



Cynulliad National  
Cenedlaethol Assembly for  
Cymru Wales

## Enterprise and Learning Committee

### Interim Report on the Economic Contribution of Higher Education in Wales

#### Background

1. We embarked on our inquiry in November 2007 by undertaking some scoping work to understand the economic, social and cultural contributions of the higher education sector in Wales. From January to July 2008, we scrutinised a broad range of witnesses including Vice-Chancellors, representatives of further education, sector skills councils, industry, professional organisations and societies. We are grateful to all who assisted our work over many months by providing written and oral evidence. We heard from individuals, institutions and organisations who articulated their views cogently and eruditely, as we would expect, given the nature of our inquiry. Transcripts and papers of the evidence scrutinised can be accessed on the Committee's website:  
<http://www.assemblywales.org/bus-home/bus-committees/bus-committees-third1/bus-committees-third-els-home/bus-committees-third-els-agendas.htm>
2. To inform our consideration, we felt it important to learn of best practice, nationally and internationally. Members therefore undertook visits to the University of York, which is now rated as one of the world's top 100 universities, and to world renowned institutions in Massachusetts, USA. Both visits represented qualitative leaps in the progress of our inquiry and influenced our thinking considerably. We trust that what we learnt will be reflected in our final report. We welcomed political leaders from Baden Württemberg in order to consider how the *Berufsakademie* model of further and higher education helps to sustain a robust economy in that region. The Committee also held two offsite formal meetings away from the Senedd, in Deeside College and Merthyr College, to analyse the impact of our work on various communities and sectors. We are grateful to both institutions for their co-operation and contributions to our inquiry.
3. On 25 June 2008, the Minister for Children, Education, Lifelong Learning and Skills, announced a task and finish group chaired by Professor R Merfyn Jones, Vice-Chancellor of Bangor University, to

review higher education in Wales. There was a Statement in Plenary on the report of the first phase of the group's review into student finance on 26 November 2008. We understand that the group will present the report of the second phase of its review on the mission of higher education in March.

4. Given the timing of this important Ministerial review of higher education, we have decided to delay the publication of our final report, so that our conclusions and recommendations might be informed by Professor Jones's review. However, following such an extensive and significant inquiry, we felt it important to produce this Interim Report as an indication of the Committee's views on the economic contribution of higher education. We consider it to be a commentary on the review rather than a detailed analysis of all the evidence scrutinised, which will follow in our final report.
5. We wish to provide the Government, Professor Jones and his task and finish group, the higher education sector and business in Wales with an indication of our thinking on key areas of this agenda, which is vital to the future prosperity of Wales. We would hope also that our observations speed up the pace of the cultural change which is already under way in our HEIs.

### **Terms of Reference**

6. The wide-ranging terms of reference for the inquiry were:  
To consider the nature of the strategic engagement of Higher Education Institutions (HEIs) with businesses in Wales and beyond and their impact on their local and regional economies and in developing regional economic analyses, in particular:
  - the success of HEIs in accessing funding from a range of sources, including the use of European Structural Funds;
  - the extent to which entrepreneurial education has been embedded in Welsh HEIs; how its success is evaluated and what the levels and types of graduate start up are across Wales;
  - the contribution that HEIs can make to the skills agenda and the collaboration with employers' organisations, Sector Skills Councils and trade unions, and whether they are meeting the needs of businesses;
  - the scope for collaboration with the FE Sector following the Leitch and Webb reviews;
  - the drive towards mergers and collaboration between HEIs;
  - the wider contributions of universities to their localities, including community work, cultural contributions, student and graduate retention, mobility and markets and improving access and participation.

