

HOUSE OF COMMONS
ORAL EVIDENCE
TAKEN BEFORE THE
SCIENCE AND TECHNOLOGY COMMITTEE

**BRIDGING THE “VALLEY OF DEATH”: IMPROVING THE
COMMERCIALISATION OF RESEARCH**

WEDNESDAY 12 SEPTEMBER 2012

RT HON MR DAVID WILLETTS MP

Evidence heard in Public

Questions 280 - 320

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Oral Evidence

Taken before the Science and Technology Committee

on Wednesday 12 September 2012

Members present:

Andrew Miller (Chair)
Caroline Dinéage
Jim Dowd
Gareth Johnson
Stephen Metcalfe
Stephen Mosley
Pamela Nash
Roger Williams

Examination of Witness

Witness: **Rt hon. Mr David Willetts MP**, Minister of State for Universities and Science, gave evidence.

Q280 Chair: Minister, thank you very much for coming this morning. I know you have another engagement shortly and other Members here are keen to be in the Chamber on time, not just for Scottish questions but for the Hillsborough statement and so on. It is very important business.

You know the terms of reference of this inquiry. We have taken some fascinating evidence over the last couple of months on this. Of course the Department is continuing to evolve the story, including with Vince's statement to the House following the Urgent Question on Monday and his speech yesterday.

I want to start with the statement that he made on Monday. There was considerable reference by several Members of the House to the role of the Technology Strategy Board, a body that has the wholehearted support of this Committee. Can you confirm that it is the policy of the Department for Business to allow the Technology Strategy Board to expand in the future so that greater support can be given to the kind of businesses that we have been talking about, either through the catapults or the other mechanisms that Iain Gray and his team are responsible for?

Mr Willetts: First of all, thank you very much for the opportunity to answer your questions on this very important subject. You are right that the Technology Strategy Board is absolutely crucial in bridging the so-called valley of death. We of course inherited it from the previous Government and have been very happy to support and sustain it.

Q281 Chair: That is the Technology Strategy Board, not the valley.

Mr Willetts: Yes; the Technology Strategy Board. BIS's policy is to deliver our objectives within the framework of agreed public spending totals, but we recognise that many TSB programmes are oversubscribed. I get complaints from individual constituency MPs, when they have some horror story of a small business that has applied for funding, which has looked eligible for funding under Smart awards or something. TSB's problem has been that, although the small business has a great case, there just are limits on the amount of money it

has to spend. Any organisation, but certainly the TSB, could always spend more money. What we are trying to do is to get absolutely the maximum bang for the bucks it has at the moment.

Q282 Chair: Do you agree with the point that I made to Vince Cable on Monday that, whilst it would be desirable to see the TSB expand, it should not be at the expense of the research councils?

Mr Willetts: Absolutely. The science ring-fenced protected budget is there as a protected budget. We made a cast-iron commitment on that and that has to be protected.

Q283 Pamela Nash: Minister, over the summer recess I spent a lot of time meeting with my local small businesses. One of the main issues that came up was that they have to risk a lot of their own finances when trying to bring new products to market. Even when they did get public funding, that was often matched funding and therefore they were still putting themselves at a lot of risk. Is reducing the risk of investors and small companies something that is considered in your Department when policy is being made?

Mr Willetts: Yes. If we can help small companies in that way, we will. A lot of small companies say to us, “Please will Government get out of the way?”, and they are perfectly entitled to take that view. We are not trying to encumber them unnecessarily, but where we can work with them, both through advice and perhaps financial support—my right hon. Friend the Secretary of State is particularly good at this—and cajoling the banks into lending again, we are up for that, yes.

Q284 Pamela Nash: In terms of Government funding to small companies when grants are being given, is how you can reduce the risk for the company something that is being looked at in the future?

Mr Willetts: Yes. The kinds of schemes that I am particularly a great admirer of are the Smart awards, which we have brought back under their original name. They are start-up grants for companies that have a great new high-tech idea. Michael Heseltine originally set them up. Then they became one of the RDAs’ responsibilities, and it is true to say that some RDAs were better at that than others. We brought them back as a national brand administered by the TSB. They are a great way of helping small companies.

