

DINNER/DISCUSSION SUMMARY

Stimulating economic growth by increasing the contribution from research, innovation and the Higher Education sector

Held at The Royal Society on 23rd November, 2011

The Foundation is grateful for the support for this meeting from Cranfield University, the National Physical Laboratory and the Technology Strategy Board.

- Chair:** **The Earl of Selborne GBE FRS**
Chairman, The Foundation for Science and Technology
- Speakers:** **Sir Richard Lambert**
Former Director General, CBI
Dr Graham Spittle CBE
Chairman, Technology Strategy Board
Rt Hon David Willetts MP
Minister for Universities and Science, Department for Business, Innovation and Skills
- Panel member:** **Catherine Coates**
Director, Business Innovation, Engineering and Physical Sciences Research Council

SIR RICHARD LAMBERT said that confidence and stability were the essential foundations for a flourishing Higher Education (HE) system but that, in the wake of the fundamental reforms to HE funding which had been made necessary by the parlous state of public finances, these unfortunately did not exist. A flourishing HE sector was needed for its contribution to the economic well-being of the UK by providing a supply of well-educated graduates, a stimulus to the prosperity and activity of the communities in which HE institutions were located ("successful cities needed a successful university at their heart") and a source of quality research. The radical nature of the reforms being put in place by the Government and the pace of their introduction were creating great uncertainty. Although the best universities would probably adapt successfully to the new fees system, many of the others could well suffer.

It was, of course, possible that some Vice-Chancellors were overplaying the difficulties and the risks but he did wonder how durable the new system would prove to be and how perverse the consequences of, for example, cross-subsidisation of courses and the quota arrangements for students of different abilities might be. He feared undesirable volatility in HE institutions' revenues. He also wondered whether the Government's claim to have put power in the hands of students might have been exaggerated in view of some of the other elements of the reforms which seemed to leave a great deal of power in the hands of the Government or of Government-appointed bodies.

He noted that some of the decisions reached by the Coalition Government ignored recommendations contained in the Browne Review and smacked of compromise to satisfy the conflicting philosophies of the political parties in the Coalition. He did not believe that the fee caps of £6,000 and £9,000 had been based on any thorough research and feared that STEM subjects would suffer. He doubted whether a Conservative Government, if it had not felt obliged to take aboard the concerns of its Liberal Democrat partners (who had made pledges when it had not really expected to find itself in Government), would

have chosen to design the new system with the interests of HE uppermost in its mind.

He listed three things needed to help avoid some of the risks and dangers to which he had referred. First, students needed to be given good information about the costs and benefits of the HE which they were seeking to buy so that such market forces as existed within the new system could operate effectively and efficiently. Secondly, as a recent Select Committee Report¹ had urged, the reforms should be implemented at a pace that was commensurate with stability and the ability of the HE sector to absorb them. Thirdly, the Government should aim higher in its aspirations for HE, bearing in mind that HE was essential for the benefit of the nation as a whole as well as for the individual participant. He expressed concerns about the unintended adverse consequences for HE and for research of recent developments in immigration policy.

DR GRAHAM SPITTLE summarised the achievements of the Technology Strategy Board (TSB), in its seven years of life under both Labour and Coalition Governments, in facilitating through collaborative and partnership arrangements between Research Councils, HE institutions and businesses the translation of new ideas and technologies into wealth-creating commercial activities. The TSB's success was in large part due to the fact that it was run by people with business experience and driven by business attitudes and priorities. He underlined the importance of innovation as the foundation for economic growth and the need for greater speed in bringing innovation to the market place. Risks had to be taken and greater support was needed for Small and Medium Enterprises (SME). He urged the Government to make better use of the levers at its disposal (e.g. procurement especially by Ministry of Defence and the National Health Service, regulation or standards) to help force the pace of innovation. He believed that the UK still had great potential for innovation and growth thanks to the world-class quality of its HE and its research base and thanks also to its language and to its free trade heritage.

