The impact of digitalization and green technologies on wage gaps in Europe

Author: Yiqi Liu (yiqi.liu@stud.plus.ac.at | 12438675)

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# Abstract

Nowadays China's outbound investment and foreign exchanges show an increasingly frequent trend. As a region with close exchanges in China, Europe's wage gap is affected by digitalization and green technology and needs to be paid attention to. Various advanced geographical correlation analysis methods have been used in this field to detect the relationship. However, most of the research on this field by Chinese scholars is mainly based on domestic research. In addition, there is still a lack of research on how digitalization and green technology interact and jointly affect wage gaps. Analysis on the geographical scale is rare. The goal of this study is to construct an indicator system for digitalization and green technology adoption applicable to Europe, measure the values and further quantify the separate and joint impact of digitalization and green technology adoption on wage gaps by using regression models like Ordinary Least Squares (OLS), and then use spatial econometric methods like Multiscale Geographically Weighted Regression (MGWR) to explore the regional heterogeneity and get the results as maps and tables. This research focuses on the impact of digitalization and green technology on wage gaps and it is assumed that both digitalization and green technology will have an impact on wage gaps, but the impact on different regions differs. This research describes a new approach to conducting correlation studies at the geographic level using software such as ArcGIS Pro and using wage gap, ICT data from Eurostat also green technology patent data from PATENTSCOPE. The research results can enrich the understanding of the Chinese government and enterprises on the economic and industrial development in Europe, also provide an objective basis for analyzing the trends of economic and regional development policies in European countries for researchers. In addition, it can make up for the neglect of spatial heterogeneity in existing studies, and provides new empirical support for the issue of technological change and economic inequality in human geography.

# Keywords

Digital economy, Green technology, Income inequality, Correlation, Heterogeneity, MGWR.