

## CHANGES IN THE LEVEL OF REGIONAL DEVELOPMENT OF ALBANIA AND VOIVODSHIPS IN POLAND IN 2010-2017

### ZMIANY W POZIOMIE ROZWOJU REGIONALNEGO ALBANII I WOJEWÓDZTW W POLSCE W LATACH 2010-2017

<https://doi.org/10.34739/zn.2019.50.05>

Sylwester Kozak<sup>1</sup>, Etleva Muça<sup>2</sup>

<sup>1</sup> Poland, Warsaw University of Life Sciences-SGGW, Institute of Economics and Finance,  
ORCID: 0000-0001-9485-6704; e-mail: sylwester\_kozak@sggw.pl

<sup>2</sup> Albania, Agriculture University of Tirana, Faculty of Economy and Agribusiness,  
ORCID: 0000-0002-6524-8467; e-mail: evadashi@ubt.edu.al

**Abstract:** The article presents the results of research on changes in the level of regional development in Albania and in all voivodships (regions) in Poland in 2010-2017. Annual data comes from national statistical offices. The level of regional development was determined by the multi-criteria decision analysis method - SAW (the Simple Additive Weighting) and includes two social and six economic criteria. The obtained results indicate that in the whole analyzed period the level of regional development in Albania was lower than in all regions in Poland. However, it achieved the highest increase in the studied group, among others thanks to improving the demographic situation, increasing entrepreneurship and improving the quality of the market. The Mazowieckie, Pomorskie and Wielkopolskie voivodships were characterized by the highest level of development throughout the entire period as a consequence of a good demographic situation, increased entrepreneurship and high GDP dynamics. Negative population growth and an increase in unemployment meant that the Lubelskie and Warmińsko-Mazurskie voivodships are characterized by the lowest level of regional development in Poland. Faster improvement of the situation in more developed regions contributed to the increase of disparity in the socio-economic development of regions in Poland.

**Keywords:** regional development, MCDA procedure, SAW method

**Streszczenie:** Artykuł prezentuje wyniki badania zmian jakie zaszły w poziomie rozwoju regionalnego w Albanii i we wszystkich województwach (regionach) w Polsce w latach 2010-2017. Dane roczne pochodzą krajowych urzędów statystycznych. Poziom rozwoju regionalnego wyznaczono metodą wielokryterialnej analizy decyzyjnej - SAW (the Simple Additive Weighting) i uwzględniają dwa kryteria socjalne i 6 kryteriów gospodarczych. Uzyskane wyniki wskazują, że w całym analizowanym okresie poziom rozwoju regionalnego w Albanii był niższy niż we wszystkich regionach w Polsce. Osiągnął on jednak największy przyrost w badanej grupie m.in. dzięki poprawie sytuacji demograficznej, wzrostowi przedsiębiorczości i poprawie jakości rynku. Województwa mazowieckie, pomorskie i wielkopolskie w całym okresie charakteryzowały się najwyższym poziomem rozwoju, co m.in. zawdzięczały dobrej sytuacji demograficznej, wzrostowi przedsiębiorczości i wysokiej dynamice PKB. Negatywny przyrost naturalny, wzrost bezrobocia sprawiły, że województwa lubelskie i warmińsko-mazurskie charakteryzują się najniższym w Polsce poziomem rozwoju regionalnego. Szybsza poprawa sytuacji w lepiej rozwiniętych regionach przyczyniła się do wzrostu dysparytetu w społeczno-gospodarczym rozwoju regionów w Polsce.

**Słowa kluczowe:** rozwój regionalny, procedura MCDA, metoda SAW

#### Introduction

The terms "region" and "regional development" are extremely important in the analysis of socio-economic changes taking place in all countries of the world. Regional development is defined as a set of positive quantitative and qualitative changes taking place in a specific geographical area (Jasiński, Wiatrak, 2010). The effects of regional development are, among others, an increase in the income of the population and turnover of operating enterprises, as well as budget revenues of local and

central authorities. From a social point of view, regional development is aimed at more fully satisfying social needs and raising the standard of living of the society living there.