Indirectly, we have also tried to get more flows of venture capital funding into small businesses. There is a question about how the venture capital business model develops in the future. We put in co-funding but the venture capital fund makes the decision. There is £300 million or £400 million of extra public money that has gone in to ensure extra funding for venture capital, which they in turn can invest in small businesses.

Q285 Pamela Nash: We heard evidence that clusters are a way that companies help to reduce and spread the risk for them. Do you feel that the Government have a role in encouraging and supporting clusters, and how might you do that?

Mr Willetts: Clustering is a very fruitful way of thinking of all this. The economist’s definition that I find most helpful is to say that clusters are a low-risk environment for high-risk activities. If there are lots of different companies in the same business sector, if you lose your job with one you have a greater chance of being able to pick up a job with another one without having to uproot your family and all that. We are trying to support them. There are some identifiable clusters around Harwell, Norwich and Daresbury, where there is a clear pattern of investment by us. That is one thing we can do.

A second thing that I have been very keen on and where we have seen the rules improved is that research council funding rules used to be pretty restrictive. An individual institution got the funding. We have tried to liberalise the rules a bit. If there is a network that

has come together, and it could be a network of universities like N8 in the north or a shared project like the Imanova project out in west London in which UCL, King's and Imperial have come together, I think I have succeeded in getting the rules liberalised so that they will fund those types of shared projects and not just an individual institution.

Q286 Pamela Nash: Finally, as you mentioned, red tape is something that small businesses in particular usually struggle with, especially when it comes to regulations on health and safety, though they are often necessary. We heard evidence about the German model, where the Government take responsibility for issues for small companies such as electrical safety. That has been found to be very helpful. Are the Government looking at perhaps having certain regulations relaxed for a small company?

Mr Willetts: Yes. It is true to say that, in BIS, we were intrigued by this point made in an earlier evidence session. We didn't quite recognise the description of the German regime. Of course, the trouble is because it is such a federal system it may even differ from Land to Land. We weren't clear that the Länder were all quite willing to take on as much of the liability risk as was implied in your evidence, but I would undertake already something useful that has come out of your earlier inquiries. We have flagged an issue that we should do more work on to try to understand this German system, though as I say, we are not necessarily sure that the earlier evidence absolutely matches our understanding of how it works. But we will undertake to look into it further.

Q287 Chair: But it is the Government's position—correct me if I am wrong—that changes in health and safety, for example, are not intended to be at the risk to people? It is about process rather than removing necessary safeguards.

Mr Willetts: Yes. Sometimes some of the regulations have been cumbersome and perhaps excessive for people running an operation single-handedly out of the front room of their house. The German issue was particularly about measurement and assessment run by these regional centres that they have. We think that ultimately in Britain companies have to take responsibility for that. But, if there is something that they are doing better in Germany than we are here that we can learn from, I am absolutely up for learning from them.

Chair: We can move on to the Government as a lead purchaser—the customer.

Q288 Roger Williams: Because of the sheer scale of the Government purchase in the economy, both in terms of goods and services, by default that has an effect. The message that the Secretary of State has been trying to put out over the last few days is that, if that was better focused and structured, it could be a greater force for good in the economy than it is at the moment. BIS apparently will be the lead Department in trying to get that better focus into other Departments in terms of their procurement and purchasing. Do you think that BIS, you and the Secretary of State will have that effect in Cabinet to alter the purchasing decisions of other Departments?

Mr Willetts: I think we can. Obviously we will work with other Departments. One of the main messages in the industrial strategy, which is a point that Michael Heseltine has made in public and in private advising us, is that a lot of these industrial strategy issues can only be delivered by the Government as a whole and not by BIS on its own, but working with other Departments. In terms of procurement we work particularly closely with the Cabinet Office, which has important responsibilities here.

In my own area, life sciences is working very closely with the Department of Health on trying to ensure that the NHS becomes much more innovative in its approach to procurement. Of course the Innovation, Health and Wealth report was published as part of the

life sciences strategy last year. That is an example. So, yes, we are committed to using procurement to drive innovation.

Q289 Roger Williams: Perhaps you could expand on that a little bit in terms of the NHS and biomedical science in the UK. How does that actually work in practice?

