A Fraunhofer Institute is not usually based on that kind of aspiration. We work on a technology and knowledge basis. We offer that knowledge and those technologies and their further development to all the companies that are interested in them. In particular, at lower technology readiness levels you usually do not know where the final application of a technology will be in the future. That comes later in the process. That is why we do not do sectoral approaches; we do technology and knowledge-based approaches. That is one huge difference.

Another is the funding model. In a nutshell, Fraunhofer runs a model that is called the famous, or infamous, third, third, third: a third of base funding, a third of industry revenues and a third of competitive funding from public or whatever sources, EU or international. The first third, the



base funding, is based on the very performance of the institute in the previous year. I don't know whether you have strict performance indicators with the Catapults already set up. Further, the basic support per researcher at the Fraunhofer Institute—I can give you exact numbers in writing—is about £20,000 per annum; in the Catapults it is multiple times that.

Q208 Adam Thompson: Neil, do you want to add anything on the points about drawing on other countries versus coming up with our own model?

Neil Lee: It is important to be very careful. You have to be careful about generalising the success of policy interventions within the UK, let alone something coming from Germany, Austria or Switzerland. You have to be very careful to tailor stuff specifically. However, I would defend it as a practice if it is done well. I have done lots of work in Singapore. The classic thing we say about Singapore is that it is very hard to learn from because it is a unique place in the world. Singaporean policymakers know that; they spend a lot of time going to places like Silicon Valley; they come to London; they learn from London financial services, but they are very careful to take everything they learn with a pinch of salt to make sure that it would work in the Singaporean context. They are careful to make sure they tailor stuff, so a strategy becomes not just an innovation strategy but a Singaporean innovation strategy which may have learnt from somewhere else. They certainly take it very seriously, by which I mean that Singaporean policymakers go to places for a year to learn about how to do things well. They spend years of their lives on it. Sadly, I don't think we take stuff quite that seriously in the policymaking process here. That is what you need to make sure that you learn the right lessons and apply them properly to places.

Chair: I am intrigued by the idea of our policymakers being sent somewhere for a year.

Q209 Emily Darlington: I am intrigued by that, too. Having done some innovation work in Singapore, I would not come to the same conclusion. Essentially, it is one industry, financial services, and it is very top-down and not very innovative. It is very good at taking stuff proven elsewhere and implementing it, and it is a city state. Maybe it is a good model for Newcastle but not a good model for the UK, in my opinion.

I want to come back to the Catapults. I hold up my hands. I was there at the conception and the initial iteration of the Catapults in the UK Government. Some misconceptions have come up. You have already explained the thirds model of the Fraunhofer Institute. I want to pick up a point about proximity. The Advanced Manufacturing Catapult is quite good with its hub-and-spoke model. Some of the others do not really do the hub-and-spoke model. While we are thematic—I appreciate that it is different from Fraunhofer—do you think there is a proximity advantage in making sure that there are appropriate ones with a spoke in Exeter and a spoke in Newcastle? Do you think that would make them more effective in spreading innovation? When we start to talk about cross-cutting techs,



particularly around AI, which are not necessarily sector-specific but very much linked to productivity, what role do you see the Catapults having? Should they all have an AI strand within them rather than it just sitting within the Digital Catapult?

Mathias Rauch: It is very straightforward. To your last question, the answer is that I would always go for an integrated approach. Full stop.

Q210 **Emily Darlington:** Fantastic. A very brief answer.

Neil Lee: I agree. Can I come back on Singapore? Ten years ago, I would probably have agreed with you, but there has been a lot of change since then. In digital tech they are now a regional hub, doing lots of innovative stuff in software and increasingly in artificial intelligence. Things have changed, but I take your point.

Q211 **Emily Darlington:** So it was a yes to my question: we should be doing more hub and spoke.

Neil Lee: Yes.

Chair: On the thirds model, is that what the Catapults—

Emily Darlington: We have kind of had the discussion about the thirds model.

Chair: Is that what the Catapults in the UK are following?

Q212 **Emily Darlington:** No. It is similar, but as to the last third we lost EU funding and it is more difficult.

Mathias, more specifically, why did you choose to base in Glasgow rather than choosing the location at the heart of the golden triangle—Milton Keynes? What is it about Glasgow? One of the things we struggle with in this Committee is to think about what is attractive to those outside coming in. What was it that Glasgow offered you? When you looked at Glasgow, why did you think, “This was the right place for us”?

Mathias Rauch: When the then UK Science Minister invited us to the UK and to think about jointly setting up a Fraunhofer UK subsidiary, we had a number of places that we looked at and into. What was particularly in favour of Glasgow, as I mentioned earlier, was that we always take good care to have very strong and vibrant connections with the local university. Strathclyde intrigued many of my colleagues back then as a vital place. It was very vibrant, with very well-known professors with academic career tracks, but there was also a sense of business opportunities and talking to local industry.

Back then it was just about finding people. My colleagues back then were interested in how to build the best lasers in the world. Those Glasgow guys said, “Yes, let’s do that together.” As I said, it is scientific excellence; it is a vibrant community. There was also potential for growth. It would certainly have been different if we had gone to Oxbridge. Something that we as Germans are particularly prone to is



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local support. We had a lot of support from the Scottish Government and Scottish Enterprise. You can never deny where you come from. We have a federal system in Germany where the Länder play a huge role in supporting local activities. We found that almost to a perfect extent in Glasgow, with Strathclyde and a lot of companies in the central Scottish region.

- Q213 **Emily Darlington:** That is absolutely fascinating. Thank you for that response. You, or maybe Professor Lee, mentioned earlier that one of the constraints of Oxford and Cambridge was the planning, the council and others. We have lost our RDAs, which had a huge impact on regional growth. Mayors now may or may not change that, so I appreciate your responses. Obviously, you have more Fraunhofer Institutes than you do universities, so they are not all co-located with universities, are they?

Mathias Rauch: They are all co-located with universities.

Emily Darlington: That is quite interesting in and of itself.

Mathias Rauch: There might be a site that does not have a local university, but then it is just in the next city, so they are all affiliated with a local regional university.

- Q214 **Emily Darlington:** That is a significant difference from our Catapults.

Mathias Rauch: Yes. That is also a difference. Thank you for raising that point. Usually, Fraunhofer Institute directors, and it is not easy, have to be academically excellent and they have to be business people as well. That persona creates a strong bond between the university and the Fraunhofer Institute. In the Catapults, as far as I am aware, most of my colleagues there, most of the institute directors, are business people.

- Q215 **Emily Darlington:** It is a role that the RDAs used to play significantly in those links, particularly to the red bricks or the post-'92 universities. It is quite an interesting observation.

Mathias Rauch: I completely concur with your observation on advanced manufacturing. The Advanced Manufacturing Catapult, if you still make that comparison, is closer to the original Fraunhofer model than other Catapults.

