



**Globally Competitive, Locally Engaged  
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**THE ENGAGEMENT OF HIGHER EDUCATIONAL INSTITUTIONS IN REGIONAL  
DEVELOPMENT: AN OVERVIEW OF THE OPPORTUNITIES AND CHALLENGES**

by

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**PART 1: OVERVIEW**

**Introduction**

Across the OECD countries, regions and Higher Education Institutions (HEIs) are discovering each other. More and more partnerships are being established based on a growing appreciation of shared interests. This paper explores the drivers behind such engagement, from both HEI and regional development perspectives, the barriers to effective working and how these barriers are being addressed in practice in a variety of regional and national contexts. The paper concludes with suggestions as to how capacity for joint working between HEIs and regions can be enhanced through generic changes in policy and practice at the institutional, regional and national level.

Why are HEIs and regions across the OECD working more closely?

In the face of declining national public resources for higher education HEIs are seeking: local support for their global aspirations in research and student recruitment; increased student enrolments from the local population; additional income from services provided to local businesses through consultancy and professional training; and last but not least the indirect benefits of a local environment that can attract and retain creative academics and motivated students. At a higher level, regional engagement is an outward and visible sign of the third or public service role of higher education and through which the institution can demonstrate its contribution to civil society. Through such endeavours HEIs are able to provide concrete evidence of the value that higher education and research adds to public investment in it.

For those agencies charged with city and regional development HEIs are: a major businesses generating tax and other revenues; global gateways in terms of marketing and attracting inward investment in the private sector; generators of new businesses and sources of advice to existing businesses; enhancers of local human capital through graduate retention and professional updating of the existing workforce; and providers of content and audience for local cultural programmes. HEIs, particularly in highly centralised states, can also be key local agencies able to bring together within the territory different national interests in science and technology, industrial performance, education and skills, health, social inclusion and culture.

**The OECD Study**

In order to probe these drivers behind regional engagement more deeply and to draw out general lessons from a myriad of local and national initiatives, OECD initiated a major programme of work entitled "Supporting the Contribution of HEIs to Regional Development". The findings and programme are now published under the title Higher Education and Regions: Globally Competitive, Locally Engaged. This paper summarises the key conclusions from this report.

Central to the study was an in-depth comparative review of 14 regions across 12 countries, launched as a response to a wide range of initiatives to mobilise higher education in support of regional development. The review conducted in 2005-2007, had the aim of synthesising this experience into a coherent body of policy and practice that could guide future institutional, regional, national and supranational reforms and relevant policy measures, including investment decisions seeking to enhance the connection of higher education to regional communities. Current practice needed to be analysed and evaluated with sensitivity to various national and regional contexts. At the same time, the review was designed to assist with capacity-building in each country/region by

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providing a structured opportunity for dialogue between higher education institutions and regional stakeholders in order to clarify roles and responsibilities.

The review was primarily qualitative in nature, covering a wide range of topics and requesting supporting documentation. While regional development is often thought of in economic terms only, the template guiding an initial self-evaluation suggested a wider interpretation. It asked higher education institutions to critically evaluate with their regional partners and in the context of national higher education and regional policies how effective they were in contributing to the development of their regions. Thus key aspects of the self evaluation were organised under the following headings

- contribution of research to regional innovation;
- role of teaching and learning in the development of human capital;
- higher education institutions' contribution to social, cultural and environmental development;
- the role of higher education institutions in building regional capacity to act in an increasingly competitive global economy.

### **Participating regions**

The regions (Table 1) ranged from rural to metropolitan and from peripheral to central regions. The higher education institutions included not only research-intensive, but also vocational and professionally oriented institutions. At the national level, the review embraced devolved as well as highly centralised territorial and higher education governance systems.

**Table 1**

Asia-Pacific:	Busan (Korea) and Sunshine-Fraser Coast (Australia)
Europe:	Canary Islands (Spain), Jutland-Funen (Denmark), the Jyväskylä region (Finland), the North East of England, the Öresund Region (Sweden-Denmark), the Mid-Norwegian region Trøndelag, Twente (the Netherlands), Valencia region (Spain) and Värmland (Sweden)
Latin America:	The State of Nuévo León (Mexico) and northern Paraná (Brazil)
North America:	Atlantic Canada

The project sought to have participating regions with a recognisable regional identity (whether as a formally constituted administrative region or in some other way) and some history of working with higher education institutions. This was not applicable in all of the cases. Similarly, it sought to embrace all higher education institutions operating in the region in order to identify the impact of the entire higher education sector and the division of tasks and key partners. Again, this was not applicable in all of the cases.

### **Developmental focus: seeking to empower the regions**

The methodology chosen for the study was influenced not only by other OECD reviews, but also the development-oriented evaluation projects commissioned by the Finnish Higher Education Evaluation Council. The methodology consisted of the following elements:

- a common framework for regional self-evaluation developed by the OECD;
- a Self-Evaluation Report by the regional consortium using OECD guidelines;

- a site visit by international Peer Review Team;
- a Peer Review Report and a response from the region;
- analysis and synthesis by OECD drawing upon regional case studies.

There was also a commissioned review of the literature on higher education and regional development (Arbo and Bennenworth, 2006).

The focus of the study was on collaborative working between higher education institutions and their regional partners. It sought to establish a regional learning and capacity-building process. This made it necessary to engage in participatory learning within and between regions. Thus, the study sought to make an active intervention in the participating regions. As a way to enforce the partnership-building process, the OECD project guidelines requested the participating regions to build up regional steering committees with representation from the key stakeholders in the public, private and not-for-profit sector. The steering committees were charged with the role of driving the review process and partnership building in their regions.

In practice, the regions were at different stages of maturity in capacity building. While for some regions the OECD project was the first opportunity to bring together the higher education institutions and stakeholders to discuss the development of the region, some already had – to a greater or lesser extent – operational mechanisms in place for that purpose. For example, in England the existing higher education regional association in the region, known as Universities for the North East or Unis4NE, took the responsibility for coordinating the exercise. In Busan, Korea, the Regional Innovation System Committee assumed the role of the Regional Steering committee.

The region produced a self-evaluation review, using the project template. Self-evaluations often constituted extensive collaborative research, data assemblage and, at best, in-depth analysis. This process led to new understanding and insights into regional conditions and development issues; and a basis for ongoing dialogue and collaboration which did not previously exist. In many regions the self-evaluation phase was a learning and capacity-building event in itself.

The self-evaluation process was followed by a Peer Review. Peer Review visits were carried out between October 2005 and October 2006. The Peer Review Teams of four each comprised a team coordinator from or on behalf of the project planning team in OECD, with three others: two international experts, one the lead evaluator, and a national expert from the country (but not the region) being reviewed. Based on the week long review visit, the Self-Evaluation Report and other information each Peer Review Team prepared a report analysing the situation and providing policy and practice advice to higher education institutions, and the regional and national governments. A number of regional and national seminars were organised to disseminate the outcomes of the reviews.

The notion of *peers* was central to the methodology and to the process of capacity building. The review sought not to be a judgemental inspection and ranking against other regions; it was peer review in the sense of being developmental, suggesting other approaches and reflecting experiences and approaches tried elsewhere. Despite the guidelines, there was a recurrent tension between academic-led or practitioner-led and between a qualitative, holistic orientation towards the empirical work and its analysis and a quest for more quantitative measures that would satisfy scrutiny in terms of the value added of regional engagement by HELs.

The project displayed a natural evolution – beginning with centralised control towards a network in which communication and knowledge-making flowed in all directions, with the OECD serving as one anchor-point and clearing house. This evolution can be traced through the various dissemination

meetings and the widening circles of participation that characterised the biography of the project. The wider peer learning developed as regions engaged with the work, their teams met with others, and intra- and interregional activities broadened the circle of those involved.

The remaining sections of the paper follows the structure of the full project report. Part 2 considers the drivers behind regional engagement from both the HEI and regional perspective. Part 3 discusses some of the barriers to effective partnership working arising from national policy environments and governance and management structures of both HEIs and regions. Part 4 concludes the paper with a discussion of how capacity for joint working between HEIs and their regions can be enhanced. While the main body of the paper does not set out in any detail the experience of individual regions, the reader is referred to the final report (OECD 2007, Higher Education and Regions – Globally competitive, Locally Engaged) and the regional self evaluation and peer review reports (see [www.oecd.org/edu/higher/regionaldevelopment](http://www.oecd.org/edu/higher/regionaldevelopment)).

## **PART 2: DRIVERS FOR REGIONAL ENGAGEMENT**

### **The Regional development drivers**

In the past territorial development was geared towards redistribution of resources to reduce regional disparities. The outcomes of these interventions have often been disappointing. Scattered subsidies have become too diluted to sustain economic take-off while more selective redistribution has faced obstacles in implementation. More recently, these policies have been overhauled in many countries. The focus has shifted from supporting lagging regions and distressed areas, such that there is now a stronger focus on unlocking the potential for development with emphasis on improved competitiveness and comparative advantages in all regions. In this context, higher education institutions are playing an increasingly important role as providers of knowledge, facilitators of cluster development and key actors in regional innovation systems.

The following discussion adopts a historical perspective to help understand how policy and practice has evolved and how past periods have shaped the current structure of higher education institutions and their engagement with regional policy.

### ***Reducing regional disparities***

Post-World War II regional policy in the OECD countries emphasised the need for intervention by the nation state to reduce disparities between central and peripheral regions. This intervention found justification in economic theories of development based on principles of “circular and cumulative causation” (Myrdal, 1957). These theories refuted neo-classical theories regarding the mobility of factors of production that would lead, in the long run, to regional convergence. Rather it was argued, that without state intervention, the operation of the free market would result in rich central regions getting richer and poor peripheral regions getting poorer (Kaldor, 1970). Public intervention took the form of financial support for established industries in peripheral regions and the attraction of mobile investment in order to absorb surplus labour. There were also measures to equalise living standards between regions, including standards of primary and secondary education.

