Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie
The Małopolska School of Economics in Tarnów Research Papers Collection
ISSN 1506-2635, e-ISSN 2658-1817
2020, 46(2), 13–27
DOI: 10.25944/znmwse.2020.02.1327

Is the European Union membership a sufficient factor to improve the level of regional development? The case of Albania and voivodeships in Poland

Sylwester Kozak

Warsaw University of Life Sciences—SGGW, Poland

E-mail: sylwester_kozak@sggw.pl
ORCID: 0000-0001-9485-6704

Etleva Muça

Agricultural University of Tirana, Albania

E-mail: evadashi@ubt.edu.al
ORCID: 0000-0002-6524-8467

Abstract: The article presents the results of research on changes in the level of regional development in Albania and in all voivodeships in Poland in the years 2010–2017. The applied annual data come from national statistical offices and include two social and six economic criteria. The study used one of the methods of multi-criteria decision analysis—TOPSIS with vector and linear parameters' normalization. The results obtained (for both methods of normalization) indicate that in the years 2010–2017 Albania made the greatest progress in regional development, raising it from the lowest level in 2010 to comparable with several Polish voivodeships in 2017. Unlike some Polish voivodeships, Albania has significantly improved the demographic situation, conditions on the labour market and reduced employment in agriculture. The group of Polish voivodeships that have achieved the greatest progress in regional development have maintained positive demographic perspectives, increased the GDP growth, improved labour market conditions and increased the economic activity of their inhabitants. The results of the study indicate that EU membership is a favourable, but in some cases insufficient, circumstance for raising the overall living standards of households and the performance of enterprises operating in a given region.

Keywords: Albania, Poland, regional development, TOPSIS method

1. Introduction

The terms *region* and *regional development* are extremely important in analyzing socio-economic processes occurring in all countries of the world. Regional development is essential for improvement of the socio-economic conditions of the entire country. It is defined as a set of positive quantitative and qualitative changes taking place in a specific geographical area (Jasiński and Wiatrak, 2010). The effects of regional development are, among others, gains in the households' income and increases in enterprises' turnover, as well as in budget revenues of local and central authorities. From

Financed by:
Małopolska School of Economics in Tarnów with support of the Ministry of Science and Higher Education ("Support for scientific journals")

Correspondence to:
Sylwester Kozak
Szkoła Główna Gospodarstwa Wiejskiego
Wydział Ekonomiczny
ul. Nowoursynowska 166
02-787 Warszawa, Poland
Tel.: +48 22 593 42 49

a social point of view, regional development intents to fully meet social needs and raise the society's standards of living.

Regional development is a socio-economic process of a diverse nature both in geographical, spatial and temporal dimensions. The pace of this process and structure of regional development are influenced by, among others, such factors as climate, culture, society and politics. In this context a country's membership in the European Union seems to be an important stimulant of regional development. It stems from the fact that one of the basic EU missions is to equalize the level of socio-economic development in all Member States. One of the implementation tools of this strategy are cohesion funds which are dedicated to the poorer regions of the EU. At the same time, associated or candidate countries have much more limited opportunities to benefit from the EU financial support in conducting their development programmes. As a result, they must catch up on technological and economic backlogs with an increased effort of their own society. Indicators GDP per capita, disposable income and unemployment rate have the highest importance in evaluation of regional disparities and the level of region's development (Poledníková, 2014). On the other hand, they are considered important tools for the economic performance both over time and between countries and regions (Widuto, 2016).

In the years 2010–2017, the socio-economic situation of Albania and Poland slightly improved, although the pace of the development processes in both countries was variable. It resulted, among others, from deterioration of economic conditions in the EU advanced economies, complex demographic conditions, diversified level of advancement in the new technologies.

The aim of the study is to assess the level and the size of changes through specific indicators about socio-economic development in Albania and in individual regions (voivodeships) in Poland in 2010–2017. The comparison of the economies of an independent country with Polish regions was made due to the fact that both in demographic and economic terms Albania is almost ten times smaller than Poland, and at the same time comparable to the Polish medium region. Albania as candidate member has adopted the NUTS system through the Decision of the Council of Ministers no. 1037 dated 5 December 2010 (Official Gazette, 2010). But even with the adoption with this law the regional development policy has been very fragmented (Manxhari, 2015). In addition, the model of regional development within Albania is not so clear due to the lack of implementation mechanisms and the frequency of ad hoc actions and interventions of the institutions involved (Imami, Bejko and Shutina, 2018). The results of the development assessment help to answer the question if the EU membership is a sufficient advantage for maintaining a regional advantage over areas outside the EU. The time range of the research results from the availability of statistical data (especially in the case of Albania). To assess the degree of development the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method was used, which belongs to the group of multi-criteria decision making methods (MCDA) (Roszkowska and Brzostowski, 2014).

The rest of the article has the following structure. The next part presents the results of the analysis of economic literature, followed by an analysis of the macroeconomic situation in Albania and Poland, the applied data used, methods, research results and their discussion. The entire study is summarized in the conclusions.

