Higher Education Policy Institute (HEPI) and
Joint Information Systems Committee (JISC)

House of Commons Seminar: 24th March, 2010

Universities and Employer Engagement

Bahram Bekhradnia (Chair):
Ladies and Gentlemen, welcome to the third in this series of House of Commons seminars, jointly with JISC, to whom we are very grateful for their sponsorship. The topic today is employer engagement, which is a multi-faceted topic meaning different things to different people. To the Government it appears to mean getting employers to pay for significant parts of higher education, to employers ensuring that they get the highly qualified manpower that they need, and to universities ensuring that their products and services, that is to say graduates and research, are what business needs. We have two distinguished speakers today.

Sam Laidlaw is Chair of Centrica, and one of the people we don't get enough of at our seminars, despite industry's insistence that they want to be engaged in the discussions. He was the Chair of the CBI Taskforce on higher education that produced an influential and very wide-ranging report last year.

Tim Wilson is the Vice Chancellor of the University of Hertfordshire, which describes itself as a business-facing university – in fact, Tim may have invented the term 'business-facing'. He is a member of the HEFCE Board and the Deputy Chair of the CBI Innovation and Science Committee.

Sam Laidlaw:
It's a great honour to be invited to contribute to a HEPI parliamentary seminar and I think it is a sign of the importance of strong relationships between business and education. I'm here, I suppose, as the voice of employment, hopefully the final destination for all graduates and post-graduates. But my passion for higher education is driven, not only as a parent, but also as somebody who fundamentally believes that Britain's place in the world will be defined economically, culturally and socially by the quality of our higher education system. So I was delighted when I was asked last year to chair the CBI's Taskforce looking at what business needs from higher education and how we can work more closely with higher education establishments. Today the whole question is more relevant than ever, not least because the Chancellor's going to be delivering his Budget in just a few hours' time. I've no idea what's contained in Mr Darling's red box, but the picture on funding that's started to emerge from the pre-Budget reports is that our universities face challenging times ahead. Steps are clearly going to be needed to address this in the short term – and I'll come back to that later – but I think it's absolutely vital that we remain focussed on the longer term vision of higher education. The debate is important not just for universities and colleges, but also for the UK's economic health, and this will increasingly depend on the development of high value added skills that need individuals with graduate level skills and world class research and innovation.

Looking at the future for higher education, it's clear that the sector faces significant challenges - meeting student and business expectations on quality, dealing with

increasing international competition for students and research and managing the funding pressures. So when I was asked to lead the CBI's taskforce, we set out to consider these issues and scope out in what direction we believed the UK should go to maximise the benefits of the higher education sector and, most importantly, the next generation of school leavers.

The Taskforce set out six priorities for higher education:

- To support high quality research and teaching in increasingly challenging circumstances;
- To raise the number and the quality of graduates in Science, Technology, Engineering and Maths – STEM;
- To ensure that all graduates have employable skills;
- To improve the environment for university-business collaboration on research and innovation;
- To encourage universities to increase flexible provision of workforce training;
- To support diversity in higher education provision to cater for an ever wider range of student and business needs.

I'll focus on three of these areas where the report has already started to have an impact, beginning with employability. Two-thirds of employers do not look for a specific degree when recruiting graduates. Their top priority is whether graduates have the skills needed to succeed in the workplace. What do we mean by employability? Self-management, team-working, problem-solving, communication skills and business and customer awareness, and some would also include languages and the ability to work in a multi-cultural environment.

There are benefits here for all involved in improving employability. A student who has a good grasp of time management and who can communicate clearly and effectively is going to be easier to teach as well as being better placed to find employment when they graduate. It's welcome, I think, that both the Government and the Opposition are encouraging universities to be clearer about their approach on employability. But, in return, business has got to do more to offer opportunities for students to experience the workplace by offering placements, internships and the opportunity to tackle real business problems and live projects. This is not just a luxury for larger companies such as my own at Centrica. Smaller companies can find ways to engage that suit their business model. I give you an example of Easybind International - a packaging materials business that's based in Derbyshire, employs about 100 people, and is using the internet to enable it to link its production work to student projects. Programmes like this help students and teachers experience first-hand how business works and how STEM skills are applied in the workplace.