Mr Willetts: One of the criticisms you sometimes hear from companies is that they have gone through an elaborate NICE assessment procedure and have passed all the hurdles—they may have a new drug or a new piece of equipment—but then they find they can't sell it into the NHS.

One of the proposals now as part of our life sciences strategy is that, in future, if identifiable and excellent innovations are not being purchased and used in individual healthcare trusts, there should be a budgetary penalty; and we have identified a first list, which includes everything from getting someone who has serious disabilities a wheelchair in a day through to a new heart monitor via the oesophagus, which has scored very highly as a cost-effective way of monitoring people's heartbeat during operations. Some of their budgets through the CQIN procedure will be deducted unless they can show they are adopting these innovations. It is an attempt to push innovation through the health care system.

Q290 Roger Williams: One of the biggest Government Departments that has had criticism about its procurement is the MOD. How is BIS working with the Ministry of Defence? They have already said it is their intention to improve.

Mr Willetts: The MOD, for example, have been a significant user of the SBRI programme and have run 47 of these competitions in SBRI. That is an excellent way of driving innovation; so they are trying to play their part.

Q291 Roger Williams: In terms of the SBRI, one of the criticisms is that it helps small companies to bring products or services to a certain stage, but the carry-through or taking that on has been lacking. Does BIS have any ideas of how that could be improved on? The SBRI is seen as a good programme, but it just needs that extra in order to make the most of the investment.

Mr Willetts: Yes; that is a very interesting thought. I am not directly involved with that particular programme but I will certainly pass that comment back if there is something there we can learn from.

I will be frank with the Committee. We have talked about Health and Defence. The whole Bombardier episode was a bit of a wake-up call. I have to say that Bombardier was conducted within the framework that we had inherited and we all have to comply with EU rules. Post-Bombardier there has been a major exercise across Government as to how we run procurement. One of the lessons we have learned is to improve transparency on procurement, to be more open and to publish more evidence of what we are planning to do in the future. Indeed, in April, Vince Cable and Francis Maude published £70 billion of potential future contracts over the next five years to help people get sighted on what was likely to be procured in the future.

Q292 Roger Williams: It is two and a half years into this Parliament. Can you point to really significant changes that BIS have been responsible for in procurement across Government?

Mr Willetts: As I said, I would notch up as achievements a much more explicit sharing with industry of our plans for the future procurement pipeline. It is work in progress but we are already doing a lot. Secondly, there is a shift in the attitude of the NHS driven by the life sciences strategy. I would count those as two successes.

Q293 Chair: Can I just push you a little further on the framework for procurement? I don't know where you took your holidays, Minister, but had you gone to France you wouldn't have seen a police car that wasn't built in France. The four north-west police authorities here have now procured Kias, entirely built outside the EU. We are not accusing the French of being in breach of the procurement rules; they have just used them more smartly than we have. Why don't we? Don't you feel frustrated that major public procurement doesn't use the rules that are available in a wise fashion to protect British interests?

Mr Willetts: I do believe in free trade and BIS believes in free trade. All of us, especially Stephen Green, but Vince and me as well, spend a lot of time on trade missions. We go to other countries and try to persuade them to procure products that we have made here. We have to be very careful of protectionism.

As I say, that is why our approach has been information in advance and sharing our future plans. A police force is entitled to procure the equipment that will best enable it to discharge its public function. In the long run British businesses need the competitive challenge of winning in a competitive environment. If we can be smart, as you rightly say, about indicating where we are heading so they don't suddenly have a bolt from the blue of procuring a new type of police vehicle, whereas if only they had known a couple of years in advance they could have retooled and been ready, we can do that. Ultimately, open procurement is in our own national interest.

Q294 Pamela Nash: Minister, I also believe in free trade, but some of the companies in my constituency have told me that they are competing with companies in the rest of Europe that have Government subsidies in their sector or countries that might have much lower salaries or rights for their workers. Is it fair that companies in Britain have to compete with companies that are not looking after their staff and have ways and means of getting the bottom line down that we might not find acceptable?

Mr Willetts: These are deep questions now about trade policy. Again, as a free trader, I think it is in our national interest to be free trading, even if we are in competition with countries that aren't as free trading as we are. In the long run it is in our own interests.

