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THE DIFFERENTIATION IN THE LEVEL OF SOCIOECONOMIC DEVELOPMENT OF RURAL AREAS OF THE LOWER SILESIA PROVINCE IN THE YEARS 2002 AND 2010

Key words: local development, spatial differentiation, rural areas, Lower Silesia, cohesion

ABSTRACT. A gradual process of convergence of our country with the bloc's member states has been observed since Poland's accession to the European Union. The advance in the standard of living and living conditions of the inhabitants attests to this. The study area included rural and urban-rural communes of Lower Silesia. The research was aimed at determining the differentiation of the level of socioeconomic development within the Lower Silesian region and establishing whether changes in growth serve to increase or decrease this diversification. The level of socioeconomic development in 2002 and 2010 was determined based on available data. In order to determine the differentiation, a hierarchical method of linear ordering and statistical methods were applied, including the Pearson correlation coefficient, as well as the coefficients of variability and determination. The studies showed that differentiation in terms of the level of socioeconomic development in the province's rural areas deepened in the years 2002-2010. It was noted that despite significant changes in most indicators characterizing socioeconomic development, growth progressed unevenly and was spatially diversified. Communes with the highest level of development were located around urban agglomerations, however, those communes which saw the fastest development did not form a compact territory around cities.

INTRODUCTION

Rural areas in Poland cover over 93% of the country's territory and are inhabited by 39% of the total population [GUS 2013]. From this point of view, harmonious socioeconomic development of rural areas is a very important issue, as it leads to the improvement of living standards of inhabitants alongside shaping the conditions allowing these areas to fulfil the role of supplier of public goods important for the whole society [Wilkin 2007]. Due to the tendency of rural areas to be socioeconomically marginalized, the significance of rural communes in regional policy (now cohesion policy) should be taken into account. These were defined as areas of strategic intervention [Grosse, Hardt 2011] in the National Development Strategy 2020 [MRR 2013].

Since 2004, the gradual convergence of Poland with the member states of the European Union has been observed [Sawicz 2012]. A positive impact of the accession of Central and Eastern European countries was noted by Ryszard Rapacki and Mariusz Próchniak [2009]. They stated that the entry of Poland, among other states, into the structures of the European Union has served to boost the country's economy due to the influx of foreign direct investment and the acceleration of structural reforms. According to R. Rapacki and M. Próchniak, financial transfers were also of great consequence. This paved the way for a rapid increase in the convergence of new member states, particularly in the period preceding accession, i.e. in the years 1996-2001 and 2001-2007. In their research, they showed that the value of the beta coefficient¹ increased from 0.78% to 4.15% for the 25 countries. However, research by Andrzej Rosner [2007] points to a differentiation in the level of socioeconomic development across rural areas within regions, and thus, the fact that the gaps between the communes are not narrowing in this regard. Consequently, this poses a great threat to the country's sustainable development, and – most importantly – is contrary to the cohesion policy's key objective, namely levelling out internal socioeconomic disproportions of countries in the Community. In line with the present principles of the Medium-Term National Development Strategy 2020, the new regional policy must be aimed at strengthening endogenous potentials and at developing mechanisms enhancing the spread of development processes from main growth centres to their surroundings.

In Polish and foreign literature, rural typology enveloping common criteria was developed in order to bring forth the same types (groups) of rural areas. Thanks to the interest of researchers in the problem of the countryside's heterogeneity, different typologies were created depending on their purpose, such as programming rural development, cohesion and regional policies.

A European typological review of rural areas shows that they divide and connect rural space according to a synthetic degree of assessment [Stanny 2013]. There are five types of rural areas in Belgium: a heavily urbanized area, a rural area subject to strong urbanization, a rural area subject to average urbanization, a rural area with some urban influences, and a rural area with the fewest urban influences [Vervloet, Lauwers 2004]. Five types of rural areas have been distinguished in Finland to help formulate rural development policy strategies, namely: rural peripheral commune, island commune, rural central commune, integrated commune (adjacent to cities) alongside city and town [Malinen 2007]. A similar typology was proposed in Spain, where as a result of cluster analysis, four types were put forward: marginal rural areas, rural areas in the vicinity of urban centres, urban-rural space with urban "diffusion" and central rural space [Ferrao, Lopes 2003].

In the Polish context, the said typology was undertaken by, among others, the Institute of Agricultural and Food Economics (IERiGŻ), the Institute of Geography and Spatial Organization of the Polish Academy of Sciences (IGiPZK PAN) and the Institute of Rural and Agricultural Development of the Polish Academy of Sciences (IRWiR PAN).

The typology of Poland's rural areas adopted by the employees of the Institute of Rural and Agricultural Development of the Polish Academy of Sciences focused, in its

¹ Beta convergence is a phenomenon of negative correlation between GDP growth rate per capita and initial GDP per capita.

assumptions, on criteria capturing the countryside's social and economic idiosyncracies and was defined in communal territorial units (NUTS-5). As a result of the research, three types of communes were identified: highly developed and dynamically developing; averagely developed and averagely developing; and bearing the characteristics of peripherality [Rosner 2010].

