Chapter 1

Introductory Remarks

This chapter briefly illustrates the various dimensions of regional engagement of higher education and provides a definition for this activity. It describes the OECD study encompassing intensive analysis of higher education institutions' engagement at regional level. It explains the aims and the methodology of the thematic review including self evaluation and external evaluation. It highlights the developmental focus of the OECD study and the aim to support partnership building in the participating regions.

Introduction

Regional economies depend on the interplay between a number of factors. Obvious features include the natural resource base, physical infrastructure, the environment, existing and emerging businesses and the skill base of the population. However, other factors including their tradition and history, the explicit policy frameworks for regional development and the availability of education and lifelong learning opportunities are becoming critical factors in enhancing regional competitiveness and economic performance.

With some notable exceptions, higher education institutions, particularly research-intensive universities, have traditionally tended to be self-contained entities focused on the creation and development of basic knowledge for the national and/or the global economy with limited emphasis on local and regional needs. This has, however, changed recently. The active involvement of national governments and supra-national organisations such as the European Union in setting regional policy frameworks and incentives and/or infrastructure to achieve regional development goals has impacted on the higher education sector. The recognition that higher education can play a key role in development is now a fundamental underpinning of most economic development strategies, both at international, national and regional level. It is becoming recognised that the two perspectives – the national/international and the regional/local – can be complementary, reinforcing one another. The issue is often more a question of balance than of substitution.

Impact on regional economics

Higher education makes considerable direct economic contribution to the local and regional economy. Higher education institutions are employers and customers as well as suppliers of goods and services. Their staff and student expenditure have a direct effect on income and employment in the cities and regions. Higher education institutions can also widen the tax base. At the same time, they are consumers of local government services and local firms' products. These interactions are sometimes called backward linkages (Felsenstein, 1996). In regions with a well represented higher education sector the contribution to the regional GDP can be significant. For example, in peripheral regions, the expenditure of higher education institutions may range from 2 to 4% of regional GDP.¹

While the backward linkages are important to regional development, there are also indirect impacts linked to human capital, pool of knowledge and attractiveness of the local area. Emerging models of regional development emphasise development that is based on unique assets and circumstances of the region as well as the development of knowledge-based industries. This has resulted in a re-examination of the role of higher education institutions in the regions. A knowledge-based or learning economy requires a larger number of graduates and an employment orientation in teaching. It also requires the provision of lifelong learning opportunities for a wide variety of traditional and non-traditional learners. Moreover, if higher education institutions want to contribute to regional economic development, they must do more than simply educate - they must engage with the regions and contribute to the development of knowledge-intensive jobs which will enable graduates to find local employment and remain in their communities. They must also respond to the needs of the established firms in terms of skills upgrading and technology transfer. Higher education institutions are thus expected to be involved not only in the creation of knowledge, but also in the application of knowledge, often with their local and regional communities. They are expected to take an interdisciplinary approach to their activities and engage in partnerships with industry, with communities and with a wide variety of stakeholders. These factors impact on all aspects of the role of the higher education institution - teaching, research and community service.

Higher education and cities

While much policy development in this field has involved central governments, there is scope for action at the metro-regional level, which combines both the physical proximity at which collaboration is easiest and the sufficient scale to capture synergetic effect and diversity. Cities and cityregions have interest in supporting local higher education institution's regional involvement. They benefit from the presence of a higher education institution, which represents not only a main asset but could be a magnet to inward investment and talent. Flagship areas of expertise of local higher education institutions can be highlighted by city authorities in branding their city as centres of entrepreneurship, innovation and creativity.

Partnerships between city-regions and higher education institutions are particularly fruitful in three domains: first, matching supply and demand in the local labour market; second, promoting local economic development; and third, contributing to regional systems of governance.

Metropolitan regions often face shortages in highly skilled workers because of insufficient or maladjusted local skill supply or brain drain. Cities and their higher education institutions can gather labour market intelligence and identify how the labour market needs can be met by higher education. They can also jointly develop new models of decision-making which increase economic competitiveness and reduce social exclusion (ODPM, 2004). Higher education institutions have the potential to provide support, expert analysis and guidance for cities. Thus, they can also promote and facilitate the decentralisation and devolution process through developing linkages within the broader city-region.

Strategic partnerships between the cities and their urban researchintensive universities serve as a vehicle for sharing experience and providing common policy responses. These coalitions seek to make a positive difference in urban environments. They can also take the form of sub-regional alliances with communities and agencies to deliver economic, physical and social regeneration project. Frameworks such as science cities help to link and reorganise research units and centres of excellence with regional industries and strength.