2. Literature review

According to one of the definitions mentioned in the economic literature, regional development is defined as a set of a number of socio-economic changes taking place in the region, which can be considered as welfare indicators (Aivazian, Afanasiev and Kudrov, 2018). It is assumed that these changes result from the implementation of development programmes, as well as the long-term impact of endogenous and exogenous factors. These processes include internal and external relations between the components of the regional socio-economic system, including enterprises and the economic structure (Chojnicki and Czyż, 2004; Feldman et al., 2005). In most cases, regional development causes favourable economic changes, i.e. the construction of new roads and infrastructure buildings or the creation of new jobs (Łaźniewska and Gorynia, 2012, pp. 177–178). Additionally, it is commonly equated with improving the economic situation. However, changes in society are also important for the situation in the region. For this reason, the implementation of development-oriented programmes should ensure an increase in the standard of living of the region's inhabitants and the competitiveness of business entities operating there (Szlachta, 1996).

In his theory of new industrial spaces Scott (1988) indicates that an adequate assessment of the level of regional development should consider changes in the variables of nature:

– quantitative—including growth of such parameters as: GDP, personal income, turnover and profits of enterprises, employment level, length of roads and railways;
– qualitative—including: improvement of health care, raising the level of education, optimal satisfaction of cultural and recreational needs, increasing quality of environment.

In similar way Kudłacz (1999, pp. 15–16) and Brol (1998, p. 17) define regional development. The first of them assumes that development of the region reflects the increase in its economic potential and standards of living of its inhabitants. The second author states, that development of the region encompasses the lasting improvement of the economic potential and boosts the level of competitiveness. In a result it raises the quality and standards of living of its inhabitants. Specific indicators of regional development may influence countries towards economic growth or the welfare level (Stanners et al., 2007, pp. 127–145). On the other hand, it is important to understand that the regional development paradigm in many countries and regions may be "partial and may be temporary" (Charles, 1994).

Sustainable development is the basic regional development strategy in the EU concept respecting the principles of balanced development. Such a policy presupposes a balance between economic, social and environmental objectives (Jacobs, 1999, pp. 21–45; Välimäki, 2002). Although it imposes some short-term restrictions (e.g. environmental or economic) in some areas, it is however effective in the long term. The principles of the sustainable development strategy are included in the process of creating development programmes by national and local administration (intra-regional policy), as well as a supranational strategy involving several Member States (interregional policy) (EU, 2013).

The main goal of the implemented EU cohesion policy is to diminish interregional differences. This is done by accelerating the development of the poorest regions and reducing their economic and social lag in relation to other EU regions. Real cohesion policy is considered a real tool for regional development because it is integrated with the most important EU poli-

cies (Brunazzo, 2016). To limit economic and civilization disparities, this strategy aims to create new development opportunities in delayed and peripheral regions. This strategy consists of, inter alia, the construction of transportation, telecommunication and energy networks as well as environmental protection facilities of supra-regional importance. These activities are to facilitate the integration of poorer regions with highly developed economic centres (Adamowicz, 2011).

The mission of supporting regional development includes three groups of tasks:

1. Supporting the development and structural adjustment of regions lagging behind.
2. Supporting the economic and social cohesion of areas facing structural problems.
3. Supporting the adaptation and modernization of education, training and employment policies and systems (MFiPR, 2020).

The accession to the European Union in 2004 was a strong positive impulse for regional development in Poland (Adamowicz, 2011; Gorzelak, 2009). Regional development is one of the pillars of the European Union, and cohesion funds account for over a third of the EU budget. For example, in 2019, the EU allocated over 57 billion EUR out of an overall budget of 165 billion EUR to the "Economic, social and territorial cohesion" objective (EU, 2018). For this reason, for the regional policy of the Member States, cohesion funds have become an important source of development for the whole country, and in the case of regions one of the basic sources of infrastructure projects.

3. Macroeconomic situation of Albania and Poland

Albania is a country situated in the southwestern part of the Balkan Peninsula. With a population of 2,787,600 inhabitants it covers an area of 28,748 km^2 (INSTAT, 2019). In pursuit of economic, social and environmental development, the country is facing the globalization process and the challenges of the twenty-first century. Recently it made a significant progress towards the economic growth with the principal goal which is fighting the poverty. Albania grew from one of the poorest nations in Europe to a middle-income country and the poverty declined by half during that period (World Bank, 2019). As an effect of the global financial crisis the period 2010–2013 was accompanied with a deceleration of GDP. During the last decade, Albania has shown a positive performance in macroeconomic key indicators and a positive trend for the country's development. The year of 2017 was another period of economic expansion. The GDP growth increased to 3.8% and the GDP per capita to 4,007 EUR (INSTAT, 2019). One of the most important reasons for the GDP growth during the last two years was the strategic investments made by the central and local governments. However, it should be noted that Albania has the lowest GDP per capita in the Balkan region.

The state of Albanian economy is not stable. In 2017 public finances characterized with a high public debt (70% of GDP) and foreign trade shows a negative trade balance (–2.6 bn EUR) which is linked with a high level of imports. In Albania, both rural and urban areas suffer from the inefficient use of the resources, low mobilization of the local communities for an efficient decision making. The structure of working force is constantly concentrated on the agricultural sector. In 2017 the ratio of persons employed in agriculture amounted to 42% (INSTAT, 2019). However, the economic development is linked with other improving

criteria such as public infrastructure, health care, education, unemployment, social inclusion, migration and others. In Albania regional differences are significant vis-à-vis the size and poverty indicators (Merkaj, Lucchetti and Fiorillo, 2017). Albania has adopted the Innovation Strategy since 2009 with the main focus on the digitalization process in every field of life and economy in order to guarantee high security levels for the information networks, integrate and computerize the public administration and private sector services (MIPA, 2014). However, the results are not very optimistic since the actual strategy is focused only in youth capacity building and services digitalizing.