Regional development is a socio-economic process of a diverse nature, both in geographical and temporal dimensions. The pace and structure of regional development is influenced by factors including climate, cultural, social or political. Among them, membership of a particular country in the European Union should be specially emphasized. It results from the fact that one of the basic EU

missions is the balanced and coherent development of all member countries. To implement this task, cohesion funds of considerable value are directed to the poorer regions of the member states. On the other hand, associated or applicant countries have significantly limited opportunities to benefit from the EU financial support for their economic and social development programmes.

### **The aim, materials and research methods**

The aim of the study is to assess the level of social and economic development in Albania and in individual regions (voivodeships) in Poland in 2010-2017 and determine the pace of development changes in regions in Poland compared to Albania (a non-member EU state). The comparison of the economies of the independent country with Polish regions is conducted due to the fact that in both demographic and economic terms Albania is comparable to the average region in Poland. The time range of the research resulted from the availability of statistical data (especially in the case of Albania). The Simple Additive Weighting (SAW) method was used to assess the degree of development. The SAW is one of the multi-criteria decision making methods (MCDA) and is beneficial in case of a limited set of data (Roszkowska, Brzostowski, 2014).

### **Literature review**

One of the definitions of regional development mentioned in the economic literature indicates that it is a set of all socio-economic changes that are taking place in the region. It is recognized that these changes are the result of the implementation of development programmes, as well as the long-term impact of endogenous and exogenous factors. These processes include changed profiles and internal and external relationships between components of the regional socio-economic system, including enterprises and economic structure (Chojnicki, Czyż, 2004).

In most cases, regional development results in favourable economic changes, i.e. construction of new roads and infrastructural buildings, or creation of new jobs (Łaźniewska, Gorynia, 2012, p. 177-178). In the general opinion, regional development is mainly referred to economic growth. However, social changes are also important in this process. The implementation of pro-development programmes should ensure an increase in the standard of living of inhabitants of the region and in the competitiveness of business entities operating there (Szlachta, 1996).

Scott (1988) in his theory of New Industrial Spaces indicates that a full assessment of the level of regional development should take into account changes in measures of the nature:

- quantitative - an increase in, among others, GDP, personal income, corporate turnover and profit, level of employment, length of roads and railways;
- qualitative – including: improving health care, raising the level of education, meeting cultural and recreational needs more fully, raising the quality of the environment.

Regional development is defined in a similar way by Kudłacz (1999, p. 15-16) and Brol (2006, p. 17). The first of them believes that the development of the region reflects the lasting growth of its economic potential and the standards of living of its inhabitants. The second, however, as development of the region considers sustainable improvement of its economic potential and raising its competitiveness level as well as the quality and standards of living of its inhabitants.

In the EU, the concept of sustainable development is the basic strategy for regional development. Such policy assumes a balance between economic, social and environmental objectives. Although in some areas it imposes some short-term restrictions (e.g. environmental or economic), it is however effective in the long term. The principles of the sustainable development strategy are taken into account in the process of formation development programmes by national and local administration (intraregional policy), as well as the supranational strategy covering several Member States (interregional policy) (EU, 2013).

The basic goal of supporting the EU cohesion policy is to level out interregional differences. This is accomplished by accelerating the development of the poorest regions and reducing their economic and social impediments in relation to other EU areas. To limit economic and civilization contrasts, this strategy aims to create new development opportunities in delayed and peripheral regions. It involves, among others, the construction of transportation, telecommunication and energy networks and environmental protection facilities of supra-regional importance. This is to facilitate the integration of these 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 (<http://www.fundusze-europejskie.gov.pl> access 2020.01.30).

The accession to the European Union in 2004 was a strong positive impulse for regional development in Poland (Adamowicz, 2011; Gorzelak, 2009; Grzelak, Smętkowski, 2019). Regional development is one of the pillars of the European Union, and cohesion funds account for over one third of the EU budget. For example, in 2019, the EU allocated over 57 billion euros from the overall budget of 165 billion euros 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 entire country, and in the case of regions, one of the basic sources of infrastructure projects.