With the processes of globalisation and localisation, the local availability of knowledge and skills is becoming increasingly important. In the globalising knowledge economy higher education institutions are seen as sources of knowledge and innovation and engines of growth, making contributions to the economic, social and cultural development of their societies. This has meant new expectations to be fulfilled by higher education institutions. The question is how to translate them into relevant policy measures and institutional reforms.

In this publication regional engagement of higher education refers to a number of dimensions, including:

- knowledge creation in the region through research and its exploitation via technology transfer (spin out companies, intellectual property rights and consultancy);
- human capital formation and knowledge transfer (localisation of learning process by work-based learning, graduate employment in the region, continuing education, professional development and lifelong learning activities);
- cultural and community development contributing to the milieu, social cohesion and sustainable development on which innovation in the region depends.

The need for greater regional engagement and mutual development of capabilities is becoming widely acknowledged. Many OECD countries have strengthened the regional role and contribution of higher education. Often, the regional mission has been characterised as a part of a "third task" or social obligation of higher education institutions. There is, however, a growing recognition that the third task must be integrated with longer-standing teaching and research functions if higher education's contribution to students' learning, to knowledge exploitation by business, and to civil society in the region is to be maximised.

Where do we stand now? What is higher education's regional engagement all about? What are its drivers and barriers? What does it mean to the governance and management of higher education institutions, regions and nations? And how does regional engagement fit with the pursuit of world class academic excellence? This publication seeks to address these questions, drawing from the OECD territorial reviews and the 14 regional self-evaluation and peer review reports of the current study.

This publication gives an overview of the drivers for and barriers against regional engagement of higher education. It then focuses on how these barriers can be overcome through mobilising higher education to participate in regional innovation systems, to enhance human capital formation and to contribute to the social, cultural and environmental development in the region. It then moves to look in capacity building and the ways higher education and development systems can be built in the regions. Finally, it presents some pointers for the future for national and regional governments as well as higher education institutions.

The OECD study

In 2004, following the reports of The Response of Higher Education Institutions to Regional Needs (OECD/IMHE, 1999) and Cities and Regions in the New Learning Economy (OECD, 2001a), the OECD Programme on Institutional Management in Higher Education (IMHE) in collaboration with the OECD Public Governance and Territorial Development Committee (GOV) embarked upon a study to improve understanding of international trends and practice relating to higher education institutions and their regional engagement.

Central to the study was an in-depth comparative review of 14 regions across 12 countries, which was launched as a response to a wide range of initiatives across OECD countries to mobilise higher education in support of regional development. The review project, which was carried out in 2005-2007, had the aim to synthesise this experience into a coherent body of policy and practice that could guide 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 project was designed to assist with capacity-building in each country/region through providing a structured opportunity for dialogue between higher education institutions and regional stakeholders; and clarifying roles and responsibilities. The review project 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 OECD template guiding the self-evaluation process 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 (see questionnaire in Annex A):

- 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.

The renewed focus on higher education and innovation as a driver of regional competitivity was echoed by the Public Governance and Territorial Development Directorate which ran a supporting and interlinked study The Contributions of Higher Education Institutions to Regional Development (OECD, 2006a) on the theme drawing from materials accumulated in the territorial reviews exercises and from the experience and case studies of the IMHE review. At the same time the Education and Training Policy Division of the Directorate for Education was conducting national Tertiary Education Reviews in 24 countries (OECD, 2008, forthcoming). These also looked at regional engagement and development, but from a national policy rather than a regional/territorial perspective. The co-operation contributed to a continuing dialectic between territorial development and higher education and between the governance and development of regions and the role and management of higher education institutions. The synergy and collaboration between the three areas and lines of activity and the differences in methodology contributed a wealth of experience for mutual benefit. As a result, this publication draws from all of these sources.

The project steering group was comprised of Jannette Cheong (HEFCE), John Goddard (University of Newcastle upon Tyne), Mario Pezzini (OECD/GOV), José-Ginés Mora Ruiz (Technical University of Valencia) and Richard Yelland (OECD/IMHE). There was also a Task Group including Peter Arbo (University of Tromsø), Patrick Dubarle (OECD/GOV), Chris Duke (RMIT), Steve Garlick (University of Sunshine Coast and Swinburne University of Technology), John Goddard (University of Newcastle upon Tyne), Jaana Puukka (OECD/IMHE) and John Rushforth ((University of West England). The project was managed by IMHE.

Participating regions

The project has embraced 14 regions from 11 OECD countries and 1 non-OECD country:

| 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 regions range from rural to metropolitan and from peripheral to central regions. The higher education institutions include not only researchintensive, 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.

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.