In the years 2010–2017 Poland's economic situation was variable. Its condition was significantly influenced by the situation in the EU, especially in Germany, a country whose share in exports remained on average 28% and imports 23%. In the years 2010–2011, Polish economy recovered after the negative impact of the global financial crisis. However, the crisis in public finances in the eurozone countries has contributed to another slowdown in Poland's economic growth in 2012–2013. During the following period, the economic situation slightly improved, which contributed to the raise in GDP dynamics to the level of 6.9%, as well as to improvement of the quality of the labour market. As a result, in 2013–2017 the unemployment rate fell from 9.8% to 5.4%, and the value of GDP per capita gained from 10.4 to 12.5 thousand EUR (Statistics Poland, 2020).

The economic expansion, recorded especially in 2017, had a positive impact on the condition of Poland's public finances. The value of the public debt in relation to GDP dropped from 53.2% in 2013 to 48.3% in 2017. The employment rate also grew up from 50.2% to 53.7%, respectively. During this time there were noticeable changes in the employment structure. In 2010–2017, the share of the employment in agriculture fell from 13.1% to 10.2%, while in services increased from 56.6% to 58%. The demographic situation and aging problem became important negative factors affecting the state of economy. Starting from 2013, the birth rate was negative, especially in 2015, when Poland's population decreased by 26,000 people.

The regional structure of the Polish economy is strongly diversified. According to Statistics Poland, at the end of 2017, the Masovian Voivodeship made the largest contribution to domestic GDP (22%). In terms of the size of economy, the next important voivodeships were Silesian (12.3%) and Greater Poland (9.9%). In turn, the least contribution to the country's economy came from voivodeships: Opole (2%), Podlaskie (2%) and Lubusz (2.2%). Along with the increase in the value of goods and services produced, the wealth of households also improved. The value of GDP pc in Masovia exceeded the national average by 60%. The national average was also exceeded in the following voivodeships: Lower Silesian (by 11%) and Greater Poland (9%). On the other hand, the value of GDP per capita in the Lubusz, Subcarpathian and Warmian-Masurian voivodeships was 30% lower than the national average.

4. Materials and methods

Multi-Criteria Decision Analysis Methods (MCDA) provide analytical support in the decision-making process consisting in choosing the proper solution from a finite number of alternatives. These methods have found frequent application in research in the areas of management, economics, medicine or technology (Dedania, Shah and Sanghvi, 2015).

The most important versions of MCDA methods are:
– simple Additive Weight (SAW);
– technique for Order Preference by Similarity to Ideal Solution (TOPSIS);
– compromise Ranking (or VIKOR—VIsekriterijumsko KOmpromisno Rangiranje).

One of the most recognized and widely used MCDA methods is the SAW. In this method, for each parameter (criterion) adopted for the assessment of the group of entities, the appropriate weight is assigned, which reflects the scale of its impact on the overall assessment of the entity. The final score of the attractiveness of a given entity is determined as the sum of the products of normalized values of parameters characterizing that entity and their weights. The TOPSIS method was developed by Hwang and Yoon (1981), and then improved by Lai, Liu and Hwang (1984) and Yoon (1987). Its concept assumes that each solution is characterized using a finite number of parameters (criteria) that have a positive or a negative impact on the final assessment. The best solution to a given problem has such values of the parameters that make the shortest distance to the perfect solution and the longest distance to the worst solution. In the VIKOR method developed by Opricovic (1981) and Opricovic and Tzeng (1984), the best solution is selected using a number of disproportionate (measured in different units) criteria. In the first stage, a ranking list of compromise solutions is created, each of which has a weight assigned to it. The best solution is the case with such parameters (criteria), which ensures the greatest multi-criteria "closeness" to the "ideal" solution.

In the study, the assessment of the level of regional development in Albania and voivodeships in Poland was carried out using the TOPSIS method in accordance with the following procedure.

Selection of criteria

The analysis of the literature on the subject and the set of available data about Albania and 16 voivodeships of Poland enabled to select 8 criteria C_j characterizing the socio-economic development of the region R_j. Six of them characterize the economic situations and two the social ones (Table 1). The selected criteria were divided into two groups:

1. Stimulants—having a positive impact on the assessment of a region: GDP growth, number of acting firms, monthly average wage, change in population.
2. Destimulants—having negative impact on the assessment of a region: unemployment rate, share of unemployed for 12+ months in total unemployed, share of employed in agriculture in total employed, infant death per 1000 live births.

Table 1. Set of criteria for assessing the level of regional development

Symbols	Description	Impact on development
C_1	GDP growth y/y	Stimulant
C_2	Unemployment rate	Destimulant
C_3	Share of unemployed for 12+ months in total unemployed	Destimulant
C_4	Number of acting firms per 10 000 people	Stimulant
C_5	Share of employed in agriculture in total employed	Destimulant

C_6	Monthly average wage in EUR	Stimulant
C_7	Change in population y/y	Stimulant
C_8	Infant death per 1000 live births	Destimulant

Source: Authors' own elaboration.