### **The macroeconomic situation of Albania and Poland**

Albania is a country situated in the South Western part of the Balkan Peninsula. With a population of 2,787,600 inhabitants it covers an area of 28,748 km<sup>2</sup> (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 Albania made significant progress towards economic growth with the principal goal which is fighting poverty. Albania grew from one of the poorest nations in Europe, to a middle-income country and poverty declined by half during that period (World Bank, 2019). As an effect of the global financial crisis and the Eurozone public finance 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 2017 was another period of economic expansion. The GDP growth increased to 3.8% and the GDP per capita to 4,007 euro during 2017. However, it should be noted that Albania still has the lowest GDP per capita in the region. The state of the Albanian economy is not stable. Rural and urban areas suffer from the inefficient use of the resources and low mobilization of the local communities for efficient decision making. The structure of the work force is constantly concentrated on the agricultural sector. In 2017 the ratio of people employed in agriculture amounted to 42%. The economic development is linked as well with other indicators such as public infrastructure, health care, education, the unemployment rate, social inclusion, migration and others.

In the years 2010-2017 Poland's economic situation was variable. Its condition was significantly influenced by the situation in the EU. In the years

2010-2011, the 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 an improvement in 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 increased from 10.4 to 12.5 thousand euro. The employment rate grew from 50.2% to 53.7%, respectively. During this time there were noticeable changes in the employment structure. In the period 2010-2017, the share of the employment in agriculture fell from 13.1% to 10.2%, while in services it increased from 56.6% to 58%. The demographic situation and aging problem became important negative factors affecting the state of the economy. Starting from 2013, the birth rate was negative, especially in 2015, when Poland's population decreased by 26,000.

The regional structure of the Polish economy is strongly diversified. At the end of 2017, the Mazowieckie voivodship made the largest contribution to domestic GDP (22%). In terms of the size of the economy, the next important voivodships were Śląskie (12.3%) and Wielkopolskie (9.9%). In turn, the least contribution to the country's economy came from voivodships: Opolskie (2%), Podlaskie (2%) and Lubuskie (2.2%). Along with an increase in the value of goods and services produced, the wealth of households also improved. The value of GDP pc in Mazowieckie exceeded the national average by 60%. The national average was also exceeded in the following voivodships: Dolnośląskie (by 11%), Wielkopolskie (9%) and Śląskie (4%). On the other hand, the value of GDP per capita in the Lubuskie, Podkarpackie and Warmińsko-Mazurskie voivodships was 30% lower than the national average.

### **Materials and methods**

MCDA (Multi-criteria Decision Analysis) methods the process of choosing the right solution from a finite number of alternatives. These methods were applied in research, inter alia, in the fields of management, economics, medicine and technology (Dedania et al., 2015).

The most important examples of MCDA methods are:

- Simple Additive Weight (SAW);
- Technique for Order Preference by Similarity to the Ideal Solution (TOPSIS);
- Compromise Ranking (or VIKOR – VlsekriterijumskoKOMPromisnoRangiranje).

One of the best known and widely used MCDA methods is SAW. In this method, for each parameter (criterion) adopted for the assessment of a group of entities, an appropriate weight  $w_j$  is assigned, reflecting the scale of its impact on the assessment of the entity. The final score of the attractiveness of a given entity is the sum of the products of the normalized values of the parameters characterizing the entity and their weights.

The TOPSIS (Technique for Order of Preference by Similarity to the Ideal Solution) method developed and modified by Hwang and Yoon (1981), Lai et al. (1984) and Yoon (1987) is based on the concept that each solution is described by a finite number of parameters with a positive and negative impact on the final assessment. The best alternative chosen should have the shortest distance from the ideal solution, and the longest distance from 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 with different units) criteria. The best solution is a case with such parameters (criteria) that ensures the greatest multi-criteria "closeness" to the "ideal" solution.

Due to the limited number of parameters (criteria) in the study, the assessment of the level of regional development in Albania and Poland was carried out using the SAW method. It was conducted in accordance with the following procedure.

#### Selection of criteria

Based on the analysis of the literature on the subject, six criteria of economic and two of a social nature were selected from available data about Albania and 16 voivodships of Poland (Table 1). Next, the criteria were divided into stimulants and destimulants, it means criteria with a respectively positive and negative impact on the performance of a region.

**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 10000 people	Stimulant
$C_5$	Share of employed in agriculture in total employed	Destimulant
$C_6$	Monthly average wage in euro	Stimulant
$C_7$	Change in population y/y	Stimulant
$C_8$	Infant death per 1000 live births	Destimulant

Source: own deliberation.

