

Assessing the impact of universities on European regional TFP

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Recognized as key drivers of regional economic development and innovation performance, universities operate through two primary channels: the generation of highly qualified human capital and the creation and dissemination of knowledge. This paper aims to enhance our comprehension of universities' regional influence from a relatively unexplored perspective: the impact of university activities on regional total factor productivity (TFP). To this end, the paper builds on the groundwork laid by Marrocu et al. (2021), which established a framework for measuring universities' effects on TFP across European regions. This ongoing research endeavour seeks to expand upon the initial study by placing significant emphasis on the knowledge generation and transfer initiatives undertaken by universities. Additionally, the project aims to investigate the incremental impacts of specific university characteristics, such as quality, research intensity and collaboration with industrial partners.

The study assesses the impact of universities on total factor productivity across 220 European NUTS 2 regions from 2000 to 2019. We use data from the JRC EU Commission's Knowledge4Policy (K4P) platform (website: <https://knowledge4policy.ec.europa.eu/>) to compute the indicator of regional TFP. Our main variable of interest is the number of university patents at regional level. We retrieve this information from OECD, REGPAT database, August 2023. Data from the RISIS-ETER database are used to identify some university characteristics, such as scientific publication, participation in EU-FP projects (notably those in collaboration with industrial partners), proportion of third-party funding, as well as the share of STEM graduates (Lepori et al., 2015).

Preliminary results tend to suggest that higher number of university patents are associated with a significant increase in the regional TFP. Interestingly, this impact appears to be greater for regions where second tier universities are located. This conclusion is in line with previous studies from Atta-Owusu et al. (2021) and Barra et al. (2020). Some policy implications are proposed.

References:

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