- Q216 **Dr Gardner:** Mathias, earlier you said that you look at developing the technology and worry about the applications later. Have you not identified risks, in that you end up with a technology running round looking for a problem to solve?

Mathias Rauch: No. I didn't want to leave the impression that we think about the application later. The point I was trying to make is that in a technology development process you usually develop the technology towards a purpose. That might be different from one company to another, but, as to the extent of the application, if someone tells you they know for sure at the beginning of the process, they are lying. An innovation process is taking risks. My very personal opinion is that it is a



bit like gambling. You never know. So many things can happen. You develop a technology for a certain application and at a later stage you realise that it is the perfect solution to another problem that you or other people or companies have.

Q217 George Freeman: I have a question for each of you. Mathias, as you eloquently explained, there are many more Fraunhofer Institutes than Catapults. We conceived the Catapults as places where we bring our deep academic science with industry partners and private sector investors. What should we be thinking about as the success metrics of our Catapults? Professor Lee, you were very interesting about assessment. Similarly, looking at the Catapults, they, typically, use quite academic language: "For every pound you spend on us we deliver £3 back." Some of us here say, "Hang on. How many jobs, how much investment, how much industrial supply chain?" You have studied this. Could you let us know what you think the right criteria should be for judging the Catapults?

Mathias Rauch: As a very personal observation that I would like to share, don't overdo it with metrics. I know of RTOs, as in the case of Tecnalia in the Basque country in Spain, where they have 76 KPIs to fulfil in order to receive what I think is below 10% base funding from their regional government. Good luck with that.

The Fraunhofer story is a bit different. There is one basic core indicator on which Fraunhofer runs: industry revenue. That is the most important KPI that we have. Of course, there are many others, including gender balance and everything; you know the whole story about metrics. In essence, it is the ability of a Fraunhofer Institute to be a useful partner to industry. You measure that in terms of the money that private industry spends on joint projects with Fraunhofer Institutes. Taking data from the previous year, that is the basic variable on which the base funding for the next year is granted.

Neil Lee: Off the top of my head, I would be looking at a relatively broad set of metrics around productivity.

Q218 George Freeman: Twenty-one?

Neil Lee: Not quite. It is a relatively broad set of metrics in treated firms. The key thing for me is that in the metrics the outcome variable, to use a technical term, is set politically. What are these things there to do? That is a political question rather than a technical one. There are two things. First, you need some sort of counterfactual. It feels basic to us, but it is the gold standard of evaluation, and the problem is that we have not been evaluating things with a counterfactual. Secondly, you can look at the wider impacts. The challenge of evaluating these things is that they will have wider impacts beyond the firms that engage with the Catapult. I had a PhD student who worked on this. He found good evidence that Fraunhofer Institutes were not just having an impact on the firms engaging with them; they were doing stuff locally that benefited



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other firms. We don't quite know how that happened, but he found good counterfactual evidence of it.

Q219 Steve Race: The latest OECD figures show that the UK has the lowest business investment in the G7 and is about 28 out of 31 when it comes to OECD countries overall. Do you recognise that, given what we have been talking about in terms of private sector investment? Are there any particular international examples where you think they are doing it right? What is it that they are doing to get that private sector investment into the economy and businesses?

Neil Lee: Looking at the most successful examples I have seen in the countries where I have worked and they have done things which have addressed these sorts of challenges, I would say that, first, it is a challenge. There is a danger that, because in a committee like this we focus on the levers we can pull, they are levers related to innovation policy Catapults when actually the challenge is something quite different. It might be something in the tax system or something more broadly around the private sector.

The second point is that countries which have dealt with economic challenges like this in the past tend not to have pulled just one lever but to have worked out where they are going and done everything they can to address the challenge. The problem is that we have had successive policy churn and lack of co-ordination of economic policy over the last 20 years or so in this country. The challenge is to try to address that in a way which is co-ordinated and sustained over the long term and will help to address these things. I appreciate that it is very easy for me to say that.

Mathias Rauch: At the risk of being a bit too generic in my answer, private investment in R&D is a lot about the business climate, local, regional and national. As Neil already mentioned, that is way beyond the realm of R&I policy; it is tax and red tape—the whole debate that you know. It is about the business climate and expectations. For private investment it is very much about finding the right spot to invest. As we know, many investors are rather footloose globally; they tend to migrate to places that they like. It might be Oxford and Cambridge; it might be Munich, but to have those investments in other regions, which I think was a topic we discussed this afternoon, private businesses need to believe that the investment can give them a comparative advantage over their competitors. For that, in Fraunhofer's experience, in a greater number of cases it is usually more about the incremental improvement of their services and products than setting up and developing an entirely new product or new service.

Policymakers sometimes, and quite often in Brussels—I am not engaging in polemics—tend to forget that there is a whole debate about being disruptive. If you know your Schumpeter, he says that is destruction. We have a whole economy out there where every day businesses try to survive. They tell you that incremental improvement in what they are



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doing will take them quite a way until it gets disruptive, so do one and do both. That is what I am saying. Disruption is quite all right and necessary, but in terms of the incremental, local and regional support for those activities of companies will get them quite some way.

Q220 Kit Malthouse: Mathias, in simple terms, are you saying that somebody who is investing has to be able to see a return on risk, and if we attack or diminish the return on risk compared with others, we are unlikely to see the investment? We might be able to spur the investment a bit by subsidising it in some way, but fundamentally a business will invest only if it can see a return compared with the risk it is taking.

Mathias Rauch: We were talking about private investment.

Kit Malthouse: Exactly.

Mathias Rauch: But we can do only so much.

Q221 Kit Malthouse: Presumably, part of the problem in the UK, therefore, is that we have diminished, taxed and reduced the return on risk to the extent that not enough people are taking the risks.

Mathias Rauch: I think that statement holds true for many countries.

Kit Malthouse: There is a very interesting piece on CAPX, which was written a few weeks ago and that I have circulated to the Committee, which makes this point.

Chair: It is worth remembering that return on investment has a number of different components and taxation is only relevant if you make profits.

Q222 Steve Race: In the course of the Committee's inquiry some people have said there is little evidence of a link between innovation and economic growth. What is your view on that? How do you think it is played out in the UK's regions in particular? Many of us in this Committee would disagree, but it is a theme that has come through in our discussions.

Neil Lee: I don't want to be too academic, but innovation means many different things, and there is certainly a challenge there. We certainly see that in the United States part of their growth over the last 15 to 20 years or so has been driven by technological leadership and the commercialisation of it. Many countries have grown with catch-up innovation, so I politely disagree. The richer countries tend to do more R&D and innovate more. Having said that, I do not think the relationship is automatic. There are certainly things in many of our regional economies where we might be very good at certain types of innovation, but it is the next step of getting productivity benefits from it where maybe we are not doing very well. There is probably just enough of a grain of truth in it for it to hold as an assertion.

Q223 Steve Race: The commercialisation of the innovation?

Neil Lee: Yes.



Mathias Rauch: I have nothing to add. I agree.

