



# Innovation and regional economic development: A matter of perspective?

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## Abstract

This paper investigates the issue of innovation policy within a regional context. It is presented that the perspective one takes is important both in how one interprets the processes and relationships involved, but also in the way one identifies barriers and problems in policy formation and how one resolves them. The paper explores a number of contrasting perspectives in relation to innovation policy and the regions and seeks to highlight the implications of this both for policy, but also in the development of our conceptual understanding about innovation and geography.

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## 1. Introduction

This paper investigates the issue of innovation policy within a regional context.<sup>1</sup> It is presented here that the perspective one takes is important both in how one interprets the processes and relationships involved, but also in the way one identifies barriers and problems in policy formation and how one resolves them. The

paper explores a number of contrasting perspectives in relation to innovation and the regions and seeks to highlight the implications of this both for policy, but also in the development of our conceptual understanding about innovation and geography. The intention of taking these contrasting perspectives is primarily two-fold. Firstly, to highlight the fact that by taking different perspectives one can arrive at very different notions about the objectives, role and even ‘success’ of what might be described as regional innovation policies. The second objective is related to the first, but more wide ranging in that it seeks to unravel some of the confusion and ambiguity caused by different individuals (researchers and policymakers) taking different perspectives on the

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<sup>1</sup> The words ‘region’ and ‘regional’ are used widely and variously here and include, for example within the UK, ‘nations’ notably Scotland and Wales, but also government regions and, in some instances, sub-regional areas.

role and remit of innovation policy and the regions. As such, it seeks to untangle some of the ‘fuzzy notions’ that have arisen out of the debate surrounding innovation policy and the regional dimension, which can be seen in relation to regional policy more generally (Markusen, 1999).

A key, initial focus of the paper will be to take two contrasting viewpoints, a ‘top-down’ and a ‘bottom-up’ perspective, to explore innovation relationships and policy issues at a regional level.<sup>2</sup> The analysis will seek to show the often conflicting and divergent views of how innovation may, or may not, be seen to relate to regional economic development and growth, using Europe in general and the UK more specifically as exemplars. The paper then moves on to explore a number of other contrasting issues in relation to innovation and spatial policy including: public versus private investment in research and innovation; ‘best practice’ versus bespoke policies; short versus longer time perspectives; and demand versus supply led innovation policies. The paper concludes with a wider conceptual and policy discussion.

## 2. Innovation and economic growth

However, before these issues are examined there is the question of why is innovation so important to regional development? Arguments can be made in favour of ‘science for science’s sake’, but we should not ignore the fundamental fact that science can create and sustain wealth, yielding in turn much wider social, cultural and economic benefits. There are two important reasons why innovation policy is so important to the regions, but also why the regional dimension is important to national (and pan-national) level innovation policy. The first relates to the link between innovation, growth and economic performance and the second is associated with the fact that wide disparities remain in innovative activity between regions. As a precursor to this debate, though, the analysis can be viewed from two perspectives – a macro, theoretical largely top-down view of such relationships and a more bottom-up analysis of micro-level, empirical analysis of growth and change ‘on the ground’.

In theoretical terms the link between innovation, knowledge and economic growth has long been acknowledged. From Marshall (1890) through to Kuznets (1971) there has been a recognition that, directly and indirectly, knowledge changes economic activity and economic activity changes knowledge in constant rounds of change. However, how knowledge and technological change is seen to effect such change has shifted. Thus, early neo-classical approaches viewed knowledge and technology as being completely exogenous to the system and that the same technological opportunities were equally available to individuals and firms in all places (Solow, 1956). In turn, this was linked to viewing technology as being a public good (Mankiw et al., 1992) implying that in the *long run* the rate of technological progress would be the same everywhere. In turn, growth paths of different countries or regions would also converge over the long term.

By contrast, newer growth-theoretic models have emerged based on endogenous and neo-Schumpeterian interpretations of economic growth. Thus, endogenous growth models sought to build into their models the endogenous component of technological progress as an integral part of the theory of economic growth; namely, technological progress is seen as arising out of directed<sup>3</sup> actions and investments by people (Romer, 1990, p. 72) through the allocation of key resources linked to human capital and, more particularly, the amount of resources allocated to research (Temple, 1999, pp. 135–136). Neo-Schumpeterian models in turn introduced notions of monopolistic competition and the existence of intellectual property rights over new technology (see Nelson and Winter, 1982; Fagerberg, 1987). Associated with both these two growth-theoretic perspectives was that technology should be considered more like a private good rather than a public good<sup>4</sup> (Temple, 1999, p. 134) and the acceptance that there could be increasing returns to knowledge generation (Solow, 1994, p. 49). Under this neo-Schumpeterian perspective in particular, not all countries or regions will be equally placed to

<sup>2</sup> Following Howells (1999) approach in relation to regional systems of innovation.

<sup>3</sup> Although the outcomes of such action and investment will often be uncertain and uneven.

<sup>4</sup> This has also been associated with the view that the main contribution to technological advance is from the private rather than the public sector (Romer, 1994, p. 41).

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