The intention was to put the regional agenda in primary position in the project rather than build it around the needs of higher education institutions. This proved challenging for a number of reasons. "The region" is a diverse, fast evolving and problematic notion. It was not always clear what constituted a region; this varies by country and part of the world as well as within single locations. The European Union, for example, has triggered the creation of EUspecific regions for certain purposes that do not correspond to historic and governance regions in some member countries. There is also no standard OECD-wide definition and meaning of region. Forms of governance and devolution vary greatly across and between both unitary and federal systems. In some regions all higher education institutions were not included in the scope of the review. In most cases exclusion was due to the tensions within the binary system of education or the high number of higher education institutions which would have made the project coordination unmanageable. Notwithstanding the above caveats, a range of regional, national and institutional settings has been embraced by the project. (Chapter 4 gives a more in-depth account of the regions participating in the review.)

The regions included in the project were not selected on the basis of a predetermined classification but rather to exhibit a wide variety of economic,

social and cultural conditions and to reflect different trajectories of development. This allows for an examination of the relationship between regions and their higher education sector providing empirical underpinning to the issues addressed by the project. The self-evaluation and peer review reports also provide a rich set of examples of structures and processes facilitating regional engagement. As each of the case regions has undergone a review process, the case studies also permit an in-depth examination of the nature and impacts of partnership building.

Developmental focus: seeking to empower the regions

The methodology chosen for the study was a thematic review which 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 task group;
- 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 task group drawing upon regional case studies.

There was also a commissioned literature review which looked into the historical trends in higher education working with the regions (Arbo and Benneworth, 2007).

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 notfor-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 larger or smaller 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 (Annex A). Self-evaluations often constituted extensive collaborative research, data assemblage and, at best, in-depth analysis. They resulted in two things: new understanding and insights into regional conditions and development issues and problems; and a basis for ongoing dialogue and collaboration which did not exist before. 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 OECD review sought not to be a judgemental inspection 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 OECD 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 essentially economic audit.

The project displayed a natural evolution – beginning with centralised control towards a network in which communication and knowledge-making flows in all directions, with the centre 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 inter-regional activities broadened the circle of those involved.

Note

1. Economic weights of higher education institutions are estimated by multiplier values and employment impact using an input/output model. For example, the local impact of Norwegian University of Technology and the two university colleges is about NOK 4.3 billion annually. In the North East of England, the five HEIs contribute to 2.3% of the regional GDP with a total of 14 000 employees and 90 000 students. In central regions, the spending impact is usually lower in relative terms but still significant. University of California's impact on the regional GDP), with a rate of return of 3.9 for every dollar spent in state funded research.

Bibliography

- Agarval and Henderson (2002), "Putting Patents in Context: Exploring Knowledge Transfer from MIT". Management science, January 2002.
- Aghion P. and P. Howitt (1998), Endogenous Growth Theory, The MIT press, Cambridge.
- Arbo, P. and P. Benneworth (2007), Understanding the Regional Contribution of Higher Education Institutions: a Literature Review, OECD Education Working Paper, No. 9, OECD, Paris, www.oecd.org/edu/workingpapers.
- Asheim, B. and M. Gertler (2005), "The Geography of Innovation", in J. Fagerberg et al. (eds.), Oxford Handbook of Innovation, Oxford University Press, Oxford.
- Audretsch, D. B. and M.P Feldman (1996), "Innovative Clusters and the Industry Life Cycle", Review of Industrial Organization, Vol. 11, No. 2, pp. 253-273.
- Bachtler, J. (2004), "Innovation-led Regional Development: Policy Trends and Issues", Paper presented at the OECD Conference on Innovation and Regional Development: Transition Towards a Knowledge-based Economy. Florence, Italy, 25-26 November 2004.
- Bélanger, P. (2006), "Concepts and Realities of Learning Cities and Regions", in C. Duke, L. Doyle and B. Wilson (eds.), Making Knowledge Work. Sustaining Learning Communities and Regions, National Institute of Adult Continuing Education (NIACE), Asford Colourpress, Gosport.
- Bender, T. (1988), Introduction in Bender, T. (ed.), The University and the City, from Medical Origins to the Present, Oxford University Press, New York/Oxford, pp. 3-10.
- Best, M. (2000), "Silicon Valley and the Resurgence of Route 128: Systems Integration and Regional Innovation", in J. Dunning (ed.), Regions, Globalization, and the Knowledge-Based Economy, Oxford University Press, Oxford.
- Binks, M (2005), Entrepreneurship Education and Interactive Learning, National Council for Graduate entrepreneurship (NCGE) Policy Paper No. 1, www.ncge.org.uk/downloads/ policy/Entrepreneurship_Education_and_Integrative_Learning.doc.
- Birch, D. L. (1987), Job Creation in America: How Our Smallest Companies Put the Most People to Work, Free Press, New York.
- Brennan, J., R. Naidoo (2007), "Higher Education and the Achievement of Equity and Social Justice" in Higher Education Looking Forward (HELF), European Science Foundation: Forward Look, forthcoming.
- Brunner, J. J., P. Santiago, C. García Guadilla, J. Gerlach and L. Velho (2006), OECD Thematic Review of Tertiary Education. Mexico. Country Note, OECD, Paris, www.oecd.org/dataoecd/22/49/37746196.pdf.
- Brusco, S. (1986), "Small Firms and Industrial Districts: The experience of Italy", in D. Keeble and E. Wever (eds.), New firms and regional development in Europe, Croom Helm, London, pp. 184-202.