Q224 **Steve Race:** We have talked a lot about lack of late-stage funding opportunities in the UK, pushing UK innovators either to sell or take investment from overseas. Do you think this is a problem of the UK economy, and are there any other international models where you think they are doing better than we are on this, and why?

Neil Lee: It is definitely a problem. I have not seen anyone who has really solved it, apart from the United States.

Q225 **Steve Race:** Why do you think the United States has got it right? Is it the depth of capital markets and things like that?

Neil Lee: It is the depth of capital markets and the risk attitudes of late-stage investors.

Mathias Rauch: As a very humble observation from the outside, I suspect that with a more stable political framework you will see that situation improve as well.

Chair: Kit, your article on setting capital free will have to speak for itself. It has been a fascinating discussion. There is a lot to digest. On behalf of the Committee, I thank you, Mathias Rauch and Professor Neil Lee, for answering our questions and for your contributions this afternoon.

Examination of witnesses

Witnesses: Louis Taylor and Kristen McLeod.

Q226 **Chair:** Welcome to the second evidence session in the fourth session of the inquiry into growth, innovation and the regions. I welcome our witnesses and ask them to introduce themselves in their response to my first question.

As we discussed in the earlier panel, there is a gap between the UK's fantastic science base and the economic growth that we might expect to see, or certainly want to see, as a consequence of that. It is a gap that has been observed for many years. I would like to hear from the British Business Bank. Given the tougher climate that we understand UK start-ups are facing, with few advancing from seed to series A funding within two years, and the concerns around investment readiness across our country, what difference will the British Business Bank make to access to capital for growth programmes for growing businesses?

Louis Taylor: Thank you, Chair. Good afternoon. I am Louis Taylor, the chief executive of the British Business Bank.

The bank would acknowledge to some extent the gaps that you talked about. I echo some of the words of the previous panellists: the UK is in quite a good position, but we could be so much better than we are. It is really that potential that the bank is there to help capture. The bank has a range of programmes that are intended to be catalytic to private sector



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provision of both debt and equity finance for smaller businesses to help them grow and realise their potential. In terms of what the bank is doing to help realise growth, there is everything from start-up loans, which provide people with up to £25,000 to start a business, all the way through to scale-up capital. The bank has an intervention there that, as I say, is intended to be catalytic.

Q227 Chair: We will discuss some of the particular interventions in more detail, but I want to understand whether you expect to see an improvement in the growth contribution of our regions as a consequence of the actions of the British Business Bank.

Louis Taylor: Yes, in a word. I can expand now if you like, or later if you prefer.

Q228 Chair: A previous witness to the inquiry told us that the British Growth Partnership specifically was a very important game-changing initiative. Can you update us on your progress in setting it up and raising the necessary funds? What are your funding goals, and what will happen if you don't reach them?

Louis Taylor: The British Growth Partnership is the first time that the bank will have tried to raise third-party money rather than the Government money that we have been managing so far. We have applied for regulatory approval, and we hope very soon to be able to announce that that regulatory approval is with us. That will allow us to open a data room to allow investors to go in and understand the proposition that we offer. We are targeting particularly UK pension funds, which, as is well versed in public debate, are underweight in investment in the growth economy in the UK. Through the British Growth Partnership, we are trying to create a vehicle through which they can access the growth economy based on the track record of the bank, which is second to, we hope, none. We think it is very strong because we are the largest investor in venture and growth equity funds in the UK and one of the most active late-stage investors in life science and deep tech. The portfolio of companies that we are invested in through all our funds, we think, will give a set of opportunities to the pension funds that give us their money to invest at a later stage in that scale-up capital.

The impact we are trying to have is, first, to give pension members access to the growth economy so that they can benefit from the returns that innovation out of the UK can provide in a financial sense. We are also trying to develop the market in the UK for scale-up capital and ensure that companies that start here, prove their technology here and get to the point of real commercialisation can commercialise here with some UK capital in their cap table in a way that they do not at the moment.

Q229 George Freeman: Thank you both. Given that we are famously as a country really good at discovery, good at research, good at innovating and not very good at scaling to global commercial impact, I want to ask



three related questions. First, the bank's model: are you there to take more risk than existing private sector investors? Is it a market failure gap or is it about the way in which you invest? I am intrigued as to what your operating theory is.

Secondly, what, in your view, is the failure in the UK ecosystem? Is it that our companies are too geared to be too small and academic, or is it just lack of capital? What is the thing that, given your expertise, you would want us to recommend Government do to try to tackle it? Thirdly, on Mansion House, do you support the notion of mandating, if not how, that at least a greater percentage of UK pension funds should go into high-growth companies?

Louis Taylor: In terms of our operating theory, we have some programmes that have some element of subsidy that by definition should be taking more risk than those that are purely commercial, and we have commercial programmes as well. The British Growth Partnership we talked about before is purely commercial. It has no element of additionality other than that it is seeking to get UK pension money into the growth economy. In between, we have a range of additionality requirements around regionality, around the stage of company, around backing innovation, and around realising potential for entrepreneurs around the country, whoever or wherever they are.

We have a strong risk appetite, but we seek to mitigate that risk through a variety of techniques and to convince others that those techniques mitigate their risk, because the perception of small business investment is that it is highly risky. Our view is that if you are diversified enough, it mitigates a lot of the risk. It does not mean that there is no risk. Small businesses come in many different shapes and sizes. Some are innovative and there is real technology risk around them. Others are high street businesses with well-proven business models elsewhere that are properly important to communities and the economy, but are not necessarily innovative and risky in that way.

Kristen McLeod: I am Kristen McLeod, the bank's chief strategy officer. The other thing that the bank can do in a fully commercial way is look for bespoke measures where we can fill sector-specific gaps. Two obvious examples are the LIFTS programme that we have run and the life sciences investment programme where we have specifically looked at gaps in the economy and tried to fill them in a very specific commercial way.

Q230 **Chair:** Can you say a little bit more about the LIFTS programme?

Louis Taylor: The LIFTS programme is long-term investment for technology and science. The bank was asked to put out a tender for proposals from the private sector to manage some money from the bank alongside some money from, ideally, DC—defined contribution—pension schemes in the UK for investment in UK tech and science-led companies. By November last year, we concluded that transaction. Schroders is the



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manager. We put in £250 million, alongside £250 million from Phoenix and its DC pension money. Investments have started, but the idea is to try to increase the DC pension contributions there to make the whole fund about £1 billion.

In terms of your second question, Mr Freeman, in relation to what the issue is, what the failure is, there is a range of failures here. Certainly, there is a lack of capital, but the lack of capital is not lack of an amount of capital. We have the second best-funded pension scheme in the world, yet it really is not focused on investment. The fundamental issue there, I contend, is around the risk appetite, in the manner I discussed a little earlier. Were we to have greater risk appetite, in the way that there appears to be greater risk appetite in the US, we would see a lot more of our innovation backed by our own UK institutions. As it is, we see a significant amount of capital properly coming in from venture capital funds in the US. We do not want to exclude that, but we want some kind of domestic counterbalance to that capital, otherwise the companies that we have incubated, at the point they need to scale up, tend to gravitate to where their capital came from, and they tend to be lost to the UK economy just at the point when they become economically significant.