Significantly, higher education did not enter into the panoply of regional policy interventions. Many higher education institutions in Europe which had developed to serve traditional industries during the later part of the 19<sup>th</sup> and first half of the 20<sup>th</sup> century were incorporated into national

systems of higher education. In this process their local ties were weakened. While there was a diversity of experience and many higher education institutions continued to have a strong regional role, higher education in general was not conceived of as an instrument in post-war redistributive regional policy.

In the United States uneven regional development was not a federal responsibility but individual states did support public universities in serving the needs of their territories building on the land grant tradition established in the 19<sup>th</sup> century. Indeed, state investment in higher education to tackle industrial decline in New England and to attract new Federal investment in areas facing structural adjustment in agriculture in California laid the foundation for subsequent high technology corridors such as Route 128 and Silicon Valley.

In the dominions of the British Commonwealth (Canada and Australia) where a federal structure of government was established, higher education played a key role in the development of the cities which were the gateways to the individual states and laid the foundations for the so-called “sandstone” universities in each of the state capitals of Australia. Regional problems were (and remain) essentially problems of underdeveloped city hinterlands and rural areas. Outside of the so-called “developed world” the priority of nation building around national capitals contributed to rising regional disparities with national universities being one of the magnets for internal migration.

The European post-war consensus around the need for state intervention to reduce core/periphery regional disparities broke down during the 1970s. This was associated with the onset of structural adjustment problems in advanced economies and the rejection of the post-war Keynesian models of economic regulation. These structural adjustment problems had particularly severe impacts on cities, including those in some core regions. The emergence of so-called “rust belts” linked to traditional industries such as coal and steel, heavy engineering and textiles which were now facing competition from newly industrialised countries and the related decline of mobile investment seeking lower cost sites **within** industrialised countries, undermined the basis of redistributive regional policy.

### ***Regional innovation policy***

In response to the crisis, the emphasis in territorial and industrial policy switched towards indigenous development focussed on small and medium-sized enterprises (SMEs) with a particular emphasis on the role of innovation in raising their competitiveness (Rothwell and Zegveld, 1982; Birch, 1987). Traditional regional policy had focussed on attracting branch factories in search of lower labour costs to support production of goods reaching the end of their product life cycle. Indigenous development policy in contrast focused on new products and the introduction of new manufacturing processes into SMEs.

This shift of emphasis opened the way for links into the research base in local higher education institutions. It also coincided in the US with the passing of the Bayh-Dole Act in 1980 which empowered universities to commercialise their own intellectual property. During the 1980s a growing body of academic literature underpinned the case for local or “bottom up” public intervention in the supply side of the local environment supporting (or inhibiting) innovation. Studies of the so-called “third Italy” indicated that networks of traded and untraded interdependencies between SMEs could provide a fertile environment for innovation in traditional industries outside established urban agglomerations (Piore and Sabel, 1984; Brusco 1986). Whereas in Italy these networks did not involve higher education institutions, the experience of Silicon Valley in California and Route 128 in New England assumed totemic significance in relation to the possibility of creating new industrial districts or regenerating older districts through strong links with research-intensive universities.

### ***Learning regions and industrial clusters***

Moving into the 1990s, the range of supply-side factors that regional policy makers deemed to be influencing economic performance widened. Most significantly education and skills and the tacit knowledge gained through work-based learning became embodied in the concept of the “learning region” (Morgan, 1997; Malmberg and Maskell, 1997). This had resonances with the growing appreciation that innovation is not necessarily a linear process and could involve close interaction between producers and users, interactions which are best conducted face to face. Moreover, the role of students and graduates in “knowledge transfer on legs” and establishing the social relations between researchers and the business in which they work became increasingly apparent. (See *e.g.* Audretsch and Feldman, 1996; Kline and Rosenberg, 1986)

During the 1990s these perspectives began to be formally adopted in public policies to foster the development of “industrial clusters” rooted in particular places. The concept of the industrial cluster recognised that innovation is seldom isolated but systemic with the industrial cluster acting as a reduced scale innovation system. Clusters, in this instance, could encompass strategic alliances of higher education institutions, research institutes, knowledge-intensive business services, bridging institutions and customers. Cluster success required and encouraged flows of talented individuals, including students and graduates, and the creation of vibrant and exciting places. Higher education institutions could play a role in the development of clusters through:

- science-based discovery and new business formation;
- direct advice to firms to enhance management capabilities;
- provision of skilled labour;
- consumption of specialist supplies;
- knowledge dissemination to related industries down the supply chain;
- advice on policy and regulation to national and regional agencies.

Within the cluster higher education institutions could assume an entrepreneurial role while firms developed an academic dimension. The emphasis was on a spiral model of interaction where a number of channels feed into the process including research links (the creation of new knowledge), information transfer (selling existing knowledge) and people-based transfer (students and staff) as well as spin-offs. In this model specialised centres and cluster discourse could provide a focus for both higher education institutions and the business community. It could involve embedding engagement in the core business processes of both higher education institutions and industry. (See Porter, 1990, 1998, 2003.)

### ***Territorial development policy now: The demands on higher education***

Throughout the OECD there is a convergence of innovation and territorial development policy. This is placing new demands on higher education institutions as innovation policy becomes more comprehensive. There is increased emphasis on education and training, employability, the quality and skills of the workforce and lifelong learning. People and human resources are being brought into focus. There is recognition that initiatives to foster innovation and competitiveness need to take account of challenges of urban and regional variations in unemployment, poverty and exclusion in a multi-cultural society. There are also aspirations to establish and foster creative and enterprising places where people and companies want to locate. Thus many towns and cities have been inspired by reflections on the new “creative class” and the global competition for talent which has led to

increasing investment on place marketing and the branding of cities as “a nice place to live” (Florida, 2002).

In summary, regional policy which was redefined and narrowed down to technological innovation policy is now in the process of being ever broadened as other fields of policy are given an innovation signature and more agents and levels of government (city, regional, national, international) are drawn into the process of building innovative capabilities. From a rather narrow focus on high technology and manufacturing industry and the private sector, attention has been widened to include social and organisational innovations and business, consumer and public services (Arbo and Benneworth, 2006).

This broadening of regional policy has wide-ranging implications for the expectations placed on higher education institutions by cities and regions. They are now expected to participate in public and private partnerships and contribute to balanced region building. Whereas previously attention was focussed on higher education institutions as a source of high technology innovations and new knowledge-based industries, these are now beginning to be regarded in a broader perspective, encompassing the whole social fabric of which higher education institutions are part. For example, the new emphasis on social innovation, tourism, the creative industries and welfare widens the academic domain from science and technology and medical faculties to the arts, humanities and social sciences.

Higher education institutions stand out as potentially important partners because they link up multiple realms of society and strands of activity. More and more aspects of the academic enterprise are thus being perceived as significant to the regeneration and transformation of cities and regions.

### **The Higher Education drivers**

#### ***The emergence of the Modern University***

The longevity of universities as key institutions in the evolution of civil society is linked to their adaptability to changing circumstances, whilst maintaining key elements of continuity (such as the global connections which characterised the medieval foundations). The emergence of the Humboldtian university in 19<sup>th</sup> century Prussia was linked to the professionalisation of science, the requirements for specialised infrastructure to support it **and** to underpin “at a distance” the development of the state. (Witrock, 1993; McClelland, 1998)

The principle of “at a distance” is important because in many respects the research university that evolved in Europe during the 19<sup>th</sup> century can be described as a “denial of place” (Bender, 1998). This is because the ideal of scientific enquiry embodied in the modern university is to strive for universalism. Scientific claims to truth were deemed to be irrespective of time and place and the university had to have a mission that transcended its actual location. Indeed the notion of the university as a detached site for critical enquiry, exchange of ideas and advancement of knowledge for its own sake has been of vital importance to the creditability and legitimacy of the institution.

The nationalisation of science and education during the 20<sup>th</sup> century further enhanced the detachment of universities from places (see Crawford *et al*, 1993). Because of their importance to nation building, universities were no longer expected to rely on the patronage of churches, town councils and local elites. They now received their core funding from national governments and in return trained the cadres for the civil service and national corporations and the professions such as law, medicine, engineering and architecture. They were to contribute to new national identities and the cultural spirit which underpinned the nation-building process. All of this was based on a compact

whereby the university rendered services to the state in return for a degree of institutional autonomy in terms of internal governance. (Crawford *et al*, 1993; Clark, 1998).

Part of the American higher education system, however, developed in a different direction. Land Grant universities, which in the first instance promoted agricultural development, were regionally embedded “people’s universities” based upon widening access to education and service to the community.<sup>1</sup>

### **Mass higher education**

The second part of the 20<sup>th</sup> century witnessed a massive expansion of public investment both in research and development and higher education. This has had a profound impact on the universities that emerged in the previous century and their engagement with regions. The expansion of higher education typically took place outside the established universities which were regarded as too inflexible to meet the demands for new skills emerging in the workplace and from communities where they were not present. Thus we now speak of higher education institutions not just universities. The higher education map of most countries has been coloured in incrementally with a diverse set of institutions. Many of the new institutions have been built on previous foundations, typically with limited tradition of research (such as teaching and nurse education colleges). And many of them have a specifically regional mission.

In some countries this geographical dispersal of higher education has formed part of a conscious policy seeking to preserve the spatial distribution of the population and to achieve balanced regional development by addressing regional disparities. It has included also the objective to improve regional access to higher education. This has translated into policies to establish higher education institutions in various regions, *e.g.* in Norway, Sweden, Finland, Japan and Mexico. This objective has also led to the emergence of non-public education institutions in Poland since 1990s (OECD, 2008, forthcoming). However, in many countries dispersal of higher education has followed a simple logic of higher education expansion modified by political lobbying. This is not just a top-down phenomenon. Towns and cities have lobbied for “their” university.