## Introduction

7. We are aware that we are making our views known at a time of considerable turbulence in the UK and global economy. Financial markets have collapsed and there have been dramatic changes to economic forecasts of future growth and prosperity in the last weeks and months. Considerable investment will now be required to avert business failure in addition to encourage business potential.
8. On the basis of the evidence we have examined, we believe that there is a symbiotic relationship between innovative and enterprising higher education institutions and successful and wealthy regional and local economies. Education, economic development and regeneration should not be placed in silos. Links between skills and employment, between education and economic development, between knowledge and wealth creation need to be strengthened if Wales is to have vibrant communities and a prosperous future.
9. During the course of our inquiry we identified many areas of strength and good practice in our HEIs, which will help the sector rise to the challenges of the coming months and years. We readily acknowledge the sizeable return on the investment in higher education. We were informed that for every £1 million invested in 2005-06, higher education contributed £5.3 million to the Welsh economy, which is an appreciable direct multiplier. However, we would agree with the findings of the Lambert review of business-university collaboration, which was published in 2003, on the imperative for partnership between the sector, Government and business:

Universities will have to get better at identifying their areas of competitive strength in research. Government will have to do more to support business-university collaboration. Business will have to learn how to exploit the innovative ideas that are being developed in the university sector.

10. Many HEIs are clearly responding to the demands of delivering excellence in teaching and research and undertaking Third Mission activities to exchange knowledge and benefit the economy. It might therefore be helpful to redefine the role of our universities at this time to ensure that they fulfil their responsibilities to the knowledge economy. In his review *Race to the Top*, published in October 2007, Lord Sainsbury set out the characteristics of universities of the future. He described the 'diversity of excellence' that might be required, 'with research universities focusing on curiosity-driven research, teaching and knowledge transfer, and business-facing universities focusing on the equally important economic mission of professional teaching, user-driven research and problem-solving with local and regional companies.'

## Funding

11. We undertook our inquiry at a time of great concern within the sector regarding levels of funding and investment. We received written analysis suggesting that the funding gap between the HE sector in Wales and that of England had increased substantially to £61 million. One Vice-Chancellor observed:

The Welsh Assembly Government needs to see universities not as a drain on the public purse but as an investment.

12. We place on record our view that the ability of higher education to be able to continue to contribute to a future thriving Welsh economy is threatened by the funding gap between English universities and Welsh universities. Levels of investment in the UK as a whole do not compare favourably with those of not only the USA, but also most competitor nations in Europe. We believe that tertiary education deserves the fullest support possible to help make Wales competitive in a global, knowledge-based economy. The threat of the emerging economies of China and India could undermine employment and economic development when the UK economy is more fragile than at any time in almost two decades.
13. A further aspect of the funding of higher education in Wales is the Research Assessment Exercise, the RAE. The results of the 2008 exercise were made public on 18 December. There were mixed fortunes for the sector in Wales as a whole. We reserve judgement at this stage as to the appropriateness of this elite model of funding for departments and institutions in Wales.
14. It is clear to us that higher education institutions must collaborate to access funding. We were glad to learn from Higher Education Wales final evidence to the Committee in July that the HE sector in Wales has agreed six sector wide ESF projects and were awaiting approval by the Welsh European Funding Office.
15. We believe that because of the scale of higher education in Wales, bearing in mind the continuing small size of some institutions, collaboration rather than competition should be encouraged at every opportunity and that a wide range of measures and support is now required to advance this agenda and underpin the future viability of a number of our institutions. The Aberystwyth-Bangor Research and Enterprise Partnership, for example, has crucially enhanced research capacity enabling the institutions to better compete for funding and improve their international profiles.