Going back to the original example, I would argue that the British automotive industry is a great success story. As you know, this year, after all, we are net exporting for the first time for over 30 years. I just wonder, Mr Miller, if it is just possible that some of those cars that you describe as being French cars might not have been made, at least to a significant extent, in a British factory and had a French badge put on them before they arrived on the French market. I don't know; it's just possible.

Chair: I will test this. I think you will find that, in both France and Germany, my example will hold out pretty well and none of them will have cars from that far afield. Anyway, we will move on.

Q295 Stephen Metcalfe: I am sure you are aware of the Stevenage centre, which is a collaboration among academia, the biotech industries and pharma. It is based around one large company but to support lots of innovative small ones. Do you and the Department see that as a particularly pharma-based experiment, or do you see it as a template that could be rolled out for other sectors across the economy?

Mr Willetts: I have been there and it is a very exciting initiative. It reflects a big change in the culture of the life sciences industry away from just having great big in-house research facilities and moving to what they call more open innovation, collaborating with external companies, creating an environment for SMEs to flow. It is very exciting. That industry can go a lot further in that direction.

Perhaps one of the themes that may emerge from your inquiry, as several witnesses have already said, is that these issues do vary sector by sector. It is hard to pick up a model from one sector and apply it elsewhere. The reason why the Stevenage experiment is so interesting is because it is novel for the life sciences sector. I don't feel confident enough to say whether that exact model could be deployed elsewhere, but one would hope so.

Q296 Stephen Metcalfe: I take it from your answer then that the Department is not encouraging any other large companies to establish similar sorts of set-ups in different sectors?

Mr Willetts: We are, in general, believers in the model of open innovation. Where we have a direct policy role, I say to universities, for example, that there are many ways they can raise their performance on innovation rather than simply counting the number of patents and thinking through IP. Open innovation is certainly something I want to encourage in universities. Initiatives such as those at Glasgow university are very welcome. If the Committee has observations on areas where you think legitimate public policy can do things, without intruding into genuine commercial decisions, we will look at that with great interest.

Q297 Stephen Metcalfe: You have said before to this Committee that the UK economy lacks mid-sized companies that have the ability to leverage up our research base. What are the Government doing to try and resolve that problem and help smaller companies grow into the medium-sized companies that our economy seems to benefit from?

Mr Willetts: There are medium-sized companies, and we have launched a growth accelerator scheme that is aimed precisely at helping those companies. A lot of it is essentially extra advice and assistance. It is to help them, for example, plug into the services of the UKTI as they first get into exporting. Not enough of our medium-sized companies are big players in export markets. We can help them there and provide them with assistance. That is one area.

Another area, to be frank, is whether they need help in improving levels of management training. A company may need a bit of help upskilling their managers for the wider responsibilities they have. That is what our growth accelerator programme is all about.

Q298 Stephen Metcalfe: Is that based on you identifying companies and contacting them to say, "Are there things that we can do to help you?", or do they have to come and search for this particular advice?

Mr Willetts: We are publicly advertising this programme, but we are particularly working through chambers of commerce, LEPs, the IoD and CBI. We encourage them by saying, "If you know of a company, perhaps already heading from small to medium size and growing quite fast, that you think could benefit from the growth accelerator, do put us in touch."

Q299 Stephen Metcalfe: How much do you think finance is a barrier to growing a business at that point? Do you still see that as an issue—that banks are not willing to take that step-change risk of a small successful company trying to upscale to a mid category?

Mr Willetts: Sadly it is a constraint. I know all the problems that banks say they have. My right hon. Friend, the Secretary of State, has this as his special subject on "Mastermind". He is really the person who has been heavily involved in all this. Yes, there is a real problem with bank lending. It comes in lots of forms. One of the forms that particularly worry us is the collapse of local banking and the withdrawal of discretionary expertise at the local bank level.

If you are a large company, you can negotiate a major facility for hundreds of millions of pounds with people at head office. If you are an SME that wants to call at your local branch to have a grown-up conversation about finance for working capital as you have a new set of

export orders, it is a real problem whether there are local staff who have local knowledge and discretion to lend you the funding in those circumstances. That is a real problem and it is why one of the coalition's priorities is to break down the barriers to new entrants into banking. We hope some of these new entrants—the Co-op or whatever—will revive those traditions of local relationship banking.