#### Assessment of weight coefficients for individual criteria:

The weights applied in the SAW method must meet the following condition:

$$\sum_{j=1}^n w_j = 1 \quad (1)$$

where:

$w_j$  – weight coefficient for a criterion  $j$ ,  $n$  – number of applied criteria (in the research  $n=8$ ). In the study, weight coefficients were assigned equally for economic and social parameters.

#### Normalization of parameters

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

1. Vector

$$z_{ij} = \begin{cases} \frac{x_{ij}}{\sqrt{\sum_{i=1}^m (x_{ij})^2}} & \text{for } i \in I \\ 1 - \frac{x_{ij}}{\sqrt{\sum_{i=1}^m (x_{ij})^2}} & \text{for } i \in J \end{cases} \quad (2)$$

2. Linear

$$z_{ij} = \begin{cases} \frac{x_{ij}}{\max_i x_{ij}} & \text{for } i \in I \\ 1 - \frac{x_{ij}}{\max_i x_{ij}} & \text{for } i \in J \end{cases} \quad (3)$$

#### Calculation of the S score and ranking of regions

The final score  $S_j$  assigned to the region  $R_i$  is calculated according to the formula proposed by Hwang and Yoon (1981):

$$S(R_i) = \sum_{j=1}^n w_j \cdot z_{ij} \quad (4)$$

where:

$z_{ij}$  – normalized parameter of criterion  $j$  ( $j = 1, 2, \dots, n$ ) in a region  $i$  ( $i = 1, 2, \dots, m$ ),  $w_j$  - weight coefficient for criterion  $j$ . Based on the S score values, the regions are ranked in order from the highest to the lowest value.

## Results and discussion

The study compares the economic and social situation in Albania and in 16 Polish voivodships (regions) in the years 2010 and 2017. For each case, a ranking of regions was prepared by the level of regional development. Additionally, an absolute and relative change of S scores between 2010 and 2017 were calculated, as well as the change in the ranking of the individual regions. Eight criteria characterizing the economic and social situations in the analyzed regions were

adopted for the assessment. All criteria have been assumed to have equal weighting values. First, the S scores were calculated using the vector normalization (eq. 2), and next, as a robustness check, the S scores based on the linear normalization (eq. 3).

Additionally, in order to avoid the impact of one-off events on the final assessment of the S score, the calculation of regional development indicators was carried out for two consecutive four-year periods, i.e. for the years 2010-2013 and 2014-2017. The values of the S scores and the ranking of regions determined according to the S score are presented in Tables 2 (the version with a vector normalization) and Table 3 (the version with a linear normalization).

Pearson's correlation index for S scores obtained with linear and vector normalization for all models, as well as for the size of index changes exceeded 97%. This means that the values of regional development scores obtained using two normalization methods, i.e. vector and linear, are convergent.

**Table 2.** Regional development level and regions' ranking (vector normalization)

Region	2010		2017		2010-2013		2014-2017		2017 vs 2010		
	S	Rank	S	Rank	S	Rank	S	Rank	$\Delta S$	%S	$\Delta Rank$
AL	0.320	17	0.345	17	0.328	17	0.332	17	0.025	7.8	0
DO	0.560	1	0.507	5	0.530	4	0.503	5	-0.053	-9.5	-4
KU	0.502	10	0.451	9	0.489	8	0.452	9	-0.051	-10.2	1
LE	0.478	13	0.396	16	0.449	14	0.396	16	-0.082	-17.2	-3
LU	0.520	6	0.483	6	0.508	7	0.480	6	-0.037	-7.1	0
LZ	0.493	11	0.430	14	0.459	13	0.431	12	-0.063	-12.8	-3
ML	0.514	7	0.533	4	0.529	5	0.529	4	0.019	3.7	3
MZ	0.553	3	0.569	1	0.562	2	0.560	1	0.016	2.9	2
OP	0.445	16	0.451	11	0.427	16	0.440	11	0.006	1.3	5
PD	0.466	14	0.451	10	0.470	11	0.440	10	-0.015	-3.2	4
PL	0.483	12	0.430	13	0.461	12	0.421	14	-0.053	-11.0	-1
PM	0.556	2	0.566	2	0.571	1	0.556	2	0.01	1.8	0
SL	0.508	9	0.482	7	0.485	10	0.472	7	-0.026	-5.1	2
SW	0.459	15	0.411	15	0.432	15	0.404	15	-0.048	-10.5	0
WA	0.510	8	0.431	12	0.488	9	0.429	13	-0.079	-15.5	-4
WI	0.523	5	0.539	3	0.542	3	0.531	3	0.016	3.1	2
ZA	0.534	4	0.474	8	0.516	6	0.471	8	-0.06	-11.2	-4

