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**Working Paper**

## The Diversity Of Socioeconomic Development Of Rural Areas In The Western Borderland And The Problem Of Post-State Farm Localities

Institute of Economic Research Working Papers, No. 10/2017

**Provided in Cooperation with:**

Institute of Economic Research (IER), Toruń (Poland)

*Suggested Citation:* Bartkowiak-Bakun, Natalia (2017) : The Diversity Of Socioeconomic Development Of Rural Areas In The Western Borderland And The Problem Of Post-State Farm Localities, Institute of Economic Research Working Papers, No. 10/2017, Institute of Economic Research (IER), Toruń

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**The Diversity Of Socioeconomic Development Of Rural  
Areas In The Western Borderland And The Problem  
Of Post-State Farm Localities**

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**Article prepared and submitted for:**

**9<sup>th</sup> International Conference on Applied Economics Contemporary Issues in Economy, Institute of Economic Research, Polish Economic Society Branch in Toruń, Faculty of Economic Sciences and Management, Nicolaus Copernicus University, Toruń, Poland, 22-23 June 2017**

**Toruń, Poland 2017**

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## **The Diversity Of Socioeconomic Development Of Rural Areas In The Western Borderland And The Problem Of Post-State Farm Localities**

**JEL Classification:** O 210, Q15

**Keywords:** *peripheral areas, rural areas, the western borderland, local development*

### **Abstract**

**Research background:** One of the major dilemmas of regional policy is the answer to the question whether the growth should be concentrated at the core or if there is growth and development potential in each territory (Barca, McCann, Rodríguez-Pose 2012, p. 149). The arguments which refer to the place-based policy stress the fact that making use of the unused potential of intermediate and poorly developed territories may actually influence the local and national level of development (Farole et al., 2011). Rural areas, especially peripheral areas, are undoubtedly the territories of unused potential.

**Purpose of the article:** The aim of the research is to measure the socioeconomic development, including the spatial diversification leading to the development of rural peripheral areas.

**Methodology/methods:** Development is a multidimensional phenomenon. Therefore, its level will be determined by means of the synthetic feature. The synthetic feature will be used as the starting point for identification of peripheral areas and their delimitation.

**Findings & Value added:** The results of the analysis showed significant differences level of socioeconomic development of rural areas in the western borderland. The research findings did not show a simple dependence between rural development and the share of former state-owned farms in the communes. Areas with a high share of former state-owned farms could be found both in the group of best and least-developed communes. Due to the range of research it is illegitimate to make other than intuitive inferences. Thus, we can intuitively indicate that the following group of factors triggered the process of development and helped to break the barriers resulting from the liquidation of state-owned farms: location in an urban agglomeration, natural and tourist values as well as the activity of local

authorities. The research should be continued in order to identify the factors and pathways of development in individual areas under analysis.

## **Introduction**

Development is a complex concept with multiple interpretations due to the multitude of the aims of development and the diversity of actions which affect it (Wojtasiewicz, 1996, p. 100). Socioeconomic development is a complex of changes whose aim is to increasingly satisfy the collective and individual needs of inhabitants in a local community (Rosner & Stanny, 2014, p.33). In order to conduct an empirical analysis of development it is necessary to make some simplifying assumptions, including a conceptual assumption that development is the resultant of changes interrelated by substitution and complementarity (Bagdziński, Kosiedowski & Marzałkowska, 1995, p. 39).

One of the major dilemmas of regional policy is the answer to the question whether the growth should be concentrated at the core or if there is growth and development potential in each territory (Barca, McCann, Rodríguez-Pose, 2012, p. 149). The arguments which refer to the place-based policy stress the fact that making use of the unused potential of intermediate and poorly developed territories may actually influence the local and national level of development (Farole et al., 2011). Rural areas, especially peripheral areas, are undoubtedly the territories of unused potential. In view of the facts mentioned above it is justified to pose the following research questions:

1. Which areas can be defined as rural peripheral areas?
2. What is the spatial distribution of rural peripheral areas according to the level of their socioeconomic development?

The aim of the study is to measure socioeconomic development, including spatial diversification leading to the emergence of peripheral rural areas. Additionally, the study is an attempt to identify the significance of former state-owned farms to the process of peripheralisation of rural areas.