The problem of rural typology of Lower Silesia was also taken up in works related to the preparation of the Development Strategy for the Lower Silesian Province. Based on 11 indicators characterizing the level of multifunctionality of rural areas, three types of multifunctional rural areas have been identified, i.e.: communes with the highest level of multifunctionality located in peripheral areas; communes located near large cities that had slightly better soil and climatic conditions. They were located near major urban centres and were characterized by significant non-agricultural activities carried out by farmers and communes with the lowest level of multifunctionality and conditions favourable for agricultural production. These areas were of particular natural interest and were underdeveloped in terms of investment in the field of tourism [Kutkowska 2012].

The level of rural development is difficult to measure, which is due to several reasons. There is no one universal method in literature that would guarantee its measurement. Therefore, rural development must be subjected to operationalization by every researcher and expressed by means of empirical indicators [Nowak 1985]. This is also the case, because there is no unanimity in the category of understanding the notion of "ruralness", which makes the assessment of the level of development of extra-urban space an abstract one [Stanny 2013]. In this study, the principle has been adopted that rural development is a result of socioeconomic development. This way of thinking is justified because rural development addresses both social and economic issues of the countryside.

When considering the interpretation of socioeconomic development, it is important to keep in mind that economic development is not equivalent to economic growth. Economic growth refers to an increase in the production of goods and services in a short period of time (it is a quantitative change), while economic development is a wider category and involves a change in quantity and quality [Marciniak 1997]. What is more, economic development leads to changes in the structure of the economy. "The development of some areas does not always result directly from economic growth, understood as an increase in material production and the generation of national income. It may be an outcome of the local economy's revival, activation consisting of e.g. providing services, thanks to which a positive transfer of national income is made" [Stanny 2013].

Development has been operationalized by such economic indicators as the Gross Domestic Product, unemployment, the export and import balance, etc. Such an analysis of economic development had its weaknesses, caused by the one-dimensionality of the presented phenomenon. Therefore, from the point of view of these studies, it was not possible to apply the above-mentioned indicators to assess the level of development and its changes in rural areas.

We can define social development as a broad, multi-tier social process, which results in the growth of variables important for a given society. These variables relate to essential spheres of life and are aimed at meeting the community's needs. Social development takes place in the scope of changes in social structure, behavior and attitudes or the prospects

of comprehensive development [Sztompka 2005], whereas the growth of produced goods and services does not necessarily mean satisfying human needs and desires [Stanny 2013].

Once we combine social development with economic development, we attain a very broad concept. In the context of issues described above, we can assume that socioeconomic development is "The process of positive quantitative and qualitative changes consisting of increasing and improving existing and emerging new phenomena in the sphere of all economic, cultural and social activities." [Kupiec 2008].

Therefore, the socioeconomic development of rural areas should not be equated with measures based on factors such as an increase in national income, the scale of investment or the volume of exports and imports, because economic indicators are heavily influenced by social factors. For that reason, the discussed development should be understood as a process that results from changes in human behaviour, and the social dimension must be fully included when constructing the measure of rural development. This measure must take into account spatial and temporal changes within social and economic potential. Socioeconomic development of rural areas should be aimed at creating such social, economic and cultural networks in local terms that ensure high living standards and a high quality of life (i.e. they guarantee a high income for residents while limiting adverse phenomena, resulting in low crime, low unemployment, high fertility and low poverty rates) [Zawalińska 2009].

DATA AND RESEARCH METHODS

The purpose of the research was to determine the diversity of the level of socioeconomic development of rural areas of the Lower Silesian Voivodship in 2002 and 2010, along with determining whether developmental changes are taking place in order to increase or decrease this diversification; to indicate factors determining this differentiation and classification of communes into three types: high level of development, medium level of development and low level of development. The research identified the dynamics of change in the scope of individual components marking the levels of socioeconomic development in rural areas. Due to the availability of data for the construction of a synthetic index of socioeconomic development, the temporal scope of the study covered two years, i.e. 2002 and 2010. The territorial scope included all rural and urban-rural communes located in the province of Lower Silesia. The research was carried out on a total of 133 units. In the case of rural-urban communes, the research area covered statistical data in the aggregate. This was due to the fact that, in many cases, there was no data for the rural part concerning the differentiation of socioeconomic development of rural areas in the Lower Silesian Province in 2002 and 2010. To evaluate the varying level of development, the following methods were used: taxonomic methods, namely the hierarchical linear ordering method, i.e. the standardised value sum method [Chojnicki, Czyż 1991]; statistical methods, including the Pearson product-moment correlation coefficient [Buda, Jarynowski 2010], the coefficients of variation and determination, the statistical measures of location and variability [Konarski, Mielniczuk 2001], the grouping of objects based on the non-hierarchical clustering *k*-means method [MacQueen 1967]; descriptive methods and comparative studies from the perspective of space and time [Kopeć 1983, Stachak

2006], the expert method – determining economic and social component weights [Stachak 2006]. Graphic (charts, diagrams, maps) and tabular techniques have been used for the presentation of the research results.

In the final stage of the research, the rural areas of Lower Silesia were delimited into three types of communes: regressive, stagnant and progressive.

