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ENTREPRENEURSHIP AS ENDOGENOUS DEVELOPMENT POTENTIAL OF COMMUNES IN THE ŚWIĘTOKRZYSKIE PROVINCE

PRZEDSIĘBIORCZOŚĆ JAKO ENDOGENICZNY POTENCJAŁ ROZWOJU GMIN WOJEWÓDZTWA ŚWIĘTOKRZYSKIEGO

Summary: In Poland are visible development disparities between municipalities. The aim of the article is to assess the significance of entrepreneurship in regional development and to determine its spatial diversity in the Świętokrzyskie Voivodeship (province) using a synthetic measure. The analysis was carried out in 102 communes of the Świętokrzyskie province for 2010-2017. The Si entrepreneurship measure in 2010 ranged from 0.28 to 0.78 and in 2017 from 0.32 to 0.86 and the OE development measure ranged from 0.35 to 0.83 in 2010 and from 0.21 to 0.78 in 2017. The level of entrepreneurship was influenced by: the level of unemployment and of employees, of business entities, of natural persons conducting economic activity and the infrastructure. The best indicator of entrepreneurship is in the cities of Kielce, Sandomierz, Skarżysko-Kamienna, Ostrowiec Św., with a developed industrial function. At the other end there were: Waśniów, Michałów, Koprzywnica, Klimontów − with agricultural function.

Keywords: entrepreneurship, region, development, synthetic measure.

Streszczenie: W Polsce między gminami widoczne są różnice rozwojowe. Cele artykułu stanowią ocena znaczenia przedsiębiorczości w rozwoju regionalnym i określenie jej różnorodności przestrzennej w województwie świętokrzyskim za pomocą miary synteycznej. Analiza za lata 2010-2017 została przeprowadzona w 102 gminach województwa świętokrzyskiego. Miara przedsiębiorczości S_i w 2010 r. mieściła się w przedziale od 0,28 do 0,78, w 2017 r. − od 0,32 do 0,86, a miara OE − od 0,35 do 0,83 w 2010 r. i od 0,21 do 0,78 w 2017 r. Na poziom przedsiębiorczości wpływały: poziom bezrobocia i liczba pracowników, podmiotów gospodarczych, osób fizycznych prowadzących działalność gospodarczą i infrastruktura. Nawyższym wskaźnikiem przedsiębiorczości chrakteryzowały się miasta Kielce, Sandomierz, Skarżysko-Kamienna, Ostrowiec Świętokrzyski, stanowiące jednostki o rozwiniętej funkcji przemysłowej. Najniższą wartość tego wskaźnika odnotowano w takich miejscowościach, jak: Waśniów, Michałów, Koprzywnica, Klimontów, stanowiących jednostki o rozwiniętej funkcji rolniczej.

Słowa kluczowe: przedsiębiorczość, region, rozwój, miara syntetyczna.

1. Introduction

In Poland, despite the efforts to reduce development disparities between municipalities, development delays are still visible. Overcoming them requires, among others, to significantly accelerate the development of entrepreneurship. Therefore it is necessary to recognize the existing situation in terms of the level of entrepreneurship development and to the identify trends and regularities governing changes taking place in this area. Economic activity is one of the important elements that may affect the level of interregional development disparities.

Development, as G. Gorzelak points out, means a multidimensional category that combines social, economic, cultural, political, technical and psychological processes as well as the interdependencies between them [Gorzelak 1989]. R. Brol defines development as a harmonized and systematic operation of the local community, local authority and other entities operating in the commune (including business entities) and aims at creating new, and improving the existing utility values of the commune and ensuring spatial and ecological order [Brol 1998].

Entrepreneurship is one of the elements shaping the level of diversity in the development of municipalities. The group of other factors should include human capital, innovative facilities, infrastructure, good living conditions and landscape value as well as the quality of regional administration. The level of entrepreneurial activity varies regionally. Owing to the structural features of the regions and the internal factors occurring in their area (economic, infrastructural, social, spatial and ecosystem), the regions differ in the scale of entrepreneurial activity. According to P. Drucker, entrepreneurship should be seen not just as a feature of entrepreneurs, enterprises and economic organizations . Entrepreneurship is a way of acting, it consists in the tendency to take new, risky and unconventional ventures, as well as showing initiative in their search and implementation; it is an interdisciplinary concept that is important for social and economic development.