## **Method of the Research**

The spatial scope of the research comprises rural areas of the western borderland, i.e. West Pomeranian, Lubuskie and Lower Silesian Voivodeships. The research subject were rural and rural-urban communes of the regions under investigation. The empirical material were obtained from the following sources: the Local Data Bank of the Central Statistical Office, unpublished data of the Agricultural Property Agency.

The object of the study was the development of rural areas in the western borderland, which was identified by comparison of the synthetic features of the following factors: location rent, technical infrastructure, social infrastructure, human capital, social capital and local finance (Table 1).

**Table 1.** Indicators for socioeconomic development of rural areas in the western borderland

Factor	Indicator
Location rent <sup>1</sup>	The soil quality indicator (points) The indicator of economic activity (points) restrictions in preservation areas (points) The indicator of road junction location (points) The indicator of town location (points) Areas of special nature value under legal protection (in % of total area) Forest cover in %
Social infrastructure	Nursery schools per 100 km <sup>2</sup> Primary schools per 100 km <sup>2</sup> Lower secondary schools per 100 km <sup>2</sup> Public libraries per 1000 population Out-patient departments per 1000 population Number of population per pharmacy
Technical infrastructure	Water –line distribution network in km/100 km <sup>2</sup> Sewerage distribution network in km/100 km <sup>2</sup> Relations between connections leading water supply/sewage Gas-line distribution network in km/100 km <sup>2</sup> Expenditures on public roads in total expenditures amounted (in %)
Human capital	Population per 1km <sup>2</sup> Relation children-oldest Live births per 1000 women in 15-49 years Natural increase per 1000 population Migration per 1000 population Females per 100 males (25-29 years) Tertiary education (in %)
Social capital	Entities of the national economy in the REGON register per 1000 population Associations and other social organizations per 1000 population Voter turnout (in %) Expenditures on culture per capita (zł) Expenditures on physical culture and sports per capita(zł)
Local finance	Total income zloty per capita (zł) EU funds zloty per capita (zł) Investment expenditures in total expenditures amounted (in %)

<sup>1</sup> Own calculations based on results Ossowska (2012). See more about rent location: Bartowiak, Ossowska (2010), Bartkowiak, Poczta (2012), Bański, Janicki (2011).

	Own income in total income amounted (in %)
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Source: own elaboration

Development is a multidimensional phenomenon. Therefore, its level was determined by means of the synthetic feature<sup>2</sup>. The construction of the synthetic feature was made according to the methodology suggested by Wysocki & Lira (2005). The selection of simple features was made according to the formal, substantive and statistical criteria, which are the determinants of development. The data was checked for their completeness, measurability and availability. The variability coefficient and Pearson's correlation coefficient was make the basis for assessment of statistical premises. The former was enable elimination of the variables with low information value from the set, whereas the latter was assess the strength of correlation between the variables. The analysis was also comprise the diagonal elements of inverse matrix to correlation matrix R in order to check the correctness of the condition numbers of the matrices. The next step was involve normalisation of the values of simple features (unitisation is proposed), which consists in unification of the character and making the feature values comparable by removing their nomials and unification of the lines of values. The synthetic feature values was determined by means of the non-model method, which boils down to averaging the normalised values of simple features. Then, on the basis of the synthetic measure value, the Jenks method was applied to group entities into classes characterised by similar levels of development (Jenks Natural Breaks Classification, Jenks, 1967).

## Results

The development of rural areas in the western borderland was identified by comparison of the synthetic features of the following factors: location rent, technical infrastructure, social infrastructure, human capital, social capital and local finance. No weights were assigned to individual components. Socioeconomic development was determined by applying a synthetic measure and a non-model method. Then the Jenks method was applied to group entities into classes characterised by similar levels of development (Jenks Natural Breaks Classification, Jenks 1967).