The research assumes that the aim of socioeconomic development of Lower Silesia's rural areas is to create such conditions in the local environment that foster an increase in residents' income, greater access to public services, alongside the development of local entrepreneurship and social activity. These conditions should prevent unemployment and agrarian overpopulation as well as socioeconomic marginalization of rural areas.

It was decided that the measurement of the level of socioeconomic development of the studied communes in the Lower Silesian Province would be based on the following components and subcomponents: The Economic component, including the following subcomponents: the agricultural sector (AS), the non-agricultural sector (NS), the labour market (LM), commune finance (CF), access of households to infrastructure elements (IE) and the Social component, including the following subcomponents: demographic structure (DS), social activity (SA) and human capital (HC).

The starting point for the research was to create a set of variables describing individual subcomponents. Bearing in mind the issue of the availability of data for both 2002 and 2010, alongside substantive issues, a group of 26 variables characterizing the subject of the study was identified (133 communes) (Table 1). The data for analysis was sourced from the Local Data Bank of the Central Statistical Office (BDR), National Censuses (NSP), Agricultural Censuses (PSR), the Regional Audit Office (RIO) in Wrocław, the National Electoral Commission (PKW) and the Education Office (KO) in Wrocław. The obtained data covered the years 2002 and 2010. Where data was not available, the closest year for which there was material for further analysis was used. Meanwhile, for indicators: migration balance for permanent residence per 1,000 inhabitants and the birth rate per 1,000 inhabitants, a calculation was made as an average of three years, i.e. for 2001, 2002 and 2003 followed by 2009, 2010 and 2011. The choice of variables was determined by several criteria, i.e. their low mutual correlation², differentiation of variable values (it was assumed that variables with a coefficient of variation lower than 10% are rejected³), the availability of data from all examined subjects, substantive usefulness to the discussed issue and also an arbitrary decision of the research author. Many of the above indicators only approximate the characteristics of a given subcomponent, but due to a lack of commonly accepted models for measuring the level of development and its operationalization, this kind of subjectivism was unavoidable.

² The low correlation of variables gives reason to believe that the selected variables describing particular subcomponents have been selected correctly and somehow complement each other. Such a selection of indicators may characterize various aspects of the analyzed subcomponents and leads to a broad description thereof. This is particularly important from the perspective of the obtained values of synthetic measures.

³ Taking into account the period under consideration, the coefficient of variation was calculated as the quotient of standard deviation and the weighted arithmetic mean of the index (equal to the average value of the index in the province), based on the formula.

Table 1. List of empirical variables characterizing individual subcomponents of the level of socioeconomic development

| Item no. | Name of the indicator | Nature of the indicator: D-destimulant, S-stimulant | Source | Year |
|--|--|---|----------|------------------------------------|
| ECONOMIC COMPONENT (EC) | | | | |
| Agricultural sector (AS) | | | | |
| V 1 | Share of agricultural land in the total area of the commune [%] | S | PSR | 2002, 2010 |
| V 2 | Share of farms in the area group above 15 ha [%] | S | PSR | 2002, 2010 |
| V 3 | Average area of individual farms with an area above 1 ha | S | PSR | 2002, 2010 |
| Non-farm sector (non-agricultural function) (NS) | | | | |
| V 4 | Number of business entities registered in the private sector in the National Official Register of Business Entities (REGON) [per 1,000 residents of working age] | S | BDL | 2002, 2010 |
| V 5 | Share of agricultural tax revenues in the commune's own revenue [%] | D | BDL | 2002, 2010 |
| V 6 | The commune's budget income in CIT [PLN/inhabitant] | S | BDL | 2002, 2010 |
| Labor market (degree of balancing the local labor market) (LM) | | | | |
| V 7 | Unemployment [% of working-age population] | D | BDL | 2003, 2010 |
| V 8 | Share of public sector entities (providing public services) among all entities registered in REGON [%] | D | BDL | 2002, 2010 |
| V 9 | Permanent migration balance per 1,000 inhabitants (average from 3 years) | S | BDL | 2001, 2002, 2003, 2009, 2010, 2011 |
| Commune finance (a commune's economic situation) (CF) | | | | |
| V 10 | Total income [PLN/inhabitant] | S | RIO, BDL | 2002, 2010 |
| V 11 | Commune's budget income in CIT and PIT [PLN/inhabitant] | S | RIO, BDL | 2002, 2010 |
| V 12 | Commune property investments [PLN/inhabitant] | S | RIO, BDL | 2002, 2010 |
| V 13 | Debt relation to the commune income [%] | D | RIO | 2002, 2010 |
| Household access to infrastructure elements (IE) | | | | |
| V 14 | Children in pre-school education [%] | S | BDL | 2003, 2010 |
| V 15 | Percentage of population using sewage treatment plants [%] | S | BDL | 2002, 2010 |
| V 16 | Percentage of population using the sewerage system [%] | S | BDL | 2002, 2010 |

Table 1. Cont.