The consequence is that many OECD countries have a highly diversified system of higher education with complex mixes of universities, polytechnics, regional colleges and vocational training institutions. The regional role has sometimes served to differentiate among the various types of institutions. In Finland and Portugal, for example, universities are considered to have a stronger national and international role while polytechnics are assumed to focus on their regional role (OECD, 2008, forthcoming). In Switzerland, Universities of Applied Sciences have been assigned a regional role.

The distribution of institutions is not necessarily structured to meet the challenge of balanced regional development in a highly competitive global economy. So while disadvantaged regions may possess locally orientated higher education institutions such as polytechnics in Finland, community colleges in Canada or universities for applied sciences in the Netherlands, these are often more geared towards upgrading the existing industry and less equipped to build a new knowledge-based economy.

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<sup>1</sup> The granting of land to establish a Land Grant university in every state was achieved through Morrill (Land Grant) Act 1862.

### **Science, technology and research**

The expansion of public investment in research in science and technology inside and outside of higher education institutions has likewise had an impact on the issue of regional engagement. This expansion has largely been driven by ministries of science and technology and in many cases has taken place in public research laboratories outside higher education, characteristically in the hinterlands of capital cities. At the same time higher education institutions were able to compete for research funding from research councils operating at arms length from government. In these councils the academic community had a major influence via peer review in a way that preserved the autonomy of their institutions and their distance from the state. This peer review process has often reinforced the position of the longest established institutions, typically in core cities, thereby reinforcing regional disparities.

### **From science to innovation policy**

During the 1990s this model for the organisation of public research began to break down as governments began to demand a more immediate economic return for investment in the science base. A key challenge has been to remove barriers and bottlenecks between scientific research and industrial innovation. The institutional division of labour which implied that research was carried out in isolation from the context of application was perceived as a problem when science policy was morphing into innovation policy. In this process HEIs as institutions, as well as the individual academics who work within them, have been expected to become more active players in the so-called “triple helix” of government, business and higher education institution relations (Etzkowitz and Leydesdorff, 1997).

Industrial policy and science and technology policy have thus been converging towards a common innovation policy which in some countries explicitly or implicitly embodies a strong territorial dimension. Research-intensive universities have been surrounded by science parks and a host of special purpose organisations established to support close co-operation with industry. In some instances these have served to buffer the institution from external pressures and instead of facilitating links these have operated as filters or merely served as display windows towards the universities’ political environment. But increasingly universities are expected to take the lead and to rearrange the structures so that entrepreneurship and technology transfer activities form part of the academic heartland of research and teaching. Higher education institutions are now expected to contribute to economic development in four ways:

- creating new sectors and the spinning out businesses on the back of research;
- attracting to and retaining global businesses in the region through the availability of quality research links and the supply of well trained graduates;
- assisting with the diversification of established businesses in their production of new products and services;
- upgrading existing mature industry through assistance with incremental product/service and the improvement in industrial/business processes (Goldstein and Luger, 1993; Lester, 2005).

These changes in higher education are not proceeding without a struggle between different traditions and rationales regarding the purposes of higher education or at an equal pace in all types of institutions. Collaboration with industry still mainly takes place with individual academics while most research intensive universities are concerned with scientific eminence and the related academic prestige that this brings.

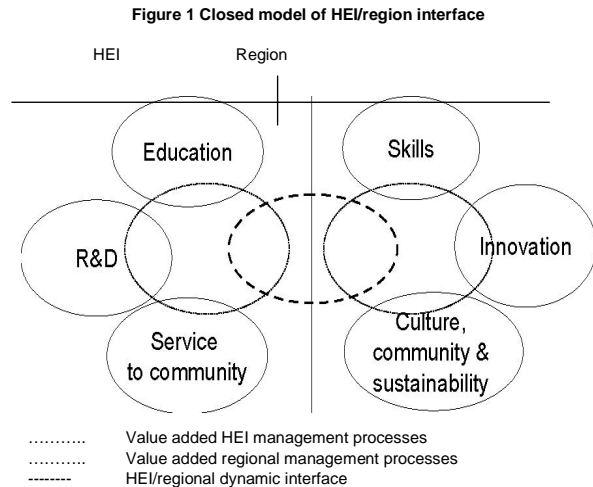
**Moving beyond a science-driven model**

The science-driven model overlooks many features of regional development to which higher education institutions directly and indirectly contribute. It neglects the contribution of broad-based teaching and learning to the enhancement of regional human capital. Private and public services provide most regional jobs. The majority of graduates take up employment in financial, legal and other professional services or businesses. Some of such regionally based businesses will be trading nationally and internationally and use the skills of graduates to develop new “products”, some of which will also be provided to regional high-technology-based businesses. These businesses also require non-scientific graduates, for example with a business school background to assist in activities such as marketing. Another important non-manufacturing sector recruiting graduates is the cultural industries and tourism which can serve to attract and retain creative people within the region, including those working in high technology businesses and higher education institutions themselves. And higher education institutions are creators of, and venues for, cultural and social activity.

Higher education institutions can make a considerable contribution to public services, particularly health and education, not least as regions with wide internal social disparities are less likely to be attractive to leading-edge investors in the global knowledge economy. Finally, as environmental sustainability moves up the political agenda it is becoming increasingly apparent that higher education institutions could have a key role to play through research, teaching in public education in building sustainable communities. All of these latter roles highlight the public service responsibility of higher education institutions as distinct from the more private focus of the science driven model.

**Synthesis: higher education institutions tying down the global in the local**

Building on this analysis of drivers towards engagement, the conceptual framework underpinning the OECD study initially adopted a closed model of the interface between a region and a higher education institution (Figure 1).

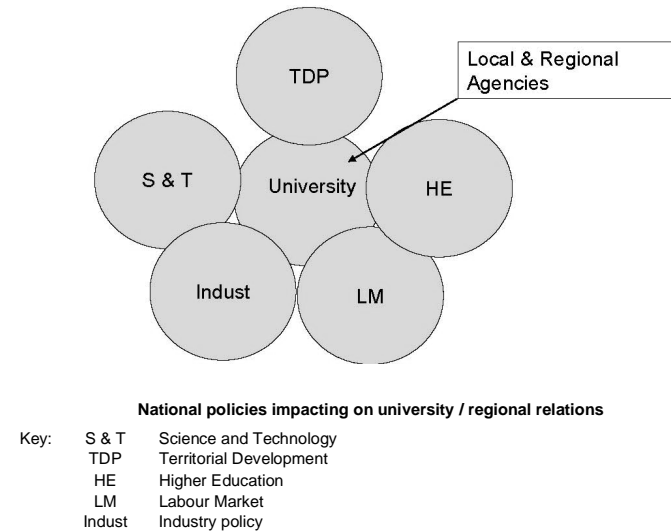


Source: adapted from Goddard and Chatterton, 2003

The left hand side of the diagram refers to the three conventionally identified roles of higher education institutions (teaching, research and service to the community). The right hand side summarises the three key dimensions to regional development, namely innovation, skills and cultural and community cohesion including environmental sustainability. Just as successful regional development requires drawing together these strands so the higher education institutions’ effective engagement with the region involves bringing together teaching, research and service in a coherent manner and establishing effective mechanisms for bridging the boundary between the higher education institution and the region.

If the lens is widened to the national level, it becomes apparent that many of the drivers from within higher education arise from different priorities from within national governments. In many countries ministries of education remain as custodians of the traditional logic of higher education while ministries of science and technology espouse the logic of knowledge exploitation for business benefit and labour market ministries focus on the role of higher education in skills enhancement. Additional national drivers come from health and cultural ministries and those parts of central government with oversight of local government and territorial development (Figure 2).

**Figure 2 National policies impacting on HEI/region relations**



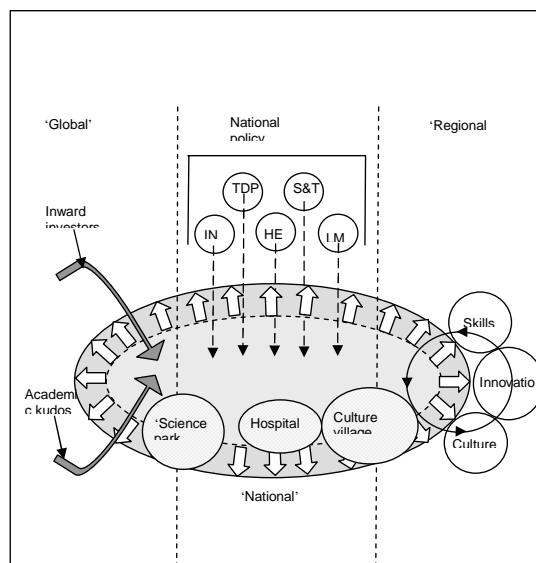
Source: Goddard, 2005

A final influence on relationships between a higher education institution and its region is the presence of global competition. The forces of globalisation and information and communications technologies are contributing to “the death of distance”. In principle, any place with an internet connection can participate in a knowledge-based global economy (Friedman, 2005). However, innovation continues to cluster in specific regions and the tendency for innovations to coalesce is

becoming more pronounced (Florida, 2005; Asheim and Gertler, 2005). Increasingly, higher education institutions need to market their education and research services across the globe and provide the supporting infrastructure that will attract and retain the best researchers, teachers and academic leaders. At the same time, regions also need to attract knowledge-based inward investment, support local companies seeking to operate on the global stage and retain within, and attract to the community, the most creative people.

