

Project Consortium

The PILOT project emerged from co-operation between social scientists and economists which started in early 1999. The Consortium comprises partners from universities and research institutes in nine European countries.

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PILOT
POLICY AND INNOVATION IN LOW-TECH

Research Project

Policy and Innovation in Low Tech Knowledge Formation, Employment & Growth Contributions of the 'Old Economy' Industries in Europe (PILOT)

Project Coordination

University of Dortmund
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Project Objectives

Project Idea

It is a general understanding that mature industrialised nations currently undergo a fundamental transformation into 'Knowledge Societies'. The competence to generate, take up and utilise new knowledge is seen as decisive factor for both economic success and societal progress. Permanent innovation demands flexible adaptation of production processes, organisational structures and the workforce. There is a firm belief that in this situation the improvement of 'high-tech' industries is the key to welfare. Correspondingly, in this scenario so called 'low-tech' sectors appear to be less important in and for the major industrialised countries. Depending on the political attitude they are regarded as an obsolescent model or an endangered species. Due to the global division of labour the appropriate place for producers of seemingly mundane goods such as simple gaskets, office material, corrugated paper boxes, standard kitchen furniture, and bath tubs are less developed and low-wage regions. Hence, so the argument continues, up-to-date economic and technological policy should primarily support the emergence and development of competitive, knowledge-intensive high-tech sectors.

Starting point of PILOT is a fundamental critique of this widely held belief. Basically, the sketched argument conjures away the role of low-tech industries – in manufacturing as well as in service sectors – in the current structural change in advanced economies. In fact, many of the processes we witness today are based on developments outside the realm of high-tech. As empirical studies show,

- low-tech industries are – and will be in the foreseeable future – important not only for employment and growth but also for knowledge formation in European economies,
- the usually underestimated innovative capabilities of these industries support rapid technological change elsewhere,
- low-tech products and companies are very often a crucial precondition for the innovative ability of whole value chains and for the design, fabrication and application of high-tech products of various kinds.

The project aims at deepening the understanding of growing knowledge intensity of the economic and social development in Europe. It is assumed that the process depends not only on industries with frontline technological knowledge but also on low-tech industries. These are not necessarily low-growth industries; many companies and branches within these industries are growing fast, are inter-linked with high-tech and service branches and provide an important basis for growth and employment in the future. The role and importance of these industries in different European nations and for the economic and social prospects of Europe as a whole are analysed.

Mapping and analysing learning processes and innovation patterns, the PILOT project tends to identify the deep, complex and systemic knowledge base that contributes to innovation and knowledge creation in low-tech industries and particularly in individual companies. This will also allow to identify systemic interdependencies between low-tech and high-tech sectors in a network perspective.

The main objectives can be summarised as follows:

- Formulate viable concepts of 'knowledge and technological intensity' and 'learning process' with a wider applicability and a deeper analytical basis than those currently available.
- Determine the role and importance of specific low-tech industrial sectors for the innovative abilities of regions and/or nations.
- Identify the knowledge base that enables innovation and knowledge creation in low-tech industries.
 - Ascertain the relevance of firm-level knowledge from a network perspective to gain an understanding of innovative ability along whole value-chains, including high-tech and service companies.
 - Contribute to the formulation of policies on industrial restructuring which pays appropriate attention to the significance of low-tech industries for the further economic and social development of Europe.

Project Methodology

Research pursues a double-tracked methodology. On the one hand, conceptual, taxonomic and data issues are tackled. The currently dominating concepts of 'technology and knowledge intensity' and of the 'learning process' in firms do not contribute very much to an understanding of low-tech industries and their relevance for innovation and growth. Hence, it is inevitable to depart from both the high-tech concept and from the industry classification based upon it and to develop a new conceptual framework.

On the other hand, low-tech firms are scrutinised empirically. The core of the project is an extensive series of company case studies in ten countries across Europe. Emphasis is placed on their use of technologies, on typical patterns of innovation and of knowledge creation as well as on the importance of (which) formal skills and qualifications. Other issues are the collaborative behaviour of firms in different regions and the quality of employment and qualification structures in low-tech industries in the future. Analysis focuses on three levels:

- individual companies
- inter-firm networks
- impact of innovation and industrial policies on the development of low-tech sectors.

Expected Results

The project will determine the importance of low-tech industries for innovative and sustainable growth in Europe; it will be the first large-scale integrated project to do this. An enhanced theoretical and empirical understanding of industrial structures will allow valid assessments of low-tech industries' contribution to growth, employment and knowledge creation in the economy. Furthermore, policy implications for employment, welfare and cohesion in Europe will be elaborated and corresponding recommendations will be prepared.