| Item no. | Name of the indicator | Nature of the indicator: D-destimulant, S-stimulant | Source | Year |
|----------------------------|---|---|------------------|------------------------------------|
| SOCIAL COMPONENT (SC) | | | | |
| Demographic structure (DS) | | | | |
| V 17 | Percentage of post-working age population [%] | D | NSP | 2002, 2010 |
| V 18 | Women per 100 men aged 20-34 [person] | S | NSP | 2002, 2010 |
| V 19 | Birth rate per 1,000 population [mean of 3 years] | S | NSP | 2001, 2002, 2003, 2009, 2010, 2011 |
| Social Activity (SA) | | | | |
| V 20 | Election turnout in local government elections to local councils [%] | S | PKW | 2000, 2010 |
| V 21 | Number of non-governmental organizations [per 1,000 inhabitants] | S | DBL | 2005, 2012 |
| V 22 | Funds obtained as part of EU projects under the Regional Operational Programme for the Lower Silesian Province [PLN/inhabitant] | S | BDL | 2005, 2012 |
| Human capital (HC) | | | | |
| V 23 | Higher education of local councillors (% councillors) | S | BDL | 2002, 2010 |
| V 24 | Computerization index in junior high schools [student/1 computer] | D | BDL | 2003, 2010 |
| V 25 | Average test result of junior high school finals – in Maths and natural sciences [points] | S | Education Office | 2002, 2010 |
| V 26 | Deaths [per 1,000 population] | D | BDL | 2002, 2010 |

Source: own work

The set of final diagnostic variables proposed in Table 1 was subjected to further analysis, i.e. a synthetic development measure was calculated for each subcomponent in the analysed years and based on their value, rural communes were delimited into three types: regressive, stagnant and progressive.

To calculate synthetic measures for individual communes, both within the framework of components, subcomponents as well as the general measure of socioeconomic development of rural areas, a hierarchical method of linear ordering was used, i.e. the standardized value sums method. This method sums up standardized values for each subject and then constructs a relative development level index. The following formula (1) was used for the calculations:

$$WS_i^t = \sum_j (x_{ij}) \quad (1)$$

where:

$WS_i^{t'}$ – value of the synthetic index of the development level for the i -th commune in period t ,

$\sum_j (x_{ij})$ – sum of normalized values of j -th variables for the i -th commune.

RESEARCH RESULTS

CLASSIFICATION OF MUNICIPALITIES IN TERMS OF THE LEVEL OF ECONOMIC DEVELOPMENT IN 2002 AND 2010

From a historical perspective, economic growth is a relatively new phenomenon, which is related to the fact that the economy did not develop for many years and the growth rate stood at zero. It was only the industrial revolution, which primarily resulted in the mechanization of labour, raising the growth rate in Great Britain. Economic growth in European countries and the United States also accelerated in the 19th century [Brzoska, Lewandowska 2013].

The analysed economic component includes the following subcomponents: the agricultural and non-agricultural sector, the labour market, finances of the commune and access of households to infrastructure elements. Figure 1 presents the diversification of the level of economic development of the analyzed communes in 2002 and 2010. Both in 2002 and 2010, the highest level of development was observed in the vicinity of Wrocław, Głogów and Legnica, with a clear strengthening of these centres over eight years. Communes with the highest level of economic development in 2002 constituted 11% of the total and ranged from 781.0 to 1,071.0 points. In 2010, the number of communes at this level increased slightly to a share of 12%.

At the same time, in the same year, communes with an average level of development comprised the largest group. It was also the set that increased in number to the largest extent, i.e. from 28.0% of all communes in 2002 to 45.9% in 2010.

Communes with the weakest economic development (problem areas) obtained from 425.7 to 1,070.4 points. Communes which scored lowest in 2010 include Niechlów (425.7 pts), Wińsko (433.9 pts) and Cieszków (448.0 pts).

Spatial distribution of the agricultural sector [AS] showed a decrease in the number of communes with the highest level of development of the agricultural sector (24.1% in 2002 and 18.8% in 2010). Communes with a low level of development in this sector in 2002 numbered 45 units, while, in 2010, their total reached 51. Within all the examined subjects there were communes in which the level of socioeconomic development in agriculture remained unchanged. This concerned the communes of Węgliniec and Osiecznica, which, in 2010, ranked lowest in terms of the development of the agricultural sector, as was the case in 2002. A small share of agricultural holdings with an area of 15 ha and a small, average area of farms resulted in the lowest level of agricultural development in the

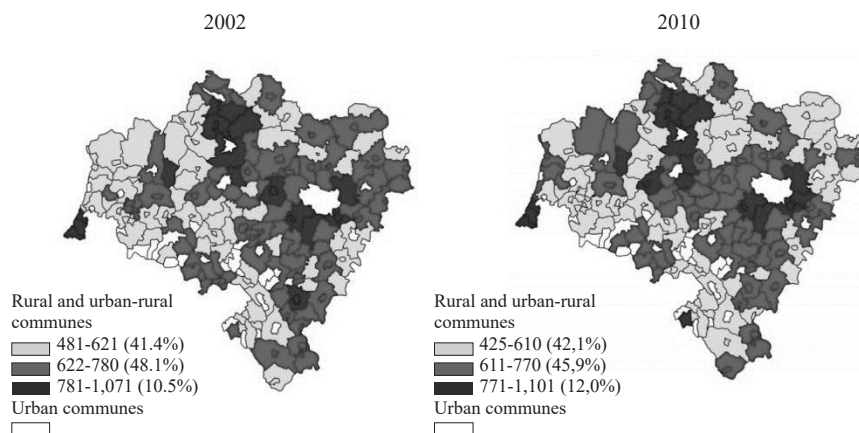


Figure 1. Synthetic assessment of the level of economic development of rural and urban-rural communes in Lower Silesia in 2002 and 2010