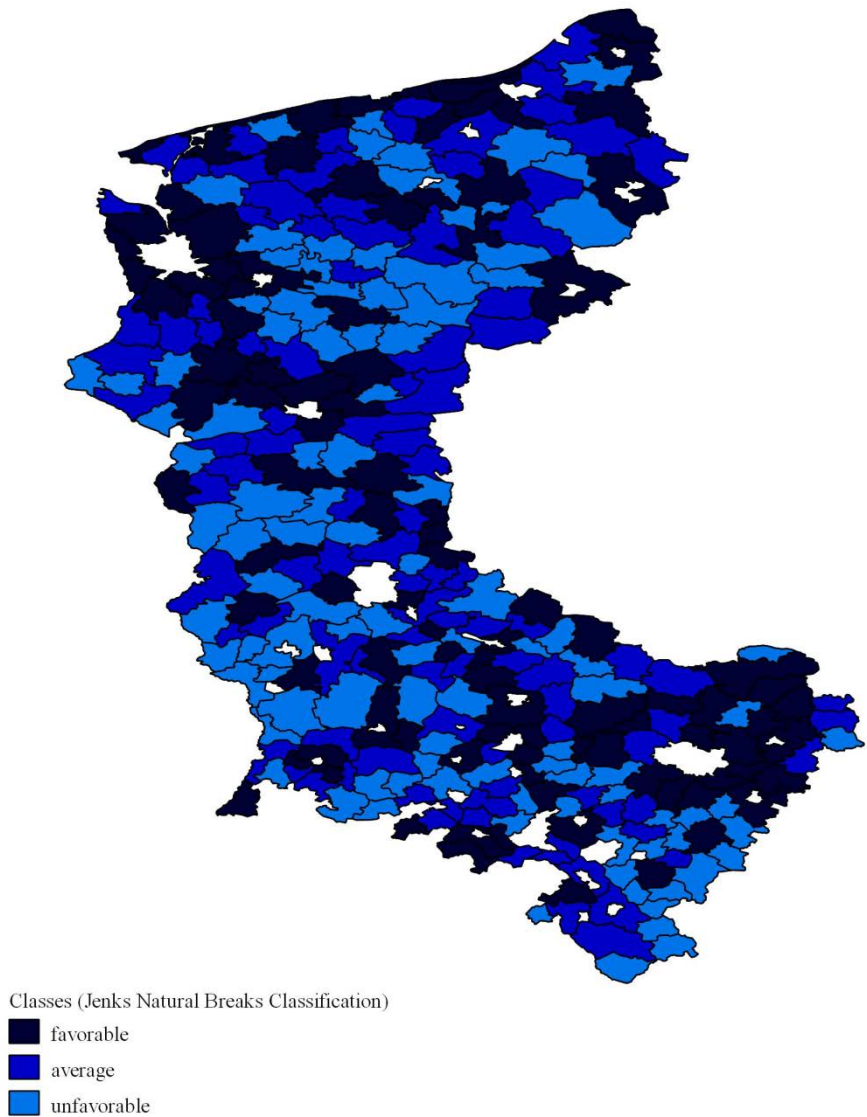
The classification enabled identification of three groups of communes with diversified levels of development, i.e. favourable (1), average (2) and

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<sup>2</sup> See more: Bański & Mazur (2016).

unfavourable (3). The spatial distribution of the grouping is shown in Figure 1.

Figure 1. Spatial diversification of socio-economic development of rural areas in the western borderland



Source: own calculation

34 entities clustered in Class 1 made the group of communes characterised by favourable (high) level of development. They are located within the agglomerations of the cities of Wrocław and Szczecin and along the coast. The other entities are irregularly located in the regions.

The entities in Class 1 are characterised by higher than average development of all the components under analysis. They were included in the class mainly due to the favourable location rent, resulting from the situation within the zone of impact of large regional cities. This strength was not observed in the cities of Zielona Góra or Gorzów Wielkopolski. It may have been caused by the fact that these cities have a smaller economic base. As far as coastal communes are concerned, their tourist function is very well developed and it results in high development of rural areas. The entities which are rich in mineral deposits (Lubin, Głogów) made another subgroup.

The rural areas in Class 1 are characterised by higher population density – 72 inhabitants/km<sup>2</sup> (average population density – 40 inhabitants/km<sup>2</sup>). They are attractive places for settlers, which is proved by the high positive net migration rate (12 persons per 1,000 inhabitants). In comparison with the other regions, Class 1 is characterised by favourable population structure in terms of age and sex. This fact is confirmed by the birth rate (10 births per 1,000 inhabitants).

As far as the human and social capital are concerned, the inhabitants are characterised by high entrepreneurship (133 business entities per 1,000 inhabitants). However, the social engagement is not higher than average, as can be seen by the voter turnout and the number of active societies and foundations. It may be caused by the urban lifestyle of new inhabitants of rural areas. Despite the highest expenditures on culture, physical culture and sports, the inhabitants do not exhibit greater social activity.