Kristen McLeod: On the point about international comparisons, our latest bank research shows that the gap between the UK and the US on an overall basis has narrowed on a GDP-adjusted basis. That speaks to the impact of some of the bank's operations since 2018. The really interesting point that we need to have in our mind as we think about the next five years is that there is still significant variation between sectors. If you look at fintech, we outperform the US, raising twice as much investment, whereas if you look at life sciences and deep tech there is still a deep difference.

Louis Taylor: Part of the issue around risk appetite is that at pretty much every round, every stage, of fundraising—we have done a comparison between UK and US companies—US companies tend to raise about two to three times as much as UK companies. While there is an issue with risk appetite on the investor side, we need to make sure that the ambition of our entrepreneurs is not suppressed by the lack of institutional risk appetite as well.

Your last question, Mr Freeman, was about the Mansion House reforms and whether there should be mandation of UK institutions to invest in the UK. We feel that the opportunities in the UK are strong enough commercially on their own to warrant investment. While it is important to incentivise and not to disincentivise investment in the UK, it feels like the Government maintaining the threat of mandation without ever really using it might be the optimal way to go.

Q231 **George Freeman:** Thank you. If you are right that our companies have every growth potential of their American counterparts, but the big difference is the scale of money, that is an interesting theory because it



could also be the size of the market. To go from the UK into the big markets, you have to leave the country. There is a friction and a tension there. You have to be an internationalist and you have to be global, whereas in America you just go state by state and grow. Accepting your thesis that the big difference is scale of capital—risk appetite is of course a function of scale as well—wouldn't the argument be that we have gone from 50% of UK pension invested in the UK in 2000 to 4%? The Mansion House proposal under the last Chancellor set a pretty mediocre target of getting it to 2.5%. We are not even there yet. What would be the argument against the Government saying, "Look, come on, by the end of this decade, we've got to be back at 5% or 10%"?

Louis Taylor: There are ways to achieve that without mandating investment. In January, the chief executive of M&G was in *The Times* talking about how every one of us, when we contribute to a pension scheme, gets that out of pre-tax income, so there is a tax benefit. Therefore, if your pension manager is not investing at least some of that in the UK, maybe that tax benefit should be clawed back. You don't have to invest in the UK, but if you do there is a consequence. That is not mandation, but it would be a strong incentive.

To your point about the scale of ambition of UK companies and the scale of capital, it is important that we encourage our entrepreneurs to have an internationalisation element in their business plans from the get-go, particularly for innovative companies that are seeking to spawn technologies that have global application.

Q232 **Emily Darlington:** There is a lot going on in America at the moment, with a lot of uncertainty created by some things, but that could also provide an opportunity for the UK in terms of attracting investment. How should we take advantage of that?

Louis Taylor: You are right that there is a potential opportunity in every set of adverse circumstances as well. There is a range of ways in which we could do that. There is a cadre of investors in the US who are very keen on taking the risk around innovative companies in a way that perhaps we do not have in the UK. They tend to want to do that in environments that have political stability, and, in that circumstance, they could be encouraged to come to the UK, a seriously strong innovation ecosystem—on the OECD index, No. 4, only behind the US, Sweden and Switzerland—with at least the next four years of political stability on the horizon. It is a good environment.

We think that there is an opportunity for other international investors who have been backing US innovation to look again at the UK. There are those who feel they may suddenly be quite over-exposed to US dollar assets. Investing in UK innovation provides a currency diversification but no dilution of innovation capability, so there is that opportunity to look at other overseas investors. There is also the opportunity for our own domestic investors to repatriate some money and invest in UK innovation.



Q233 **Emily Darlington:** What is the bank doing to enable that activity? Are there things that the Government should be doing to enable that activity?

Louis Taylor: The bank is seeding funds and topping up funds to make sure that there are funds that can invest in companies in round sizes of the scale needed. Obviously, that requires others to come alongside us and, as I say, we are trying to be catalytic in all that we do. The British Growth Partnership is providing a different approach. Having spent some time seeding these funds and topping them up, we are creating a fund and are proposing to manage third-party money into the growth economy. The third way, as we have discussed, is mandation as well, but that is a matter for the Government.

The Government have said that they are going to have an industrial strategy and have outlined eight sectors that will be the core of that industrial strategy, to be published in June. There is simultaneously a spending review going on that will also culminate in June. I can say that we have been providing Ministers with options for how the bank can back the industrial strategy to the greatest extent that we can while crowding money in rather than crowding money out. It is up to Ministers to decide in the course of the spending review and industrial strategy how much of that opportunity they want us to take up.

Q234 **Emily Darlington:** I have a final question. Presumably, you are speaking to some of the investors who may want to invest here, particularly those who want currency diversification or might be looking at particular sectors like life sciences where the opportunities very clearly are coming this way. What are they saying to you? Could you give us a little flavour of what they are saying about the bank and about the UK in general?

Louis Taylor: As I was saying, we hope to be regulated very shortly. We are not regulated at the moment, so we have not been talking to third-party overseas investors about investment, but we would like to in the future.

Q235 **Chair:** You do not talk to third-party overseas investors as the British Business Bank?

Louis Taylor: Yes, we do. I was going to come to that. We are a limited partner in a lot of the same funds that those overseas investors are invested in, and we talk regularly to them then, but we have not been trying to raise a fund from overseas money yet. We have been talking to domestic UK investors—largely pension funds. It is a myth that they are not interested in the UK growth economy, in the sense of proportionate allocation, but they have not really found the way in and the mechanism for doing that.

There are a variety of barriers. The first is that to manage a venture capital portfolio you need some in-house expertise, and they have not had the scale to have the range of expertise to manage a range of private market assets, infrastructure, real estate, and private equity venture. The consolidation of pension funds is something that could help to address



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that. Secondly, they feel there is quite a lot of cost involved in finding the prince or princess among all the frogs you are kissing in terms of doing due diligence on a lot of companies. We are able to bring our track record and the funds that we have already invested in, with the underlying companies in those funds, and curate for them a portfolio in a way that makes it cost-effective initially. We get them into the asset class and then, hopefully, when we raise our second and third funds they will be more interested in that. We believe that there is a virtuous circle here: if good opportunities get financed in the UK, more opportunities will come to the UK to be financed.

Q236 Chair: We are going to talk more about the process by which you raise or help raise funds for British businesses. It sounds as if you are saying that there is not a specific thing that the Government should be doing, given the turbulence, or the uncertainty, shall we say, in certain markets, to take advantage of it.

Louis Taylor: The Government have it in their power to give tax incentives. The EIS and SEIS are very powerful in helping us to start companies.