Just as higher education can serve the region better when at least parts of HEIs are globally engaged, so also do these institutions need open regions which welcome outsiders. The rapidly increasing investment in China, India and elsewhere in terms of higher education, scientific infrastructure, skills and systems which aim to translate science into business advantage pose pressing challenges and opportunities both to higher education institutions and regions across the OECD. These opportunities and challenges reinforce the need for regions to build strong partnerships with higher education institutions.

Figure 3 A regionally engaged multi-model and multi-scalar HEI



Source: Arbo and Benneworth, 2006

Drawing this analysis together figure 3 describes a regionally engaged multi-modal and multi-scalar higher education institution. It summarises the regional, national and global dimensions to external engagement by higher education institutions. It also highlights the spillover effects

(represented by open arrows) from the presence of a higher education institution in a region and the importance of physical places where interaction takes place, such as a science park, university hospital or cultural quarter. It is a complex diagram because the drivers for regional engagement are heralding in the emergence of higher education institutions undertaking a wide range of functions (modes) and acting on a large number of stages (scales) – regional, national and international and engaging with a vast array of stakeholders. The diagram would be further complicated if account were taken of the presence of a range of institutions in a region, often by historical accident, which creates a further challenge of determining the appropriate division of labour between them.

Figure 3 is a stylised picture and implies no barriers to the effective operation of a higher education and regional development system. In practice there are many obstacles that need to be overcome. These will be considered in the next section of the paper.

### PART 3: BARRIERS TO ENGAGEMENT

#### National Policies

##### Higher education policy

In most OECD countries higher education policy does not include an explicit regional dimension. Ministries of Education characteristically act as champions of the role of higher education and research in meeting national aspirations in terms of scientific excellence and advanced education of high quality for its own sake. One of the most notable exceptions is Korea where the New University for Regional Innovation (NURI) project has been funded by the central government to strengthen the capability of higher education institutions outside Seoul metropolitan area.

The seemingly more mundane task of applied research and development and meeting skill needs in the local labour market may be left to lower tiers in the education system such as tertiary/community colleges. In some countries the boundaries between the levels of higher education have become blurred. Examples include the designation in 1992 of polytechnics in the United Kingdom as universities, the designation of selected colleges in the Netherlands as universities of professional education (now universities of applied sciences) and the current pressure in Finland to re-label polytechnics as “universities of applied science”.

Characteristically the newer institutions do not have a well established tradition in research or the infrastructure to support it and have to work hard with limited resources to build a national let alone an international profile traditionally associated with university status.

An important point to note in relation to regional engagement is that longer established higher education institutions have developed and grown in locations that broadly follow the national settlement hierarchy. These locations are quintessentially larger cities with the most prestigious institutions sited in or around the capital city.<sup>2</sup> In contrast the newer institutions, often with a specific remit to serve particular territories, tend to be more geographically dispersed.

<sup>2</sup> In this respect the United Kingdom with Oxford and Cambridge and the United States with Harvard and MIT are exceptions.

These are gross generalisations about very fluid national systems of higher education and many OECD countries have a complex mix of “elite” research intensive universities, teaching based institutions and universities or polytechnics focusing on particular disciplines, *e.g.* in science and technology. As noted earlier, there has been continuous political pressure in most OECD countries to fill in the map of higher education by the creation of new higher education institutions in areas not previously “served” locally by higher education.<sup>3</sup> However, these policies have generally been pursued in parallel with concentration of research resources in elite institutions in the main cities. While growing the system remains high on the agenda in countries like Mexico and Brazil, in many developed countries the tide has turned due to demographic changes and/or pursuit of critical mass: there are now pressures to reduce the number of higher education institutions through mergers and other types of enhanced co-operation between institutions (for example Denmark, Finland and Korea).

To what extent has the process of rolling out of higher education across national territories been part of conscious national policies to use higher education as an instrument in regional development? The answer depends on the definition of development and the extent to which this has been a task laid upon higher education institutions by their funders in central government. It is widely accepted that the challenge of raising competitiveness via research led innovation is now at the heart of regional policy. However, it is clear that supporting excellent research in all regions has not been an objective of higher education policy. Even when engagement with business and the community has been recognised and laid upon higher education institutions as a “duty” as in all the Nordic countries, it has been very much a “third task”, not explicitly linked to the core functions of research and teaching. Nor, in most instances, is this task specifically funded or linked to regional development.

#### *Science and technology policy*

There are growing pressures within national research policies to link public investment in this area to maximise its economic impact. Consequently, there is an increasing convergence between research policy and other policies designed to support business innovation.

Of the countries participating in the current OECD study, Finland probably has the most sophisticated national innovation policy composed of three pillars of business, universities and government. Even so, the Finnish national innovation system, overseen by the Ministries of Industry and Education, does not have a regional dimension. It has been left to the Ministry of the Interior with infinitely smaller resources to intervene in this domain. It has done this through the establishment of a regional network of Centres of Expertise characteristically linked to science parks and universities and polytechnics in different parts of the country (OECD, 2005a).

Notwithstanding the growing recognition of the importance of organisational and social barriers to innovation most top-down science and innovation policies continue to have a high-technology and manufacturing industry focus and neglect the contribution of the arts, humanities and social sciences to new ways of working and servicing the creative industries. Recent decades have witnessed the birth of the centres of expertise which have sprung up throughout the world with the focus on some

<sup>3</sup>Examples include: (a) the establishment of new universities in northern and western Finland during the 1950s-1970s and the establishment of Finnish polytechnics in the 1990s which doubled the higher education sector; (b) a network of upgraded colleges to university status in Sweden; (c) the current plans for new universities in the largely rural areas of England, like Cumbria, Cornwall and Suffolk, and the recent establishment of the University of Lincoln. In Australia new institutions have recently been designed in areas of high residential amenity witnessing rapid population growth through inwards migration such as the University of the Sunshine Coast in Queensland.

fashionable high-technology fields such as biotechnology, nanotechnology and ICT. It is, however, becoming apparent that much innovation is neither science-based nor radical, but incremental in nature and taking place in SMEs.

National innovation policy driven by ministries of science and technology also does not as a rule pay regard to the role of teaching and learning in knowledge transfer “on legs” from the research base. Work-based learning schemes which usually involve regional links between employers and higher education institutions are designed to enhance graduate employability and not as specific tools to improve regional business competitiveness. A notable exception in this regard is the UK’s Knowledge Transfer Partnership scheme under which postgraduates undertake projects in companies which are usually local. However this is not explicitly a regional scheme.

#### *Labour market policies*

Most OECD countries have active national labour market policies led by the ministries of labour or their equivalent. The focus of these policies is chiefly on intermediate and lower level skills and the unemployed, not those associated with higher education. At this level it is assumed that the market (*i.e.* demands from students and employers) will work effectively without intervention. National employer-led associations for particular professions (*e.g.* lawyers, architects, civil engineers) often play a key role in regulating supply and maintaining quality. Only in areas where the state remains a major provider of public services, most notably health, does the government undertake a planning role. While the market for intermediate and lower level skills may be **local** and therefore require a strong spatial dimension, it is assumed that the market for high level skills is national and international. There is therefore not a case for intervention at the intermediate or **regional** level.

For these reasons there appears to be little engagement by research-intensive universities in the development of human capital at the regional level, particularly as it relates to the skills required by knowledge-intensive businesses growing on the back of links with the research base. In contrast, newer and vocationally oriented institutions are usually committed to upgrading skills in the established industrial base.

#### *Health policy*

Outside of the core areas of higher education, innovation and labour market policy, a number of other domains of government bear on the capacity and responsibility of higher education institutions to engage in regional development. It has already been noted how the provenance of regional innovation policy has been widening to embrace a range of contingent factors relating to the health and well being of local populations, cultural vitality and environmental sustainability. Each of these areas is characteristically the responsibility of separate departments of national government; these departments have a varying commitment to a regional dimension to their policies and to engagement with higher education regionally as well as nationally.

The area where higher education has been most directly interwoven with national policy and where there is a strong regional dimension is in health. University hospitals linked to medical schools play a key role in health research and development and contribute to the training of doctors and nurses as well as the health of the local population. Indeed, university medical schools and hospitals best epitomise all the facets of the multi-scalar and multi-modal higher education institution outlined in Figure 3. As the scientific base underpinning medicine advances and new technologies based on these advances are developed in the private sector major consequences for the organisation and delivery of health care can arise. As the relationship between government, higher education institutions and the private sector in the health domain has developed over the last fifty years, a strong territorial



dimension has emerged. It is therefore not surprising that university medical schools and hospitals now find themselves at the heart of the higher education/regional engagement agenda. Significantly this agenda does not only embrace the promotion of biotechnology and business but also business process re-engineering necessary to embed new technologies in health service delivery. Medical Science is also an area where the region can quite literally be the “laboratory”.

Notwithstanding its success story, health policy is seldom viewed as part of the higher education/regional development nexus. This is particularly worrying in the light of policy changes in the health domain being introduced by OECD countries in response to the need to control the spiralling demands on the public purse arising from technological advance and an ageing population. For example, the consequences of replacing untraded dependencies between medical schools and university hospitals – a model which is prevalent in much of Europe – by market mechanisms could undermine the symbiotic relationship which underpins many successful regional partnerships. (See *e.g.* Smith and Whitchurch, 2002).

### **Cultural policy**

The cultural domain is another area where the role of higher education institutions in contributing to city and regional development is not widely acknowledged in national policy. Higher education institutions are often owners or custodians of cultural assets displayed in their own museums and galleries. Their music, arts and drama departments directly and indirectly contribute to the vibrancy of their cities through performance and related activities. In some counties support for the arts and heritage does have a regional dimension which embraces higher education, but this is an exception rather than a general rule. Increasingly higher education institutions are finding it difficult to support such activities out of their core teaching and research budgets and are seeking support from regional sources to maintain expensive facilities and activities (OECD, 2001b). At the same time, the fast growth of the creative industries is shifting the focus to new enterprise formation by graduates of creative arts, design and media.