Note: AL – Albania, DO – Dolnośląskie, KU – Kujawsko-Pomorskie, LE – Lubelskie, LU – Lubuskie, LZ – Łódzkie, ML – Małopolskie, MZ – Mazowieckie, OP – Opolskie, PD – Podkarpackie, PL – Podlaskie, PM – Pomorskie, SL – Śląskie, SW – Świętokrzyskie, WA – Warmińsko-Mazurskie, WI – Wielkopolskie, ZA – Zachodniopomorskie.

Source: own calculation based on the data of Statistics Poland and INSTAT.

**Table 3.** Regional development level and regions' ranking (linear normalization)

Region	2010		2017		2010-2013		2014-2017		2017 vs 2010		
	S	Rank	S	Rank	S	Rank	S	Rank	ΔS	%S	ΔRank
AL	0.118	17	0.146	17	0.097	17	0.061	17	0.028	23.7	0
DO	0.651	1	0.505	5	0.565	4	0.490	5	-0.146	-22.4	-4
KU	0.470	11	0.317	12	0.419	12	0.312	10	-0.153	-32.6	-1
LE	0.489	10	0.261	16	0.419	11	0.229	15	-0.228	-46.6	-6
LU	0.538	7	0.440	6	0.502	6	0.423	6	-0.098	-18.2	1
LZ	0.460	13	0.275	14	0.383	14	0.254	14	-0.185	-40.2	-1
ML	0.538	6	0.578	3	0.563	5	0.584	3	0.04	7.4	3
MZ	0.623	2	0.650	1	0.634	2	0.651	1	0.027	4.3	1
OP	0.337	16	0.321	11	0.303	16	0.271	13	-0.016	-4.7	5
PD	0.444	14	0.383	7	0.439	10	0.356	7	-0.061	-13.7	7
PL	0.503	9	0.359	10	0.445	9	0.309	11	-0.144	-28.6	-1
PM	0.621	3	0.645	2	0.636	1	0.639	2	0.024	3.9	1
SL	0.460	12	0.365	9	0.402	13	0.324	9	-0.095	-20.7	3
SW	0.415	15	0.264	15	0.333	15	0.215	16	-0.151	-36.4	0
WA	0.516	8	0.306	13	0.450	8	0.281	12	-0.21	-40.7	-5
WI	0.542	5	0.567	4	0.576	3	0.562	4	0.025	4.6	1
ZA	0.547	4	0.372	8	0.482	7	0.351	8	-0.175	-32.0	-4

Note: AL – Albania, DO – Dolnośląskie, KU – Kujawsko-Pomorskie, LE – Lubelskie, LU – Lubuskie, LZ – Łódzkie, ML – Małopolskie, MZ – Mazowieckie, OP – Opolskie, PD – Podkarpackie, PL – Podlaskie, PM – Pomorskie, SL – Śląskie, SW – Świętokrzyskie, WA – Warmińsko-Mazurskie, WI – Wielkopolskie, ZA – Zachodniopomorskie.

Source: own calculation based on the data of Statistics Poland and INSTAT.

The results of the S score assessment indicate that in Poland in the years 2010-2017 three largest regions dominated: Mazowieckie, Pomorskie and Wielkopolskie. They improved or maintained their positions in the regions' ranking and increased the values of regional development scores by 0.016, 0.01 and 0.016, respectively (Table 2; hereinafter the analysis is based on the data from Table 2). These regions maintained high performance on most of the analyzed criteria, in particular, an improved demographic situation (Mazowieckie), reduced permanent unemployment (Pomorskie) and accelerated economic growth (Wielkopolskie). The level of regional development dropped the most in Lubelskie and Warmińsko-Mazurskie, i.e. by 17.2% and 15.5% respectively. In both regions it resulted, among others from the deterioration of the demographic situation, in a decrease in the number of operating enterprises and a decline in GDP dynamics.