Entrepreneurship, whose most tangible expression is the initiation of new business ventures, is one of the pillars of the development of modern economies.

Creating a real framework for economic development unconditionally requires structural support in the form of economic entities. Long-term relationships in the quantitative structure of these entities inscribed in the dynamics of changes are an important element of measuring entrepreneurship.

2. Purpose and research method

The aim of the article is to assess the significance of entrepreneurship in regional development and to determine its spatial diversity in the Świętokrzyskie Voivodeship using a synthetic measure. The analysis was made in the system of 102 rural communes of the Świętokrzyskie province. Data from the Local Data Bank of the Central Statistical Office for 2010 and 2017 were used as source material.

The assessment of the spatial diversity of entrepreneurship in communes of the Świętokrzyskie Voivodeship was preceded by the analysis of statistical variables covering, among others: the number of unemployed, the number of employed persons per 1000 inhabitants, the number of entities entered in the register per 1000 population, the number of natural persons conducting business activity per 1000 population and the average salary. The selected variables were determined on the basis of substantive, statistical or data availability criteria and they have the character of stimulant and destimulant [Grabiński, Wydymus, Zeliaś 1989]. Variables due to the variation index (0.10 was used as the threshold value) and over-correlated (according to the inverse correlation matrix method) were eliminated from the study [Młodak, Józefowski, Wawrowski 2016; Korenik, Pięta, Soczewka 2004; Śmiłowska 1997; Wysocki 1996; Zeliaś 2000].

In the next stage, they were subjected to the normalization procedure using the zero unitarisation method. Stimulants were unified according to the formula:

$$z_{ij} = \frac{x_{ij} - \min\limits_{i} x_i}{\max\limits_{i} x_i - \min\limits_{i} x_i}, \tag{1}$$

while the destimulant

$$z_{ij} = \frac{\max\limits_{i} x_i - x_{ij}}{\max\limits_{i} x_i - \min\limits_{i} x_i}, \tag{2}$$

where: $i = 1, 2... N$; $j = 1, 2, ..., p$ (N is the number of communes), x_{ij} denotes the value of the characteristic for the examined unit, max − the maximum value of the j_{th} characteristic, min − the minimum value of the j_{th} characteristic [Wysocki, Lira 2005].

The measure based on the non-model method uses the formula:

$$s_i = \frac{1}{p} \sum_{j=1}^{p} z_{ij} \, (i = 1, 2, \, ..., \, p) \tag{3}$$

where: s_i − synthetic measure in the examined period, z_{i_j} − features of the structure of the synthetic indicator, p − number of features. The indicator takes the value from the range [0,1] [Tokarski 2005; Walesiak 2005, pp. 106-118]. A value closer to unity means that the object is characterized by a high level of the analysed phenomenon. Values closer to 0 mean less developed units in the examined aspect [Dziekański 2017; Dziekański 2016, pp.79-91; Bury, Dziekański 2013].

Then a synthetic measure based on distance in real space was calculated with the Euclidean metric according to the formula:

$$OE_{it} = \sqrt{\frac{\sum_{j=1}^{p} \left(1 - z_{ijt}\right)^2}{p}}. \tag{4}$$

The synthetic measure (4) measures the distance in real space reduced to the interval [0; 1] with the Euclidean metric of the *i-th* commune in year t from the hypothetical commune-master. If the indicator value were equal to 0, then the given commune would have the maximum value of each of the stimulants tested. The higher the value of this indicator, the worse the situation in the area.

