

# **EURODITE: REGIONAL TRAJECTORIES TO THE KNOWLEDGE ECONOMY - A DYNAMIC MODEL**

The significance of knowledge for economic activity has grown exponentially since the 1980s. However, there is as yet little understanding of the nature and composition of the knowledge economy, especially at a regional level. EURODITE will address this deficiency by examining the dynamics of knowledge in the economies of European regions to inform policies seeking to promote the transition of Europe towards a knowledge-based society. What are the different trajectories towards the knowledge economy? Through what generative and communication pathways does knowledge 'flow' into and within regional economies? An analytical framework will be developed enabling policy-makers to measure the intensity of regional knowledge use, and to identify 'appropriate practices' for different regions given their respective economic base and level of 'knowledge development'.

## **Objectives**

The specific objectives of the project are to:

- Assess the current state of knowledge (its stocks and flows) in European regional economies, and to identify key trends within these and other aggregates (e.g. sectors, networks and markets, governance systems, education and science, social groups).
- Produce a model of 'economic knowledge micro-dynamics' - of the interaction over time of knowledge stocks and flows amongst networks of firms and others, starting in selected sectors and regions of Europe, and observing how these interactions extend organisationally and spatially.
- To use this analysis of knowledge micro-dynamics to develop methodologies and to calibrate macro-level indicators as a diagnostic tool for policy-makers, for the measurement of regional knowledge stocks and flows.
- Evaluate the contribution of these knowledge micro-dynamics to macro-level regional economic and social trajectories - to their performance in productivity growth and competitiveness as well as gender equality and social cohesion.
- Identify the conditions that have created the observed knowledge dynamics - including positive and negative path dependencies - in different sectors and regions across Europe.
- Identify the policy levers and coordination activities available to the EU and other levels of governance to enhance knowledge dynamics and their contribution to regional development and competitiveness, economic and social cohesion.
- Identify the specific gender issues generated by the knowledge economy.

A number of issues or questions arise from the current literature in this field, and it is these issues that will guide the qualitative/quantitative methodology (including populations and sample selection and questionnaire preparation) proposed for the EURODITE study.

**Increasing returns to scale:** Knowledge is now thought to have a degree of natural appropriability and excludability, as well as cumulability (each new item of knowledge is dependent on previously accumulated or embedded knowledge). Partly for these reasons as well as its non-rival status, knowledge and ideas are therefore argued to produce increasing returns to scale, giving rise to corporate and regional lock-in and path dependency. But precisely how do these processes and results function, and to what degree do these function uniformly across different sectors and regions?

**Knowledge and innovation:** The innovation process is thought to occur through social systems that may include different geographical scales and indeed be scale differentiated, with (perhaps) innovative milieux being important at a local level and governance of IP being more important at higher levels. But there needs to be a better understanding of the relationship of knowledge to innovation. How does knowledge figure in innovation systems, and can innovation study be combined analytically with learning and related approaches?

**Localised learning and tacit knowledge:** Tacit knowledge is vital to a company's or an economy's competitive advantage and informs the appreciation and take-up of codified knowledge in various forms. Agents learn from their daily experience in specific contexts, and develop new knowledge in their domains of competence. There must be complementarity between the stock of knowledge and the flow of new knowledge to enable learning to occur. But how do these processes work, and how in practice is incremental learning combined with more 'heroic' forms of innovation?

**Collective learning:** Knowledge is also available through interactions between firms and other players within and beyond the market, and these external sources are an important input into the production of knowledge. Collective learning also requires complementarity between external and internal knowledge. These 'relational assets' are therefore an important resource in the learning processes and in innovation, and physical proximity is seen as important because it provides access to these assets. Several mechanisms of 'learning' have been identified: the formation of new spin-out enterprises, inter-firm interaction and social contacts, flows of skilled personnel between firms and the development of staff career trajectories.








**The knowledge trade-off:** What evidence is there for a 'knowledge trade-off' whereby the excludability provided by intellectual property rights (or other barriers-to-market-entry), whilst giving firms the incentive to produce knowledge, diminishes the beneficial spill-over of knowledge into the economic system as a whole? Does this process function uniformly across sectors and regions?

**Regions as closed systems:** the emphasis upon endogenous growth has led some scholars to question the degree to which the 'new regionalism' assumes the self-contained existence of regions as causative objects and tends towards a new form of spatial fetishism. It would be a mistake for the focus upon endogenous capabilities within regions to lead to the neglect of external networks and the role, for example, of mobile capital or nation states. Thus we need to combine a sectoral and regional approach that examines knowledge in a broad context.

**Regional capabilities and lock-in:** One of the aspects of regional development that has not been adequately addressed is the reason why some regions are capable of adapting to change and developing new trajectories of development whilst others cannot escape previous lock-in. What pattern of local capabilities can provide a condition for successful adjustment as against that pattern which may provide the opposite? What sort of balance is struck in different settings between the maintenance of local networks and conditions of trust, and the opening of regions to the benefits of knowledge processes occurring in other areas or scales?

**New firms, new markets:** It is argued that conventional business models need not be applicable in knowledge industries, and there may be emerging a flexible management and product strategy, in which the different resources required to establish firms are being assembled and constituted. Firms may not have a traditional form, including no formal management structure. Employment may be very casual, with job insecurity and self-exploitation, and the distinction between work and socialising may be hard to draw. Careers may be episodic, with people moving into and out of periods of intense work followed by breaks or sabbaticals. But it is unlikely that these patterns are general throughout sectors where knowledge is becoming more important, so what is their scope?

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