- Burt, R. (2002), "The Social Capital of Structural Holes", New Directions in Economic Sociology, Russel Sage, New York.
- Christensen, JL., B. Gregersen and A. Rogaczewska (1999), "Vidensinstitutioner og innovation" (Knowledge Institutions and Innovation), DISKO project, Report No. 8, Erhvervsudviklingsraden (Council for the Development of Economic Life), Copenhagen.
- Centre for Urban and Regional Development (CURDS) (2005), OECD Territorial Review of Newcastle and the North East, OECD, Paris.
- Clark, B. R. (1998), Creating Entrepreneurial Universities: Organizational Pathways of Transformation, Pergamon-Elsevier Science, Oxford.
- Clark, (2006), OECD, Thematic Review of Tertiary Education. Country Report: United Kingdom, OECD, Paris, www.oecd.org/dataoecd/22/3/37211152.pdf.
- Cook, P. (2004), "University Research and Regional Development", European Commission, Research Director-General.
- Coulombe, S., J.-F. Tremblay and S. Marchand (2004), "Literacy Scores, Human Capital and Growth Across 14 OECD Countries", Statistics Canada, Ottawa.
- Council of Europe (2006), Declaration on Higher Education and Democratic Culture: citizenship, human rights and civic responsibility, Strasbourg, 22-23 June 2006, http:// dc.ecml.at/contentman/resources/Downloads/Declaration_EN.pdf (accessed January 2007).
- Crawford, E., T. Shinn and S. Sörlin (1993), "The Nationalization and Denationalization of the Sciences. An introductory essay", in E. Crawford, T. Shinn and S. Sörlin (eds.), Denationalizing Science. The Contexts of International Scientific Practice, Kluwer, Dordrecht.
- Davies, J., T. Weko, L. Kim, and E. Thustrup (2006), Thematic Review of Tertiary Education: Finland Country Note, OECD, Paris, www.oecd.org/dataoecd/51/29/37474463.pdf.
- Department for Culture, Media and Sport (DCMS) (2006), Developing Entrepreneurship for the Creative Industries. The Role of Higher and Further Education, DCMS, London.
- DfES, DTI, DWP, HM Treasure (2003), 21st Century Skills: Realising Our Potential (Individuals, Employers, Nation), The Stationery Office, London.
- Drabenstott, M. (2005), Review of the Federal Role in Regional Economic Development, Federal Reserve Bank of Kansas City.
- Etzkowitz, H. and L. Leydesdorff (2000), "The Dynamics of Innovation: from National Systems and 'Mode 2' to a Triple-Helix of University-Industry-Government Relations", *Research Policy*, Vol. 29, No. 2, pp. 109-123.
- Felsenstein, D. (1996), "The University in the Metropolitan Arena: Impacts and Public Policy Implications", Urban Studies, Vol. 33.
- Florida, R. (2002), The Rise of the Creative Class and How It's Transforming Work, Leisure, Community and Everyday Life, Basic Books, New York.
- Florida, R. (2005), "The World is Spiky", Atlantic Monthly, Boston.
- Forum for the Future (2006), Forum for the Future website, www.forumforthefuture.org.uk, accessed 12 January 2007.
- Friedman, T. (2005), The World is Flat: A Brief History of the Twenty-First Century, Farrar, Straus and Giroux, New York.

