

This research brief series is intended to provide overviews of different strands of research associated with the Impact of Higher Education Institutions on Regional Economies research initiative.

The initiative is a major research venture jointly funded by the Economic and Social Research Council (ESRC) together with the four UK Higher Education Funding Bodies in England, Scotland, Wales and Northern Ireland. The initiative involves researchers from across the UK and is coordinated by the University of Strathclyde.

The initiative, which began in 2007, aims to promote better understanding of the key economic and social impacts generated by higher education institutions in the UK. There are nine projects, involving academics from across the UK, examining issues of:

- higher education institutions and regional competitiveness
- influence of students and graduates on regions
- knowledge exchange between University and Industry
- universities and community engagement

For further information about the initiative and related research, please see:
<http://www.impact-hei.ac.uk>

R E S E A R C H B R I E F S E R I E S

No. 3

Do university-business collaborations
make firms more innovative and
increase the competitiveness of
regional economies?

Over the last twenty five years there has been a growing interest from Government in encouraging the development of relationships between Higher Education Institutions (HEIs) and the business sector. This has moved beyond a simple focus on the commercialisation of new inventions to a recognition that universities have a wider role to play within systems of innovation, developing capabilities in human capital and knowledge exchange, building networks and in helping to create a collaborative economy. However, the diversity and complexity of university activities and the extent of their engagement in regional development is still not fully understood at the policy level. A key issue today is how to develop the optimal policy tools to foster virtuous development cycles in the creation, circulation and utilisation of knowledge.

This research explored the impacts of universities and other HEIs on the innovativeness and competitiveness of regional economies. As knowledge producers, universities contribute through a range of activities, including research collaboration, technology transfer, licensing, cultural development and creativity. Focusing on the East of England, the North West and Wales, the study identified the avenues through which universities interact with local firms, businesses and other intermediaries in research and innovation activity. It also examined the ways in which this interaction influences firms' performance and the overall competitiveness of a local economy and region.

Key Findings

Collaborations between firms and institutions of higher education have a strong positive effect on the innovation of firms.

- A firm is six times more likely to produce innovative products if it collaborates with a HEI.
- A firm is five times more likely to produce innovative processes if it collaborates with HEI.
- Collaboration between universities and firms also has a significant positive effect on organisational innovation.

The type of firm and type of innovation determine the extent to which the firm will benefit from university interaction

- Firms with university collaborations are four times more likely to innovate than those without.
- University collaborations do not significantly affect the capacity of large firms to innovate.

- New firms benefit as much as established firms from university collaborations.
- Informal collaborations such as conferences, meetings and workshops are just as important to innovation outcomes as formal collaborations.

Benefits for firms from university collaborations are wide-ranging

Interaction between firms and universities:

- facilitates the development of new methods, skills and techniques,
- increases profitability of firms and their market share.
- provides broader conduits for networking.
- increases a firm's productivity.

Wales, the North West and East of England vary in knowledge and networking richness

- The East of England has the highest levels of interaction between firms and universities and between firms and public research establishments.
- The North West has lower levels of interaction.
- Wales has the lowest levels of knowledge interaction, in general. However, some Welsh firms recorded higher levels of interactions with universities and with public sector R&D than the North West.
- When Welsh firms use universities and other types of collaborative partner they seem to value them more, even if their actual impact is more marginal.

Implications

- HEIs are still considered poor collaborative partners for firms and poor providers of information on innovation. However, when collaboration occurs the university has a significant influence on a firm's innovative performance.
- Policymakers and academics should be wary of treating HEIs as homogenous entities.
- They should be careful not to link the number of university-firm collaborations in a region with the quality of these links in terms of effects and outcomes.
- The scarcity of empirical evidence makes it difficult to determine the types of institutions, activities and disciplines

that would best contribute to the economic development of a particular region. This remains a key policy challenge.

Methodology

The study operated at three levels:

(1) It looked at the nature of firms' interaction with universities and other HEIs. Firms were selected for the survey by using UK Businesses: Activity, Size and Location (ONS 2008). In each region, one per cent of firms by economic activity contributed to the sample. In the North West and East of England, 2,400 firms were selected for survey. From Wales 1,200 firms were selected. Analysis was based on 371 completed surveys. A range of quantitative methods was used to inform the analysis.

(2) It explored the ways in which HEIs manage and organise business interactions. For the university level analysis, six universities were selected to be interviewed for each region. Information was obtained by conducting three-tiered interviews across the eighteen universities. This was supplemented by data analysis using Higher Education Business and Community Interactions Survey (HEBCIS) and other data.

(3) It analysed how firms interact within their industrial environment from the regional perspective, assessing the character of regional innovations networks, the dynamics of their emergence, the mediating role HEIs and barriers to regional innovation performance.

Further Information

The study was carried out by Professor J. Howells with Dr. R. Ramlogan, Dr. D. Gagliardi, Dr. E. Uyarra and Dr. S-L. Cheng at the Manchester Institute of Innovation Research, University of Manchester together with Professor R. Boden from University of Wales Institute Cardiff and Dr F. Lettice from the University of East Anglia.

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