Finally, the examined objects were divided into four quartile groups [Zeliaś, Malina 1997; Dziekański 2015, pp. 261-279]. The size of the indicator in the first quartile group means a better unit and accordingly, in the lower group, the units are weaker [Młodak, Józefowski, Wawrowski 2016]. The mutual compliance of the obtained results was also verified based on the correlation coefficient and a scatter plot with the fit line for the analysed synthetic measure was presented [Dziekański 2016, pp. 79-91].

3. Entrepreneurship as an endogenous resource of the region

Local development is a process in which local authorities, residents and entrepreneurs are involved. Its goal is, among others, to improve the living conditions of the population, the rational use of resources, economic growth and improving the competitiveness of the spatial unit. Unique endogenous resources form the basis for the development of local units and determine their competitive position [Krześ 2015]. As the development factors, J.J. Parysek indicates, among others: the needs of the local community, available resources and assets of the natural environment, education, infrastructure investment, economic potential, and active and entrepreneurial residents [Parysek 2001, p. 19].

According to R. Brol, development factors can be divided into two, endogenous (so-called local development opportunities and needs) and exogenous groups. The endogenous ones include: demographic resources, infrastructure and the economy. The second group consists in exogenous factors that relate to changes in the macroenvironment and result, among others, from changing macroeconomic conditions, and system changes in the state [Brol 2006, p.16]. M. Stanny [2013, p. 214] considers local resources as the basic factors for the development of a given area, and for the purposes of his research takes into account their three dimensions: places (natural and benefits of place), social (work and knowledge resources) and management (material and financial resources).

A. Sztando emphasizes that local development is a process of multidimensional changes in the set of various elements that make up modern society, the economy and the environment, as well as even more numerous connections between these elements [Sztando 2013, p. 22]. Controlling such a multi-faceted process requires identifying the existing and potential endogenous and exogenous resources, as well as identifying the priorities and development directions for the local unit [Korenik 1998, p. 362].

A. Klasik states that the essence of the development of local economies and their communities is entrepreneurship. The combination of entrepreneurial and competitive abilities of the regions allows treating these development potentials as co-determinants of their sustainable development [Klasik 2006]. On the one hand, the level of development stimulates entrepreneurship, while on the other hand, entrepreneurial behavior can be reflected in shaping the level of development of a particular region [Zygmunt 2015, pp. 184-192]. According to E. Skawińska, entrepreneurship plays an important role in the efficient allocation of existing resources, as well as creating new and more perfect ones [Skawińska 2009, p. 48]. Entrepreneurship is a basic and indispensable component of a modern knowledge-based economy operating in conditions of generalized uncertainty [Skawińska, Sobiech-Grabka, Nawrot 2010, p. 103].

Entrepreneurship can be treated as a determinant of local development. K. Kuciński who draws attention to this aspect, indicates that entrepreneurship is an important development factor next to, among others, ecological balance and openness of the region [Kuciński 2010, pp. 15-29]. R. Brol emphasizes that entrepreneurship should be treated as an endogenous factor in regional development, concerning the sphere of regional economy [Brol 2006, pp. 16-22]. T. Markowski states that entrepreneurship is an attribute of social capital and in this context should be treated as a development factor [Markowski 2008, pp. 13-28].

Entrepreneurship is treated as a very broad category, covering economic, psychological, technological, cultural aspects etc., bringing with it new foundations, behaviour and values. The concept of entrepreneurship refers to various forms of human activity where initiative, inventiveness and creativity are required. Entrepreneurship is recognized as a permanent base, and a more complete and at the

same time holistic use of regional resources is related to combining the factors of production in appropriate proportions with their efficient use. Its level is shaped by economic conditions, conditions for the development of entrepreneurial attitudes of the region's residents, legal and institutional conditions as well as those concerning the functioning and development of business environment institutions. D. Valliere and R. Peterson recognized that entrepreneurship influences development through the efficient use of available resources, innovative activities as well as growing competition. These effects are characterized by their long-term duration, which is why they are noticeable after a certain period of time [Valliere, Peterson 2009].