### **Environmental policy**

The last area where national policy has impacts on regional engagement by higher education institutions is the area of environmental sustainability. Unlike medicine and the arts, policy in this area is very new. Yet there is a realisation that the research base of higher education, especially when linked to the region as a laboratory, can play an important role in the development of energy technologies and their implementation. Through their education programmes and alumni higher education institutions can also play a key role in opinion forming on sustainability issues.

As a major land user and trip generator in their local communities, higher education institutions can contribute to more sustainable ways of working. However, there is only limited evidence that this regional contribution is widely understood in national ministries responsible for sustainability policy and practice or within the higher education institutions themselves.

### **Funding Barriers**

All of the areas of national policy that have been reviewed and that encompass higher education, *i.e.* science and technology, labour markets, health, culture and the environment have public funding streams associated with them. How can these resources be mobilised to support regional engagement by higher education institutions?

### **Research funding**

In the case of support for research in higher education institutions, funding regimes are often geographically neutral or work against goals of balanced regional development. In unitary countries with a centralised higher education system the capital city and some big metropolitan areas generally have the largest universities and a considerable share of HEI research. Many countries are concentrating their research capacity to create world-class centres of excellence. For example in the United Kingdom the system for determining research funding on the basis of peer review of academic research output results in over one-third of the resources for research in higher education institutions being allocated to four institutions in London and the South East of England. Indeed, the UK government’s research policy to fund the best wherever it occurs, contributes to the ambition of maintaining a leading position in the global league table of universities – geographical concentration is simply an incidental consequence of this policy. While this concentration of funds applies to many unitary countries in Europe, there are also exceptions. In countries like Sweden and the Netherlands a more balanced distribution of university research funding has been reached. In Spain, decentralisation has widened the distribution of resources but the dominance of Madrid remains.

Allocation systems for research that favour central regions may impose a particular limitation on less advanced regions. In many countries smaller/newer higher education institutions in less developed regions simply lack the infrastructure to contribute to the development of a new economic base or renew old and declining ones. In peripheral regions while higher education institutions are well placed to shape the regional agenda in the absence of other research institutions (public laboratories, business with strong R&D departments), the low absorption capacity of local and regional firms further limits the development of research for local needs.

The nature of project funding also places constraints on greater engagement. In Finland where external funding of universities witnessed a rapid growth in the 1990s, the bodies providing funds – ministries, communities, private business, foundations and international organisations such as the European Union – only finance direct project costs *i.e.* marginal cost. When core funding is linked to teaching via graduate output numbers there is not enough leeway to invest in translational research facilities and knowledge transfer supporting regional and national innovation systems. In some instances, this gap has been partially filled by municipalities and city councils (OECD, 2005a).

There are a number of consequences that flow from the above considerations. First, there is a simple direct impact on the local economy of large research-intensive universities competing successfully on the global stage for research contracts, well-paid staff and well-qualified students regardless of the extent of its dynamic engagement with local businesses and the community. Second, if the role of science-driven innovation in economic development particularly through the creation and attraction of new businesses is accepted, then those regions which lack a research intensive university would be at a disadvantage. Smaller higher education institutions without a substantial research capacity will not be able to develop a new economic base for their regions. Nevertheless, science-driven innovation is not the only route to economic development. Alternative endogenous development models based on the upgrading of the existing core competencies may be more appropriate for smaller regions and their higher education institutions.

### **Funding for teaching**

Public funding for teaching in most countries relates to agreed numbers of students or graduates, usually in specified discipline areas linked to student demand and/or national need (*e.g.* IT and

Medicine). Limited regard is paid to where graduates are finally employed geographically.<sup>4</sup> In terms of student recruitment, federal funding is available for example in the United States to recruit able students from disadvantaged backgrounds. In the United Kingdom, there is national encouragement for recruitment of students from disadvantaged backgrounds which may have an implicit local dimension to it (AimHigher<sup>5</sup>). This is, however, an incidental consequence of aspirations to raise participation in higher education in recognition of the fact that students from disadvantaged backgrounds often need greater academic support, since the school system has not prepared them as well as others. Australia has recently added a regional dimension to student recruitment policies. Allocations to institutions under the Australian Higher Education Equity Support Program (ESP, launched in 2005) are driven by enrolments, retention and success of students from low socio-economic status, with a weighting to the students from rural and isolated backgrounds. In general, however, there is limited evidence that recruitment incentives targeted at disadvantaged groups form part of national support for **regional** human capital development strategies which enable local students to progress into higher education and then into local employment. In some countries barriers to progression between further and higher education arise from the lack of transferability of pre-entry qualifications and different funding and regulatory regimes under which the two levels operate.

#### ***Funding for the third task***

The third task is characteristically not directly funded by national governments and funds for regional engagement remain underdeveloped. Some have embarked on large regional projects associating a wide spectrum of stakeholders to lay the foundations of regional innovation systems such as the NURI project in Korea or the Regional Growth Programme VINNVÅXT in Sweden. However, in most cases, they have developed temporary incentives under the form of grants, call for projects or joint programmes to facilitate collaborative research at regional level but seldom through sustained funding streams.

In England, the Higher Education Innovation Fund (HEIF) and its predecessor, Higher Education Reachout to Business and the Community (HEROBAC)<sup>6</sup> which is supported by the Higher Education Funding Council in England (HEFCE) finances a number of business-friendly schemes for universities but it does not provide more than a few percentage points of the total resources of higher education institutions. HEIF is not explicitly a regional fund even though many of the initiatives supported under it are regional in character. Like funding for teaching, HEIF now has a formulaic component based on past performance. This inevitably rewards the already successful institutions and there is no attempt to weight the fund according to regional needs. In other words higher education institutions facing more adverse innovative environments receive no more than institutions in more dynamic regions.

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<sup>4</sup> Countries which have implemented performance-based allocation mechanisms use a wide range of indicators. Indicators associated with study completion include student graduation/completion rates, number of credits accumulated by students, average study duration, ration of graduates to beginners, or number of degrees awarded. Other indicators focus on the labour market outcomes of students: employment rates of graduates, extent to which employment is in a field related to the area of studies or student performance in professional examinations. Some countries use stakeholders' views (e.g. employers, students, government, social partners) of programmes; effectiveness, including assessments of the quality of graduates and about the extent to which a range of needs are being met and a degree of student satisfaction.

<sup>5</sup> Aimhigher is a national programme in England which aims to enhance the widening participation in higher education. It is run by the Higher Education Funding Council for England (HEFCE) with support from the Department for Education and Skills.

<sup>6</sup> The recent change of name indicates a shift from a broader to narrower definition of the third task.

Because national higher education and innovation policies have generally not provided the necessary resources to underpin regional engagement by higher education institutions it is hardly surprising that higher education institutions in parts of the European Union have seized the opportunity provided by European Structural Funds to initiate a host of projects to support their contribution to regional development. The Self-Evaluation Reports document numerous EU-funded projects to support knowledge transfer and skills development in less favoured regions. However, few of these projects have been embedded into mainstream research and teaching programmes, and are in danger of foundering as these funds wind down.<sup>7</sup>

Mainstreaming funding for third strand activities is not without its problems. While the output from investment in research can be measured in terms of publications and from teaching in terms of numbers of students graduating, the appropriate metrics in the regional domain are far from clear. Many countries, for example the Netherlands, Australia and the Nordic countries are in the process of identifying adequate indicators to underpin funding allocation. This is proving a challenging task.<sup>8</sup>

A problem with most indicators is that they are essentially retrospective rewarding past performance rather than development work that may lead to future income or services in the public interest and where the outputs are not necessarily reflected in the bottom line of university accounts. Indeed, the benefits of the regional public service role of higher education institutions are likely to accrue in the performance indicators of explicitly regional public agencies such as local authorities, where they take the form of measures such as job generation. This is not a benchmark against which higher education institutions would expect to be judged.

#### **Regional structures and governance**

##### ***Higher Education and Territory***

Although many regions across the OECD are looking to HEIs to contribute to their economic, social, cultural and environmental development, the capacity of the regions to "reach into" higher education is often constrained by a wide range of factors. At the most general level, the public governance of territory operates within closed boundaries. Local and regional governments are responsible for administratively defined areas and these are usually linked to unambiguous political mandates. By contrast research intensive universities cannot have a mandatory geographical sphere of influence; indeed such institutions operate at the local, regional, national and international scales. Some lower tier HEIs do have a specific regional mandate but it is increasingly less likely to be enforced by national, regional and local governments as the institutions compete for students and contracts wherever these can be obtained. So the delimitation of its "region" is a challenge for many HEIs.

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<sup>7</sup> Exceptions in the current OECD review include some of the masters' degree programmes which have been established with the help of the European funding and have now been mainstreamed in the higher education institutions. This is the case e.g. in the Faculty of Information Sciences of the University of Jyväskylä in Central Finland which launched a number of master's programmes in the 1990s to combat the recession and to build up the knowledge-based economy.

<sup>8</sup> In England, HEFCE has established a Higher Education and Business and Community Interaction Survey (HEBCIS) covering a large number of indicators but in the end the Council decided to use gross institutional income measures to determine allocations under its HEIF scheme.

### **Local Government**

Local government in many OECD countries is highly fragmented with individual municipalities having limited powers and resources to engage in economic development generally, let alone with higher education. In some countries municipalities pool resources across several units and/or establish joint development agencies who have a capacity to work with the HEIs in the combined area. At the next level of aggregation (or disaggregation of the national governance system) some countries have politically powerful regional authorities with a specific mandate to support higher education in their region. This is the case in the Spanish autonomous regions like Valencia and the Provinces of Canada. In highly centralised countries like the UK the national government has devolved some powers to the countries of Scotland and Wales including some aspects of higher education. Within England special Development Agencies in each of the 10 regions have been established by the central government. These agencies have some autonomy and are increasingly seeking to mobilise HEIs in support of economic development even though higher education remains a central function. In many countries local government is extremely fragmented and has limited powers to engage in economic development let alone to support HE. However rolling programmes of reform are underway, notably in the Nordic countries with individual municipalities coming together to support special purpose economic development organisations from the bottom up which are beginning to work with local HEIs.

