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Regional Disparities of the Social Innovation Potential in the Visegrad Countries: Causes and Consequences

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Abstract

The international literature is paying significant and increasing attention to the analysis of the regions' innovation potential, and its active contribution to economic growth and competitiveness. Beside the classical, technical innovation, also the social innovation is getting even more emphasis. It can solve as alternative basically in the case of the peripheral territories. The convergence of peripheries is a stressed priority in the European Union. The territorial disparities are resulting in significant social and political problems also in the case of the Visegrad countries' regions. The authors in their research represent a possible method for the measurement of regional (NUTS-2) level social innovation potential on the example of the Visegrad countries, and they also analyse the causes and consequences of disparities. The applied complex social innovation index can be calculated as a result of three pillars (economic, social, culture and attitude), and several components. As a result of the created patterns can be concluded that compared to the economic indicators, the disadvantage of the peripheries is not so significant in the case of the social innovation index, because of the complex character of the index. In the second part of the research, the authors analyse and evaluate also the methods, which can be adequate for increasing the social innovation potential.

Keywords: social innovation, Visegrad countries, inequalities.

JEL-code: 035, R12.

Introduction

The literature is paying increasing attention to the analysis of the so-called social innovations; it means such new or recent solutions which can solve given social problems in a more efficient and effective way as before. Based on our experiences the problems of regions which are in a relatively underdeveloped and peripheral situation (e.g.: low educational attainment level, low activity rate, high unemployment rate, low human development index, poverty, etc.) cannot be solved by a single technical or technological based innovation because of the moderate level of innovation potential (e.g.: low level of R&D&I absorption capacity, passivity, resignation, etc.). Because of this fact, there is a need for such new or recent solutions, which can give creative answers for these problems (European Commission, 2013; Moulaert et al. 2014; Benedek et al. 2016; Kocziszky - Veresné Somosi, 2017).

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The social innovations can be very different based on their objectives, forms, funding method and their innovators

(Figure 1).



Figure 1. Typology of social innovations, Source: compiled by the authors

The socio-economic problems of the territories in a peripheral situation are permanent and recurrent. This has got partially inner (e.g.: increasing income inequalities, aging society, etc.) and outer (e.g.: migration waves) causes, which cannot be solved by a particular financial intervention or by periodical projects. The economic and natural science based innovations are clustering by territories and sectors, as it can be verified also through the international statistics. There is a need for a paradigm shift. Beside the natural science and engineering based R&D – which require more and more expenditures – there is a need for new and adequate solutions for nowadays' challenges to manage the socio-economic problems of the small communities (settlements, regions) (OECD – European Union, 2015).

The aim of our research is to examine the so-called social innovation capabilities (potential) of the peripheral regions, to analyse the innovation willingness of the local communities (how it can be increased, e.g.: searching innovators and new solutions or developing the initiatives for this type of innovation), and to study the creation and the sustainability conditions of the new or recent solutions.

The Visegrad cooperation (V4)

The regional participant of the most recent history of the Central-Eastern European political space, the Visegrad cooperation was created by three post-communist countries (Czechoslovakia, Poland, and Hungary), which was increased to four members after the collapse of Czechoslovakia in 1993. The agreement was signed in Visegrad in 1991.

The political cooperation intensity and the advocacy skills of the four countries are varying, it depends and it depended on the one hand on foreign policy interests (e.g.: actual relationship with Russia, Belorussia, etc.), and on the other hand on domestic politics (e.g.: ethnic, party politics, etc.). Accordingly, the relationship of the cooperation partners was looser in

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the middle of the 1990s, partially because of the collapse of Czechoslovakia, and partially because of the Slovak-Hungarian opinion differences in the ethnic questions.

In the last years, despite the existing and sensible opinion differences (e.g.: the assessment of the Benes' decree, energy security, etc.), both the political, cultural and economic relations have improved/strengthened, the meetings and common foreign policy appearances among the leaders of the V4 countries became regular.

The economic situation of the so-called Visegrad countries was improved further after the EU accession (2004), a small convergence/catch up can be identified, but parallel with this also the territorial inequalities were increasing (Figure 2).