The second area is research partnerships. Collaborative research partnerships between business and universities have a crucial role to play in boosting business competitiveness and economic prosperity. Schemes such as the Knowledge Transfer

Partnership are showing staggering results - from Amadeus Capital, a technology-focussed venture capital company working with Imperial on identifying the most viable green technologies to invest in at one end of the spectrum, to three associates from the University of Warwick that helped Rolls Royce boost its profits by more than £2 million in three years thanks to a piece of process engineering that they developed. These impressive success stories deserve to be more widely known.

HEIF funding has made a real difference of generated culture change, increased capacity within the universities to engage in knowledge transfer activities, and helped to increase the flow of knowledge and ideas from universities into business and the wider community. But some developments here are still needed and, as we set out in the Taskforce report, the new Research Excellence Framework (REF) must give proper recognition to the excellent business-relevant research. Unfortunately, a number of CBI members report that academics' need to publish their research in order to attract HEFCE funding can sometimes run counter to joint work in commercially sensitive areas.

Let's turn to STEM. We must address the business urgent need to raise both the quantity but also particularly the quality of STEM graduates. Many STEM areas face the challenge of an ageing workforce. I'll give you a relevant example from my business. Up to 70% of the current high skilled employees in the nuclear industry will retire by 2025. For my own organisation, and the nuclear power industry in general, this presents a real challenge as, during the same period, we are going to be embarking upon probably the most significant programme of new nuclear construction anywhere in the world since the 1980s, and this new build programme is going to demand the highest level and skill of engineers and highly trained specialist technicians. Looking to the future, demand is going to be strong in sectors where the UK already excels such as IT, pharmaceuticals and high value added manufacturing – employment in the IT industry for example is predicted to grow about five times faster than the UK average. STEM skills are going to be critical to the mission to achieve future growth in new areas such as creative industries and green technologies – we must develop a skilled "green collar" workforce to be able to respond to the challenges and opportunities of climate change. That means ensuring that we have specialists in environmental skills such as energy efficiency, carbon traders, and technicians skilled in installing solar panels, smart meters and micro-generation technology. Most of these roles require a grounding in STEM and some need highly specialised academic training. So we need a responsive education sector that can expand the provision of specialist skills in response to demand from individuals and employers, and that's going to require universities and training providers willing and able to respond efficiently to these changing technical skills. But we also need to take action now to ensure more young people moving from schools to university or into vocational routes are enthusiastic and excited by STEM. Employers need to engage with schools to improve careers advice and provide STEM students with the real opportunities to experience the world of work through schemes such as the Year in Industry.

Finally, funding. So far I've focussed on the outcomes that matter to business, but I think we're all well aware that these goals can't be achieved by an under-resourced sector. Business is strongly in favour of fiscal consolidation, but we do believe that those elements of public spending that are vital to the country's economic future, including higher education and science and innovation, should be supported insofar as

possible. That appears to be the approach that countries like the US, Germany and France are taking, all of which are increasing their investment in higher education and science despite the deficits that they too carry. We believe that the full range of options needs to be considered and these include looking at the financing mechanism for fees, reviewing the eligibility threshold for maintenance grants and the overall level of tuition fees but, at the same time, ensuring that higher education must remain open to all, and we must be clear that those who cannot afford higher education must be provided with adequate bursaries and support so that they can still benefit. As with many areas of the public and private sectors, universities will have to do more with less and look for bold ways of achieving efficiency savings. Universities should seek out cost savings wherever they are to be found and that may mean collaborating with each other, undertaking joint ventures and sharing services, or even looking at consolidation and merger where this makes sense.