Conditions for the development of entrepreneurship in a given local environment can be divided into − the first group with a source in the general framework of the national socio-economic system, e.g. the business tax rate, social and health insurance contributions, minimum wage, and the cost of bank loans. The second group is a derivative of local resources, the development and level of infrastructure development, and quality of human capital [Szot-Gabryś 2013, pp. 155-178]. An important aspect related to the conditions of entrepreneurship development is the region's competitiveness, understood as the region's attractiveness for living and investing, or having an advantage over other regions in some area of economic life [Wyszkowska 2005, pp. 105-106].

The area of Eastern Poland is characterized by territorial and developmental peripherality. The assessment of the region in terms of the level of endogenous potential in the area of entrepreneurship is low compared to other regions in the country [Gorzelak 2007; Miszczuk et al. 2011]. This results in the further creation of a development gap between regions with strong growth centres and peripheral regions (e.g. Lublin, Podlasie). Thanks to an effective development policy and the optimization of operational management at the level of local authorities, it is possible to increase the level of competitiveness of the studied regions [Strojny, Kościółek 2015].

An analysis of the functioning of enterprises in Eastern Poland in the period 2007-2017 indicates that the development of effective entrepreneurship in socially and economically weak regions, such as Eastern Poland, requires above all that the authorities provide a consistent pro-development policy. It is not usually important in this context to ensure relations between entrepreneurs and universities and the development of smart specializations [Jabłońska et al. 2018].

4. Spatial diversity of entrepreneurship in the Świętokrzyskie Province

Table 1 summarizes the values of the measure of synthetic entrepreneurship in communes of the Świętokrzyskie Voivodeship in 2010 and 2017 within the designated quartile groups. The first group includes municipalities with the highest entrepreneurship potential, the last group those weakest.

In 2010, the entrepreneurship measure Si ranged from 0.28 Bejsce (2) − the weakest commune, to 0.78 Kielce (1) – the best commune; in 2017 from 0.32 Waśniów (2) to 0.86 Kielce (1). The values of the OE development measure ranged from 0.35 Kielce (1) – the best commune, to 0.0.83 Bejsce (2) – the weakest commune in 2010, and from 0.21 Kielce (1) to 0.78 Waśniów (2) in 2017 (Table 1). Kielce is the capital of the region, a unit with a developed industrial function and a relatively large labour market. Bejsce, Waśniów are rural communes with a typical agricultural function.

Table 1. Quartile groups measure the synthetic development of urban-rural communes in the Świętokrzyskie Province in 2010 and 2017[*]

	Si entrepreneurship		OE entrepreneurship	
	2010	2017	2017	2010
A	Kielce (1) 0.78 Sandomierz (1) 0.73 Skarżysko-Kamienna (1) 0.60 Ostrowiec Św. (1) 0.60	Kielce (1) 0.86 Sandomierz (1) 0.71 Skarżysko-Kamienna (1) 0.62 Masłów (2) 0.61	Kielce (1) 0.35 Sandomierz (1) 0.44 Ostrowiec Św. (1) 0.46 Skarżysko-Kamienna (1) 0.47	Kielce (1) 0.21 Sandomierz (1) 0.45 Ostrowiec Św. (1) 0.47 Skarżysko-Kamienna (1) 0.48
B	Górno (2)0.44 Wąchock (3) 0.44 Chęciny (3) 0.43 Radoszyce (2) 0.43	Łączna (2) 0.46 Oleśnica (2) 0.46 Bieliny (2) 0.45 Bliżyn (2) 0.45	Stąporków (3) 0.65 Oleśnica (2) 0.65 Piekoszów (2) 0.66 Wąchock (3) 0.66	Chęciny (3) 0.64 Łączna (2) 0.64 Łopuszno (2) 0.64 Stąporków (3) 0.64
C	Kunów (3) 0.39 Radków (2) 0.39 Sadowie (2) 039 Osiek (3) 0.39	Bogoria (2) 0.41 Kunów (3) 0.41 Radków (2) 0.41 Sadowie (2) 0.41	Kunów (3) 0.70 Bogoria (2) 0.70 Solec-Zdrój (2) 0.70 Zawichost (3) 0.70	Bodzentyn (3) 0.68 Ćmielów (3) 0.68 Kunów (3) 0.68 Mirzec (2) 0.68
D	Klimontów (2) 0.36 Michałów (2) 0.36 Ruda Maleniecka (2) 0.36 Tarłów (2) 0.36 Bejsce (2) 0.28	Działoszyce (3) 0.38 Klimontów (2) 0.38 Koprzywnica (3) 0.38 Michałów (2) 0.38 Waśniów (2) 0.32	Iwaniska (2) 0.74 Klimontów (2) 0.74 Ruda Maleniecka (2) 0.74 Tarłów (2) 0.74 Bejsce (2) 0.83	Działoszyce (3) 0.72 Iwaniska (2) 0.72 Klimontów (2) 0.72 Moskorzew (2) 0.72 Waśniów (2) 0.78