Q237 Chair: They are all general things, but there is nothing specific to what we see facing us in the US.

Louis Taylor: Setting the industrial strategy is important. It gives us a sense of priority and it gives a focus on the emerging sub-sectors that are going to be important going forward.

Q238 Adam Thompson: Thank you both for joining us this afternoon. I have a couple of questions focusing on investment and some of the activities of the bank. How do you ensure that international investment in innovative UK companies contributes to the long-term economic growth of the country?

Louis Taylor: We have a long track record of investing in those companies alongside overseas investors. We have built a model that enables us to understand the impact that that investment is having such as, to the point made by previous panellists, turnover likely to be generated, GVA in the economy, jobs supported, jobs generated, as well as financial return. As long as those companies remain in the UK, overseas capital or domestic capital will enable the companies to contribute to the economy in the same way.

Q239 Adam Thompson: We have had a bit of conversation already about the biotech sector and life sciences. We have heard how lack of investment from UK-based investors means that returns can go overseas. Is that concept of returns going overseas something that you recognise? Do you agree with that?

Louis Taylor: Yes, absolutely. If you have foreign ownership of those companies and they end up selling their stakes, the proceeds will go overseas.

Q240 **Adam Thompson:** How do you think we might address that?

Louis Taylor: It is important to have openness in a variety of aspects of all of this. It is important that our universities are open to international students and international research. That is what helps build quality. Similarly, it is important that our capital markets are open as well.

Kristen McLeod: Perhaps I could add something.

Adam Thompson: Yes, please.

Kristen McLeod: As a former director of the Office for Life Sciences, I should probably have a view on this. I totally agree with your analysis. The bank, as you might expect, is thinking hard about the next five years. One of the things that we are obviously thinking about is how we can best support the sectors of the economy that the Government say are most important through the industrial strategy. We have been doing a lot of thinking about that.

We already have significant expertise and investments across all the eight priority sectors, particularly in life sciences because of the structural problem that you identified. What we would really like to do over the next five years, one way or another, is to make sure that we focus on support to UK companies for scale-up, because particularly in life sciences it is the scale-up journey, as I am sure you have heard from other witnesses as well. Partly, it is about the bank having a greater strategic alignment of our investments with those eight sectors, which will be a shift for us over the next five years, as well as, hopefully, having increased firepower to address the scale-up gap. That will partly come through the British Growth Partnership, as Louis outlined.

The second thing that we want to do, which goes back to the question about risk-taking and market-shaping, is to think carefully about the emerging sub-sectors of the economy, so that we are not just thinking about backing growth right now but where the growth of the next 20 or 30 years can come from. Because we can take a bit more risk than the wider market, it gives us an opportunity to work painstakingly with partners like Innovate UK to start trying to crowd in private capital at the earlier stages.

Adam Thompson: Fantastic. Thank you.

Louis Taylor: It is quite depressing, Mr Thompson, that when we are investing in life science funds that are focused in the UK, we mostly find ourselves the only UK limited partner in those funds, yet life sciences in the UK are extraordinarily powerful.

Q241 **Adam Thompson:** Yes, that is very well highlighted. Thank you for doing so.

Kristen, you segued perfectly into my next question. There have been calls for the bank to work more closely with Innovate UK and some



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others. You said that you have a five-year road map at the moment. Could you elaborate on what that five-year road map looks like and maybe talk about how your relationship with Innovate UK is now, versus where you would like it to be in five years?

Kristen McLeod: We signed an MOU with Innovate UK in early 2024. It is probably worth mentioning that, because the leadership of both organisations recognised that there is a big opportunity to work ever more closely together. It is already a close relationship. IUK has a much greater regional presence than the bank, and it makes no sense for us to replicate at the taxpayers' expense the networks that it has, so we try to lean into that as much as possible and work closely together on the ground. That is already happening.

We have a really good view of the infrastructure that IUK has built and is funding across the UK. The best example that I could give you is this. I went to visit the High Value Manufacturing Catapult in Darlington. It has a small equity fund. It is about having our finger on the pulse of the pipeline of opportunity that is coming in all these regions, so that the bank's programmes can then flow in to invest in them when that is appropriate and necessary.

In the next five years, it is, first, recognising that the funding that IUK gives companies and infrastructure is a pipeline of talent for the bank to invest in and being clear about that; secondly, leaning in even more to the local footprint that it has; and, thirdly, building a much more focused runway between early-stage, pre-commercial IUK investments into the first tranche of the bank's commercial investments. That is really relevant for emerging sub-sectors of the economy such as space tech or green tech where the route to market is uncertain or the technology is unproven. We think that getting much more granular about the pipeline of its investments through to ours could be a transformational thing.

Louis Taylor: It is leveraging the benefits of both organisations. Innovate UK has real credibility in the market in effectively kitemarking technology and whether it works. What we are looking for—Ministers have agreed with this—from Innovate UK is a pipeline of tech-diligenced opportunities across the eight industrial strategy sectors that we can then bring a commercial lens to and help to commercialise and bring into the funding markets.

Q242 **Adam Thompson:** Brilliant. Thank you both. A final question from me. You touched at the end there, Louis, on working with Government. Could you elaborate a little bit more on how the bank works with Government, particularly the Minister for Investment, the Office for Investment and the National Wealth Fund?

Louis Taylor: The bank is owned by the Secretary of State for Business and Trade. We have very close links with the Treasury, which keeps quite a tight rein on finances for all Government organisations. We have ins to the Department for Science, Innovation and Technology, the Department



for Energy Security and Net Zero, and, increasingly, the Ministry of Defence. There is a range of different Government Departments that have real relevance to us. Under the new financial transaction control framework, which will funnel Departments' desires to invest in their sectors through expert institutions, the bank has been nominated as one of those expert institutions. You mentioned another of those, which is the National Wealth Fund. We feel that there is good clarity on what we both do. Frankly, if we did the same thing, we should not both exist. We think we do different things.

We are clear about what we don't do. We do not do what Innovate does, which is largely grant-funding of research. We start at the commercial end of all that—everything from start-ups through to scale-ups. We do not do what the National Wealth Fund does, which is infrastructure projects and programmes as well as large infrastructure for big business. There is that clarity. The Chancellor has just set up a strategic public investment forum, which will bring together all the CEOs of the public finance institutions, under the aegis of the Treasury, to ensure that there is co-ordination and clarity among us about who is doing what.

Adam Thompson: Great, thank you both.

Q243 **George Freeman:** As a trade envoy to ASEAN, can I ask who is responsible in our ecosystem for place-based investment? There are many family offices and sovereign wealth investors long term who say to me, "Look, I would love to put quite a serious chunk of money into UK life science or into UK bioeconomy or clean tech," and they mean into the place as well, to fund science parks and to fund buildings. Do you do property investment, or is that someone else in the ecosystem?

Louis Taylor: We don't do property investment, no.