In attempting to engage with some level of government between the national and local and even when there is a specific regional administrative structure in place, HEIs often face challenges of intra-regional competition for their attention. Relating to the specific municipality in which they are located is one thing – serving a multitude of locations across the broader region with several centres of population is another. Multi-campus solutions raise questions of dilution of resource and partnerships between several HEIs across a region can be very demanding of senior management time and energy.

### **The Private Sector**

The third stakeholder with an interest in mobilising HE in support of regional development is the private sector. Identifying who speaks for the private sector in relation to what HE has to offer can be challenging, especially in regions without a strong private sector R&D base. In strong and dynamic regions there are often well developed private sector networks that are plugged into higher education and articulated through Chambers of Commerce. But in weaker regions the SME sector is often inchoate and there are not well developed industrial clusters. In such regions branches of national and international companies can lack the autonomy to engage with HE for the development of new products and services and to provide placements for students and jobs for graduates.

In summary the environment for HE to engage in regional development across OECD countries is highly variable. Where the governance and industrial structure is poorly developed and where there is not strong regional leadership it is often necessary for HEIs to not simply respond to regional needs but to set the development agenda. Whether the HEIs are able to do this depends on their own governance, leadership and management.

### **Governance, leadership and management of HEIs**

#### ***Transversal, cross-cutting mechanisms***

Regional engagement is a challenge for higher education institutions, particularly for longer established institutions organised around academic disciplines and along a supply-driven agenda. The

framework set out earlier in the paper highlights the transversal mechanisms for managing teaching and research and their integration with one another. Most higher education institutions recognise the importance of teaching quality and research excellence and link these qualities to the cross-cutting roles of vice rectors (as distinct from the disciplinary roles of deans and heads of department). However, the integration of teaching and research within the disciplines to deliver regional impact is seldom recognised.

Third task activities may be the responsibility of a member of the senior management team but quite often this is passed on to parts of the central administration, *e.g.* to those responsible for legal aspects of technology transfer. Support for knowledge transfer via teaching and learning will reside somewhere else in the administration. In both domains specialised intermediate units such as science parks or centres of continuing education with their own staff can play a pivotal role – either bridging between the region and the academic heartland or keeping the messy world of business and the community at bay. Which of these alternative modes of operation is adopted depends very much on leadership from the top of the institution.

#### ***Higher education institutions in regional decision making: the role of academic leaders***

The all embracing nature of regional engagement implies that this is a task for the head of the higher education institution. He/she can integrate the function and disciplinary areas and represent the corporate view of the institution externally. In many cities and regions rectors and vice chancellors are key members of local elites, participating in many forums. At the same time, individual academics or other staff members may be active as business or social entrepreneurs in projects supported by the city and region. But in many instances there is little connection between the high level engagement of the senior management and the actions of individual academics. Indeed, the customs and practices of the institution may act as a barrier to more systematic engagement across the institution.

#### ***Institutional barriers within higher education institutions***

There are numerous institutional barriers. First and foremost is the lack of incentives to individuals. Few institutions recognise regional engagement as one of the grounds for academic promotion; this is characteristically based around research excellence as reflected in peer reviewed publications with an occasional nod towards innovative teaching or academic management.

Second, resources to support the development of ideas (proof of concept) into products, services or public policies are often not available let alone translational research facilities to build prototypes or test drugs. Third, intellectual property can also be a major source of conflict between the academic and his/her institution even where the national legislative environment is favourable.

Fourth, continuing professional development for small businesses and the community does not easily fit into conventional full time teaching programmes and can require evening and weekend teaching, eating into time for research and scholarship. Finally, problem-solving R&D for local SMEs (who may have difficulty in formulating their needs) can be very time consuming and diversionary from what are regarded as core activities.

#### ***Governance and management***

How far are these barriers to institutional mobilisation, in support of regional development, a function of traditional forms of institutional governance and how far are they a matter of the underfunding of the third task? The evidence from the OECD countries suggests that it is a combination of both factors.

Enhancing the development of more entrepreneurial universities is becoming an objective of new higher education policies in many countries (Clark, 1998).<sup>9</sup> Some OECD member states, for example the Netherlands, Austria, the United Kingdom and Denmark, which have embraced New Public Management principles, have replaced collegial forms of governance and management (*i.e.* elected rectors, deans and heads of departments) by a system of stronger and more overt managerial roles by appointed vice chancellors or rectors and heads of faculties. However while it is recognised that more leeway need to be granted to higher education managers, reducing the burden of regulation does not necessarily proceed at a fast pace. Governments which have legislated to reform institutional governance and management are often not in a position to cede full autonomy to institutions until the changes are bedded down.

Over the last twenty years the policy objective of the Dutch authorities has been to decrease rules and regulations governing higher education institutions. The plan for a new law on higher education and research shows a further stage in this development to loosen control over specific programmes. However the autonomy has not increased in all fields. New policy issues have sometimes brought about new regulation. In addition, the power to decide on research priorities still resides in national organisations.

In Denmark, higher education institutions have been granted more autonomy to handle their business while the education ministry and its agencies steer the system vertically through setting explicit targets, performance contracts and monitoring the results. The Danish reform has thus introduced a wider scope for decentralised decision making and reduction of detailed regulation, but maintained a strong element of central steering and monitoring. The wish to ensure that the universities are capable of administering the extended degree of autonomy has resulted in re-regulation.<sup>10</sup>

In many OECD countries, higher education institutions still have limited autonomy (in contrast to the autonomy of the academic staff) in terms of their mission, academic profile, programme offer and management of human resources and infrastructure. The ability of the HEI to exercise control over its estate can be a key asset in supporting engagement with city and regional development but as a significant financial resource control is often retained by the central government.

Where governance of universities has not been changed, the national government has often looked to new institutions, notably polytechnics, to address the regional development task. Such institutions characteristically are strongly managed. The external mechanisms which mobilise the institutions to support the region are well tuned using a variety of performance measures. However, these institutions characteristically lack a strong research base capable of transforming a regional economy as distinct from improving the existing industrial base. In these instances, delivering the higher education capacity that has both global reach and local engagement may require strong collaboration with research intensive universities – a further challenge for the leadership.

<sup>9</sup> According to Burton Clark, “entrepreneurial” universities are seen to be able to determine their own destinies within a Government regulated system. “Expanded developmental periphery, strengthened management core and independent academic heartland” belong to the key characteristics of such institutions.

<sup>10</sup> The Peer Review of Jutland-Funen in Denmark notes that “while the new governance system has been put in place enhancing the development of more entrepreneurial universities... the government at the same time continued to practise strong control over them. Matters such as the launch of the new study programmes, course assessment, setting up activities abroad, ownership of buildings and human resource development are controlled by the ministry”.

Reference to the entrepreneurial approach is not to imply that this is the appropriate model to ensure all higher education institutions actively engage in regional development. An institution with greater freedom of action may well pursue the achievement of international status rather than local utility. The challenge for academic leaders is to manage the tensions arising from the different rationalities embedded within higher education and engagement with the needs of business and the community. The key task of the leadership is to produce a synthesis through which the institution not only responds to regional needs but also becomes a motor for regional development and which has its mainspring in a strongly independent academic heartland.

These tensions and their resolution are summarised in matrix form in Table 2 (Vestergaard, 2006). First, in terms of the role of government and other external agencies, there is a higher education rationality which focuses on academic independence and a business rationality which focuses on closer links between science, business and society. The synthesis is one where there is interaction but in which an academic heartland for long term creativity in basic science is preserved. Second, in terms of the division of tasks between the higher education institution and the world outside, the higher education rationality leaves the translation of research and teaching into products, services and public policies to others; in contrast under the science and business driven logic there is no distinction between what is undertaken in higher education and elsewhere. The synthesis involves inter-digitation both physically (*e.g.* on campus) and functionally (*e.g.* student enterprise) but with a careful regulation of the boundaries. Third, in terms of activities undertaken, the higher education rationality requires the academy to stand aloof; in contrast the business logic turns the higher education institutions into an “innovation factory” driven by the needs of business, society and government. The synthesis involves the higher education institution acting as a cradle for new knowledge which it translates into application in partnership with users. Finally, in terms of roles and responsibilities, the higher education institution is both a guardian of truth and a facilitator of innovation. While this is an idealised structure, in practice, higher education institutions are likely to have a portfolio of activities and staff operating under all three rationalities.

**Table 2 External engagement of higher education institutions**

	<b>Higher education Rationality</b>	<b>Science and business rationality</b>	<b>Synthesis</b>
<b>Role of government</b>	At a distance	close interaction	close interaction but carefully managed
<b>Division of tasks</b>	R&T: higher education institutions C: Other actors	R&T: higher education institutions C: higher education institutions	R&T: researchers C: students and private sector partners (on campus)
<b>Activities undertaken</b>	guardian of truth	innovation factory, key agent in the innovation supply chain	innovation cradle
<b>Roles and responsibilities</b>	independent academics	responsive academics	guardians of truth and innovation facilitators

R: Research; T: Teaching; C: Commercialisation; Adapted from Vestergaard, 2006

#### **PART 4: BUILDING CAPACITY FOR CO-OPERATION BETWEEN HIGHER EDUCATION AND REGIONS**

Underlying the OECD review has been the assumption that interactions between higher education institutions and the region in which they are located can be beneficial to both parties. For this interaction to take place bridges have to be constructed based on firm pillars on both sides. This section of the paper seeks to identify the elements for developing the capacity for joint working between regional actors and agencies and higher education institutions in the round, not just particular institutions or parts of institutions. These are the building blocks for the pillars and the spanning techniques for bridging the gap to enable the traffic to flow from one side to the other. In regions where there is more than one higher education institution and a number of sub-regions this implies developing the capacity of the region as a whole.