[*] Sorted by quartile value for 2017. The Table presents the four best units in the group as well as the best and the weakest in the examined population; (1) urban communes, (2) rural communes, (3) urban-rural communes.

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.

The best units in the studied area, regardless of the method of determining the synthetic measure, are Kielce (1), Sandomierz (1), Skarżysko-Kamienna (1), Ostrowiec Świętokrzyski (1), Masłów (2). At the other end there were Waśniów (2), Michałów (2), Koprzywnica (3), Klimontów (2), Działoszyce (3), Iwaniska (2), and Moskorzew (2). The units with the best potential in terms of entrepreneurship were

characterized by a central location in the region, a developed industrial function, a greater number of economic entities and natural persons conducting economic activity (Table 1, Figure 1).
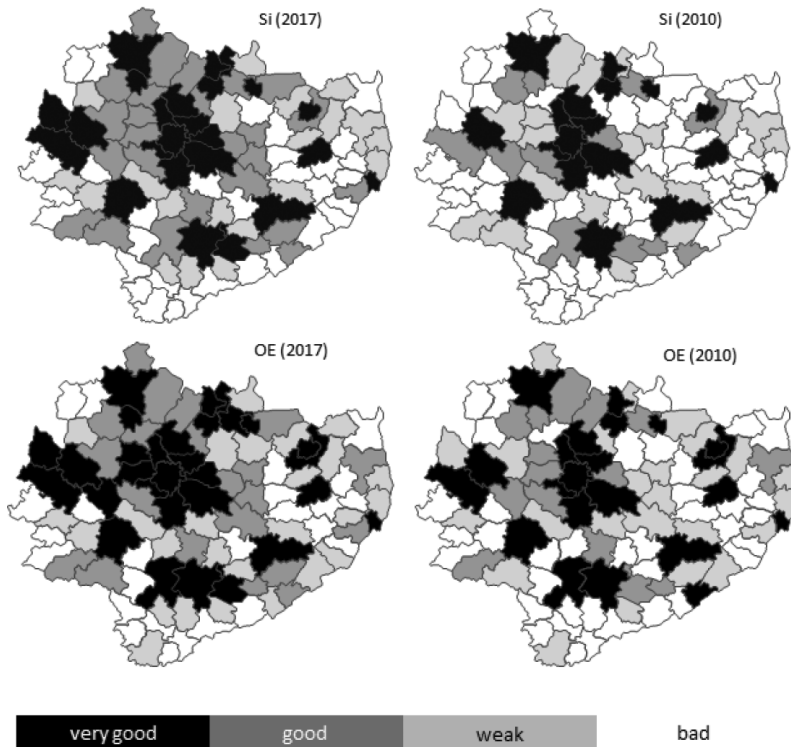

Figure 1. Map of dispersion of the measure of synthetic entrepreneurship in communes of the Świętokrzyskie Voivodeship in 2010 and 2017[*]

[*] Sorted by quartile value for 2017.

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.

The box chart (Figure 2) indicates a similar level of dispersion of communes in the Świętokrzyskie Voivodeship according to the measure of synthetic entrepreneurship. Entrepreneurship outliers are Kielce (1), Sandomierz (1), Ostrowiec Świętokrzyski (1), Skarżysko-Kamienna (1) – well-known cities in the Świętokrzyskie and Masłów regions (2), Busko-Zdrój (3) (Figure 2).

