



ABSTRACT WORKING PAPER 4.3

**A country-level knowledge production analysis with parametric
and non parametric methods**

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Abstract

Economic growth, according to both applied and theoretical economists, is not entirely dependent on traditional production factors endowment, such as physical capital and labour, but more and more related to the stock of intangible resources such as culture, competence, innovative capacity, knowledge.

Our main aim is, consequently, to provide an exploratory analysis on the phenomena of knowledge creation and diffusion in Europe and its neighbours at the country level. We firstly describe the innovative activity across countries in order to make available a comprehensive picture of this phenomenon across and beyond Europe. We analyse both input (R&D expenditure) and output indicators (patent applications) for the 27 European countries and the 16 European Neighbouring Countries.

Moreover, we analyse the main factors influencing the innovation process. We pursue this aim by adopting both parametric and non-parametric methods to investigate about the knowledge production function at the country level. The analysis is mainly speculative because the absence of information about some potentially important phenomena, such as human capital, may hinder our results and conclusions. Nevertheless, main results are robust and confirm previous analysis at the country and regional level. Moreover, they add some original finding about the potential for catching up of European Neighbouring Countries.