##### **The higher education pillar**

###### ***Institutional leadership***

The importance of strong leadership cannot be emphasised enough. This embraces issues of strategic direction and operational management of the institutions.

Countries wishing to see the significant shifts of culture and direction that entrepreneurial activity and regional engagement requires, will need to consider the legal and regulatory changes necessary to enable strong leadership of higher education institutions to emerge. This involves strengthening the autonomy of higher education institutions by increasing the responsibility over the curriculum and the use of human and financial resources. It may extend to changes in the ownership of real estate, and other capital investment that underpins capable leadership and the institution's ability to invest in place making.

This observation is directed to national governments that set the legal and regulatory framework, and relates to all matters to do with HEI's business investment, fund management and the exploitation and ownership of research and its outcomes. It is also the responsibility of the leadership of the higher education institution, however, to influence the policy environment, lobbying at all levels of government to secure good governance conditions and appropriate rewards and incentives to give regional development and engagement policies purchase and enable them to be implemented.

###### ***Developing leadership skills***

What practical steps can be taken to ensure that leaders have the necessary skills to undertake these challenging boundary spanning tasks? The European Universities Association and the OECD have long recognised the need for leadership development, and more recently programmes for senior management in higher education are being established in several OECD countries. For example the Leadership Foundation has been established by the Higher Education Funding Council for England and it is attempting *inter alia* to deliver a programme relevant to leadership in regional engagement. New post-graduate and executive programmes on the business school model are making an appearance. In addition to the soft skills of leadership, such programmes need to focus on the generic issues regarding regional development and engagement and the facts regarding their own region (such as powers and responsibilities of external actors and agencies, and the dynamics of the regional economy).

Some of the knowledge and expertise necessary to advise leaders may reside in their own institutions. In the current OECD study, several self-evaluation reports include contributions from research groups within the higher education institution specialising in different aspects of regional engagement and/or higher education/management.<sup>11</sup> While many of these groups are actively involved in providing advice to regional agencies, they are not always used by the academic leadership to guide institution wide policy and practice in this domain.

###### ***Management of regional engagement***

Influencing and managing the external environment of the higher education institution is a time consuming task. This includes making and sustaining strategic regional partnerships and assuming real and shared responsibility for the prosperity and development of the region. Large and complex modern higher education institutions find the scale and scope of top leadership too much for any one person and devise means of dividing this between key people. Another approach is to retain a single institutional head, but to delegate almost the entirety of internal management and development to a fully empowered deputy.

For managing its regional interface the higher education institution may need to establish a regional office as has been done at Newcastle University in the North East of England case study. This is helpful when scaling up the institutional capacity from individual good practice cases to a well developed system. A systematic approach will require focus on the following tasks:

- Co-ordination and management of regional links.
- Provision of input to strategic planning.
- Contribution to the marketing of the institution.
- Development of frameworks for engagement and regional understanding within the institution.
- Maintaining pressure for mainstreaming of regional engagement through the normal channels of the institution. (OECD, 1999)

When a regional office is established, it needs to retain close links to the head of the institution. While it is desirable to have a senior (second tier) person heading this office and exercising responsibility and oversight for all 3rd mission or 3rd stream service policy and activity, it is essential that this does not separate it from teaching/learning and research. The "third stream service" mission has to permeate and transform much of the teaching and research strategy and practice of the higher education institution. Managing, monitoring and developing engagement, regional partnership and development requires consistent interrogation of all academic and administrative activities.

###### ***Mobilising the institution to regional engagement***

Regional engagement is, however, not only the task of the top leadership and management. Higher education institutions wishing to mobilise their staff in support of this agenda need to ensure

<sup>11</sup> These centres include the Centre for Higher Education Policy Studies (CHEPS) at Twente University, the Centre for Urban and Regional Development Studies (CURDS) at Newcastle University Northeast England), the Leslie Harris Centre of Regional Policy and Development at Memorial University (Newfoundland, Atlantic Canada), the Institute for Sustainability Health and Regional Engagement (iSHARE) at the University of the Sunshine Coast, and the Centre for Higher Education Research (Valencia).

that it is taken into consideration in the recruitment, hiring and reward systems. Leadership requires underpinning with tangible rewards and incentives that make it possible to change behaviour and ultimately attitudes and values. Employment and human resources management practices may have to change, markedly, to allow greater segregation of roles among academic staff, with different kinds of workloads and reward systems, so that the higher education institution can perform across all areas to a high level.

One of the key factors of success in regional partnerships is the presence of amateurs who act as gate keepers between the different networks and organisations. If higher education institutions wish to mainstream the regional agenda, they will require a number of staff who have knowledge of regional development including: (i) structure of the organisations involved in regional development; (ii) central, regional and local government powers and responsibilities; (iii) different time scales and drivers influencing these organisations; and (iv) overlaps between organisations and how these can be used to mutual advantage. A tailored human resources development programme for amateurs also needs to include the following know-how aspects: (i) management of change; (ii) building and managing networks; (iii) facilitation and mediation; (iv) working with different organisational cultures; (v) project planning and implementation; (vi) raising financial support; (vii) supervision and personal support techniques; and (viii) organisational politics and dynamics. The key staff can mobilise the higher education institutions individually and collectively to a dialogue about the regional role of higher education. (OECD, 1999)

#### ***Inter-institutional collaboration between higher education institutions***

Part 2 of the paper concluded by reference to an idealised model of the multi-modal (teaching and research) and multi-scalar (regional, national, international) higher education institution actively engaged with its region across the broad front. The preceding discussion of the internal division of task within the institution suggested that not all staff/units should be doing everything. The same strictures will apply in relation to the set of higher education institutions present in a particular region. While Vice Chancellors and Rectors can have the authority to determine such issues within their own institution, the same does not apply between institutions.

As an immediate response to the needs arising from the local industry the higher education institutions may need to collaborate more closely together. This may best be achieved by the establishment of a one stop shop to systematise their regional engagement. For example a joint industrial liaison office could have a matchmaking, co-ordination and quality assurance role and could provide a visible and single access point to the resource base of the higher education institutions along the lines of the North East of England's Knowledge House. A number of regions have made tentative steps to address the challenge of closer co-operation by establishing regional associations of higher education institutions like Universities for the North East (Unis4NE) which embrace five HEIs and *inter alia* oversees Knowledge House. A more recent and even more ambitious association insofar as it transcends national boundaries, is the Oresund University bringing together higher education institutions in both Denmark and Sweden.

Both of the above organisations have their own support staff funded by subscriptions from the member higher education institutions and/or overheads charged on collaborative projects. They have a valuable role in representing the higher education institutions collectively to regional stakeholders. Nevertheless, they remain associations and their chief executives are not empowered to commit individual institutions beyond the collaborative operational projects that they have collectively signed up to. Core areas of teaching and research where the institution often compete are "off limits". Major investments in structural change such as new research institutes, teaching programmes and property

have to be dealt with directly between the individual institutions and external stakeholders be they regional or national.

#### ***Knowing where we stand***

The starting point for the collective working of higher education institutions for the region should include a mapping and ongoing monitoring of the regional and external links in terms of teaching, research and third stream activities of higher education institutions individually and collectively. For example the higher education institutions should establish mechanisms to track students origins and destinations on a longitudinal basis including their careers as alumni and use this intelligence to guide the shaping of academic programmes.<sup>12</sup> Similarly, the geography of the collaboration with the users and beneficiaries of research and the contribution of the higher education institutions to regional public affairs (staff participating in politics, the media, the voluntary sector, the arts and culture and other educational institutions) should be mapped. Documenting the present linkages and publicising them within the region and within the institutions itself will raise the profile of higher education as region builder. (OECD, 1999)

If it is to be more than a bureaucratic or academic exercise, the mapping should be followed by a self-evaluation of the higher education institutions. The template guiding the self-evaluation process of the current OECD study asked higher education institutions to critically evaluate with their regional partners their performance in the context of national higher education and regional policies.

The self-evaluation and peer review process has benefited a number of regions and their higher education institutions which have participated in the current OECD review project. Reported improvements include: enhanced partnership working in the region in strategy preparation and implementation; generation of new funding streams from local businesses; enhanced branding for the institution(s) and the region; and impact on national policies.

#### ***Regional higher education systems***

There is a marked difference between OECD countries in how higher education systems are steered at the regional and national level and what weight is given to the regional dimension.

In the more market-oriented Anglo-Saxon systems there is an increasing tendency to expect higher education institutions to be entrepreneurial, to create partnerships and raise funds from many sources, especially the private sector and private fees. This may encourage them to work closely with regional partners, possibly across all sectors, to diversify income streams. On the other hand it may militate against regional engagement which does not promise obvious profit. *Pro bono* public good may have little chance when balancing the books is the principal imperative. Thus regional engagement and development may stand in opposition to and be disadvantaged by the new entrepreneurialism. However, by setting priorities and channelling public funds, central governments can incentivise and persuade some or all higher education institutions to make regional development an attractive part of their core business – for example as a means of widening access to higher education or engaging with SMEs.

<sup>12</sup> A basic task is to identify the home origin of students, their academic programmes and the destination of graduates by occupation. With the use of this data the higher education institutions can establish their share of national and regional students and graduate markets, their contribution to raising levels in higher education in the region and graduate skills in the regional labour market.