In terms of improving the ranking, Opolskie and Podkarpackie achieved the highest rise among the analyzed regions. They moved by 5 and 4 positions, respectively (Table 2). In the case of Opolskie, the improvement in regional development resulted, among others from maintaining significantly high GDP dynamics, lowering permanent unemployment and keeping the demographic situation unchanged. On the other hand, Podkarpackie significantly increased the number of operating enterprises and decreased the unemployment rate.

The results of the S score assessment indicate that throughout the entire analyzed period the level of regional development of Albania was lower than in all regions in Poland (Table 2). However, Albania significantly improved its performance during that time. The S score increased by 0.025, i.e. by 7.8%, and in 2017 approached the development level of some Polish regions. The increase in the S score was the highest among all analyzed regions. The upward trend in the level of regional development was confirmed by the increasing values of the S scores in 2010-2013 and 2014-2017. Improvement of the demographic situation, lowering of the unemployment rate and an increase in the number of operating enterprises had an important positive impact on the development of the socio-economic situation of Albania. The S score was significantly reduced by the persistently high shares of: the employed in agriculture and the unemployed over more than one year.

Although the socio-economic situation in Poland improved in the years 2010-2017, the directions of changes in the level of regional development were unfavourable. The diversity between the best and least developed regions had increased. The difference between the highest and lowest S scores increased from 0.115 in 2010 to 0.173 in 2017. Some less developed regions in 2010 had significantly worsened their socio-economic situation, including Lubelskie, Warmińsko-Mazurskie, Łódzkie. In turn, some regions with the highest S-score levels in 2010 had

further improved their S scores, including Małopolskie, Wielkopolskie, Mazowieckie. In the future such a process can lead to higher disparities between individual regions in Poland. In the case of Albania, despite the low level of socio-economic development in 2010, it significantly improved in the following years. Such direction of the development process may contribute in the future to more quickly approaching the average levels recorded in the EU countries.

## 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.

In the years 2010-2017, the socio-economic conditions in Albania and in Poland slightly improved, although they were variable, which partly resulted from deterioration of economic conditions in the advanced economies of the EU.

The results of the research indicate that throughout the entire analyzed period, the level of regional development in Albania was lower than in all regions of Poland. However, it increased the most among all the regions. The improvement came from, inter alia enhancement in the demographic situation, reduction of the unemployment rate and rise in the number of operating enterprises. In terms of development level this progress brought Albania closer to some regions in Poland.

In Poland, the highest level of development was found in: Mazowieckie, Pomorskie and Wielkopolskie. It resulted, among others, from maintaining a good demographic situation, lowering the unemployment rate and improving the GDP dynamics. In turn, the lowest level of development was found in Lubelskie and Warmińsko-Mazurskie. The deterioration of the situation in these regions was impacted by, among others deterioration of the demographic situation, a decrease in the number of operating enterprises and a decrease in GDP dynamics.

The regions with the highest improvement in development ranking were Opolskie and Podkarpackie. This achievement was due to an increase in GDP dynamics, an increase in the number of operating enterprises and an improvement in the labour market, including a reduction in the permanent unemployment rate.

Although the socio-economic situation in Poland improved in the years 2010-2017, the direction of change in the level of regional development were unfavourable. Less developed regions have improved their conditions much slower than the more developed regions. As a result the disparity between the best and least developed regions has increased. In the case of Albania, despite the low level of socio-economic development in 2010, it significantly improved in the following years, this can contribute to more quickly approaching the average levels recorded in the EU countries.