But to exploit that potential it should not hesitate to follow the example of its competitors in other parts of the world where Governments readily supported their commercial enterprises. He urged the Government to be ready to “pick races” in industrial and commercial sectors and give them maximum support through policies and practices even if it was understandably reluctant to try to identify the particular enterprises which would win those races. He believed that the Technology Innovation Centres now in operation at a variety of locations throughout the UK were playing a valuable part in the implementation of the TSB’s strategy² (*Concept to Commercialisation*, May 2011) and that more of such Centres were needed. He welcomed the Government’s protection of current expenditure on the research base, stressing the crucial dependence of UK businesses on the size and quality of the UK research base but he regretted that the Government had felt unable to provide similar protection for research base capital expenditure.

MRS CATHERINE COATES gave a brief account of the efforts being made by the Research Councils in fostering partnerships and collaboration with HE institutions, businesses and the TSB. The Research Councils possessed a resource base of immense value to businesses in their detailed knowledge of national centres of excellence – a resource they wanted businesses to make full use of. She stressed the importance of shared space and shared knowledge as ways of increasing the impact of innovation and the spread of ideas. She urged researchers always to bear in mind that the work that they were doing could be of interest to many others.

THE RT HON DAVID WILLETTS commenting upon some of the points in Sir Richard Lambert’s presentation defended the decisions on various aspects as a rational and justifiable compromise between conflicting national priorities rather than as an arbitrary compromise between conflicting party political priorities. He set the Government’s HE reforms firmly in the context of the overriding priority (for maintaining market confidence and low interest rates) of producing speedily a credible plan for reducing the level of public debt. He believed that the Government had been successful in reconciling that priority with the priority of minimum damage to HE and the research base, having fully recognised the part which both had to play in underpinning and sustaining the national economy. The Government did not believe it to be in the national interest to reduce student numbers even though it, like previous Governments, had to control student numbers as part of public expenditure control. It therefore sought to reduce the financial burden on the public purse of funding those students by looking for alternative sources of income. Long-term loans were being introduced to replace grants and allowances. It was estimated that around 30 per cent of the loans would not be repaid because some graduates would not exceed the pay threshold to pay the 9% of marginal income for the loan repayment. The Browne Report had favoured a levy arrangement in order to recoup those loan losses. The Government thought it made more sense, in the absence of reliable data to enable recoupment to be on an individual institution basis, to adopt a cap on fees instead.

Within the overall need to restrain student numbers, the Government had adopted the split between 85,000 and 20,000 student places between competitive and allocated and as a means of achieving the benefits of having funds following students while also providing scope for new entrants from less advantaged backgrounds.

He thought that the fears expressed about adverse consequences for STEM subjects had been exaggerated; as 65 per cent of mathematics students achieved A grades, they should not find difficulty in securing places. He believed that the recent decisions by UCL and by Lancaster University to expand were evidence that the new system was working. He favoured the introduction of competition for students as a means of ending what he saw in HE institutions as a bias towards research and away from teaching. But, as regards research he believed the future lay in increased collaboration and less competition. He estimated that by the end of this Parliament there would be 10 per cent more cash for teaching.

Commenting upon Dr Spittle’s presentation, he acknowledged that capital expenditure for research had been left outside the “ring fence” but said that extra capital had in fact been made available. He also acknowledged that, having noted how, for example, a country such as the USA sought to justify massive support for sectors of its industry and commerce through defence procurement programmes, he had moved away from his past “hands off” approach to industrial strategy and now favoured a policy of picking races but not winners although he recognised that in some sectors there was in fact no credible distinction between “race” and “winner” (e.g. Rolls Royce in aerospace). He listed life sciences, electronic infrastructure, synthetic biology, nanotechnology, nuclear and space and space security as “races” which the Government wished to support through its policies and practices.