So the funding challenge must also be seen as an opportunity for reform to ensure that the sector is better able to meet changing business and student needs, for example, developing new teaching models and flexible accreditation that leads to flexible and responsive provision. This will encourage more business investment. Business is not just looking from the sidelines. Employers recognise the value of graduates through higher salaries. Graduates still earn a premium of over £100,000 over their lifetime and, whilst we're clearly not up to premier league football clubs, many companies, including Centrica, do now offer sign-on bonuses to attract the best graduates' talent. Business is making a very important direct contribution to higher education in both teaching and research and universities benefit from £2.8 billion of income from business and community sources each year.

I think it's right that business should pay for provision which is specific and tailored to their needs, such as continuing professional development programmes. Business's role is not to underwrite the cost of higher education more generally. Business is, however, prepared to make other contributions and many firms are doing so. The kind of commitments which businesses should sign up to are illustrated in our Taskforce report and at Centrica we recognise that high quality work experience opportunities do make a real difference to students' employability skills. We've invested considerable effort in this and this year alone we've increased the size of our graduate placement programme by over 50%. Not only do the graduates report that this gives a real boost to their employability skills, but as an organisation we get a significant injection of fresh ideas into real-life business challenges. Last year, as an example, a summer placement student with us won a national award for helping deliver over £500,000 of cost savings in our British Gas commercial business. More companies are responding to the Taskforce call to business to develop relationships with universities. Proctor and Gamble are involved with two new centres, National Grid is now taking steps to address future skills challenges, for example, in engaging directly in the design of courses specific to their needs, and we're going to continue to make the business case for engagement with universities and to call for the developments I've set out, as the future benefits for all sides are worth striving for. The benefits are going to be strong business university partnerships in which employers' needs and higher education needs are aligned, business taking a more active and integral part in developing student skills and experience in the world of work before graduation, a marked increase in the quantity and quality of STEM graduates, a richer experience for students which will help them prepare for the world of work, and more engagement in collaborative research and workforce training.

Put in those terms, it's clear that the imperative on all of us is to push for greater collaboration, higher quality teaching and research and excellent graduate outcomes. We must hope that whoever is in government in a few weeks' time has the commitment and energy to help us all succeed here.

Professor Tim Wilson:
First of all thank you very much indeed for the invitation. Vice Chancellors rarely need two invitations to express their prejudices and views and I'm no different from most others. I want to spend my allocated time in two sections: some reflections on the higher education sector and its relationships with business over the last few years, then I'd like to share with you the concept of the business-facing university. That, in some ways, suggests a segregation between universities, but actually every university is business-facing but in a different way. I'll try and explain the subtleties of that as we go forward.

We all know the landscape of higher education has changed enormously in the last 10-15 years. Participation has deepened, broadened, and more students than ever are coming to university – 180,000 this year won't be able to get in – a tragedy in terms of societal need and a tragedy especially if you are one of those 180,000. Equally, modes of learning have radically diversified. Twenty years ago we all thought about three-year full-time degrees. Enormous diversity now – distance learning degrees, partial distance learning degrees, locally supported distance learning degrees, blended learning degrees, semi full-time degrees, part-time degrees. And yet the public focus is still on the 19 year old three-year full-time degree. That's something that we as educators in the sector need to address.

New vocational and professional degrees have emerged, and it's really important they do because the job market has changed so much in the last ten years. If I'm ever in a car accident please can I be picked up by a paramedical scientist, not an ambulance driver (and preferably one with a degree from my university)? If I'm employing somebody to do my networks, I really would like them to have a degree in Network Control, not somebody who has got a degree in some other subject who happens to have migrated into that subject. Digital animation didn't exist ten years ago, virtual reality didn't exist. These are all new jobs coming through in vocational and professional degrees. We've got to accept that the modern market need is not necessarily generic. Sam's right – two-thirds don't need specific degrees, but the other third does – let's not neglect those.