## Commercialisation

16. In 2006, an independent review of commercialisation in Wales was conducted: the Gibson review. It reported in September 2007. In the report, commercialisation was defined as 'publicly funded activities by which intellectual property created within the higher education sector can form the foundations for the creation of value.' At the time of our scrutinising the review group in April 2008, the Welsh Assembly Government had not formally responded to the review. This lack of a response from the heart of Government does not inspire us with confidence regarding the priority attached to this vital agenda. Only after our scrutiny session with the relevant Welsh Ministers was a response forthcoming. We do however acknowledge the significance of the joint working between the Department for Economy and Transport and the Department for Children, Education, Lifelong Learning and Skills and look forward to positive outcomes of this collaboration as a counter balance to the England-centric emphasis on the innovation remit of the Department for Innovation, Universities and Skills.
17. Our hearing on the conclusions and recommendations of the independent review panel was probably the most significant of our review. Simon Gibson shared his opinion with the Committee that 'a number of structural flaws remain in the execution of policy'. He believed that many of these emanate from 'a misunderstanding of how good ideas are developed into economic value'. He referred to the perceived tardiness of institutions in involving commercial and financial expertise in the development of ideas. He noted that this stemmed from both a fear of failure and a structural weakness to develop new ideas quickly. If universities' commercialisation activities are to succeed, the right ideas and the right people need to come together at appropriately sponsored and supported interfaces.
18. The Gibson review clearly states that successful commercialisation takes time and requires substantial investment. The group heard evidence that higher education was not properly staffed to deliver this crucial agenda. We concur that brilliant academics must not be turned into mediocre managers, but where such skills do exist they should be fostered, so that handling relationships with business becomes part of the professional development of academics.
19. It is worth stating the obvious that the economy of Wales is characterised by a preponderance of small to medium-sized enterprises (SMEs). Some SMEs told us that they found it difficult to engage with the HE sector. This was partly due to the perceived impenetrable structure and bureaucracy of many of our institutions. Some more specialised SMEs raised concerns with us that due to complex issues associated with confidentiality and ownership of intellectual property, they have to conduct research independently of HEIs.

20. We will seriously consider the need to propose an “R&D” voucher scheme for SMEs, similar to that available in Scotland, to promote engagement.
21. We also consider it important to encourage HEIs to make their facilities and expertise readily available to SMEs. We visited the Technology Facility at the University of York’s Department of Biology. Using a model that could be replicated here, the facility provides access to a wide range of key technologies for the biosciences, available to researchers within the university and to external laboratories and commercial business, including SMEs, who would not have the resources to purchase the equipment themselves. This activity amounted to 25 per cent of the facility’s income. Such a win-win operation deserves serious consideration.
22. The Gibson review uncovered a lack of data to permit a strategic analysis of commercialisation activities in Wales. The Welsh Assembly Government needs to address this. We would question whether it is possible to effectively monitor and evaluate commercialisation activities in the HE sector in Wales without collating robust data on employee involvement and resultant value.
23. In our view there remains a strategic deficit in the effectiveness of publicly funded programmes to create and realise value from research conducted in Welsh universities, which partly results from weaknesses in leadership in the higher education sector, but also stems from the lack of a coherent vision and operational overview on behalf of the Welsh Assembly Government.

### **Knowledge Transfer Partnerships (KTPs)**

24. These are based in HEIs and help to facilitate the transfer of knowledge and technology to benefit the wider economy. We would observe that funding and support for such activity should be both timely and sustainable to underpin effective business-education relationships and to avoid the abortive use of resources. We examined evidence that this was not always the case.
25. The Academic Expertise for Business (A4B) is a new ERDF project which will run for six years and has attracted £70 million investment. According to a Government statement, its aim is to unlock, ‘the massive commercial potential of research and development in Welsh universities’. As part of our commitment to monitor the impact of our final recommendations on the sector, we will follow the outcomes of this funding to enhance KTP activity very closely.

### **Techniums**

26. The Gibson review team, which included Professor Ken Board who devised the Technium concept, expressed their disappointment that

the Techniums had not developed along the lines originally envisaged, which were to align support services in a state of the art facility with the outflow of ideas and intellectual property from universities. Professor Board emphasised that the Techniums were not envisaged as a property initiative, as is now the case in some instances. However, we note that 558 jobs were created in 2007, with an expectation of 1,297 jobs by the end of 2008.