Q244 **George Freeman:** Who does cluster and place-based investment?

Louis Taylor: The National Wealth Fund would be a good place to start for real estate investment, which could be seen as local infrastructure, for sure.

Kristen McLeod: I know they are working very closely with the Office for Investment to provide one route in for those sorts of conversations.

Louis Taylor: The overseas trade element and investment element of the Department for Business and Trade is based in embassies around the world, so there is a variety of ways in which those can springboard into the UK.

Q245 **Chair:** The Chancellor announced that the Government will be working on an investment pipeline with regional Mayors, such as the Mayor of the North East. Are you part of that work on an investment pipeline?

Louis Taylor: I think the investment pipeline refers more to projects and infrastructure and real estate than it does to individual small companies,



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but we work with mayoral authorities and local authorities around the UK on helping to ensure that there is access to finance for small businesses wishing to start up in their region. We have—

Chair: We will come to that work in a moment as Allison and Steve are looking to talk about it.

Q246 **Dr Gardner:** Can I hold my hand up very quickly and say that I have tried to follow the conversation? I understand that in the regions you seem very dependent on Innovate UK to help with start-ups. You then said that you are not involved in investing in property and that developing infrastructure is not your remit as well. I am completely lost as to what it is that you do.

Kristen McLeod: Shall we give a quick summary of the three big regional programmes that we do? Would that be helpful?

Dr Gardner: Okay.

Kristen McLeod: The bank deployed £1.7 billion of capital outside London last year alone, and 84% of the businesses that we support in general are outside London. There are three big bits of infrastructure that the bank has put in place to help get capital to companies outside London and the south-east. The first is our nations and regions investment funds. They were established to provide a way of getting investors to set up in the regions. All the evidence shows that investors are more likely to invest in companies that are close to them. We wanted to use our capital to get investors to set up funds in regions right next to the companies that they were investing in. That is an incredibly important bit of infrastructure that we have put in place across the whole country, and is probably the single biggest thing that the bank has done to support companies getting access to capital outside London and the south-east.

We have something called the regional angels programme that commits funds alongside business angels and other equity investors to get pre-seed and seed capital to companies. If you are trying to set up a business in, for example, Norwich, the idea is that you have a regional angels network to help you get the very early-stage equity funding. We do an awful lot in that as well. As of December 2024, that programme size was £285 million, had 19 live partners, and had deployed over £140 million into 739 businesses across the UK. They are very small cheque sizes. To get that money out of the door, you are writing a lot of cheques.

We also have something called the UK Network, which is the bank's boots on the ground up and down the country, and that is the bit that works very closely with Innovate UK. Does that help clarify our regional role?

Q247 **Dr Gardner:** It does. How is it working for you? What challenges are you facing with the regional angels programme? My constituency is Stoke-on-Trent, in the north midlands growth corridor of Stoke, Derby and Nottingham—I will come back to the question that I am meant to be



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asking—and we see a lot of money flow into the golden triangle, and we look jealously at it. Does the regional programme work? What problems does it face, and how are you addressing them?

Louis Taylor: In terms of the regional angels programme, the issue we find is that we want to make sure that the syndicates are professionalised. There are many of them that have become regulated. We have set up a small programme to help professionalise angel syndicates, and make them more investable and more joinable by other investors as well. The angel programme is disproportionately powerful in generating local investment and in generating jobs locally as well, because the people who are angels tend to have been entrepreneurs themselves and they have expertise that allows them to be great mentors to entrepreneurs. They also have networks that they can bring to bear for the companies that they are investing in. Backing the regional angels programme is really powerful in generating local growth.

Q248 **Dr Gardner:** If time allows, I might come back to that question later. I will turn to the question that I should be asking. Our golden triangle is fantastic. Is there a trade-off between the amount of investment in the golden triangle to make us internationally competitive and trying to develop our regional areas?

Louis Taylor: There is room for both. We should not seek to move money from the golden triangle. We should seek to augment regional investment elsewhere and bring it to a higher level in order to realise more potential. Our nations and regions investment funds that Kristen talked about have been designed for local circumstances. It is not helicoptered money from Westminster. There is equity and debt provision, but in different proportions. We have given instructions to the fund managers to make sure that it is not, for the Scottish fund, just in the central belt. It is getting north and south of that, from the border in the south to the highlands in the north. We want to spread the money far and wide. They are finding great businesses.

It is not just that they are putting money in; they are doing two other things. First, they are crowding other private money alongside. The last version of the northern powerhouse investment fund was £440 million, but the impact was over £1 billion because about £600 million of private sector money came alongside. The second thing that they are trying to do is not just to invest in companies but to demonstrate to investment houses that there is money to be made through investing in the regions. We want to build up the investor base in regional hubs so that there is not only financial liquidity but liquidity of perspectives on an investment opportunity.

Dr Gardner: I will leave it there so that we have time for other questions.

Q249 **Steve Race:** Continuing with the regional aspects, I am a south-west MP, so I have met the SWIF person, which was great. How well utilised are



the regional funds at the moment?

Louis Taylor: Those funds were set up just over a year ago, with a five-year investment period. Some of them were brand-new, so they were from a standing start. Others were successor funds, so they were investing into an existing pipeline. We are quite pleased with the quantum of money that has gone out and the number of companies that are being supported. I can give you a breakdown by each of the six funds in writing if you would like, as to where we have got to. That money is being disbursed at a rate that we feel is proper relative to our expectations. Each of those funds has an oversight board that includes local representation, including from local government, and we hold the fund managers' feet to the fire about spreading that money in the way that I described earlier.

Q250 **Steve Race:** Just to confirm, in terms of any targets that you have, you are pretty happy with the amount of money going out and the rate that it is going out.

Louis Taylor: Yes. We have got to about one to one, which is our money versus crowded-in private money. I would like to get that number up, actually.

Q251 **Steve Race:** Do you view it as your job to proactively help crowd in other private sector money, or is it the role of the businesses that are looking for the finance to sort out their own investment and you are one of the investment partners that they might seek out?

Louis Taylor: We seek to help the aggregators of money to aggregate more money. We are mostly seeding funds or topping up funds with other investors in those funds, and those funds are then investing directly in the businesses. We tend to do very little directly. Where it is direct equity investment, it tends to be at a later stage and it tends to be companies that have been in one of our funds before. We have seen them move through for five or seven years, and we have a chance to select the ones that we think are really powerful and will grow strongly.

Q252 **Steve Race:** You mentioned some funds that have continuation and some funds that are new; I think the south-west one is new—2023. Presumably, you learn the lessons from your established funds and transfer those over into the new funds. What are some of the challenges that you have faced previously that you have tried to fix in real terms? What are some of the specifics that you have faced that you have tried to fix?