There are now explicit innovation and enterprise agendas concerning the application of knowledge, the development of skills, the promotion of entrepreneurial skills, the encouragement for students to think laterally and to challenge. One of the big differences between our sort of education system and those in the Far East is we encourage our students to challenge, to think, to think laterally, to innovate, not the didactic approach of absorbing the knowledge and reflecting it back to get a decent mark. It's a totally different philosophy of higher education. It's one that brings this country great strength.

I also want to mention mission differentiation because the world has changed. We have universities working in locally deprived areas, raising aspirations, raising the cultural knowledge of our communities, and we have those world class research

universities who have a different world, a different need, a different contribution to our economy. We have an enormous landscape of need and no university can cover it all, and yet 15 years ago we thought they could. We were trying to get our best research universities in this country to offer foundation degrees. Well let's admit it, we have a differentiated sector, let's play to our strengths and accept mission differentiation as a fact of life.

This new HE landscape is a challenge for business leaders. I've spent my entire career at the interface between universities and business. Many of my friends and colleagues who are business leaders - their only experience of university was 15-20 years ago which was a full-time three-year degree at one of our ancient universities - and it's only when they come on to a modern campus do they realise the world is not like that. Even enlightened business leaders who have come on to campuses quite often walk away and say, "Wow". Sir Michael Rake came and opened our Graduate Futures Centre (we used to call it a Careers Advisory Service and Employment Centre) – he said, and he said he wouldn't mind being quoted, "I didn't know universities like this existed."

In Hertfordshire we are very fortunate, we live in a knowledge based geography. Most of the large companies around my university are knowledge based organisations. Astrium, one of the highest technology companies in this country, don't recruit my PhD students to do their space research, but they do recruit about 15-20 graduates a year to do their professional infrastructure, their HR, their marketing, their sales, their technical development. GSK in Stevenage are the same, they take 20-25 of my graduates every year, and my graduates provide the professional infrastructure for their company. They don't recruit my PhD students, of course they don't, they're a global company. These large companies have got their act together, they recognise where the skills are and where they need to recruit. I could go on – T Mobile, Computer Centre, Merck Sharp Dohme, these are all the same sort of approach, recognising what universities do and the differentiation in the sector.

The last example is MBDA, a defence company in Stevenage. For the last ten years they have been taking undergraduates of my programmes. They have them for two days a week, we have them for three days, it's a four year degree (three years in four years), so those students come out having served four years in their company. They're not doing design or research work, but that company is now impregnated with my graduates right throughout their management system and they stay, because they have been there since they were 19. That's an enlightened company recognising what universities like mine can do. So our differentiated higher education sector is meeting diverse needs of business.

Universities don't just serve the needs of corporates, but SMEs as well, because SMEs are a very large part of our economy. Many graduates nowadays go and form their own companies. Entrepreneurship is alive and thriving on our campuses. My only regret is that being self-employed does not class as graduate employment, so if I want to improve my graduate employment statistics, I must discourage my students from forming their own companies. I must also discourage them from being nurses, network engineers and many other professions that aren't considered graduate employment. We really need to look at what "graduate employment" is and it isn't necessarily joining a management training scheme for a retail company.

I'm going to talk a little bit about my concepts of a business-facing university. Teesside University could do this, Coventry, De Montfort, Plymouth – many other universities like mine who we learn from about their interaction with business. Here are a few pointers from Hertfordshire. It's the dynamic and equal relationship with business that matters. It's intellectual arrogance to talk about knowledge transfer all the time – it is knowledge exchange, because we can learn an awful lot from businesses. Our students do, our staff do, I do. That leads to a revolving door approach to business – business constantly coming in and out of our campus. It's no longer walking through one portal, the knowledge transfer person, it's totally porous. Every layer of the university is engaged with business. Every single programme in the university is designed with business input. Every single programme is moving towards placement or employment experience. At any one time 30% of my students are off campus in placements and employment. Work in an employment environment is just as valuable in many ways as it is inside the university.