27. York Science Park (Innovation Centre) Ltd, situated on the University's campus is an exemplar of how spinouts can also benefit HEIs and is a workable solution to the problem of how to capture the economic value that universities generate locally. It is the outcome of partnership working between the university, City of York Council, and local businesses. Wales may wish to learn from this approach to sustaining the local and regional economy, although whether local and national government here has the flexibility and capacity to respond to such an exciting and sizeable challenge is questionable.
28. The need to respond positively and quickly to this agenda may well arise, should Bristol, like York, be designated a Science City. Such a development would intensify the need to promote business-university engagement in Wales, especially along the M4 corridor. We were reassured to learn of developing working relationships between Cardiff University and Bristol University and would encourage others to consider their position.

### **Advisory Panels**

29. Another feature of the Gibson review was the recommendation regarding the establishment of advisory panels to ensure that spinouts are *de rigueur* and to intensify the relationships between academics and senior business people who have experience of start ups. This use of the business community to help academics, which frequently involves drawing on the goodwill and expertise of alumni – who in their turn take pride in their links to their *alma mater* and the HE sector generally - is commonplace in the US. We would wish to see this practice developed extensively and more formally throughout HEI networks in Wales. We await evidence of how the pilot advisory panel in the University of Wales, Newport's Institute of Advanced Broadcasting is operating and impacting on the institution and the wider economy.

### **Skills and the Economy**

30. We were under no illusion that this agenda is extremely challenging. Wales has high levels of economic inactivity and low skills levels. We are not best placed to respond flexibly to changing employment patterns, the need for higher level technical and managerial skills, and the pressures on our economy from globalisation. Business told us that there is a mismatch between business needs and the skills portfolios of

those entering employment. Many lack generic 'soft' skills such as oral and written communication, problem solving and teamwork, and there is a shortage of expertise in STEM – science, technology, engineering and mathematics.

31. There is a substantial body of evidence which suggests that graduates with high level skills drive an increase in productivity. We welcome the growing engagement of universities with employers, but note that this is not an either/or agenda – not *either* teaching *or* business activity. Exemplary teaching and research should lead naturally to profitable and beneficial contributions to private sector research and development. A mix of operational expertise and the acquisition of higher level skills are clearly needed to drive the economy.

### **Sector Skills Councils**

32. The engagement of the Sector Skills Councils (SSCs) with our inquiry was fraught with difficulty, underlining our belief that, at the time of our evidence gathering, they lacked the capacity and structure in Wales to fulfil their important role. We note the subsequent appointment of Elaine Moore, the Wales Manager of the Alliance of Sector Skills Councils. The Welsh Assembly Government's *Skills that work for Wales* envisages a key role for the SSCs as a 'strategic interface' between employers and Government and in ensuring that skills and business support is much more demand led. It also expects the SSCs to input labour market information on existing skills and future skills needs.
33. We would observe that the relicensing of SSCs appears to have taken an inordinate amount of time.

### **Continuing Professional Development**

34. Higher Education Wales informed us in written evidence that in 2005-06, over 50,000 learner days of continuing professional development and work based learning were delivered by Welsh universities. This is a laudable example of the sector supplying the direct needs of business. We commend this work and note that spotting commonalities and linking to the needs of hi-tech businesses and SMEs in this way will be crucial to raise skills levels in the economy.

### **The Further Education Sector – Foundation Degrees**

35. We wished to consider the relationship between the HE and FE sectors in light of the conclusions and recommendations of the Webb and Leitch reviews, and the rapidly changing 14-19 agenda as a result of the Welsh Assembly Government's draft Learning and Skills Measure, and *Skills that Work for Wales* transformation agenda.

36. We heard compelling evidence that the HE and FE sectors should work ever closer together to raise skills levels.
37. Foundation degrees provided in collaboration with employers will be pivotal to upskilling the workforce. We note their obvious contribution to vocational learning, diversity and flexibility of provision.

### **Terms and Conditions of Academics**

38. As we have observed, fulfilling HEIs Third Mission fully does not involve turning all academics into business people. However, from our visit to Massachusetts, we note that academics appear to be given far greater freedom and incentives to undertake consultancy work and innovation activities in the US. Many institutions here depend to varying degrees on RAE funding, whereby academics are rewarded for their research alone. Third Mission activity therefore is rarely embedded in corporate planning and performance management – as it is in York, for example – and there is little incentive for academics to participate in knowledge exchange activity.
39. We would advocate greater autonomy for academics and liberalisation of the rules governing their consultancy activities.