- Fundación Conocimiento y Desarrollo (2005), Informe CYD 2005: La contribución de las universidades españolas al desarrollo, Fundación CYD, Barcelona.
- Gertler, M. and T. Vinodrai, (2004), Anchors of Creativity: How Do Public Universities Create Competitive and Cohesive Communities?, Department of Geography, University of Toronto.
- Gibb, A. (2005), Towards the Entrepreneurial University: Entrepreneurship Education as a Lever for Change.
- Gibbons, M., C. Limoges, H. Nowotny, S. Schwartzman, P. Scott and M. Trow (1994), The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies, Sage, London.
- Goddard, J., D. Charles, A., Pike, G. Potts and D. Bradley (1994), Universities and Communities: a Report for the Committee of Vice-Chancellors and Principals, Centre for Urban and Regional Development Studies, Newcastle University, Newcastle.
- Goddard, J. B. and P. Chatterton (2003), The response of universities to regional needs, in F. Boekema, E. Kuypers, R. Rutten (eds.), *Economic Geography of Higher Education: Knowledge, Infrastructure and Learning Regions*, Routledge, London.
- Goddard, J. B. (2005), "Supporting the Contribution of HEIs to Regional Developments Project Overview", Paper presented to OECD/IMHE Conference, Paris, 6-7 January 2005.
- Goldstein, H. and M. Luger (1993) "Theory and Practice in High-Tech Economic Development", in D. R. Bingham and R. Mier (eds.), Theories of Local Economic Development: Perspectives from across the Disciplines, Sage Publications, Newbury Park.
- Grubb, N., H. M. Jahr, J. Neumüller, S. Field (2006), Equity in Education. Thematic Review. Finland Country Note. OECD, Paris, www.oecd.org/dataoecd/49/40/36376641.pdf.
- HEFCE (Higher Education Funding Council for England) (2006), Widening Participation: a Review, Report to the Minister of State of Higher Education and Lifelong Learning by the Higher Education Funding Council for England, www.hefce.ac.uk/ widen/aimhigh/review.asp.
- Innovation Associates Inc. (2005), Accelerating Economic development through University technology Transfer, based on Report to the Connecticut Technology Transfer and Commercialization Advisory Board of the Governor's Competitiveness Council, www.innovationassoc.com.
- Joaquin B.J, P. Santiago, C. García Guadilla, J. Gerlach, L.Velho (2006), Thematic Review of Tertiary Education: Mexico Country Note, www.oecd.org/dataoecd/22/49/37746196.pdf.
- Kaldor, N. (1970), "The Case for Regional Policies", Scottish Journal of Political Economy, Vol., 17, No. 3, pp. 337-348.
- Kline, S. J. and N Rosenberg (1986), "An Overview of Innovation", in R. Landau and N. Rosenberg (eds.), *The Positive Sum Strategy: Harnessing Technology for Economic Growth*, National Academy Press, Washington, D.C., pp. 275-304.
- Laursen, K and A. Salter (2003), "The Fruits of Intellectual Production: Economic and Scientific Specialisation among OECD Countries", Paper No. 2, Danish Research Units for Industrial Dynamics, University of Aalborg, Aalborg.
- Lawton Smith, H., J. Glasson, J. Simmie, A. Chadwick and G. Clark (2003), Enterprising Oxford: The Growth of the Oxfordshire High-tech Economy, Oxford Economic Observatory, Oxford.

- Lester, Richard K. (2005), Universities, Innovation, and the Competitiveness of Local Economies: A Summary Report from the Local Innovation Systems Project-Phase I. MIT IPC Local Innovation Systems Working Paper 05-005 | IPC Working Paper 05-010, http://web.edu/lis/papers/LIS05.010.pdf.
- Locke, W., E. Beale, R. Greenwood, C. Farrell, S.Tomblin, P-M. Dejardins, F. Strain, and G. Baldacchino (2006), OECD/IMHE Project, Supporting the Contribution of Higher Education Institutions to Regional Development, Self Evaluation Report: Atlantic Canada, www.oecd.org//17/12/37884292.pdf.
- Lundvall, B. Å. (ed.) (1992), National Systems of Innovation: Towards a theory of Innovation and Interactive Learning, Pinter Publishers, London.
- Lundvall B. Å. and S. Borrás (1997), The Globalising Learning Economy: Implication for Innovation Policy, The European Communities, Luxembourg.
- Malmberg, A. and P. Maskell (1997), "Towards an Explanation of Regional Specialization and Industry Agglomeration", European Planning Studies, Vol. 5, No. 1, pp. 25-41.
- Martin, F. and M. Trudeau (1998), The Economic Impact of Canadian University R&D, AUCC publications, Ottawa.
- Martin, R. and P. Morrison (2003), "Thinking about the Geographies of Labour," in R.Martin and S. Morrison (eds.), Geographies of Labor Market Inequality, Routledge, London, pp. 3-20.
- Mathiessen, Christian Wichman, Annette Winkel Schwarz and Søren Find (2005), Research Output and Cooperation: Case Study of the Øresund Region: An Analysis Based on Bibliometric Indicators, University of Copenhagen, Copenhagen.
- McClelland, C. E. (1988), "To Live for Science: Ideals and Realities at the University of Berlin", in T. Bender (ed.), The University and the City. From Medieval Origins to the Present, Oxford University Press, New York/Oxford, pp. 181-197.
- Morgan, K. (1997), "The Learning Region: Institutions, Innovation and Regional Renewal", Regional Studies, Vol. 31, No. 5, pp. 491-403.
- Myrdal, G. (1957), Economic Theory and Under-Developed Regions, Gerald Duckworth, London.
- OECD (1999), The Response of Higher Education Institutions to Regional Needs, OECD, Paris.
- OECD (2001a), Cities and Regions in the Learning Economy, OECD, Paris.
- OECD (2001b), Managing University Museums, OECD, Paris.
- OECD (2003a), Funding of Public Research and Development: Trends and Changes, OECD, Paris.
- OECD (2003b), OECD Territorial Reviews: Öresund, Denmark/Sweden, OECD, Paris.
- OECD (2003c), "Upgrading Workers' Skills and Competencies", OECD Employment Outlook, OECD, Paris.
- OECD (2004), OECD Territorial Reviews: Busan, Korea, OECD, Paris.
- OECD (2005a), OECD Territorial Reviews: Finland. OECD, Paris.
- OECD (2005b), Economic Surveys: Korea, OECD, Paris.
- OECD (2005c), Economic Surveys: Mexico, OECD, Paris.
- OECD (2005d), Economic Surveys: The Netherlands, OECD, Paris.