Measures of spatial diversity of entrepreneurship potential indicate the relative stability of dispersion of communes in the Świętokrzyskie Voivodeship in 2010 and 2017. The average value of the synthetic measure in 2010 was 0.42 and in 2017 0.44 for the measure Si and 0.68 in 2010 and 0. 66 in 2017 for OE (Table 2).
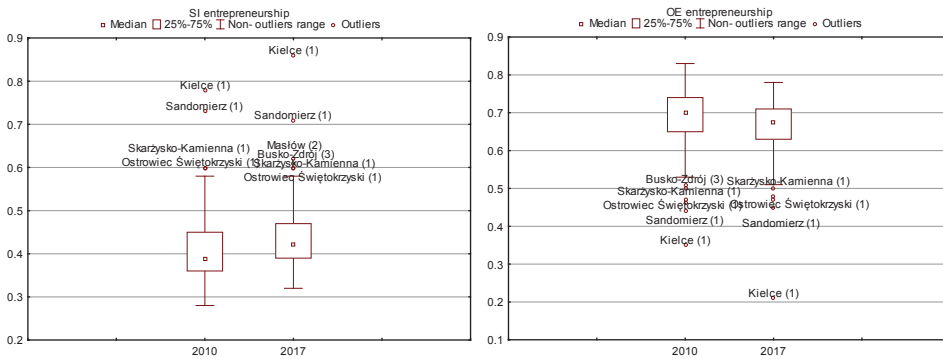
Figure 2. differentiation of synthetic measure of entrepreneurship in communes of the Świętokrzyskie voivodeship in 2010 and 2017

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.

Table 2. Map of dispersion of the measure of synthetic entrepreneurship in communes of the Świętokrzyskie Voivodeship in 2010 and 2017

	$Si_{entrepreneurship}$		$OE_{entrepreneurship}$	
	2010	2017	2010	2017
Average	0.42	0.44	0.68	0.66
Median	0.39	0.42	0.7	0.67
Standard deviation	0.08	0.09	0.08	0.08
Quarter (quartile) deviation	0.4	0.43	0.7	0.67
Classic coefficient of variation	0.2	0.19	0.12	0.13
Positional coefficient of variation	1.02	1.01	0.99	1
Min	0.28	0.32	0.35	0.21
Max	0.78	0.86	0.83	0.78
The range	0.5	0.54	0.48	0.58
Quartile range	0.09	0.08	0.09	0.08
Skewness	1.76	1.81	-1.41	-1.97
Measure of concentration-kurtosis	4.38	5.26	2.5	7.08

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.

In 2017, compared to 2010, one can indicate the stability of the examined area according to the standard deviation (0.5-0.54 for S_i; 0.48-0.58 for OE; 2010-2017). The stability of differentiation is indicated by a quartile range of 0.09-0.09, S_i; 0.09--0.08 OE; respectively for 2010-2017, also the classic coefficient of variation, which

in the analyzed period was 0.2-0.19 (S_i) and 0.12-0.13 (*OE*) respectively for 2010-2017. A slight increase in dispersion is indicated by the range (0.5-0.54 S_i; 0.48-0.58 *OE*; Table 2).
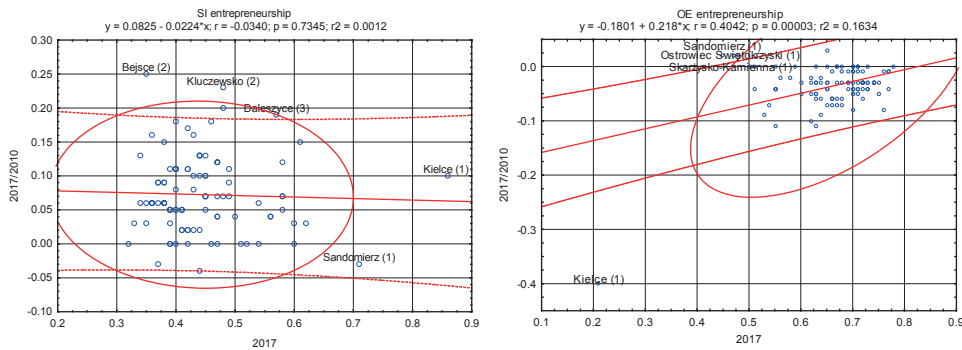