Assessment of weights for individual criteria

The weight for individual criterion C_j is calculated based on the following formula:

$$w_j = \frac{|Cv_j|}{\sum_{j=1}^{n}|Cv_j|} \tag{1}$$

where:
Cv_j—the coefficient of variation of the criterion C_j.

The weights must meet the following condition to equal 1.

Normalization of parameters

To allow a comparison of parameters x_{ij} measured in different units, a normalization procedure is required (Hwang and Yoon 1981; Wysocki, 2010). Two types of normalization were applied in the study:

1. Vector

$$z_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m}(x_{ij})^2}} \tag{2}$$

2. Linear

$$z_{ij} = \frac{x_{ij}}{\max\limits_{i} x_{ij}} \tag{3}$$

Calculation of the S_i score for regions

Based on the data on w_j and z_{ij} three matrices are calculated: the normalized decision (V), the positive ideal solutions (A^+) and the negative ideal solutions (A^-):

$$\begin{aligned} V &= [v_j] = [w_j \cdot z_{ij}] \\ A^+ &= [v_1^+, v_2^+, \ldots, v_n^+] \\ A^- &= [v_1^-, v_2^-, \ldots, v_n^-] \end{aligned} \tag{4}$$

where:
v_j^+—maximum values for stimulants and minimum for destimulants;
v_j^-—minimum values for stimulants and maximum for destimulants.

The Euclidean distances between the region R_i and the positive ideal solution and the negative ideal solutions are determined according to the following formulas:

$$d_i^+ = \sqrt{\sum_{j=1}^{n}\left(v_{ij} - v_j^+\right)^2} \text{ and } d_i^- = \sqrt{\sum_{j=1}^{n}\left(v_{ij} - v_j^-\right)^2} \tag{5}$$

where:
d_i^+ —Euclidean distance between the region R_i and the positive ideal solution;
d_i^- —Euclidean distance between the region R_i and the negative ideal solution.

The regional development score S_i for the region R_i is calculated based on the following formula:

$$S_i = \frac{d_k^-}{d_i^- - d_i^+} \tag{6}$$

The measure S_i takes values from 0 to 1, with higher values indicating a higher level of regional development.

5. Results and discussion

The research compares the values of development scores for Albania and 16 Polish voivodeships (regions) in 2010 and 2017. Additionally, for robustness check the scores are calculated for the periods of 2010–2013 and 2014–2017 based on the average values of parameters within every period. Firstly, the weights of all criteria were calculated according to the equation 1 (Table 2). Due to high variability, the rate of employment in agriculture, the change in population and the GDP growth obtained the highest weight values.

Table 2. Weights of criteria characterizing the social and economic situation of a region

Weights: w_j	Criteria							
	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
	0.197	0.125	0.062	0.073	0.212	0.055	0.206	0.070

S o u r c e: Authors' own calculation based on the data of Statistics Poland and INSTAT.

Following the equations 2 and 3, the parameters x_{ij} were normalized with the vector and linear options. In the next stage, based on the equations from 4 to 6 the regional development scores S_i were calculated for the years 2010 and 2017 in two versions: using the vector and

linear normalized parameters (Tables 3 and 4). Additionally, an absolute and relative change of S_i scores between the years 2010 and 2017 were determined.

Table 3. Regional development level (version: vector normalization of parameters)

Region	Development score							
	2010	2017	Change	Change	2010–2013	2014–2017	Change	Change
AL	0.48	0.57	0.09	18%	0.47	0.48	0.01	1%
DO	0.70	0.60	–0.10	–14%	0.67	0.59	–0.08	–11%
KU	0.69	0.60	–0.10	–14%	0.67	0.58	–0.09	–14%
LE	0.68	0.47	–0.21	–31%	0.60	0.47	–0.13	–21%
LU	0.68	0.59	–0.09	–13%	0.66	0.58	–0.08	–12%
LZ	0.62	0.51	–0.11	–18%	0.56	0.51	–0.05	–8%
ML	0.67	0.70	0.02	4%	0.70	0.69	–0.02	–2%
MZ	0.67	0.70	0.03	4%	0.70	0.69	0.00	–1%
OP	0.53	0.53	–0.00	0%	0.50	0.52	0.02	4%
PD	0.69	0.63	–0.06	–9%	0.70	0.60	–0.10	–14%
PL	0.69	0.54	–0.14	–21%	0.63	0.52	–0.11	–17%
PM	0.69	0.69	0.00	1%	0.70	0.68	–0.02	–3%
SL	0.60	0.55	–0.05	–9%	0.57	0.54	–0.03	–5%
SW	0.66	0.47	–0.19	–28%	0.57	0.47	–0.10	–18%
WA	0.71	0.55	–0.16	–22%	0.69	0.54	–0.14	–21%
WI	0.65	0.67	0.02	2%	0.69	0.66	–0.03	–4%
ZA	0.69	0.57	–0.12	–18%	0.68	0.56	–0.11	–17%

N o t e: AL—Albania, DO—Lower Silesian, KU—Kuyavian-Pomeranian, LE—Lublin, LU—Lubusz, LZ—Łódź, ML—Lesser Poland, MZ—Masovian, OP—Opole, PD—Subcarpathian, PL—Podlaskie, PM—Pomeranian, SL—Silesian, SW—Świętokrzyskie, WA—Warmian-Masurian, WI—Greater Poland, ZA—West Pomeranian.