Q300 Chair: I wouldn't call the Co-op a new entrant. They have been around a year or two. Just on that, Lloyds Bank told a seminar organised by Dods recently that they have developed a programme in partnership with Warwick university to get their managers at least up to some speed in terms of knowledge of engineering. Do you think that programmes like that need to be encouraged in the banking sector?

Mr Willetts: Yes, definitely. I wasn't aware of that particular initiative but that sounds excellent.

Q301 Gareth Johnson: Minister, I want to take you back to the EU state aid rules. Sir David Cooksey, when he gave evidence to us, said that in this country we often wait for state aid approval before promoting UK technology abroad, whereas in other countries they got on with the job and then worried about it if Brussels contacted them and said they were doing something wrong. Do you think that is an accurate depiction of the current situation?

Mr Willetts: We are certainly aware of state aid rules. There are lots of meetings where you think you are making great progress until someone says, "Ah, but remember EU state aid rules," and we do have to comply with them. You say these other countries just get on with it and wait to be challenged. Of course, they can find that down the track they could face a pretty hefty fine and have to repay large amounts of money. Going ahead and then waiting to see if anyone challenges you is itself quite a risky approach. But we are aware of the rules. We do work within them and then try and move as fast as we can.

Q302 Gareth Johnson: Have we had any pretty notable successes in promoting British technology firms abroad by taking that approach?

Mr Willetts: Perhaps it is because of David Cooksey's particular expertise in life sciences. I think one of the suggestions was that the life sciences catalyst arrangement linking MRC and the TSB had been held up by state aid rules. I checked this when I read that this was one of his concerns. All I can say is that we believe we moved as fast as we could. We were aware of state aid rules, but the rule of thumb is that upstream research council science spend is exempt from state aid rules, and with a lot of the TSB intermediate funding you can't go above 50% support. That is the sort of state aid framework, and we try to work within that so we can act as quickly as possible.

The framework of state aid rules is basically a good thing. It is to ensure that the single market is a genuine market for competition. It is not an upward auction of subsidies being offered by different EU countries. That is something that we think is a good part of the framework of the single market, so we do try to comply with the state aid rules.

Q303 Gareth Johnson: Do you think there is anything that we should be doing better within that framework in this current situation, or do you think we have to break out of the framework to do better?

Mr Willetts: Again, I would be interested in the Committee's advice. One of the areas where we have got smarter is that sectoral support is much easier to do than individual business support. It goes back to the point that Mr Miller, the Chairman, was making at the beginning. If you look at something as a broadly-based initiative—and I would welcome that because I think it is the right approach to industrial strategy, not trying to pick particular

businesses—you can get much further if you back a technology or research programme of a range of applications that can be drawn on by a range of companies. That is much less likely to hit state aid constraints than if you want to write a cheque to an individual firm. We do try to comply with that and it probably pushes us in the right direction.

Q304 Caroline Dinenage: As you know, we have taken evidence from quite a number of people over the last months. The strong message coming through from entrepreneurs is that, while there isn't a recession in technology, it is increasingly difficult to get funding for technology companies. I know that the Business Secretary in his announcements this week said he would look at what the press are calling a business bank—the idea of lending to businesses.

One of the things that we have been told by entrepreneurs is that recent regulations have led to pension funds and insurance companies greatly reducing their investments in the UK equity markets and that then drying up funding exchange for businesses. Will the Government address that problem alongside their efforts to increase bank lending?

Mr Willetts: Yes. This is something that John Kay's report touched on as well. If there are ways in which regulations have impeded that kind of long-term investment, we would be willing to look at it. John Kay's report did not come up with a list of detailed public policy interventions. He was really after the City to have a cultural shift and think more imaginatively about the case of long-term investment, but if there are things we can do there we would happily look at it. As I said earlier, we have tried to put in extra funding of over £200 million to reinforce venture capital investment, which is a really practical way we can help. We have maintained several venture capital programmes that way.

We have also put another £50 million into an angel investor co-fund. If you look at America, one of their great advantages in getting those kinds of investments is the angel investor community. For the first time we have now said we will co-invest alongside angel investors.