OECD (2005e), Economic Surveys: United Kingdom, OECD, Paris.

- OECD (2005f), Reviews of National Policies for Education: University Education in Denmark, OECD, Paris.
- OECD (2006a), "The Contributions of Higher Education Institutions to Regional Development: Issues and Policies", GOV/TDPC(2006)22, OECD, Paris.
- OECD (2006b), Economic Surveys: Australia, OECD, Paris.
- OECD (2006c) Economic Survey of Brazil, OECD, Paris.
- OECD, (2006d), Economic Surveys: Canada, OECD, Paris.
- OECD, (2006e), Economic Surveys: Denmark, OECD, Paris.
- OECD (2006f), Economic Surveys: Finland, OECD, Paris.
- OECD (2006g), Building a Competitive City-Region: The Case of Newcastle in the North East, OECD, Paris.
- OECD (2006h), Skills Upgrading. New Policy Perspectives, OECD, Paris.
- OECD (2006i), Measuring the Effects of Education on Health and Civic Engagement (Proceedings of the Copenhagen Symposium), OECD, Paris, available in www.oecd.org/edu/socialoutcomes/symposium.
- OECD (2006j), Main Science and Technology Indicators, OECD, Paris.
- OECD (2007a), Supporting the Contribution of Higher Education Institutions to Regional Development, project website, www.oecd.org/edu/higher/ regionaldevelopment.
- OECD (2007b), Economic Surveys: Sweden, OECD, Paris.
- OECD (2007c), Economic Surveys: Spain, OECD, Paris.
- OECD (2007d), Understanding the Social Outcomes of Learning, OECD, Paris, forthcoming.
- OECD (2008), OECD Review of Tertiary Education. Final Report, OECD, Paris, forthcoming.
- OPDM (Office for Deputy Prime Minister) (2004), Competitive European Cities, Where Do the Core Cities Stand?, www.communities.gov.uk/pub/44l/ CompetitiveEuropeanCitiesWhereDoTheCoreCitiesStandFullReportPDF444Kb_id1127441. pdf.
- Paytas, J., R. Gradeck and L. Andrews (2004), Universities and the Development of Industry Clusters. Paper for the Economic Development Administration, US Department of Commerce, Centre for Economic Development, Carnegie Mellon University, Pittsburg, Pensylvania.
- Peck, J. (1996), Workplace: The Social Regulation of Labor Markets, Guildford Press, New York and London.
- Piore, M. J. and Sabel, C.F. (1984), The Second Industrial Divide. Possibilities for Prosperity, Free Press, New York.
- Porter, M. E. (1990), The Competitive Advantage of Nations, MacMillan, Basingstoke.
- Porter, M. E. (1998), "Location, Clusters and the New Economics of Competition", Business Economics, Vol. 33, No. 1, pp. 7-17.
- Porter, M. E. (2003), "The Economic Performance of Regions", Regional Studies, Vol. 37, No. 6/7, pp. 549-78.