S o u r c e: Authors' own calculation based on the data of Statistics Poland and INSTAT.

Additionally, in order to eliminate the impact of one-off events on the final assessment of the S_i scores and for robustness check, the scores of regional development were counted for two consecutive four-year periods, i.e. for the years 2010–2013 and 2014–2017.

Table 4. Regional development scores (version: linear normalization of parameters)

Region	Development score							
	2010	2017	Change	Change (%)	2010–2013	2014–2017	Change	Change (%)
AL	0.25	0.36	0.11	44%	0.21	0.22	0.01	7%
DO	0.73	0.42	–0.31	–43%	0.62	0.37	–0.25	–40%
KU	0.63	0.35	–0.27	–44%	0.54	0.28	–0.26	–49%
LE	0.53	0.23	–0.29	–56%	0.39	0.22	–0.17	–43%
LU	0.63	0.35	–0.27	–44%	0.57	0.31	–0.26	–46%
LZ	0.40	0.22	–0.18	–46%	0.28	0.23	–0.04	–16%
ML	0.59	0.70	0.10	18%	0.65	0.70	0.05	8%
MZ	0.63	0.78	0.15	25%	0.70	0.78	0.08	12%
OP	0.26	0.24	–0.01	–5%	0.28	0.25	–0.03	–11%
PD	0.55	0.43	–0.12	–21%	0.52	0.37	–0.16	–30%
PL	0.56	0.29	–0.27	–48%	0.43	0.18	–0.24	–57%
PM	0.71	0.81	0.10	14%	0.77	0.79	0.02	3%
SL	0.40	0.29	–0.11	–28%	0.32	0.26	–0.06	–20%
SW	0.50	0.23	–0.27	–54%	0.31	0.23	–0.08	–26%
WA	0.65	0.22	–0.44	–67%	0.56	0.22	–0.34	–60%
WI	0.58	0.69	0.10	18%	0.66	0.66	–0.01	–1%
ZA	0.67	0.30	–0.37	–55%	0.56	0.27	–0.28	–51%

N o t e: AL—Albania, DO—Lower Silesian, KU—Kuyavian-Pomeranian, LE—Lublin, LU—Lubusz, LZ—Łódź, ML—Lesser Poland, MZ—Mazowia, OP—Opole, PD—Subcarpathian, PL—Podlaskie, PM—Pomeranian, SL—Silesian, SW—Świętokrzyskie, WA—Warmian-Masurian, WI—Greater Poland, ZA—West Pomeranian.

S o u r c e: Authors' own calculation based on the data of Statistics Poland and INSTAT.

The Pearson's correlation index for the S_i scores obtained with linear and vector normalization for all models exceeded 92%. This means that the values of regional development scores obtained using two normalization methods, i.e. vector and linear, are convergent.

The results of the assessment indicate that in 2010 Albania characterized with the lowest level of regional development in the analyzed sample. The S_i scores with vector and linear normalizations equalled to 0.48 and 0.25, respectively. Reasons for achieving such low scores could be found in extremely high share of permanently unemployed among unemployed people (62%), low quality of health care (the infant mortality rate: 62 per 1000 births), negative

growth of population (–0.6%) and low economic activity represented by low rate of operating firms (353 units per 10,000 people) and high share of people employed in agriculture (55%).

In Poland the lowest levels of regional development were found in the Opole (S_i scores of 0.53 and 0.26, respectively with vector and linear parameters' normalization), the Silesian (0.60 and 0.40) and the Łódź (0.60 and 0.40). On the other hand, the regions with the highest level of regional development in 2010 were: the Lower Silesian (0.70 and 0.73), the Pomeranian (0.69 and 0.71) and the West Pomeranian (0.69 and 0.67). The most sensitive criteria for assessing the level of development for both groups of voivodeships were: the growth rate of population, the infant mortality rate, the rate of operating firms and the share of people employed in agriculture. The least developed regions achieved the least satisfactory level of these parameters, and oppositely the most developed voivodeships—one of the highest. Among others, the population growth in the Opole amounted to –1.3%, while in the Pomeranian 2%. Similarly, the infant mortality rate in the Opole exceeded 5.3, while in the Pomeranian it was below 4.5. High economic activity in the Pomeranian reduced the level of people employed in the agriculture to 8.9% and raised to 1143 the number of operating firms per 10,000 people, while in the Opole these parameters amounted to 16.3% and 940, respectively. The results obtained for the period 2010–2013 were consistent, confirming the correctness of the results for the year 2010 (Tables 3 and 4).