Figure 2. Size and standard deviation of the GDP per capita in the Visegrad countries

Source: compiled by the authors

There is a strong correlation between the GDP per capita and the natural sciences based innovation potential of the V4 regions (Figure 3). The analyses verify that the capital regions and the regions with big universities or research centres are the core regions, while mainly the eastern regions of the given countries are in a relatively peripheral situation based on their GDP per capita and R&D&I expenditures.

From the examined 35 regions, three can be ruled in the first cluster, which has got a strong innovation activity, two regions belong to the second, 16 to the third, 7 to the fourth, and 7 to the fifth cluster (this last one contains the least innovative territories).



Figure 3. Clusters of the Visegrad countries' regions based on their natural science based innovation capabilities (2015)

Source: compiled by the authors based on Pylak & Wojnicka-Sycz, 2016.

(Note: (1) Rich regions with modern services and high endowment of human resources; (2) Moderately rich regions, with a high share of market services in employment and modern industry; (3) Medium-poor regions with low R&D expenditure and patent activity; (4) Poor regions with very weak R&D activity and patent applications; (5) Regions without significant patent activity)

Aims and model of the research

Our research's main objective is to define the social innovation potential of the V4 countries' NUTS2 regions (35 regions). Through our research, we have created three basic components (Figure 4) and 14 indicators (Table 1) which are in our opinion in a strong connection with the social innovation potential.

| | | | S | ocial in | novatior | 1 potenti | al | | | |
|-------------------------|--|------------------------------|-----------|----------------|-------------|-----------|---------------------------|---------|---|--|
| Framework conditions | Econ | lomic | Social | | | | | Cul | Culture and attitude | |
| Components | Economic activity of for- and non- profit organizations | Project application activity | Education | Working status | Social care | Health | Housing and communication | Culture | Attitude, acceptance and tolerance of the inhabitants | |
| Indicators | 1,2,3 | 5,6 | 4 | 7,10 | 9 | 12 | 11,13 | 8 | 14 | |

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Figure 4. Measuring the local level social innovation potential, Source: compiled by the authors based on Szendi (2017)

Table 1. Applied indicators

| No. | Indicator |
|-----|--|
| 1 | Number of NGOs per 1000 inhabitants (I1) |
| 2 | Number/density of enterprises per 1000 inhabitants (I2) |
| 3 | Number of non-profit organizations per 1000 inhabitants (I3) |
| 4 | Educational attainment: Share of population with higher education attainment per 1000 inhabitants (I4) |
| 5 | Application activity: size of obtained EU support per 1000 inhabitants (I5) |
| 6 | Number of supported EU projects per 1000 inhabitants (I6) |
| 7 | Number of persons in "public employment" per 1000 inhabitants (I7) |
| 8 | Number of traditional cultural events per 1000 inhabitants (I8) |
| 9 | Number of people who gets social care per 1000 inhabitants (I9) |
| 10 | Unemployment rate: Number of unemployment per 1000 inhabitants (I10) |
| 11 | Housing (I11): Number of houses with 4 or more rooms per 1000 inhabitants; and newly built floor space per |
| | 1000 inhabitants |
| 12 | Health (I12): number of doctors and pediatrist per 1000 inhabitants |
| 13 | Communication (I13): number of Internet subscribers per 1000 inhabitants |
| 14 | Number of foreigners among the population per 1000 inhabitants (I14) |

Source: compiled by the authors based on Szendi (2017)

By the creation of the complex index, there was a need for the modification of the given indicators to get summable, comparable data. The first step was that from the absolute dates with the help of the population we have created specific data, and we have computed the indicator values per 1000 inhabitants. After that, to develop comparable indicators we have applied a normalization method, similarly to the method of the Economist Intelligent Unit in 2016. The minimum and maximum values correspond the territorial minimum and maximum values. After the normalization, all index values are between 0-100 scores.

After that, the complex social innovation index can be created, which is the geometrical mean of the given component values (we have also used geometrical mean by the components' creation). The method can be described as follows:

$$I_{economic} = \sqrt[2]{\sqrt[3]{I_1 * I_2 * I_3} * \sqrt{I_5 * I_6}}$$

$$I_{social} = \sqrt[5]{I_4 * \sqrt{I_7 * I_{10}} * I_9 * I_{12} * \sqrt{I_{11} * I_{13}}}$$

$$I_{cultural} = \sqrt{I_8 * I_{14}}$$

$$SI = \sqrt[3]{I_{economic} * I_{social} * I_{cultural}}$$

where the index numbers correspond the index numbers of Table 1.