Louis Taylor: It is getting the whole of the ecosystem involved in the placing of the money or the investing of the money. Each of the funds that we launched had a launch event that brought what we consider to be the ecosystem together. There was local government. There were other founders. There were other investors. There were advisers, academics and a range of people. The message was, to my point earlier, that it is not helicoptered money from London; it is a pool of money and it is



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everybody's responsibility to ensure that it lands well and maximises the benefit to the business community locally.

Q253 **Steve Race:** Do you view it as part of your role to keep that cluster or that ecosystem going proactively? Do the fund managers proactively get everyone together more than just at the launch point?

Louis Taylor: Yes, absolutely. We have road shows through the regions. For the midlands engine investment fund, while the launch was in Nottingham, we had road shows in Leicester and a variety of other cities and towns across the midlands. The same is the case in the south-west. In fact, particularly in Swindon in the south-west, where we have had very few applications and we are keen to make sure that we get some applications, we had a second road show.

Q254 **Steve Race:** Over 72% of companies backed by British Patient Capital are London-based, apparently, and 60% of funds from the enterprise capital funds programme went to London and the south-east, according to the figures we have seen. Is that correct? Do you see it as a problem?

Louis Taylor: The numbers are factually correct. We see it as a problem, but it is a problem that time will solve. We are making investments in funds elsewhere around the UK and in companies elsewhere around the UK. Those companies will start to mature and, because British Patient Capital is a later-stage investor, they will see more investment, we hope, over time.

Q255 **Steve Race:** Because the ecosystem is much more mature in London and the south-east, it currently gets more of that funding, but with the work that you are doing through the regional funds you hope to bring those through.

Louis Taylor: It is a question of the maturity of our own portfolio. The companies that we invested in early on around the regions and nations of the UK will mature, and we hope that they will be investable by British Patient Capital.

Steve Race: Can I ask one final question, Chair?

Chair: Sure.

Q256 **Steve Race:** Why would companies choose your investment rather than commercial investment? What is the benefit of that?

Louis Taylor: We tend to be commercial. We tend to be on pari passu terms with other investors. It is generally the fund manager that they face off with rather than us. Where we invest directly in a later-stage company, they will know that we have backed them and they will know that we have the wherewithal to be able to do further rounds, so we are a high-quality investor from that point of view as well. Mostly, when we have invested directly in a company, we have already been in three rounds or so earlier through funds.



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Q257 **Steve Race:** They would know that they had engaged with some of your capital previously, but they would not necessarily have that relationship with you as the British Business Bank. Is that right?

Louis Taylor: That is right. Actually, that is something that we want to enhance. Over the 10 years of the bank's existence, the programmes that we have had have tended to be a little siloed, and we have got to the point where we are absolutely streamlining them and looking at our portfolio as a whole and making sure the hand-offs from early stage to mid-stage and later stage and direct investment are happening rather more smoothly and in a more coherent way than they have previously.

Q258 **Chair:** Thank you. I want to ask a couple of points of clarification because I am still somewhat confused as to the bank's regional operations. Kristen McLeod, when you talk about leaning into Innovate UK's local infrastructure and you also talk about your network and your existing infrastructure, what does that leaning in therefore mean? Simultaneously, I have the impression, Louis Taylor, that you are saying that everything is fine and that we are going to see real regional growth as a consequence of the British Business Bank's investment as financial ecosystems grow and mature, which I think was the word you used. You also talked about curating investment and making it easier to get investment. What are you doing to ensure investor readiness? Kristen McLeod, can you explain to me how you are going to lean into the Innovate UK network? We want your financial acumen in our regions. Is that how you are going to lean into Innovate UK?

Kristen McLeod: Through our nations and regions investment funds, we have built the architecture that is providing our money, our investment and our expertise in all the regions.

Q259 **Chair:** You are providing it from London.

Kristen McLeod: No, providing it on the ground. The whole point of it was not to provide it from London. The whole reason for having these funds was to say that, actually, we know that the regions are never going to get the opportunity to have access to equity and debt finance in the way that people in London do if we don't set up this architecture. That was the whole reason for the programme.

Q260 **Chair:** How many people do you have in the regions?

Louis Taylor: This is the point. We are providing the finance through local fund managers, but it is through delivery partners. We have 21 people in the UK network around the UK.

Q261 **Chair:** How many people do you have in London?

Louis Taylor: We have 300 people, based in Sheffield and in London. We are split evenly. The bank is headquartered in Sheffield. What we are saying is that we do not need our own huge network around the UK because others have huge networks. We can work with them and leverage the value of their networks to get messaging out there, whether



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it is other fund managers, local authorities or the banks. That is the way we operate—through delivery partners.

Q262 **Chair:** Which do not have the skills that you said that you are looking to grow in the regions.

Louis Taylor: No, I don't think that is true. The fund managers that we have for the nations and regions funds are skilled fund managers. The banks that we work with have national networks, and the provision of debt, I would argue, is much more equitable than the provision of equity.

Q263 **Chair:** My second point was about investment readiness.

Louis Taylor: The bank is 10 years old, and we have put out an impact report on the impact that we have had. To the point made in the previous panel's evidence, the finance over the last 10 years, we anticipate, will generate £93 billion of incremental turnover and £43 billion of gross value added. It is generating growth.

Q264 **Chair:** What about supporting the investor readiness of businesses across the country?

Louis Taylor: We are supporting investor readiness by backing some of the regional investment managers and by appointing them as managers of our funds. We are also encouraging other money in alongside those. We are backing regional angel syndicates, as I talked about, which are local, and making sure that they have the wherewithal to be able to keep investing in businesses and to keep reinvesting as businesses need more money. We are doing a fair amount. We cannot do everything. At the moment, we are about 18% of the equity going into venture and growth equity in the UK. There is a limit to how large you want a governmental organisation to be in that sort of space. As I said, in relation to the spending review, we have given Ministers the options at the point where we think we are still crowding in money and not crowding out money, and that is probably as far as we feel we should be going.

Q265 **Dr Gardner:** Moving on from just looking at the regions, you stated that you take a sector-agnostic approach in general, but that can actually provide challenges, particularly in deep tech. You have various restrictions, caps and eligibility rules that can often exclude deep tech companies from the large initial investment that they need. As UK deep tech start-ups face challenges in scaling up due to substantial up-front investment, as I mentioned, how do you ensure those businesses receive the necessary support, particularly if you want to be sector-agnostic?

Louis Taylor: We are sector-agnostic at the very early stage, such as start-up loans, but by the time we get to scale-up capital there tends to be a pretty natural filtration of companies that are generally innovative and science and tech-led. As I said, we are one of the most active investors in late-stage life science and deep tech companies in direct investment, but we back them through some of the funds that we have already put money into at an earlier stage as well. We feel that we are



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involved at all stages of the development, and we are catalytic to more money being available to some of the tech and innovative sectors where the risk is perceived as higher by investors, and we are able to fill some of the gap and encourage others in with, hopefully, a bit of a halo effect from our presence.

Q266 **Dr Gardner:** You would reject the premise that your restrictions create a cap for deep tech investment.