In 2017 the distribution of the S_i scores has significantly changed. The level of social and economic development has raised the most in Albania. The value of the S_i scores increased by 18% and 44% to 0.57 and 0.36 (respectively with vector and linear parameters' normalization). The overall development potential of this country ceased to be the weakest in the sample analyzed. The population change rate increased to 0.1% and was higher than in eleven voivodeships in Poland characterized by a negative population change rate. The share of permanently unemployed in Albania (51%) has come down close to the levels characterizing the Subcarpathian (46%), the Podlaskie (45%) and the Kuyavian-Pomeranian (45%) voivodeships. The share of people working in agriculture in Albania decreased by 12 percentage points to 42%, while in the Lublin and the Świętokrzyskie voivodeships it decreased by only 2 percentage points to 37% and 31%, i.e. to the highest levels of this indicator in Poland. In turn, the voivodeships with the highest levels of the S_i scores are: the Pomeranian (0.69 and 0.81), the Masovian (0.70 and 0.78) and the Lesser Poland (0.70 and 0.70). Contrary to the previous group, these voivodeships are characterized by positive highest population growth rates of 0.37%, 0.35% and 0.27%, respectively. These voivodeships also achieved the highest GDP dynamics (7%, 7.8% and 8.1%), the highest values of average wages, well exceeding 1,000 EUR and the lowest unemployment level (5.4%, 5.6% and 5.3%). In addition, in 2017 the level of entrepreneurship of the inhabitants of these voivodeships was among the highest in Poland and the average number of operating enterprises per 10,000 inhabitants amounted to 1300. Similarly, like in the previous period, the S_i scores for 2014–2017 are consistent with the S_i scores obtained for the year 2017 (Tables 3 and 4).

The results of the research indicate that the European Union membership is not a sufficient premise to dynamically increase the level of regional development. Most voivodeships in Poland weakened their socio-economic development potential in the years 2010–2017. During this time, the average value of the S_i scores for Polish voivodeships decreased by 12% and

27% (respectively for the vector and linear parameters' normalization), while increased for Albania by 18% and 44%, respectively. Such disproportions in the change of development process might largely result from a significant deterioration of the demographic situation and low quality of the labour market in voivodeships with a significant share of persons employed in agriculture, among others in the Świętokrzyskie, the Lublin, and the Podlaskie.

However, the overall conclusions from the research should be adjusted with the fact that Albania is a developing country, and the economic situation in 2010 was much weaker than in all voivodeships in Poland. For this reason, in the early stages of development the rate of improvements of social and economic conditions is much higher for natural reasons.

6. Conclusions

Regional development is an important process for the social and economic conditions of the entire country and consists of positive quantitative and qualitative changes taking place in a specific geographical area. Its effects include: an increase in the income of the population and turnover of operating enterprises, as well as more complete satisfaction of social needs and raising the standard of living of the society living in it.

In the years 2010–2017, the socio-economic situation in Albania and in Poland slightly improved, although it was variable, which resulted, among others, from deterioration of economic conditions in the EU advanced economies, complex demographic conditions, diversified level of advancement in the new technologies.

The research results indicate that in 2010 the level of regional development in Albania was lower than in all voivodeships in Poland, what represented high share of permanently unemployed among unemployed people, low quality of health care, negative growth of population and low economic activity represented by low rate of operating firms and high share of people employed in agriculture.

In 2010 in Poland the most sensitive criteria for the social and economic development of voivodeships were: the growth rate of population, the infant mortality rate, the rate of operating firms and the share of people employed in agriculture. The least developed regions (the Opole, the Silesian and the Łódź) achieved the least satisfactory level of these parameters, and oppositely the most developed voivodeships (the Lower Silesian, the Pomeranian and the West Pomeranian)—one of the highest. To some extent, the growing importance of innovation has contributed to regional development in Poland. In the years 2014–2018, the share of R&D employees in general employed in Poland increased from 0.66% to 0.8%, and the ratio of domestic R&D expenditure to GDP from 0.94% to 1.21% (GUS, 2019).

During the period of 2010–2017 Albania made the highest progress in the regional development within the analyzed sample. It significantly improved demographic situation achieving the population change rate higher than in eleven Polish voivodeships, reduced the share of permanently unemployed to the level close to the Subcarpathian, the Podlaskie or the Kuyavian-Pomeranian. The progress was supported, among others, by implementation of the governmental programmes dedicated to creation of ICT and information society in Albania which was grounded on the European model, such as the "e-Europe", "i-2010" plans. Ad-

ditionally, it significantly decreased the share of people employed in agriculture close to the level in the Lublin and the Świętokrzyskie.

The results of the research indicate that the European Union membership provides opportunity for the acceleration of the process of regional development, however it is not a sufficient advantage. In case of some voivodeships in Poland deterioration in socio-economic conditions as a negative demographic situation, low quality of the labour market or high employment in agriculture significantly limited the pace of enhancement of standards of living and performance of the economy in a region. Although, drawing the overall conclusions from the comparison of the pace of social and economic development, one should take into account the fact that in a case of developing country such as Albania, the initial stages of development are usually characterized by a much higher pace.

References

Adamowicz, M. (2011). Wsparcie rozwoju regionalnego w warunkach uczestnictwa Polski w Unii Europejskiej. *Roczniki Nauk Rolniczych*. *Seria G*, *98*(1), 60–74.

Aivazian, S., Afanasiev, M., Kudrov, A. (2018). Indicators of regional development using differentiation characteristics. *Montenegrin Journal of Economics*, *14*(3), 7–22.