Calculation results and conclusions

We have made our analysis for two time periods (2008 and 2016) based on the dates of the EUROSTAT for the following components:

Social:

- Share of population with higher education attainment in the population aged 25-64 (%)
- Unemployment rate (%)
- Number of doctors per 1000 inhabitants
- Institutions of social care per 100000 inhabitants

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Economic:

- Number/density of registered enterprises per 1000 inhabitants
- R&D expenditure per capita (Euro/capita)
- Share of employment in the high-tech sector in % of the total

The analysis results clearly verify that the social innovation potential is very high in the regions (e.g.: Praha, Bratislavsky kraj, Közép-Magyarország, Mazowieckie), where also the natural science based innovation potential is high (Figure 3).

The regions which are in the worst situation (Moravskoslezsko, Lubuskie, Severozápad, Podlaskie, Warminsko-Mazurskie, Podkarpackie, Swietokrzyskie) can be found in a complex disadvantaged situation. In the case, if the social innovation potential of this regions cannot be improved significantly, there will be expected no substantive position change.





This can be verified also by the cluster dates (Figure 6).



Figure 6. Clusters of the social innovation potential (2008 - left; 2016 - right), Source: compiled by the authors

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Concluding remarks

The economic performance of the Visegrad countries was improved in a higher amount than the EU average after their EU accession (2004). The stagnation of the country group's peripheral, disadvantaged regions is slowing down the convergence process in different intensity. In the case, if there will be no significant change in the causes of stagnation (low activity rate, lower level value-added, low density of enterprises, lack of initiatives, depression), there is a risk of forming such a growth trap, from which it is very hard to break out. These regions - also in the future - cannot get greater financial solidarity than before.

The social innovation is not a magic weapon; it cannot solve the problems of the peripheral settlements, communities at one go, but it can help by the breakout.

Based on our experiences, in this process, the local innovators (religious and nonprofit organizations) and their cooperations and networks can have a crucial role. Because of this in the future, there should be given more methodological and empirical support to these initiatives.

References

- Benedek, J., Kocziszky, Gy., Veresné Somosi, M. & Balaton, K. (2016). Generating and Measuring Regional Social Innovation. *Theory Methodology Practice*, 12 (Special Issue), 14-25. https://doi.org/ 10.18096/TMP.2016.02.02
- [2] European Commission (2013). Guide to social innovation, DG Regional and Urban Policy and DG Employment, Social affairs and Inclusion, Brussels. Retrieved from: http://s3platform.irc.ec.europa.eu/documents/20182/84453/Guide to Social Innovation.pdf
- [3] Kocziszky Gy. & Veresné Somosi M. (2017). Opportunities for Increasing Efficiency by Public Utility Organizations. European Journal of Economics and Business Studies, 7(1), 136-147. http://dx.doi.org/10.26417/ejes.v7i1.p136-147
- [4] Moulaert, F., MacCallum, D., Mehmood, A. & Hamdouch, A. (2014). *The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research*. Cheltenham: Edward Elgar.
- [5] OECD & European Union (2015). Policy Brief on Social Impact Measurement for Social Enterprises, Publications Office of the European Union, Luxembourg. Retrieved from: https://www.oecd.org/social/PB-SIM-Web_FINAL.pdf
- [6] Pylaka K. & Wojnicka-Syczb E. (2016). Transforming Innovation Models to Change the Development Paths of Less-Developed Regions. *Procedia Engineering*, 161, 2179 – 2183. https://doi.org/10.1016/j.proeng.2016.08.812
- [7] Szendi, D. (2017). Measuring the social innovation potential in the Northern Hungarian region. RSA CEE Conference: Regional Polarisation and Unequal Development in CEE: Challenges for Innovative Place-based Policies; Cluj-Napoca. Available at:

http://www.regionalstudies.org/uploads/Measuring_the_social_innovation_potential_(RSA_Szendi_Dora).pdf

[8] The Economist Intelligence Unit (2016). Old problems, new solutions: Measuring the capacity for social innovation across the world, London. Retrieved from: https://www.essmart-global.com/wpcontent/uploads/2016/12/2016.09.29-Economist-Social-Innovation-Index.pdf