

Abstract

Innovation potential as a factor of regional development on the example of the Visegrad Group countries

The subject of the analysis in this work is the innovation potential in the regions of the Visegrad Group countries and its changes in 2008-2017. The innovation potential determines both the innovativeness of the processes taking place in the studied area and the innovations resulting from these processes. Innovation determines the competitiveness of economies at every level (EU, national, regional, local) and thus contributes to their modernization, economic growth, and also conditions social development. Innovation as a factor of regional development enables solving problems occurring on a global scale, such as climate change and social issues, including social inequalities.

The term innovation potential is rarely used in the literature. The concept of regional innovation potential assumes that the region is perceived as an innovation incubator, which creates conditions (largely for innovative companies) for the development of innovation (Raines & Ache, 2000).

This study covers the NUTS 2 regions of the Visegrad Group (V4) countries, which form an alliance of four countries: the Czech Republic, Poland, Slovakia and Hungary. The aim of this group is to develop cultural, economic, energy and military cooperation. The countries of the Visegrad Group are characterized by a lower level of economic development compared to the leading EU countries in this respect. For this reason, innovation is for them an opportunity to overcome development differences.

The main aim of this paper is to assess the differentiation of the innovation potential of the Visegrad Group countries and the changes taking place therein, as well as to determine the impact of the innovation potential on the development of these regions.

Four research hypotheses were formulated in the work.

- H.1. The regions of the Visegrad Group countries are diversified in terms of the level of innovation potential.
- H.2. The level of the innovation potential in the regions of the Visegrad Group countries shows an increase over time.
- H.3. There is a positive relationship between the level of economic development and the level of innovation potential in the studied regions.

H.4. The increase in the level of innovation potential of the regions of the Visegrad Group countries has a positive effect on their economic development.

The problem of the innovation potential and its relation to regional development is multifaceted, therefore, for its evaluation, a number of different methods are used in order to obtain the most objective results possible. The following methods were used in this work:

- literature studies on innovation, innovation potential, Regional Innovation Systems, innovation strategy and quantitative research methodology,
- statistical and econometric, in particular correlation and regression analysis, cluster analysis, multivariate comparative analysis, spatial statistics, convergence analysis,
- case studies concerning selected regions,
- SWOT analysis - made on the basis of regional innovation strategies in order to identify strengths and weaknesses as well as opportunities and threats related to the innovation potential in the studied regions of the Visegrad Group countries

As a result of the research conducted with the use of the Taxonomic Innovation Potential Measurer (TMPI), the hypothesis H.1. saying that the regions of the Visegrad Group countries are largely differentiated in terms of the level of innovation potential, has been confirmed. Moreover, with the passage of time, the level of innovation potential in the regions of the Visegrad Group countries increased, which makes it possible to confirm the research hypothesis H.2.

In the further part of the research, the innovation potential was compared with the level of regional development measured by GDP *per capita*. The hypothesis H.3 was verified and confirmed in the light of empirical research, so there is a positive relationship between the level of economic development and the level of innovation potential in the studied groups of regions.

The last research hypothesis H.4. has been confirmed in empirical studies which showed that the level of innovation potential in the regions of the V4 countries measured with the use of TMPI positively influences their level of regional development expressed by an increase in the value of the GDP *per capita*.