Brol, R. (1998). *Zarządzanie rozwojem lokalnym – studium przypadków*. Wrocław: Akademia Ekonomiczna. ISBN 8370113222.

Brunazzo, M. (2016). The history and evolution of cohesion policy. In: S. Piattoni, L. Polverari (eds.). *Handbook on cohesion policy in the EU.* Northampton, MA: Edward Elgar. ISBN 9781784715663.

Charles, G. (1994). *Regions in question: Space, development theory and regional policy*. New York, NY: Taylor & Francis Group. ISBN 9781315823409.

Chojnicki, Z., Czyż, T. (2000). Nowa organizacja terytorialna Polski i układ regionalny. *Czasopismo Geograficzne*, *71*(3–4), 261–277.

Council of Ministers [Romania]. (2010). Vendim nr. 1037, datë 15.12.2010. Për zbatimin e nomenklaturës "Shqipëria në 3 (tri) rajone NUTS II", sipas nomenklaturës së njësive territoriale për statistikat (NUTS), të Bashkimit Europian [online, accessed: 2020-05-03]. *Official Gazette*, *183*. Retrieved from: https://qbz.gov.al/eli/vendim/2010/12/15/1037/ea94b788-8718-469a-b413-51fbe5723c2e;q=VKM%20183,%20viti%202010%20NUTS.

Dedania, H., Shah, V., Sanghvi, R. (2015). Portfolio management: Stock ranking by multiple attribute decision making methods. *Technology and Investment*, *6*, 141–150, DOI: 10.4236/ti.2015.64016.

EU. (2013). *Cohesion Policy 2014–2020* [online, accessed: 2020-01-30]. Brussels: European Comission. Retrieved from: https://ec.europa.eu/regional_policy/sources/docgener/informat/2014/community_en.pdf.

EU. (2018). *Budżet UE na 2019 r.: wzrost gospodarczy, solidarność i bezpieczeństwo w Europie i na świecie – osiągnięto tymczasowe porozumienie* [online, accessed: 2020-01-31]. Bruksela: Komisja Europejska. Retrieved from: https://ec.europa.eu/commission/presscorner/detail/pl/IP_18_6381.

Feldman, M. P., Francis, J., Bercovitz, J. (2005). Creating a cluster while building a firm: Entrepreneurs and the formation of industrial clusters. *Regional Studies*, *39*, 129–141. DOI: 10.1080/0034340052000320888.

Gorzelak, G. (2009). Fakty i mity rozwoju regionalnego. *Studia Regionalne i Lokalne*, *2*(36), 5–27.

GUS. (2019). *Działalność badawcza i rozwojowa w Polsce w 2018 r.* [online, accessed: 2020-05-04]. Warszawa: Główny Urząd Statystyczny. Retrieved from: https://stat.gov.pl/download/gfx/portalinformacyjny/pl/defaultaktualnosci/5496/8/8/1/dzialalnosc_badawcza_i_rozwojowa_w_polsce_w_2018.pdf.

Hwang, C., Yoon, K. (1981). *Multiple attribute decision making: Methods and applications*. New York, NY: Springer-Verlag. DOI: 10.1007/978-3-642-48318-9.

Imami, F., Bejko, A., Shutina, D. (2018). Challenges of regional development in Albania. *Annual Review of Territorial Governance in Albania*, *1*, 8–23. DOI: 10.32034/CP-TGAR-I01-01.

INSTAT. (2019). *Albania in figures* [online, accessed: 2020-01-28]. Retrieved from: www.instat.gov.al.

Jacobs, M. (1999). Sustainable development as a contested concept. In: A. Dobson (ed.). *Fairness and futurity: Essays on environmental sustainability and social justice*. Oxford: Oxford University Press. ISBN 9780198294887.

Jasiński, A., Wiatrak, A. (2010). Region jako podmiot ekonomiczny a regionalny system innowacji. In: A. Jasiński (ed.). *Innowacyjność polskiej gospodarki w okresie transformacji*. Warszawa: Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego. ISBN 9788363962432.

Kudłacz, T. (1999). *Programowanie rozwoju regionalnego*. Warszawa: Wydawnictwo Naukowe PWN. ISBN 8301128003.

Lai, Y., Liu, T., Hwang, C. (1994). TOPSIS for MODM. *European Journal of Operational Research*, *76*(3), 486–500. DOI: 10.1016/0377-2217(94)90282-8.

Łaźniewska, E., Gorynia, M. (eds.). (2012). *Konkurencyjność regionalna. Koncepcje – strategie – przykłady*. Warszawa: Wydawnictwo Naukowe PWN. ISBN 9788301169510.

Manxhari, M. (2015). Local governance and regional development in Albania. In: T. Margo, V. Bojicic--Dzelilovic (eds.). *Public policy making in the Western Balkans: Case studies of selected economic and social policy reforms* (pp. 199–219). Cham: Springer. ISBN: 9789401779463.

Merkaj, E., Lucchetti, R., Fiorillo, F. (2017). Winning competitive grants for regional development in Albania: The role of local leaders [online, accessed: 2020-02-20]. *Università Politecnica delle Marche. Quaderni di Ricerca*, *422*. Retrieved from: http://docs.dises.univpm.it/web/quaderni/pdf/422.pdf.