In the discussion period a number of speakers lamented what they saw as an undesirable inward-looking focus in the presentations. In their view inadequate attention had been given to what was going on in the rest of the world, to the role of inward investment into the UK as a contributor to research and innovation (even though the UK had a relatively poor record of translating that research output into commercial use of benefit to the UK), to the opportunities in the rest of the world, especially the EU, for UK researchers and also to the scope for the UK to exploit to its economic advantage the research output from outside the UK. There was much which we could learn with advantage from other countries. Although the UK was judged to be doing quite well, was it the case that it was doing as well as it could?

There was considerable support from speakers for the criticisms made in the presentations about the need for slowing down the pace of implementation of the HE reforms if the detrimental instability occasioned by those reforms was to be minimised.

There was also support for the concerns expressed about the damaging consequences to HE of current immigration policies which had the effect of limiting access to UK institutions for students from overseas and also the contribution which researchers from overseas could make to

² www.innovateuk.org/assets/0511/technology_strategy_board_concept_to_commercialisation.pdf

the UK research base. The UK needed to attract people from overseas to undertake their research in the UK.

Several speakers felt that inadequate attention had been given in the presentations to the needs of post-graduates and post-graduate studies.

Concerns were voiced by some about the decline in the UK's manufacturing base and the short-termism of UK investors as compared with those in the USA and Japan. One consequence of this was the low level in the UK, relative to the public sector of private sector research and development. However, it was also argued that in fact the importance of manufacturing in the UK was comparable to that of many other advanced economies; Germany's manufacturing sector compared to the rest of the economy was exceptionally large rather than typical.

In discussion about the impact of the new fees and loans system on student demand for HE, especially in STEM subjects, some of the panel felt that the fears had been overstated. There was evidence to suggest that previous increases in fees for STEM subjects had been followed by an increase in demand rather than by a reduction. As regards the concerns about students being put off by the prospect of a debt burden, it was important to remember that the fees debt and its repayment arrangements were more like a tax liability than credit card debt.

There was discussion about the role which philanthropy played in HE funding in the USA and the prospect for encouraging a similar role in the UK. However, it was pointed out that the whole system of HE funding in the USA was very different from that in the UK. In the USA there was no equivalent to the UK's maintenance support or to the UK's loan system. Indeed there were grounds for regarding the US system as considerably inferior to that in the UK and also that the price of philanthropy could be admission practices which would be unacceptable in the UK.

Looking at obstacles to the successful translation of HE research into commercial activities, several speakers pointed to the reluctance of some HE institutions to recognise that the ensuing financial benefits needed to be fairly shared between the participants in any collaboration.

There was general agreement that HE produced public as well as private benefits and that more effort needed to be devoted to communicating to the public at large the nature and extent of those benefits. There was also general support for the valuable role played by the TSB in securing economic benefit from innovation.

Sir John Caines KCB

Useful web links:

Academy of Medical Sciences
www.acmedsci.ac.uk

Arts & Humanities Research Council
www.ahrc.ac.uk

Biotechnology and Biological Sciences Research Council
www.bbsrc.ac.uk

The British Academy
www.britac.ac.uk

Confederation of British Industry
www.cbi.org.uk

Cranfield University
www.cranfield.ac.uk

Department for Business, Innovation and Skills
www.bis.gov.uk

Economic and Social Research Council
www.esrc.ac.uk

Engineering and Physical Sciences Research Council
www.epsrc.ac.uk

The Foundation for Science and Technology
www.foundation.org.uk

Higher Education Funding Council for England
www.hefce.ac.uk

The Lloyd's Register Educational Trust
www.lr.org

Medical Research Council
www.mrc.ac.uk

National Physical Laboratory
www.npl.co.uk

Natural Environment Research Council
www.nerc.ac.uk

The Royal Academy of Engineering
www.raeng.org.uk

The Royal Society
www.royalsociety.org

Science and Technology Facilities Council
www.stfc.ac.uk

Technology Strategy Board
www.innovateuk.org

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