Source: own study based on data from the Central Statistical Office (GUS)

province, which allows to qualify them to communes with the lowest level of development (AS). Communes with the highest level of development and those that have improved their already high position in the ranking are: Kondratowice, Ruja and Domaniów. In 2010, communes with prospects for potential growth are Kobierzycze (1,100.7 pts), Polkowice (1,007.3 pts) and Grębocice (901.3 pts). Both Kobierzycze and Polkowice maintained their top spots compared to 2002.

In 2002, individual surveyed communes received from 12.1 to 251.8 points for the development of the non-agricultural sector (NS). As a result of the analysis, communes which can be classified as problem areas in the scope of the development of the non-agricultural sector were distinguished. This includes the Ruja, Zagrodno and Pęcław communes. Their synthetic index ranged from 0.01 to 17.5 points in 2010. Communes that can be categorized as areas of growth are Podgórzyn (194.9 pts), Kobierzycze (226.2 pts) and Polkowice (244.5 pts). All of these communes have strengthened their position in relation to 2002.

A synthetic assessment of the level of development in the labour market [LM] indicated that communes with the lowest development level should include the commune of Głuszyca (61.3 points; it also held the lowest spot in 2002), Bolków (61.6 pts) and Walim (66.7 pts). The biggest decrease among the above-mentioned communes was recorded by Walim. The communes that maintain their most dynamic growth tendency in terms of the labour market are Długołęka (294.9 pts) and Siechnice (288.2 pts).

After 2004, growing financial problems of local governments can be observed. As a result of many investments from EU funds, communes that are approaching the statutory condition of maximum debt are increasing in number and thus, they do not meet the requirements of the rule contained in Art. 242 and Art. 243 of the Public Finance Act. Many communes, not only in Lower Silesia, but also across Poland, are small and financially weak and will not be able to provide an aging society with high-quality public services in

the long run. All the more so because the financial situation of more than 50% of Polish communes today depends on funds obtained in the form of grants and subsidies [Ministry of Administration and Digitization 2012]. Spatial distribution of the values of synthetic indices related to the financial situation of communes [FS] clearly shows a decrease of the group of communes with the lowest synthetic index, and an increase in the number of local governments belonging to medium range, i.e. with a score of 105-188 points. In 2010, problem communes included Jaworzyna Śląska (41 pts), Żarów (47.4 pts) and Chocianów (50.1 pts). Compared to 2002, only the Żarów commune did not obtain a higher position and remained in the group of communes in question. Polkowice (291.8 pts) and Kobierzyce (285.2 pts) maintained their standing in the group of communes with growth potential. The Bardo commune has also been included in this group with the third-highest score (249.7 pts).

Many years of negligence in the expansion of infrastructure made it necessary to invest in elements such as sewage treatment plants, sewerage systems, a water supply network, roads and many others. The gradual transfer of some competences and decision-making powers to the appropriate regional and local level resulted in local communities being forced to "fight" for raising funds to finance necessary investment projects in the field of infrastructure development [Szewczyk 2008].

Spatial distribution clearly showed a slow increase in the number of communes with the highest level of development in terms of access of households to infrastructure elements (IE). The situation is particularly favourable in the central, southern and north-western parts of the province, where the synthetic index ranged from 109 to 179 points in 2010. Communes considered problem areas in particular are Prusice [as in 2002 it remained on a very low position (29.1 pts)], Jeżów Sudecki (10.2 pts) and Dobromierz (31.7 pts). In 2010, Kondratowice was promoted to the 117th spot, while Międzybórz ranked 121th. Communes with the highest growth potential are Grębocice (265.9 pts), Rudna (258.2 pts) and Lubin (251.0 pts).

CLASSIFICATION OF COMMUNES IN TERMS OF ECONOMIC DEVELOPMENT LEVEL IN 2002 AND 2010

Social development is a very difficult phenomenon to gauge. This is mainly due to a lack of consistent source data that would comprehensively characterize the studied phenomenon. A high level of social development is not only conditioned by high income and wealth of inhabitants, but mainly by the level of human capital, which depends on the level of education. In Poland, the highest social development is evident in metropolitan areas [Arak et al. 2012], which has also been confirmed in this study.

An analysis of the obtained results indicates a tendency of social capital to grow in communes located mainly around Wrocław. They are gradually strengthening their position and forming a more and more closed ring. In 2010, communes with the highest level of development accounted for 18.8% of the total, 3.8% more than in 2002. Communes with the lowest development levels decreased in number, i.e. in 2002 they comprised 35% of the total, while in 2010, 23%. The said weakening of development was mainly observed in the Legnica-Głogów district.