Class 1 is characterised by very good social and technical infrastructure. It is distinguished by good access to nursery schools (7 per 100 km<sup>2</sup>), primary schools and upper primary schools as well as health care centres and pharmacies. The areas are characterised by high density of the water supply network (96.7 km) and sewerage system (80.4 km), which are respectively two and four times denser than in the lowest class. The rate of coverage of the rural areas by the sewerage system is also favourable, because as much as 73% of the inhabitants are served by sewage treatment plants. Expenditures on public roads in the communes in Class 1 show that roads are repaired and constructed.

The situation of local finance is favourable. There was high total income (4,537 zlotys per capita), where the communes' own income amounted to 63.6%. It shows high financial independence of the entities. The local au-



thorities frequently used the EU funds (6,668 zlotys per capita), as the share of investment expenditures in total expenditures amounted to 23.3%.

Class 2 consisted of 138 communes characterised by average level of development. The communes were mostly located on the coast, around the towns of Zielona Góra and Gorzów Wielkopolski and in the second ring of the cities of Szczecin and Wrocław.

All the components under analysis reached average values, except the location rent, whose value was slightly above average. The greatest disproportion between Class 2 and 1 was noted in the technical infrastructure density, which was caused by the higher forestation rate, lower population density and different settlement network. Although the net migration rate in these areas is positive, the population is not increasing. The birth rate is favourable.

Local governments in Class 2 gained lower income (3,664 zlotys per capita) and they were less active in acquiring funds from the European Union (2,933 zlotys per capita). Budget limitations resulted in smaller expenditures on culture and sports.

The last class consisted of the entities, whose situation was considered to be unfavourable. The group consisted of 137 communes, mostly located in Lower Silesian Voivodeship (61). As far as the spatial distribution is concerned, these communes are located both on the outskirts and in the centre of geographically important regions.

The areas are characterised by an unfavourable location rent. There is a high forestation rate and high limitations to economic freedom as well as worse transport access to cities and towns (capitals of voivodeships and counties). As a result, these areas are attractive to tourists, but not enough to observe a well-developed tourist function.

Due to natural barriers there is much lesser density of social infrastructure (schools, nursery schools) and technical infrastructure. It is caused by low population density (32 inhabitants/km<sup>2</sup>). The areas are becoming depopulated (negative net migration rate – 4 persons per 1,000 inhabitants).

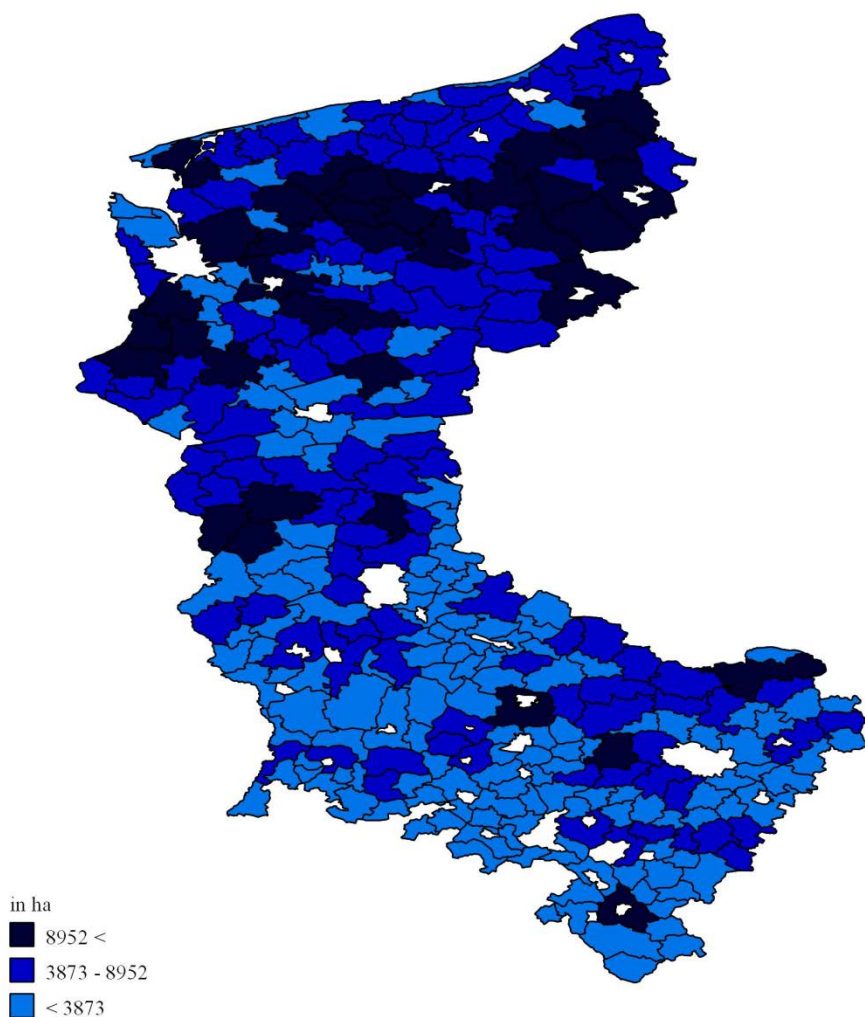
The communes in Class 3 are characterised by lower total income per inhabitant (3,467 zlotys) and low financial independence (45.6%). The local authorities used the EU funds less frequently (1,839 zlotys per inhabitant) and made fewer investments (the share of investment expenditures in total expenditures amounted to 12.8%).

