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Introduction

Introduction to the special issue on the regional dimensions of innovation

Innovation and knowledge have become important topics of economic analysis in the recent literature. They are crucial phenomena affecting the way firms compete in markets and, consequently, are important for the economic performance of higher-level aggregates (sectors, regions, and countries). Access to knowledge is not universal, and an important degree of heterogeneity can be observed with respect to how much and which type of knowledge firms use, even when firms are located close to one another and compete in the same market(s). These differences between firms are related both to the specific capabilities found at the firm level, and to the external links which firms enjoy with other firms or other public/private sector institutions.

The development of knowledge requires knowledge as an input. The hypothesis that relevant knowledge inputs are more easily acquired over short geographical distances than long distances (e.g., Jaffe et al., 1993), has given rise to a literature on regional innovation systems. This literature argues that, despite the rise of information and communication technology (ICT), knowledge remains tacit to a large degree, and does not transfer easily over long distances (Morgan, 2004). Through the activities of profit-seeking firms, this leads to a concentration of knowledge in geographical space. This regional concentration of knowledge, and the mechanisms that cause it, are the topics of this special issue on the regional dimensions of innovation.

The first paper in the special issue, by Dirk Fornahl and Thomas Brenner, re-examines the geographical clustering of innovation-related activities in Germany. In common with previous research, Fornahl and Brenner use patents as an indicator of knowledge. They are able to conduct an analysis at a detailed geographical decomposition (97 German regions) and examine 43 technology fields. A key contribution is their application of a number of concentration measures. This methodological approach identifies some characteristics of the innovation process which can lead to a tendency for geographic clustering, such as market structure and a pre-existing clustering of economic activity in space. They arrive at the conclusion that different techno-

logical fields differ strongly with regards to their tendency to cluster.

The other three papers in this special issue focus on the mechanism(s) of knowledge flows, and their regional dimension. The paper by Lucia Cusmano, Maria Luisa Mancusi, and Andrea Morrison focuses on the role of knowledge spillovers in outsourcing and offshoring. Their analysis is based on a firm-level survey of the Italian region of Lombardy, and seeks to explain the propensity of innovation at the firm level. The econometric results indicate that outsourcing strategies are positively correlated with firms' innovative performance, but also points to the importance of local (i.e., within the region) user–producer relationships.

The paper by Christian Østergaard considers the role of universities in innovation and geographical location. He focuses on the mobile communication cluster in Jutland, and asks to what extent, and by which channels, university knowledge flows into the firms who are active in this locational cluster. The results from his survey point out that informal contacts between engineers working in firms and university researchers are highly important. In many cases, these informal contacts go back to the 'local' education of engineers at the university in that region.

The final paper, by Alessandra Colombelli, Lucio Cassia and Stefano Paleari, is also concerned with the role of universities in knowledge production. It examines the effect of regional knowledge flows between universities and the private sector on the growth of new businesses in the UK. The authors apply a database on IPOs and the growth of firms involved in these IPOs. The database comprises 37 regions, largely based on the NUTS2 level. For each of these regions, a number of variables are available which indicate the nature and quantity of university research carried out within a region. The econometric results indicate that new firms in regions that have large university outputs tend to grow faster.

Taken together, these papers provide new insights into the regional dimensions of innovation, and raise a number of important questions for future follow-up research. We believe that they also point the way in terms of

research methodology, to the extent that they employ original databases and use state-of-the-art statistical methods. The papers were selected from presentations made at the 2007 EMAEE conference held at Manchester Metropolitan University. The sessions from which the papers were selected were sponsored by the DIME network, under the 6th FWP of the European Union.

References

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