Q305 Caroline Dinenage: I want to ask you about R and D tax credits, because that is something we have spent a lot of time talking about. The feeling of the witnesses we have spoken to was very much that they tend to have a disproportionately positive effect on smaller and medium-sized businesses than they do on the large ones, where they get swallowed up in their finances. We have been told that banks have received more from R and D tax credits than even GlaxoSmithKline and Rolls-Royce. Do you believe the banks need an R and D tax incentive, and do you think that in some way maybe there is a possibility that R and D tax credits have been used as an incentive, or even a bribe, to businesses to stay in the UK?

Mr Willetts: I wasn't aware of the banks being such beneficiaries of the R and D tax credit. You are tempting me to engage in a bit of banker bashing. If they have a legitimate claim for R and D tax credit I wouldn't stop them, but we have tried to improve the R and D tax credit regime both by increasing the total amount of the relief and making it available above the line. Now, the value of the R and D tax credit for small companies is very substantial indeed. I should have mentioned it earlier but it is a very important part of the offer. The above-the-line treatment will help them enjoy the benefits of it even if they have not yet moved into profit.

Q306 Caroline Dinenage: Given that the Government have provided banks with money to lend, one of the things I have very much come across when I have visited banks and asked them where the difficulty is in lending to businesses is that they have said that directors of small companies need to be prepared to put their houses on the line and they need to be able to put as much sacrifice into their own companies as they are expecting from the banks.

What are your thoughts on that? What are the percentages that should go into supporting businesses, particularly technology companies, who might be investing in R and D for something which may take a long time to come to fruition?

Mr Willetts: We do hear these types of concerns and you do hear horror stories where the bank is making a relatively small investment and then immediately wants to take the first claim on someone's house. The purpose of our initiatives is to get banks to lend more at lower cost without making their requests for security any more onerous. Their requests for security should not become more onerous. If anything, they should maintain whatever they would have done anyway or be less onerous. That is the whole purpose of trying to lower the cost of banks' access to wholesale funding and other initiatives. If people show that the banks' terms have become more demanding, we would certainly take that up with the banks. That is not intended to be the way that our schemes work.

Q307 Caroline Dinenage: Do you think there should be a percentage breakdown between how much banks are prepared to invest and how much small company directors are prepared to put up as guarantees as well?

Mr Willetts: I am a bit wary of the Government setting a rule on that. It is part of this breakdown of the corporate lending relationship. Banks have got very bad at project lending. If there is an asset, including your owner-occupied house, that is all right, but assessing and lending on the basis of a project is a skill that, as I say, the banks on the west coast of America have because they are used to that type of lending. I think our banks have lost that capability unless it is a very large project indeed. Your underlying point is correct that the banks need to get back to exercising judgment of lending on a project. That requires a bit more judgment than sending round a valuer to assess the value of someone's house, but the revival of that form of bank lending is very important.

Q308 Jim Dowd: I want to follow up on that point. You say banks have lost that. Are you sure that British banks ever had it? The reason you say that on the west coast they have this skill is because it is assessing intellectual property rather than physical goods. I don't think British banks have ever been particularly good at that. If you can't count it or scratch glass with it, they are not really interested. It is a lack of imagination and a lack of understanding.

Mr Willetts: Thank you very much for that, because I want to clarify one point. Let me read out a particular point I should have made when answering the previous question. These are the rules particularly for the Enterprise Finance Guarantee Scheme. That is where we are engaged ourselves directly in the lending. "Lenders are allowed to take a personal guarantee from borrowers under EFG, as they would under commercial loan schemes. However, lenders must not take a charge on the principal private property." That is one of our rules for the EFG. It then goes on: "As EFG loans are for businesses lacking sufficient track record or collateral, and the rate of defaults is much higher than normal loans, we have a cap on claims at 20%, which is 10 times larger than on normal loan portfolios." I am grateful for the opportunity to clarify that. We have that specific rule for that loan guarantee scheme.

On your wider point, yes, the experts tell me about the so-called "Macmillan gap". I don't know how many reports there have been in the course of the twentieth century about problems of getting bank lending going. As I said, if anything, the loss of local discretionary bank managers has made things worse, not better.