- Rosenfeld, S. (1998) Technical Colleges, Technology Deployment and Regional Development, draft stock-taking paper prepared for the OECD, Regional Technology Strategies Inc, Chapel Hill, North Carolina.
- Rothwell, R. and W. Zegveld (1982), Innovation and the Small and Medium-Sized Firm. Frances Pinter, London.
- Scott, A. and M. Storper (2002), "Regions, Globalization and Development", Regional Studies, Vol. 37, pp. 579-593.
- Simmie J., J. Sennett, P. Wood and D. Hart (2002), "Innovation in Europe, a Tale of Networks, Knowledge and Trade in Five Cities", *Regional Studies*, Vol. 36, pp. 47-64.
- Smith, T and C. Whitchurch (2002), "The Future of the Tripartitite Mission: Re-Examining the Relationship Linking Universities, Medical Schools and Health Systems", Higher Education Management and Policy, Vol. 14, No. 2, OECD, Paris.
- The Finnish Higher Education Evaluation Council (2006), The Finnish Higher Education Evaluation Council website, www.kka.fi/english, accessed 3 January 2006.
- Vestergaard, J. (2006), "HEIs and Their Regions an Innovation System Perspective", paper presented to OECD/IMHE Project Task Group, 10 April 2006, Paris.
- Wittrock, B. (1993), "The Modern University: the Three Transformations", in S. Rothblatt and B. Wittrock (eds.), The European and American University Since 1800. Historical and Sociological Essays, Cambridge University Press, Cambridge, pp. 303-362.
- World Bank Group (2002), Constructing Knowledge Societies: New Challenges for Tertiary Education, http://www1.worldbank.org/education/tertiary/cks.asp.
- Young, S. and R. Brown (2002), "Globalisation and the Knowledge Economy", in N. Hood, J. Peat, E. Peters and S. Young (eds.), Scotland in a Global Economy: The 20:20 Vision, Palgrave Macmillan, Hampshire.

Table of Contents

| Executive summary | 11 |
|--|---|
| Chapter 1. Introductory Remarks Introduction The OECD study Note | 19 20 23 28 |
| Chapter 2. Drivers for Regional Engagement Evolving perspectives on regional development and the place of higher education Evolving perspectives on higher education and the role of regions Synthesis: higher educations institutions tying down the global in the local | 29 31 35 39 |
| Note | 43 |
| Chapter 3. Barriers to Regional Engagement of Higher EducationHigher education, science and technology and labour market policyFunding regional engagementRegional structures and governanceGovernance, leadership and management of higher educationConclusionsNotes | 45 46 51 56 58 63 64 |
| Chapter 4. The Regions and their Higher Education Institutions Australia Brazil Canada Denmark Finland Korea Mexico The Netherlands Norway Spain Sweden United Kingdom: England Cross-border co-operation between Denmark and Sweden | 67 68 71 74 78 82 85 88 91 94 96 101 105 108 |

| Conclusions | 111 |
|--|---|
| Notes | 113 |
| Chapter 5. Contribution of Higher Education to Regional Business | |
| Innovation: Overcoming the Barriers | 117 |
| institutions | 122 |
| Policy practices and instruments | 130 |
| Conclusions | 140 |
| Notes | 141 |
| Chapter 6. Contribution of Higher Education to Regional Human Capital | |
| Formation: Overcoming the Barriers | 143 |
| Widening access Improving the balance between labour market supply | 145 |
| and demand | 151 |
| Attracting talent to the region and retaining it | 158 |
| Strategic co-ordination of the regional human capital system \ldots . | 160 |
| Conclusions: managing the regional human capital system | 162 |
| Notes | 163 |
| Chapter 7. Contribution of Higher Education to Social, Cultural | |
| and Environmental Development: Overcoming the Barriers | 165 |
| Health and welfare | 167 |
| Culture and creative industries | 171 |
| Environmental sustainability | 173 |
| The case of Nuevo León in Mexico | 177 |
| Conclusions: from entrepreneurial university to the socially | |
| engaged university | 177 |
| Notes | 180 |
| | |
| Chapter 8. Building Capacity for Co-operation Between Higher Education | n |
| Chapter 8. Building Capacity for Co-operation Between Higher Education and Regions | n 181 |
| and Regions | |
| and Regions | 181 |
| and Regions The higher education pillar The regional pillar Putting the bridge in place | 181 182 |
| and RegionsThe higher education pillarThe regional pillarPutting the bridge in placeRealising the potential of higher education to contribute | 181 182 192 |
| and Regions The higher education pillar The regional pillar Putting the bridge in place | 181 182 192 |
| and RegionsThe higher education pillarThe regional pillarPutting the bridge in placeRealising the potential of higher education to contribute | 181 182 192 195 |
| and RegionsThe higher education pillarThe regional pillarPutting the bridge in placeRealising the potential of higher education to contributeto regional development | 181 182 192 195 198 |
| and RegionsThe higher education pillarThe regional pillarPutting the bridge in placeRealising the potential of higher education to contributeto regional developmentNotes | 181 182 192 195 198 199 |
| and Regions The higher education pillar The regional pillar Putting the bridge in place Realising the potential of higher education to contribute to regional development Notes Chapter 9. Pointers for Future Development | 181 182 192 195 198 199 201 |