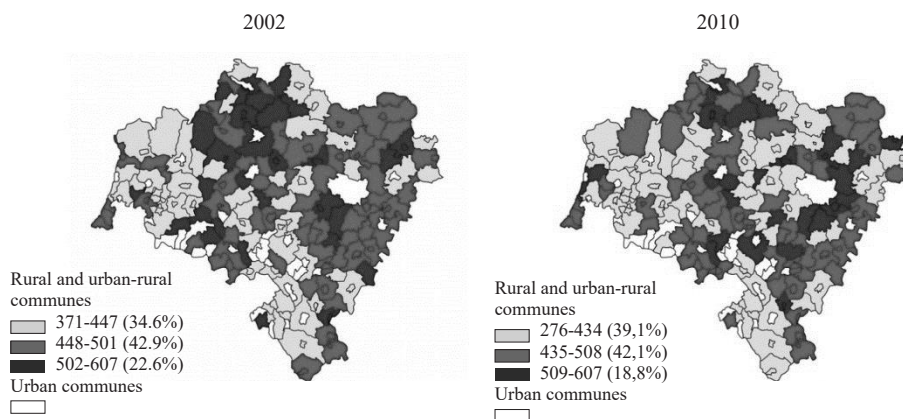


Figure 2. Synthetic assessment of the level of economic development of rural and urban-rural communes in Lower Silesia in 2002 and 2010

Source: own study based on data from the Central Statistical Office (GUS)

Communes which scored lowest in 2002 (Wleń, Oleśnica, Żarów), managed to improve their positions. In 2010, the lowest level of development was recorded in the communes of Ruja (276.9 pts), Mirsk (334.9 pts) and Marcinowice (352.2 pts).

Siechnice (+ 44 positions in relation to 2002), Krotoszyce (+0) and Jerzmanowa (+2 spots) were listed as communes with the highest development potential. In 2010, they obtained 610.1 points, 595.9 points and 577.9 points, respectively.

Significant demographic changes have occurred in Lower Silesia since 1989. The current structure is the result of rapid changes in terms of birth rates and migration, which are uneven in the province. In the period from 1995 to 2013, the number of residents dropped by over 73,000 (from 2,988.3 to 2,995.2), and will decrease by a further 250,000 by 2035. The current unfavourable state of the population is due to low fertility, an alarming migration balance and a low birth/death ratio [GUS 1995-2013].

Demographic processes are important not only for shaping a proper demographic policy, but also for preparing an appropriate socioeconomic policy [Holzer 2003] so as to facilitate growth. The demographic situation affects and will continue to affect labour resources. As a result of the analysis, a spatial distribution of synthetic indices was obtained in the demographic situation (DS) of Lower Silesia's rural areas. Communes closest to Wrocław form an ever more closed ring of local governments with the most favourable demographic structure. In 2010, communes with the highest synthetic index accounted for 31.6% of all surveyed units (up by 9% compared to 2002). Communes with the least favourable demographic situation in 2010 were Żukowice (81.6 pts), Wleń (81.7 pts) and Lewin Kłodzki (92.4 pts). Radwanice, Sulików and Lubomierz (problem communes in 2002), ranked 127th, 121st and 93rd, respectively. The synthetic index value of communes with favourable demographics in 2010 ranged between 154.6 to 206.0. The highest values were achieved by Kobierzyce (205.6 pts), Jerzmanowa (203.6 pts) and Mściwojów (200.9 pts).

An important factor affecting development is social activity [SA]. The participation of the population in solving social problems plays a major part for local development, which consequently shows the extent of development of civil society. According to Davis [2000], "the active involvement of civil society is now increasingly seen as the key condition for effective local development, poverty alleviation and the provision of social services." Diagnosis of the level of social activity development is not an easy task due to the multifaceted nature of the studied phenomenon and, what is worse, it is difficult to gauge (especially when we consider the quality of social activity). The analysis, made on the basis of statistical data, is for illustrative purposes only and is not capable of reflecting the full picture. The values of synthetic indices obtained within the scope of social activity for individual communes of Lower Silesia showed that, in 2010, the number of communes classified under the category of medium-level social activity development increased. Their number rose from 31 communes in 2002 to 67 in 2010. Communes with the highest development level in 2010 constituted 18% of all the surveyed units, up by 9% compared to 2002. Ziębice (26.4 pts), Nowogrodziec (31.9 pts) and Lwówek Śląski (32.1 pts) were listed as communes with the lowest social activity in 2010. The Ziębice commune is a permanent problem area, which in 2002 and 2010 held the second-last and last spots in terms of the synthetic index. Communes with growth potential are: Lewin Kłodzki, Krotoszyce and Pęcław. Their synthetic index value stood at 240.8 pts, 187.1 pts and 184.8 pts, respectively.