Q309 Jim Dowd: I have a couple of brief questions on the relationship between universities and business. We have received evidence from the SME Innovation Alliance that they feel this relationship is too heavily skewed in favour of the priorities of universities

rather than the interests of innovative business. Given that all human relations and activities can be improved in any circumstance, how do you view the relationships between business and universities?

Mr Willetts: I think it is getting closer. Indeed, the most recent World Economic Forum competitiveness report showed university and business collaboration on R and D as one of our strengths compared with our competitors. So we are making progress. We have a programme—again it goes back to the previous Government—of knowledge transfer partnerships. You mentioned human relationships. You get the time of a post-graduate student helping a company tackle a problem. I am encouraging technology transfer offices to think of their role more broadly than just counting up patents and selling IP. I want them to have a broader sense of their relationship.

One thing that does concern me is that perhaps in the past there was a kind of target culture when notching up patents was the priority, especially as universities and researchers do sometimes exaggerate the starting value of their discovery and underestimate the value added by the commercial development of the discovery. Sometimes you can have a dialogue of the deaf in a negotiation where the university sits and thinks it has high value for the IP they have, whereas the commercial entrepreneur thinks that is exaggerated. There are areas where we can improve here.

Q310 Jim Dowd: The thrust of the evidence we have received is that universities tend to see business activity almost wholly through the spectrum of their own spin-offs rather than augmenting and adding value to current commercial activity. Do you see that?

Mr Willetts: As I say, the idea of tech transfer offices and universities having some IP was a good idea. We probably ended up with that getting exaggerated attention compared with these wider relationships. We are trying to broaden those connections through maintaining knowledge transfer partnerships, through the innovation voucher programme, which encourages SMEs to turn to a local university to help solve a particular problem, and through doctoral training centres where more and more people getting a doctorate have business experience as part of their doctoral programme.

Q311 Jim Dowd: On that point, do you think practical business experience ought to count for something in the way that published documentation does when assessing lectureships or professorships or whatever it might be?

Mr Willetts: I respect the autonomy of universities. One thing I do accept is that, when it comes to people making an academic career, sometimes they say, “If we go into an R and D lab of a company for five years and we research for the company, and in that time we are bound by commercial confidentiality and they don’t want us to publish articles in learned journals about what we are doing, that looks like a dark age in our CV.” It looks like you have not generated anything for five years. I have had this discussion with some of our leading companies, who have realised that if they want to get academics over to work for them they have to provide vehicles in which the academics can show their research activity during that time. We can probably do better at valuing that as part of an academic career.

Q312 Jim Dowd: What about the other way round and getting business people into academia?

Mr Willetts: Yes, I am up for that. One area where I think we could do a lot more particularly is in business schools with business studies. There is a review of business schools under way now. I am hoping to do a serious speech setting out the issues on this next month. I do think that business schools are an obvious way in, but I have anecdotal evidence as a minimum of people with a business background who want to join a business school then

being told, “The policy of this university is that all our staff doing any teaching should have a PhD. You have joined our business school at age 45, having built up a business for 20 years, and now you need to get a PhD for us to accept you as a member of staff of this university.”

To me, that does seem to rather miss the point of businesses. There may be obstacles like that. Again, I don’t want to send out an instruction; it is not how I like to approach our universities. We do need flexibility so that people with a business background can be respected in academia without necessarily meeting those types of requirements.

Q313 Jim Dowd: Finally, there is a general presumption that knowledge transfer takes place automatically from universities to business. Are you satisfied that that really does happen consistently?

Mr Willetts: I think we can do more. Often a large local university is the biggest single R and D resource in an area. You know that in that university there are staff in the IT department or in a range of departments who should be seen as a resource for the local business community and are up for being the local business community. If there was an SME that needs the use of a piece of equipment that it could never afford to buy and operate 100% itself or needs some expertise to solve a particular problem around a particular new material or something, the university is probably the best place for them to turn to. They don’t turn to the university as much as they should, and that is one of the reasons we commissioned Tim Wilson to produce his report. Innovation vouchers are a great way of breaking down those barriers and things like a single point of contact with the university. There are still too many SMEs within 10 or 20 miles of a university who may not have set foot in that university and thought about how it can help them grow their business. Yes, there are still barriers to break down on both sides.