| Annex A. | OECD Project on Supporting the Contribution of Higher Education Institutions to Regional Development | 207 |
|-----------|---|-----|
| Annex B. | Selected OECD Countries' Characteristics and Innovation- Based Policies Targeting at the Regional Engagement | |
| | of Higher Education Institutions | 221 |
| Bibliogra | phy | 233 |

List of boxes

| 2.1. | Universities of Applied Sciences in Switzerland | 37 |
|-------|--|-----|
| 3.1. | The New University for Regional Innovation (NURI) in Korea | 46 |
| 5.1. | Examples of industrial liaison programmes in OECD countries | 125 |
| 5.2. | Three cluster model programmes | 128 |
| 5.3. | Twente TOP programme | 131 |
| 5.4. | Entry points for SMEs to the university knowledge base | 133 |
| 5.5. | Upgrading the existing industry base in Castellon, Spain, | |
| | and North East England | 135 |
| 5.6. | Science and technology cities | 137 |
| 5.7. | Higher education networks supporting the growth | |
| | of knowledge-based economy | 139 |
| 6.1. | Higher Education Equity Programs in Australia | 146 |
| 6.2. | Paraná, Brazil: Higher education expansion driven | |
| | by the local authority | 147 |
| 6.3. | L'Université de Moncton: A symbol of cultural pride and catalyst | |
| | of local economic development | 148 |
| | Widening access through distance education in remote areas | 150 |
| | Widening access in the North East England | 152 |
| | Balancing between labour market supply and demand | 153 |
| 6.7. | Work-based learning | 155 |
| | Targeted development programmes in response to regional needs | 156 |
| 6.9. | Embedding regional engagement in core curriculum | 157 |
| 6.10. | Enhancing entrepreneurship | 159 |
| | Fast Forward high potential management development programme | 160 |
| 7.1. | Jyväskylä conjoint effort to respond to the challenges | |
| | of ageing population | 169 |
| 7.2. | Cultural and creative industries in region building | 174 |
| 7.3. | Institute for Sustainability, Health and Regional Engagement | |
| | (iSHARE) | 176 |
| 7.4. | Mandatory social service for higher education students in Mexico | 178 |
| 8.1. | Higher education management at the Jyväskylä University | |
| | of Applied Sciences: supporting regional engagement | 183 |
| | Rewarding staff for regional engagement | 185 |
| 8.3. | Regions of Knowledge | 187 |

| 8.4. | . Higher education regional associations supporting regional | |
|------|---|-----|
| | development in the North East of England and Öresund region | 188 |
| 8.5. | Atlantic Canada Opportunities Agency (ACOA) | 193 |
| 8.6. | Examples of strategic co-operation in regions | 195 |
| 8.7. | Central government initiatives supporting the regional agenda | |
| | of higher education institutions | 196 |

List of tables

| 3.1. | External engagement of higher education institutions | 63 |
|------|---|-----|
| 5.1. | Perceived importance of alternative channels | |
| | of knowledge transfer from university to industry | 120 |
| 5.2. | Research and innovative activities performed by universities | |
| | in selected European countries | 120 |
| 5.3. | Sources of information and knowledge for innovation activities | |
| | in UK manufacturing (year 2000) | 121 |
| 5.4. | Policy trends supporting clusters and regional innovation systems | 123 |
| 5.5. | Co-operation of firms with research institutions in connection | |
| | with product innovation according to the size of firms: | |
| | in percentage | 132 |
| B.1. | Selected OECD countries' characteristics and innovation-based | |
| | policies targeting at the regional engagement of higher education | |
| | institutions | 222 |
| | | |

List of figures

| 2.1. | Closed model of HEI/region interface | 40 |
|------|---|-----|
| 2.2. | National policies impacting on HEI/regional relations | 41 |
| 2.3. | Regionally engaged multi-modal and multi-scalar HEI | 42 |
| 7.1. | Regenerating the region adapted from Barnley's model | 167 |



From: Higher Education and Regions Globally Competitive, Locally Engaged

Access the complete publication at: https://doi.org/10.1787/9789264034150-en

Please cite this chapter as:

OECD (2007), "Introductory Remarks", in *Higher Education and Regions: Globally Competitive, Locally Engaged*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/9789264034150-3-en

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.