At present, human capital [HC] is becoming one of the main factors determining the competitive advantage of local, regional and national economies. In the face of increasing global competition, human capital with sufficiently high skills and qualifications to meet the challenges of changing reality is one of the essential conditions for rapid economic development, growth of civil society and, in turn, the improvement in the quality of citizens' lives [MPiPS 2013]. A synthetic distribution of the variation in human capital in 2002 and 2010 showed that in 2002, communes with the highest level of development accounted for over 35% of all the examined communes. This percentage increased by 4.8% to reach 39.8% in 2010. While in 2002 communes with highly developed human capital created a more "compact" area in the north of the province, in 2010, they were less «compact» around Wrocław and in the southern part of Lower Silesia. The number of communes with a low level of human capital decreased over a period of eight years starting from 2002, from 17.3% to 7.5%. In 2002, communes included in the group with the lowest human capital were: Ruja (112.3 pts), Żarów (141.0 pts) and Mietków (167.9 pts). Only the commune of Ruja remained at the bottom of the ranking in 2010, while the commune of Żarów ranked 78th and Mietków 36th. In 2010, Lewin Kłodzki (112.7 pts) and Mirsk (141.5 pts) joined Ruja (83.9 pts) in the group of communes with the lowest human capital. Local governments categorized as communes with the highest development level (HC) in 2010 were: Długołęka (305.7 pts), Polkowice (305.1 pts) and Międzybórz (303.6 pts). Among them, only Polkowice remained in the highest position.

CLASSIFICATION OF COMMUNES IN TERMS OF THE LEVEL OF SOCIOECONOMIC DEVELOPMENT IN THE YEARS 2002 AND 2010

As a result of applying the standardized sum method for individual subcomponents and communes, values being the sum of standardized variables describing the level of social and economic development were obtained.

Socioeconomic development is a very broad concept that depicts the development trends of a given country, region or local government. According to Jerzy Parysek [1997], "Socioeconomic development is a process of positive changes in quantitative growth and qualitative shifts". There are factors determining development in every territorial unit. As J. Parysek [1997] claims, "These factors stem from both the needs of the local community and opportunities linked to local resources". An attempt to analyse individual components of social and economic development of rural areas in Lower Silesia revealed spatial differentiation of this development in 2002 and 2010.

Figure 3 presents the obtained synthetic socioeconomic development indices of rural areas in Lower Silesia. As mentioned before, growth is chiefly observed around main urban centres (Wrocław, Legnica, and Głogów). Communes with the highest level of socioeconomic development account for only 10.5% (2010). Their share decreased by 0.5% in comparison to 2002. An alarming phenomenon was observed, namely an increase in the number of communes with the lowest level of development. Their number increased to 57.9% in 2010, up by 10.9% compared to 2002. Meanwhile, the group of local governments with medium-level development decreased. In 2002, they accounted for 41.0% and in 2010 – 31.6%. Moreover, based on the determined coefficient of variation for rural socioeconomic development, it can be concluded that the years 2002-2010 saw a slight increase in the differentiation of development. In 2002, this coefficient stood at 12.1%, increasing by 1.9% in 2010.

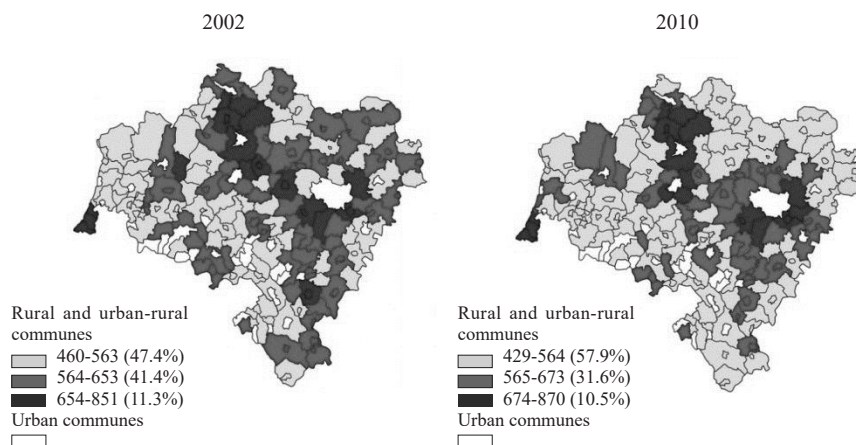


Figure 3. Synthetic assessment of the socioeconomic development level of rural and urban-rural communes in Lower Silesia in 2002 and 2010

Source: own study based on data from the Central Statistical Office (GUS)

Communities classified as problem areas in 2010 included Węglińiec (429.0 pts), Niechlów (431.2 pts) and Wińsko (442.2 pts). The commune of Węglińiec, which also held the last spot in terms of the discussed development, remains particularly at a disadvantage.

Communes with growth potential in 2010 were: Kobierzyce (868.4 pts), Polkowice (813.7 pts) and Jerzmanowa (737.5 pts). The first two maintained their position over the eight-year period and can be said to be the strongest local territorial units in terms of development. The Jerzmanowa commune moved up in ranking by three spots, to the disadvantage of the Rudna commune, which fell by three spots. Subcomponents that determined such a high level of development were: “commune finance”, “the non-agricultural sector”, “demographic situation” and “technical infrastructure level”.