Q314 Chair: I want to press you further on your comments about business schools. Would you see that as a vehicle by which we would end up with more scientists and engineers in the boardroom because of the capacity of universities to provide some business training to scientists and engineers?

Mr Willetts: Yes, I do. Again, I am not going to prescribe to universities how they construct their courses, but you observe it in America where they have this feature of the major and the minor. Your chances of doing a physics degree but also doing some business studies or some law alongside it are much greater. One reason why we have committed ourselves to supporting an enterprise society in every university is because I think every undergraduate should have the opportunity, if they wish, of some kind of experience and engagement with business in the course of their studies.

Q315 Chair: The Government have drawn extensively in the past on the views of James Dyson. He made a very interesting series of comments last week that I am sure you are familiar with. Do you subscribe to his views about the need to give greater support to engineering students in universities? If so, how are you going to do it?

Mr Willetts: We are of course all great admirers of what he has achieved. Incidentally, his company’s commitment to R and D is excellent. When it comes to higher education policy, he seemed to be afraid that our excellent new higher education regime would put people off from studying engineering. Of course students don’t pay up front, and the evidence is that the information we have been releasing on employment outcomes from particular courses at particular universities means that applications to do STEM subjects, if anything, are doing disproportionately well. We always need to do better, but there was a fear that people would be put off from STEM subjects as a result of higher fees. The evidence does not suggest that fear has come to pass.

Q316 Chair: So you don't subscribe to his view that we should subsidise engineering places.

Mr Willetts: As nobody has to pay up front to do engineering and you only pay back if you are earning more than £21,000 a year—

Q317 Chair: So you don't subscribe to it.

Mr Willetts: No; I don't agree with him on that point.

Q318 Stephen Mosley: We have had some positive feedback about the Patent Box. Last week we had Tim Crocker from the SME Innovation Alliance, who told us that patents were only valuable to small companies if they went on to sell that company to someone else. His reasoning was that, if a small company holds a patent that gets breached by someone else, it is prohibitively expensive for them to defend that patent. I think he went as far as to say that it was almost not worth that company having the patent. Do you subscribe to that, and what do you think can be done to give greater protection to small innovators and small companies?

Mr Willetts: That is a concern of small businesses and it is a long-standing concern that I recognise. I don't know whether there is a particular link to the Patent Box. The most conspicuous effect is the GSK decision on investment back in the UK, but, again, the Committee may have suggestions. I am not aware of any specific proposal for further helping companies or protecting their IP. If the Committee has any proposal in that area, I would happily consider it.

Q319 Stephen Mosley: One thing that was suggested last week was that apparently a number of European countries have criminal sanctions for people who knowingly breach patents. The suggestion was that you could introduce punitive damages. Would they have any benefits?

Mr Willetts: There has been some improvement in the Patents County Court. In terms of companies getting protection through law, we have tried to lower the costs for them of protecting their patents through the legal system. We have also tried to help provide alternatives to court action, including hearings before the IPO tribunal or using the IPO's mediation and patent opinion services.

I could not talk about punitive damages. That is where the Justice Department is in the lead about what kind of penalties there should be. If the Committee has proposals on that, we will obviously draw them to the attention of the Justice Department. We have responsibilities for IPO and we have tried to make patent protection, so far as it is our departmental responsibility, a bit easier.

Q320 Chair: Minister, we have covered a lot of ground today. I don't know if you have any closing thoughts that you would like to leave us with. This is a very complex area where there are strongly held divergent views about where the solutions lie. What would your magic trick be?

Mr Willetts: I look forward to the Committee's report. My final observation would be that we have, in research councils and the science budget, a very effective upstream research activity. In the TSB we have the body that does the next stage. Some countries have a different model. In America it is the National Science Foundation and the National Institutes of Health, which of themselves go closer to market. I don't think we need to copy the American model. We have our own structure, which we have inherited, and we don't want to change it.

The interesting example is the MRC/TSB link in the life sciences catalyst. If there are ways within funding constraints and if there are some other areas where we can similarly link up some research council funding and some TSB funding in a particular area, I see the life sciences catalyst as a potential precedent. As I said, it can't be applied uniformly in every single sector, but if there are some other particular sectors where that model could be applied I would be very interested to see them.

Chair: Minister, thank you very much for your attendance this morning.