MFiPR. (2020). *Portal Funduszy Europejskich* [online, accessed: 2020-02-23]. Warszawa: Ministerstwo Funduszy i Polityki Regionalnej. Retrieved from: http://www.funduszeeuropejskie.gov.pl.

Ministry of Innovation and Public Administration. Republic of Albania. (2014). *Cross-cutting Strategy "Digital Agenda of Albania 2015–2020"* [online, accessed: 2020-02-20]. Retrieved from: https://akshi.gov.al/wp-content/uploads/2018/03/Digital_Agenda_Strategy_2015_-_2020.pdf.

Opricovic, S. (1998). *Multicriteria optimization of civil engineering systems*. PhD Thesis. Belgrad: Faculty of Civil Engineering.

Opricovic, S., Tzeng, G.-H. (2004). Compromise solution by MCDM methods: A comparative analysis of VIKOR and TOPSIS. *European Journal of Operational Research*, *156*(2), 445–455. DOI: 10.1016/S0377-2217(03)00020-1.

Poledníková, E. (2014). *Multicriteria analysis of regional disparities in the context of the EU cohesion* [online, accessed: 2020-05-03]. XVII Mezinárodní kolokvium o regionálních vědách, 18–20.06.2014, Hustopeče, Albania. Retrieved from: https://www.econ.muni.cz/do/econ/soubory/katedry/kres/4884317/49720892/Polednikova.pdf.

Roszkowska, E., Brzostowski, J. (2014). Wybrane własności i odmiany procedury SAW w kontekście wspomagania negocjacji. *Studia Ekonomiczne*, 178, 107–126.

Scott, A. J. (1988). Flexible production organization and regional development; the rise of new industrial spaces in North America and Western Europe. *International Journal of Urban and Regional Research*, *12*(2), 171–186. DOI: 10.1111/j.1468-2427.1988.tb00448.x.

Stanners, D., Bosch, P., Dom, A., Gabrielsen, P., Gee, D., Martin, J., Rickard, L., Weber, J. (2007). Frameworks for environmental assessment and indicators at the EEA. In: T. Hak, B. Moldan, A. Dahl (eds.). *Sustainability indicators: A scientific assessment*. Washington DC: Island Press. ISBN 9781597261319.

Statistics Poland. (2020). *Poland macroeconomic indicators* [online, accessed: 2020-02-15]. Warsaw: Statistics Poland. Retrieved from: https://stat.gov.pl/en/poland-macroeconomic-indicators/.

Szlachta, J. (1996). Regionalny wymiar konkurencyjności gospodarki. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, *58*(3), 87–99.

Välimäki, J. (2002). *Sustainable development reporting: Aggregated indicators*. Background paper for discussion at EEA SoE Expert Group Workshop, December 16–17, Helsinki, Finland.

Widuto, A. (2016). *Beyond GDP: Global and regional development indicators*. European Parliamentary Research Service. PE 589.811.

World Bank. (2019). *Albania overview* [online: 2020-01-27]. Retrieved from: https://www.worldbank.org/en/country/albania/overview.

Wysocki, F. (2010). *Metody taksonomiczne w rozpoznawaniu typów ekonomicznych rolnictwa i obszarów wiejskich*. Poznań: Wydawnictwo Uniwersytetu Przyrodniczego. ISBN 9788371605833.

Yoon, K. (1987). A reconciliation among discrete compromise situations. *Journal of Operational Research Society*, *38*, 277–286. DOI: 10.1057/jors.1987.44.

Czy członkostwo w Unii Europejskiej jest wystarczającym czynnikiem dla poprawy poziomu rozwoju regionalnego? Przypadek Albanii i województw w Polsce

Abstrakt: Artykuł prezentuje wyniki badania zmian, jakie zaszły w poziomie rozwoju regionalnego w Albanii i we wszystkich województwach w Polsce w latach 2010–2017. Zastosowane dane roczne pochodzą z krajowych urzędów statystycznych i obejmują dwa kryteria socjalne i sześć kryteriów gospodarczych. W badaniu wykorzystano jedną z metod wielokryterialnej analizy decyzyjnej – TOPSIS z wektorową i liniową normalizacją parametrów. Uzyskane wyniki (dla obu metod normalizacji parametrów) wskazują, że w latach 2010–2017 Albania zrobiła największy postęp w rozwoju regionalnym, podnosząc go z najniższego poziomu w 2010 roku do porównywalnego z kilkoma polskimi województwami w 2017 roku. W przeciwieństwie do niektórych polskich województw Albania znacznie poprawiła sytuację demograficzną, warunki na rynku pracy i ograniczyła zatrudnienie w rolnictwie. Grupa polskich województw, które osiągnęły największy postęp w rozwoju regionalnym, utrzymała pozytywne perspektywy demograficzne, podniosła dynamikę PKB, poprawiła warunki na rynku pracy i zwiększyła aktywność gospodarczą swoich mieszkańców. Wyniki badania wskazują, że członkostwo w UE jest sprzyjającą, ale w niektórych przypadkach niewystarczającą okolicznością dla podniesienia ogólnych standardów życiowych gospodarstw domowych i wyników przedsiębiorstw działających w danym regionie.

Słowa kluczowe: Albania, Polska, rozwój regionalny, metoda TOPSIS