Six years ago we found we didn't have enough of a sales force to approach SMEs – it's an expensive business – so we bought a company that did, and that company now runs two business link contracts and several other contracts for Government agencies working with SMEs. When we bought it it was turning £12 million, it's now turning £32 million and doing very well, thank you. It provides me with an avenue into the SME culture, through a company that we own – integrated B2B services. There's no differentiation between the company and the university.

Sam talked about STEM graduates. I think all of us recognise the value of STEM graduates and it's not just working in STEM, it's the mindset that comes with STEM graduates, and the promotion of the STEM industries. Four years ago Roche pulled out of Welwyn Garden City, on my patch, and five hundred scientific jobs left my community to go back to Switzerland. They had just invested £18 million refurbishing that site – 85,000 sq ft of excellent research facility – so we worked with the RDA, bought the building and put in spin-in and spin-out companies. Companies wanted to co-locate with the university because of the knowledge infrastructure, the information infrastructure, the branding. There are now 480 science jobs in that building and, by the way, it's making the university money as well. That's what a university can do once you get the mindset and become engaged in this promotion of spin-in, spin-out and economic development.

Universities like mine thrive on knowledge transfer partnerships. I don't think we've got the most in the country, we have only about 25-30 at any one time. Knowledge transfer partnerships (run through the Technology Strategy Board) are a win for the university in terms of its staff and student experience, a win for the company, and a win for the country. What a fantastic scheme, long may the Technology Strategy Board thrive. This won't produce the next cancer drug, but it is about solving business problems now. Helping competitiveness, improving products, improving markets, that's what universities like mine do, and it is different from what other universities do. Let's celebrate that differentiation.

Placements and internships are more important than ever before – not just one year or six months, now short-term as well. Students engage with companies on a consulting basis working with staff, quite often working with small companies on a short-term basis solving a particular problem, perhaps over three or four weeks. Excellent experience for the students, the company and the staff, and we can embed

employment skills into our curriculum through placements and internship experiences. Every Harry Potter movie had my students working on it. Half the people working on post production engineering on Batman Begins were my students. On Charlie and the Chocolate Factory there were 22 post production engineers, 15 of whom were my students or graduates. That's impact. And just as a small point – they're Media students!

I cannot leave without talking about Formula One because it's quite topical in Hertfordshire at the moment – Hertfordshire boy Lewis Hamilton's going to win it again this year. Every single F1 team's got at least one of my graduates in it. Specialist people trained for that industry on our Motor Sport Engineering course, and absorbed by that industry. Employability and the skills of our graduates are important factors in the way we must think and work.

I do a daily blog for the students, they find it quite interesting and amusing, and quite often comment. This story came as a response to a blog, from James Benson, a third year student in Sound Design Technology. He was doing a three week placement with Microsoft Podcast studios as a Junior Assistant. On his first day he noticed the production team weren't using their own hardware and software tools to best effect. This young man, full of confidence, went home, wrote a four page report about how they could utilise their own technology more effectively, and gave it to his boss the following morning. Twenty-four hours later he was offered a full-time post. Fortunately for the university he turned it down so he could finish his degree, but now that he has graduated he is working full-time for Microsoft as a Sound Design Engineer. Sadly that isn't counted as a graduate level job, but never mind. Just one example of how young people can challenge very large corporations and make an enormous difference.

I'll leave you with a final thought. I've been at this university-business interface all my career. For the last 20 years I've been working at an executive level in universities as Pro Vice Chancellor and then Vice Chancellor. In the last three or four years we've seen higher education moving from a fringe issue in education policy, to the heart of economic and social policy. Universities are now right at the heart of what this country is all about – economic prosperity and social health. It's a privileged place to be and that's where universities need to be, but, in order to deliver on our obligations, we have to take the employment engagement agenda very seriously indeed. Employer engagement does not mean one office dealing with students working in industry, it means a total immersion in our economy. It means everything we do must be looked at in the context of our engagement with employers, our engagement with the economy, our engagement with our community. Ladies and gentlemen, thank you for being so tolerant and listening. I look forward to the debate.