This market orientated model is far from universal. In France and Germany academics are civil servants, weakening the influence of the HEIs as a unified organisation. In the Nordic countries the social and cultural role of HEIs is not so important because these activities are unambiguously the role of other public institutions. In contrast in Spain, Mexico and Brazil the governance of HEIs has highlighted the social/political role reflecting a need to establish democratically controlled institutions following long periods of military rule.

A critical choice for governments and higher education institutions is where and how in a mass system diversification takes place. One option is to expect most institutions to undertake all forms of academic activity including research, teaching and community service. Another is to designate some as mainly or only teaching and to concentrate research in a few “world class” research intensive institutions that enjoy much higher status. The choice between regional development and high research standing may be a false one, but it is often felt to be real and acute. Regions may want and benefit from the magnetic presence of an elite institution even if little local partnership occurs with such institutions. There is a shaky logic in arguing that a knowledge society needs high quality research flowing into R&D and exploitation, but at the same time saying that only the mainly teaching, non-research, universities have a specific mission to foster knowledge transfer. The outcomes of this study are clear: research, teaching and regional development feed one another and need to go together in a virtuous development cycle.

The obvious solution to a dichotomy between world-class research and heavily engaged regionally oriented institutions may lie in developing **regional higher education systems** in which there is strong interdependency, along with role specialisation. All institutions are then made responsible **together** for meeting agreed and required targets across research, teaching and community service roles. How this is done must be agreed between the players within the region. Open regional network systems did not emerge as an obvious trend in the regional cases of this study, but they are a logical deduction from the needs, problems and pressures that were widely portrayed.

Regional systems might be tertiary and not only higher. While the current study reflected diversity in the attitude of research intensive universities to the wider tertiary sector, effective regional development, especially in terms of a labour market with fast-changing skill needs and mobile populations, requires a repertoire of youth and adult learning opportunities with functioning pathways and co-operation, not a disjointed set of provisions.

The notion of and the need for highly research-intensive world class universities whose key or only contribution to the region is their prestige and world standing came up time and again. Many countries are striving to create world-class centres of excellence through concentrating research capacity. In the global research context, building a world-class international centre of excellence is a difficult challenge for many countries let alone individual institutions. The bias towards cutting-edge science needs to take account of the evidence that most innovation is incremental in character and also relies on non-scientific knowledge such as design, marketing and tooling-up. A balance therefore needs to be achieved between supporting basic and applied research within each major region of a country.

In summary, higher education institutions do and should have different profiles and strengths, but all can and should contribute to the development of their societies and communities local and regionally as well as nationally and internationally. The HEIs and the wider society will undoubtedly benefit from such involvement and partnership.

## **The regional pillar**

### ***Building regional partnerships***

Successful partnerships between higher education and the region cannot be built on one pillar. They will also depend on regional leadership and collaboration. A key feature of the methodology of the OECD review was the establishment of a regional steering committee composed of higher education institutions and a wide range of regional stakeholders. In some regions this was already in place, for example Busan and Jutland-Funen but often with a focus on one aspect of the development process, usually business innovation.

Populating and finding a chair for a new grouping can be problematic where the leadership in the public and private sector is weak. Higher education leaders are often confronted with a multiplicity of regional agencies and partnership structures requesting their input and specific outputs in return for time-limited funding. There can be tensions between different parts of the region, between different agencies and even within single agencies which have multiple objectives – for example in a local authority between town planners required to conserve historic buildings and those charged with encouraging new investment. The fragmentation of local government, the issues of who speaks for the private sector and the role of different parts of central government in the region are common issues.

The same general point holds in federal systems, whether the province or state is also the region, or the region is a smaller or even, as in the Canadian case in this study, a larger entity than the political region. In all cases the region may have the potential to function more or less well, depending on a variety of issues such as:

- History and path dependency.
- The rationality of its geography.
- Economy.
- Political life and setting.
- Personnel.

Whatever the space to manoeuvre, resources and degree of devolution, it is essential for the region to create the means whereby its governing and administrative duties and opportunities can be exercised well, with good horizontal communication as well as effective links to local authorities. In some countries there is a long tradition of regional government; in others like Korea the attempt to devolve powers significantly is very new. Elected and appointed individuals have to learn to assume responsibility, liaising across the region’s different portfolios but also managing changing relations with central government. In short higher education’s contribution to regional development requires effective regional governance. Without this, the full potential of higher education will not be realised.

### ***Regional strategies***

One way of tackling these challenges is through the preparation of overarching regional development strategies which focus on regional strengths and opportunities and address weaknesses and threats and which highlight the role higher education can play. In several regions participating in this project such as the Atlantic Canada and the North East of England research groups within the higher education institutions have played a key role in shaping strategies which embrace the contribution of higher education. Such strategies usually cover business, people and places and

highlight the contribution that higher education can make in each of these areas. Specific action lines typically include:

- Knowledge creation through research and its exploitation (spin outs, IPR, business advisory service).
- Knowledge transfer via teaching (worked based learning, graduate recruitment, professional development/continuing education).
- Cultural provision and campus development contributing to vibrant places that attract and retain creative people.
- Social inclusion embracing different communities (urban, rural, ethnic).
- Marketing the region nationally and internationally (via student recruitment, research links, alumni linkages, conference activity).

One emerging area where such a strategic partnership between the higher education institutions and their region can play a key role is environmental sustainability generally and global warming in particular. The study revealed only limited conjoint action in this domain. Higher education institutions are not only major consumers of non-renewable energy and generators of CO<sub>2</sub>, they are also sources of technological and organisational expertise in this field. At the heart of this global challenge is the link between the opportunities arising from technology based research (*e.g.* the exploitation of geothermal energy sources) and its incorporation into the actions in the wider community where regional and local agencies such as local government can play a key role, for example through the land use planning systems. Students and alumni as future responsible actors and opinion formers could also be critical members of regional as well as global learning systems. Embedding sustainability into study programme can thus have long term effects on the working life through “knowledge transfer on legs” *i.e.* students and graduates shaping working life. This requires articulation from within the region outwith the higher education institutions as well as inside the institutions.

#### **Putting the bridge in place**

##### ***Funding conjoint action***

The limited resources available to higher education institutions for this purpose in many national systems have already been noted. The absence of such national funding places greater onus on regional stakeholders, drawing on national and international resources where appropriate.

One possible solution would be the creation of a single pot of public funding contributed to by a range of stakeholders which higher education institutions could draw on against an agreed set of deliverables which are regularly monitored. Not all higher education institutions in the region would be expected to do everything. Rather they could select from a portfolio of programme possibilities to suit their own missions and academic profile. In many instances programmes are, however, likely to transcend several institutions and modes of engagement (teaching as well as research) and may require the establishment of Special Purpose Vehicles to ensure delivery. Such local actions may persuade national ministries of education who have laid external engagement duties on higher education institutions without appropriate support to enter into match funding arrangements.

##### ***Building partnerships***

Working in partnership for regional development is a dynamic process which will alter all of the parties. Success requires: both sides to have a sense that partnership is in their own organisational interest; the capacity to commit to specific short-term decisions with a clear product and delivery date and sustainability; institutional memory supported by modern knowledge management system that transcends changes of personnel and policy orientation; and formal arrangements for evaluation and programme enhancement.

Benefits should be measurable in terms of new sources of students, improved teaching and graduate outcomes, more resources for valued and well used research, and higher regard and greater satisfaction derived from community regional relationships. Such success will change the higher education institution’s notion and mix of research, strengthening its “mode two knowledge production” and alter the nature of its teaching, student relationships and even student clientele. For a local or regional authority, long-term partnership means change in the way its administration works, exposing it to transparency and participatory action.

##### ***Accountability and impacts***

One of the challenges of partnership working is that of accountability. Each of the partners in the higher education / regional development nexus have different accountabilities and expectations. Job generation and placemaking is not a responsibility of higher education, nor is higher education a responsibility of local government and only in certain countries of regional government. Impacts of engagement are difficult to measure. It is virtually impossible *ex post* to determine how much any improvement in regional economic performance or reduction of inequalities is due solely to interventions by higher education institutions working in partnership with regional agencies.

Notwithstanding the difficulties in measuring impacts, there is a need to invest in a rigorous machinery to undertake baseline analyses specifically designed by partners to address regional weaknesses, build on strengths, contain threats and exploit opportunities. Baseline studies need to be followed by regular monitoring of outcomes. This process will require external peer review. It will require input from all of the stakeholders to ensure their individual accountabilities are taken care of in the analyses.

##### **Conclusion: Realising the potential of HE to contribute to regional development**

The preceding discussion has implicitly accepted a network model for moving towards higher education and regional development systems. It has not advocated a centralised steering approach whereby the national government directs individual HEIs to undertake particular tasks in specific locations. Nor for reasons partly related to the problem of appropriate metrics has a market driven model based on performance or output measures been proposed. Rather the emphasis has been on a bottom up approach of collaborative working where all the partners appreciate the mutual benefits of coming together. Insofar as steering occurs the approach favoured has been of peer learning through sharing of good practice.

To succeed such regional collaboration needs a national framework consistent between the domains of higher education and territorial development which facilitates or permits conjoint action at the sub-national level. There is some evidence from the case study regions that national governments are moving away from strictly prescribing tasks for regional or local governments and what HEIs should do where. Movement towards greater direct participation of citizens and businesses in the affairs of state locally and nationally and in the co-production of knowledge are reinforcing these



tendencies and in the process assisting with the building of bridges between regional institutions and HEIs. While the extent of local and regional empowerment and the extent to which it embraces HE varies significantly from country to country, without this empowerment it is difficult to see how the potential for HEIs to actively contribute to regional development can be realised. With the right conditions regional engagement can become a crucible within which more dynamic and open higher education institutions can be forged, both responding to and shaping developments in the wider society.

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