### **The Student Population**

40. As one of our Vice-Chancellors recently observed:

Every course that we provide has got to be able to demonstrate that it is helping the economy of the region [which in this case was north-east Wales], but also going beyond the region into the whole of the country. Our focus is the employability of our graduates and the social and economic development of the whole of Wales.

Many of our institutions are already rising to this challenge, but in the following paragraphs we note areas worthy of further and more rigorous action.

### **Access**

41. We are all concerned about people from low-income communities gaining access to higher education, so that they might eventually give something back and help drive their local economies. As we have already observed, the skills and employment agenda is a real challenge for the Welsh Assembly Government, as there is a need for both back-to-work training and in-work training. The challenge of enabling those without recognised qualifications to build upon their life skills to enter employment at a high enough level to achieve a sustainable income level considerably above the average wage must be faced to ensure the future well being of many of our communities.

42. We welcome the HE sector's all-age widening access approach, but believe that more could and should be done to improve participation in higher education development experiences.
43. In America we learnt about the National Foundation for Teaching Enterprise, an international organisation in operation in 13 countries with a mission to provide entrepreneurship education to young people from low income communities. We commend the efforts and initiatives of Merthyr College in this area.

### **Provision of teaching and learning**

44. Flexible provision, we believe, will be key to this agenda, as will a sustainable portfolio of vocational and bespoke courses, which are demand led. There needs to be further growth in part-time learning to meet the needs of employers and the aspirations of those who are already part of the workforce and who wish to improve their skills. We believe that the Open University has a crucial role to play in this regard.

### **Entrepreneurship Education**

45. Bringing together technology and entrepreneurship nurtured by both academics and business can create an entrepreneurship eco-structure. Regional culture can support HEIs as engines of economic growth, and HEIs for their part create employment.
46. When we visited Babson College and the Massachusetts Institute of Technology in Boston we observed the positive results of students being taught from the very beginning of their courses to 'pitch their ideas'. We know that there are many MBAs even in the UK who lack these essential presentation skills, although television programmes such as 'The Apprentice' are having a rapid and palpable influence on the student population. US students are taught the 'PC squared' formula – Preparation; Confidence; Persistence; and Creativity. They are led to consider 'how to' and 'what if', rather than 'this was the case'. It is experiential learning and as a result, on graduation, they have a gamut of soft skills, which we have observed and were informed is frequently lacking in UK graduates. We would advise that student unions may wish to consider their role in developing the student population's skills
47. While we recognise that many institutions in Wales have undertaken far-reaching reviews of their curricula to accommodate enterprise modules – there are some 150 undergraduate or postgraduate courses in Welsh HEIs which include elements of enterprise learning at present – we believe that much more could be done to inculcate an enterprise culture in our students.
48. We also explored the impact of initiatives at school level to encourage innovative and entrepreneurial skills in order to determine whether

education up to the age of 18 might impact on local, regional and national economies. We are firmly of the view that activities which motivate and develop skills and understanding in context should be systematically encouraged.

49. We would wish to see an evaluation of entrepreneurship education and its results at all levels in Wales.

### **GO Wales**

50. We warmly commend this pan-Wales graduate employability initiative and its links with local SMEs. It is clearly mutually beneficial to students and businesses, and where possible, and with appropriate further funding, possibly from Europe, should be expanded further.

### **Conclusion**

51. We have attempted to set out the considerable challenges facing the HE sector if it is to fulfil its potential to underpin economic growth and make substantial social and cultural contributions in post-devolution Wales. Our inquiry has led us to believe that the Welsh Assembly Government should commission more research from HEIs and that there may be a need for a national academy for policy and governance. We would emphasise that in advocating this we are not saying that the sector should neglect the need to develop its international profile on the global stage.
52. In conclusion, we believe that more complex modelling is required to measure adequately the impacts of our universities.