Figure 3. The relation of the measure of synthetic entrepreneurship and its change for communes of the Świętokrzyskie voivodeship 2010-2017

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.

Figure 3 presents correlograms describing the relationship between the synthetic measure and its change. The correlation value was -0.034 (for S_i); 0.404 (for *OE*). The following towns belong to the group of distinctive units: Sandomierz (1), Kielce (1), Ostrowiec Świętokrzyski (1), Skarżysko-Kamienna (1) and Bejsce (2), Kluczewsko (2), Daleszyce (3).

Figure 4 shows the year-to-year (2010 to 2017) ratio of synthetic entrepreneurship measures. The correlation value was 0.965 (for *Si*); 0.964 (for *OE*). This may indicate that the spatial diversity of entrepreneurship was quite stable, and the measures (*Si*, *OE*) similarly classified the surveyed units. The following towns belong to the group of distinctive units: Sandomierz (1), Kielce (1), Ostrowiec Świętokrezyski (1), Skarżysko-Kamienna (1) and Bejsce (2), Kluczewsko (2).

Figure 5 shows the relationship of the synthetic measure *Si* and *OE*. The correlation coefficients were: for 2010 -1.0, and for 2017 -0.99. This may confirm that the convergence process took place during the study period, and the units responded similarly to changes in the local economy. The obtained results indicate that the measures described development diversity to a similar degree, and the spatial diversity of entrepreneurship was stable.

The following towns belong to the group of distinctive units: Sandomierz (1), Kielce (1), Ostrowiec Świętokrezyski (1), Skarżysko-Kamienna (1) and Bejsce (2) (negatively to others), Masłów (2), Miedziana Góra (2), (units in the area of the influence of the city of Kielce and their resource base), Busko-Zdrój (3) with a developed tourist and spa function.
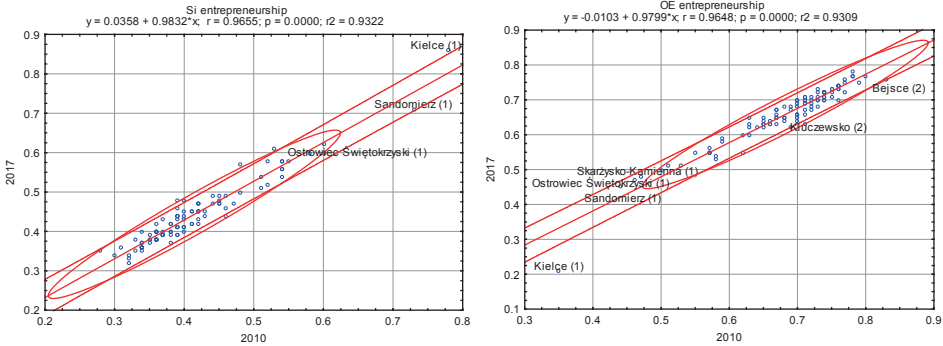
Figure 4. Ratio of synthetic entrepreneurship measure − 2010 to 2017, for communes of the Świętokrzyskie province