Louis Taylor: I would. We would not exclude a company on the basis that it is deep tech. In fact, we probably run towards them more than most others would. In the context of the industrial strategy, that is an opportunity for us to have more sector-focused interventions in a way that we have not previously had from those who have given us the money.

Q267 **Dr Gardner:** I have suffered today, not being somebody who understands banking, investment and finance, in trying to follow your answers. As somebody who has some technical knowledge, I wonder, when you look out at investors with very particular types of sectors, such as new emerging technologies and deep tech, how you ensure that you have a diverse pool of investors who understand what they are investing in and have enough knowledge to advance those tech sectors.

Louis Taylor: If we think about clean tech helping to drive net zero, I can give you three funds that we have invested in recently that are focused on that area and have diverse founders. Bloom Equity Partners is a female-founded fund that is focused on clean tech. Elbow Beach Capital is focused on clean tech investment. In other industries, THENA Capital is a female-founded fund focused on life sciences.

Q268 **Dr Gardner:** I was not talking about females. I can come to that. I was talking about people with the domain knowledge and the technical knowledge to understand how they would invest.

Kristen McLeod: One of the big ways that we do that is that we know how to pick fund managers. We assess the fund manager: "Do we believe their investment strategy?" We are picking people who have the domain expertise. In the green tech example, we have invested in those funds because we believe those fund managers know how to pick the right companies and have that domain expertise in their team.

Q269 **Dr Gardner:** What about the domain tech investment experts? Where do they come from?

Louis Taylor: They have probably been working in other funds, and they have got to the point where their ambition is that they want to have their own fund, so they come to the bank, and we back them if we think that they are credible as fund managers and they have domain expertise to carry out the mandate of the fund that they want to set up.

Q270 **Dr Gardner:** Fabulous. I have one last question. As you mentioned



women and investment, I can't resist. I have a couple of facts. I have a note from the Invest in Women Taskforce that AI is dominated by "tech bros" with "tech gals" left behind for "nano-scrap", which is a great quote. The average deal for male teams in AI was £5.3 million, and for female ones a paltry £800,000. What really concerned me is that the chair of the board of the bank said, "The evidence and data tell us we have a problem. What we are failing to unlock sufficiently is the opportunity of a huge amount of economic activity." I have also read that sometimes women looking for investment are more likely to be asked for personal guarantees, such as their houses, than male entrepreneurs.

My question is this. I will read it out so that I do not go off on a rant. I will be well behaved. How can the bank improve support for female entrepreneurs and those operating outside major financial hubs, particularly with their skills to be able to access all the networks and regional angels and whatnots that you mentioned?

Louis Taylor: In our start-up loans programme, 40% of the loans go to female founders and 20% to ethnic minority founders, which is off the charts compared with anything else in the financial services industry. The amount of money going to female founders in venture capital is scandalously low and has been stubbornly scandalously low. The bank is backing female fund managers because all the evidence we have found shows that where you have female members of investment committees, they tend to back female-founded businesses far more than if there are no female investment professionals there. We are backing funds like THENA Capital as well as Bloom Equity and Ada Ventures, two funds that are female-founded fund managers, and making sure that they get the money to be able to invest.

We are trying to get more female angels to join investor syndicates, again for the same reason: they are more likely to invest in female-founded businesses. This is something that is going to take the market to move with us. We can give examples. We are members of the Invest in Women Taskforce. We have set aside £50 million to invest in female-founded fund managers in order to make sure there is more investment in female-founded businesses. We are members of the investing in women council that the Treasury set up as well. We are doing a lot of what we can. Kristen, you may have a different perspective from me.

Kristen McLeod: No, not at all. That was everything I was going to say. All I will say is that in thinking about the next five years this is going to be a massive focus for us. As Louis said, there are a lot of things that we can do. We have the opportunity to lead the way in backing more female teams. We have already done quite a few of them. We have committed money in the next spending review period to do exactly that, and it will be a huge focus.

Q271 **Dr Gardner:** To reiterate, it is about helping women who may not have that network or know how to access the funds and have that information. Please look at the systemic biases, such as being more likely to be asked



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for personal guarantees. That is concerning.

Kristen McLeod: On your first point about networks, we have provided a set of options to the Government about what we could do to help with that, so we will see what happens after the spending review.

Chair: Thank you very much. Martin would like to come in, and then I have a final question.

Martin Wrigley: I have a very quick question. I have been listening to what you have been saying. I must confess that I find the term “angel syndicates” slightly threatening. It sounds like the mafia.

Chair: They make offers that can’t be refused.

Q272 **Martin Wrigley:** It could well be. It all sounds very good, doing a lot of the good things and all the bits and pieces that we are hearing. How do you deal with economic failures when your investments go bad? How does the Minister who looks after you deal with that? Have you had any big failures yet, and how did you deal with them?

Louis Taylor: The nature of the bank’s investment is that we are investing small amounts of money a lot of times. We don’t tend to have large exposures, other than to some of the challenger banks to which we have provided some liquidity in order to get their businesses up and running and help them to lend to small businesses. On the equity investment side, the biggest individual cheque we can write pretty much at the moment is £15 million.

Venture is a power law game, as they say. You will make a disproportionate amount of your return from a very small number of investments, and you will lose a lot of investments. Overall, we run valuations of all the fund investments that we make through our accounts every year. In 2021-22, there was a huge spike up in valuations, and the bank made a surplus profit—not realised but an accounting profit—of £500 million. Since then, there have been two years when some of that has unwound, but not all of it by any means. We look at all this on a portfolio basis. On a portfolio basis, the equity investments that the bank has made over the last 10 years are currently sitting at about 1.3 times what we paid for them, with the portfolio being quite early stage still. We have hopes that the return to the taxpayer will be significantly more than that.

Q273 **Chair:** I am still struggling a little bit to comprehend the regional impact of the British Business Bank. You said something that really caught my attention. You talked about curating British investment targets to make them easier to access and reduce the due diligence for potential investors. Can I look forward to a curated north of England investment group?

Louis Taylor: As a fellow Geordie, I would be very pleased indeed to see one.



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Kristen McLeod: I am from Sunderland as well.

Chair: All right. I did not realise that the north-east was in the majority in this room for once.

Louis Taylor: The bank as it has grown up has got to the point where it was suffering from over-hypothecation of money and an inability to respond to what the market needed. The Government recognised that, and we are in the process of negotiating more financial flexibility as part of a permanent capital base for the bank as well. Our nations and regions funds include a northern powerhouse investment fund, which is split into three parts, including the north-east. There is a dedicated north-east equity fund.

Q274 **Chair:** I am aware of that, but I am talking about curated. Perhaps we could have one day when the British Business Bank would say, "Hey, come to Durham or Newcastle or whatever and meet all these fantastic companies."

Louis Taylor: Yes, absolutely. Part of what we do is taking investors to where the companies are as well as bringing companies to the investors.

Chair: Excellent. That is a yes. Thank you very much.