## References

- Adamowicz, M. (2011). Wsparcie rozwoju regionalnego w warunkach uczestnictwa Polski w Unii Europejskiej. *Roczniki Nauk Rolniczych, Seria G*, 98(1), 60-74.
- Brol, R. (1998). *Zarządzanie rozwojem lokalnym – studium przypadków*. Wrocław: Akademia Ekonomiczna.
- Chojnicki, Z., Czyż, T. (2000). Nowa organizacja terytorialna Polski i układ regionalny. *Czasopismo Geograficzne*, LXXI (3-4), 261-277.
- Dedania, H., Shah, V., Sanghvi, R. (2015). Portfolio Management: Stock Ranking by Multiple Attribute Decision Making Methods. *Technology and Investment*, 6, 141-150, <http://dx.doi.org/10.4236/ti.2015.64016>.
- Gorzela, G. (2009). Fakty i mity rozwoju regionalnego. *Studia Regionalne i Lokalne*, 2(36), 5-27.
- Gorzela G., Smętkowski M. (2019). *Rozwój regionalny, polityka regionalna*, Warszawa, Forum Obywatelskiego Rozwoju, Retrieved from: [http://www.euroreg.uw.edu.pl/dane/web\\_euroreg\\_publications\\_files/7397/raport-forrozwoj-regionalny-polityka-regionalna.pdf](http://www.euroreg.uw.edu.pl/dane/web_euroreg_publications_files/7397/raport-forrozwoj-regionalny-polityka-regionalna.pdf) (31.01.2020). <http://www.fundusze-europejskie.gov.pl>, access 2020.01.30.
- Hwang, C., Yoon, K. (1981). *Multiple Attribute Decision Making: Methods and Applications*. Springer-Verlag, New York, <http://dx.doi.org/10.1007/978-3-642-48318-9>.
- INSTAT (2019). Albania in figures. Retrieved from: [www.instat.gov.al](http://www.instat.gov.al) (28.01.2020).
- Jasiński A., Wiatrak A. (2010). Region jako podmiot ekonomiczny a regionalny system innowacji. W: Jasiński A. (red.) *Innowacyjność polskiej gospodarki w okresie transformacji*. Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego, Warszawa.
- Kudłacz T. (1999). *Programowanie rozwoju regionalnego*, PWN, Warszawa.

- Lai, Y., Liu, T., Hwang, C. (1994). TOPSIS for MODM. *European Journal of Operational Research*, 76(3), 486-500.
- Łaźniewska, E., Gorynia, M. (red.) (2012). *Konkurencyjność regionalna. Koncepcje – strategie – przykłady*. PWN, Warszawa.
- Opricovic, S. (1998). *Multicriteria Optimization of Civil Engineering Systems*, Faculty of Civil Engineering, Belgrade.
- Opricovic, S., Tzeng, G.-H. (2004). Compromise solution by MCDM methods: A comparative analysis of VIKOR and TOPSIS. *European Journal of Operational Research*, 156, 445-455.
- Roszkowska, E., Brzostowski, J. (2014). Wybrane własności i odmiany procedury SAW w kontekście wspomaganie negocjacji. *Studia Ekonomiczne*, 178, 107-126.
- Scott, A. (1988). *New industrial spaces: Flexible production organization and regional development in North America and Western Europe*, Pion Ltd, London.
- Szlachta, J. (1996). Regionalny wymiar konkurencyjności gospodarki. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, LVIII(3), 87-99.
- UE (2013). *Cohesion Policy 2014-2020*, Retrieved from: [https://ec.europa.eu/regional\\_policy/sources/docgener/informat/2014/community\\_en.pdf](https://ec.europa.eu/regional_policy/sources/docgener/informat/2014/community_en.pdf) (30.01.2020).
- UE (2018). *Budżet UE na 2019 r.: wzrost gospodarczy, solidarność i bezpieczeństwo w Europie i na świecie*. Retrieved from: [https://ec.europa.eu/commission/presscorner/detail/pl/IP\\_18\\_6381](https://ec.europa.eu/commission/presscorner/detail/pl/IP_18_6381) (31.01.2020).
- World Bank (2019). *Albania overview*, Retrieved from: <https://www.worldbank.org/en/country/albania/overview> (27.01.2020).
- Wysocki, F. (2010) *Metody taksonomiczne w rozpoznawaniu typów ekonomicznych rolnictwa i obszarów wiejskich*. Wydawnictwo Uniwersytetu Przyrodniczego, Poznań.
- Yoon, K. (1987). A Reconciliation among Discrete Compromise Situations. *Journal of Operational Research Society*, 38, 277-286, <http://dx.doi.org/10.1057/jors.1987.44>.