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.
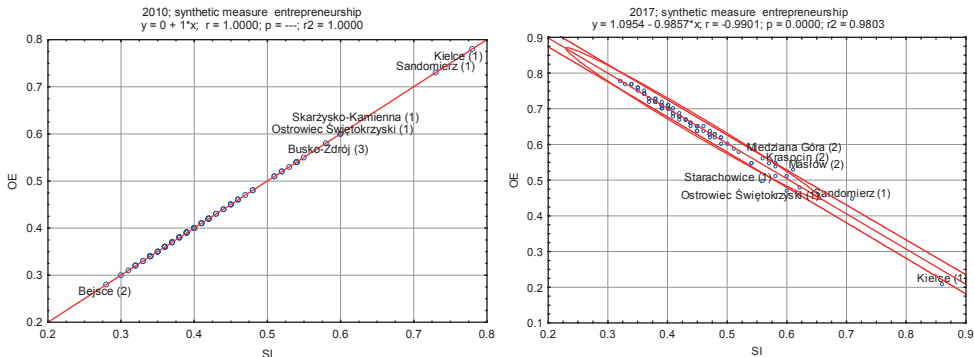

Figure 5. The ratio of the measure of synthetic entrepreneurship − S_i to OE, communes of the Świętokrzyskie voivodeship in 2010 and 2017.

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office

The level of entrepreneurship was most influenced by: the level of unemployment, the number of employees, the number of business entities, the number of natural persons conducting economic activity and the infrastructure (Table 3).

Table 3. Correlation of synthetic measure and its structure elements for communes of the Świętokrzyskie province*

	$S_{i\ entrepreneurship}$	$OE_{entrepreneurship}$
Unemployed	0.6433	-0.6843
Employed persons	0.6353	-0.6513
Business Unit(s)	0.9921	-0.9861
Self-employed persons	0.9758	-0.9676
Housing stock	0.1497	-0.1657
Migration balance	0.0678	-0.0396
$S_i / OE_{development}$	0.8239	0.8259
$S_i / OE_{financial\ situation}$	0.2936	0.3297
$S_i / OE_{infrastructure}$	0.791	0.8298
Own income	0.1932	-0.1908
Property expenditure (investment)	-0.0373	0.0431

*Linear correlation coefficients for observations from sample 1-816; critical value (at 5% bilateral critical area) = 0.0686 for $n = 816$.

Source: the authors' own calculations based on data from the Local Data Bank of Statistics Poland and the Central Statistical Office.

5. Conclusions

The development process is a multidimensional process that is difficult to clearly define and evaluate. It covers economic, social and spatial phenomena. A particularly important issue from the point of view of development is the identification, assessment and determination of the impact strength of individual factors conditioning the development process at commune level. The most important include endogenous factors (land, climate, raw materials, topographic conditions, proximity to the sea, capital, and technical progress) and exogenous factors (influence of state policy, political or economic dependence, dependence on external factors).

The structural features of regions and situational factors occurring in their area mean that regions differ in the scale of entrepreneurial activity. Factors strengthening the entrepreneurship of communes include, among others: regional demographics and the situation in the labour market, the structure of the local economy, the quality of human capital, housing resources and the infrastructure.

The conducted research confirmed that the Si entrepreneurship measure in 2010 ranged from 0.28 to 0.78, and in 2017 from 0.32 to 0.86. The values of the *OE* development measure ranged from 0.35 to 0.83 in 2010 and from 0.21 to 0.78 in 2017. The level of entrepreneurship, regardless of the method of determining the synthetic measure (S_i, *OE*) was influenced by: the level of unemployment, the

number of employees, the number of business entities, the number of natural persons conducting economic activity and the infrastructure.

The best indicator of entrepreneurship is in the cities of Kielce, Sandomierz, Skarżysko-Kamienna, Ostrowiec Świętokrzyski and Masłów being in the area of influence of the city of Kielce and constituting its resource base. Cities are units with a central location in the region with a developed industrial function. At the other end were: Waśniów, Michałów, Koprzywnica, Klimontów, Działoszyce, Iwaniska, and Moskorzew − units with a typical agricultural function.

The synthetic measure method allowed to compare the level of entrepreneurship of one unit against another. The value of the measure depended on the number and type of variables adopted for the study. The proposed indicator may also be a starting point for further studies taking into account a narrower or broader group of examined units. The problem of assessing the entrepreneurship of communes is the relative quality of information. The lack of adequate quality increases the risk of selective selection of variables describing the phenomenon and the possibility of making wrong decisions in the future.

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