CONCLUSIONS

The socioeconomic development of rural areas in the Lower Silesian region was diversified. In 2010, communes with the highest level of growth in this respect accounted for only 10.5% of all rural and urban-rural communes. Their share decreased by 0.5% compared to 2002. Communes with medium-level development accounted for almost 32% of all communes. Their share dropped by nearly 10% compared to 2002. An alarming phenomenon was observed, namely an 11% increase in the number of communes with the lowest level of development in the analyzed years. In 2010, as many as 77 out of all rural and urban-rural communes in the examined province (58% of the total) were characterized by the lowest level of socioeconomic development. Only 3 out of 133 communes (Kobierzyce, Polkowice, and Węglińiec) did not change their ranking in terms of the level of development in the analyzed years. A vast majority of communes, comprising 94%, changed their standing in terms of the level of socioeconomic development. An increase in the said development level was observed in the case of 49%, and a decline in the case of 45%. The observed phenomenon of polarization of communes in terms of the development level may have serious socioeconomic implications in the future and may lead to a further deepening of development discrepancies in rural areas of the Lower Silesian region. The most alarming situation was recorded in the following municipalities: Jeżów Sudecki, Prochowice and Chocianów, where the decline in the level of socioeconomic development was the steepest.

In 2010, intraregional differentiation in terms of socioeconomic development did not decrease compared to 2002. The coefficient of variation of this feature rose from 12% in 2002 to 14.0% in 2010. Moreover, the analysis of socioeconomic development of rural areas in the Lower Silesian Province indicated an increase in intraregional diversity. Based on the conducted research, one may draw the conclusion that the regional policy implemented in Lower Silesia fails to level out the differences within the region, while the applied instruments of support do not bring about desired results.

Dynamic economic development in rural areas is concentrated – in spatial terms – in areas covering communes with strong economic potential. This leads to further growth in both living conditions and the standard of living. Therefore, one may draw the conclusion that economic conditions constituted the factors determining the differentiation in rural development. In the case of social development, the greatest shifts mainly occurred in rural

areas with a positive migration balance, where attractive social and economic conditions prevailed. It should also be noted that, in the least developed communities, the factors determining socioeconomic development were: high social activity and an increase in the number of businesses and agricultural holdings with areas above 15 hectares of arable land.

Communes with the highest level of socioeconomic development in 2010 concentrated around main urban centers. Those with the lowest level of growth were peripheral in relation to the key development centers in the region. Thus, it can be concluded that the location of rural areas relative to urban agglomerations is the reason for the different levels of development.

To sum up, the differentiation of rural areas in terms of the level of socioeconomic development deepened in the Lower Silesian region in the years 2002-2010. The fact that the number of communes with the lowest and medium level of this development has increased is a cause for concern. Communes with the highest level of development were located around urban agglomerations, however, the communes which developed the fastest did not form a compact territory around cities. The policies of local governments played an important role in this phenomenon. In the least developed communes, social and economic development was determined by factors such as: social activity, an increase in the number of business entities and the number of farms with an area of over 15 hectares of arable land.

The results of the research conducted in rural and urban-rural communes of Lower Silesia show that major changes occurred in most of the indices characterizing socioeconomic development in the years 2002-2010. However, these changes progressed unevenly and were distinguished by spatial diversity, which points to the ongoing divergence of rural areas. Differences in the development level of rural areas in the Lower Silesian Province poses a threat to their cohesion and contributes to unequal living conditions and discrepancies in the quality of life of the rural population.

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ZRÓŻNICOWANIE POZIOM ROZWOJU SPOŁECZNO-GOSPODARCZEGO OBSZARÓW WIEJSKICH WOJEWÓDZTWA DOLNOŚLĄSKIEGO W LATACH 2002 I 2010

Słowa kluczowe: rozwój lokalny, zróżnicowanie przestrzenne, obszary wiejskie, Dolny Śląsk, spójność

ABSTRAKT

Od wstąpienia Polski do Unii Europejskiej obserwuje się stopniowy proces konwergencji kraju z pozostałymi państwami członkowskimi Wspólnoty. Jego wymiernym efektem jest wzrost poziomu i warunków życia mieszkańców. Obszarem badań były gminy wiejskie i miejsko-wiejskie Dolnego Śląska. Istotne z punktu widzenia przedmiotowych badań było określenie zróżnicowania poziomu rozwoju społeczno-gospodarczego wewnątrz regionu dolnośląskiego i określenie, czy zmiany rozwoju następują w kierunku zwiększania, czy też zmniejszania tego zróżnicowania. Poziom rozwoju społeczno-gospodarczego w latach 2002 i 2010 został wyznaczony na podstawie dostępnych danych. Do wyznaczenia zróżnicowania posłużono się hierarchiczną metodą porządkowania liniowego oraz metodami statystycznymi, m.in. współczynnikami korelacji liniowej Pearsona, zmienności i determinacji. W badaniach wykazano, że w latach 2002-2010 nastąpiło pogłębienie się zróżnicowania obszarów wiejskich województwa dolnośląskiego pod względem poziomu rozwoju społeczno-gospodarczego. Zauważono, że pomimo istotnych zmian w większości wskaźników charakteryzujących rozwój społeczno-gospodarczy, zmiany poziomu rozwoju zachodziły w sposób nierównomierny i odznaczały się zróżnicowaniem przestrzennym. Gminy o najwyższym poziomie rozwoju zlokalizowane były wokół aglomeracji miejskich, jednak te, w których następował najszybszy rozwój, nie tworzyły zwartej terytorium wokół miast.

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