There were also noticeable budget limitations in expenditures on culture and sports. Although their value was close to average, but in view of the small population potential, the expenditures were minimal.

It is noteworthy that the inhabitants were socially active. The measures of participation (the voter turnout and the number of societies) reached the same level as in Class 1.

In order to recognise the significance of former state-owned farms to the development of rural and peripheral areas we measured the area of land taken over by the Agricultural Property Agency of the State Treasury as of 1 January 1991 (current name: the Agricultural Property Agency)<sup>3</sup>.

Figure 1. Spatial diversification of former state-owned farms in the western borderland



Source: own calculation

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<sup>3</sup> See more: Marks-Bielska (2013).

Figure 2 shows the spatial distribution of the area of former state-owned farms in the communes under study. According to the data, only in 2 out of 309 communes under analysis there was no land belonging to former state-owned farms. Thus, we can assume that the entire area of the western borderland is covered by land belonging to former state-owned farms. There is significant diversification in the intensity of occurrence of these areas. On average the area of former state-owned farms amounted to 4,556 ha per commune. In individual regions it amounted to 7,156 ha (West Pomeranian Voivodeship), 4126 ha (Lubusz Voivodeship) and 3,010 ha in Lower Silesian Voivodeship. There are also noticeable differences in the number of plots and the average plot area (Table 2).

It was the territorial character of development rather than the sectorial approach to rural development that made the premise to verify the dependence between the area of former state-owned farms. Therefore, we assumed there was dependence between the level of rural development and the intensity of occurrence of state property (measured with the farm area). This criterion was assumed upon analysis of reference publications and the results of studies conducted so far. In order to verify the assumptions a regression model was built. The first step involved using the Pearson linear correlation coefficient to investigate the links between the area of former state-owned farms, the share of the area of former state-owned farms in the farmland area and the level of development and its components. The correlation coefficient values confirmed the absence of strong relations between the variables under analysis. For this reason further modelling was abandoned<sup>4</sup>.

**Table 2.** Indicators for former state-owned farms in the western borderland

Specification	Average plot size	Average number of parcels	Average farm size in the municipality in ha
Lower Silesian	8,0	370	2943
Lubuskie	11,3	364	4123
West Pomeranian	10,7	648	6947

Source: own calculations.

## Conclusions.

Rural development in the western borderland is significantly diversified. The areas whose level of development is favourable can be found around big cities, i.e. Wrocław and Szczecin. It proves the significance of cities to

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<sup>4</sup> Simultaneously, we made an analogic test for peripheral communes. There were no premises to apply the proposed method in this group.

the development of socioeconomic structures in their nearest neighbourhood. On the one hand, it is the effect of spreading development processes. On the other hand, it is the result of urban functions being fulfilled in the area surrounding cities. As could be observed in coastal communes and those rich in mineral deposits, high development of rural areas is coupled with a favourable location rent and environmental conditions.

Peripheral areas and areas threatened by peripheralisation were clustered in the group of communes characterised by an unfavourable level of development. This group made 44% of the total number of communes under study. This means that a considerable percentage of rural areas has minimal contribution or does not participate in development processes at all. Due to their deficits, it may result in even greater disproportions in development. These areas are characterised by negligence resulting from their unfavourable location, low concentration of technical and social infrastructure as well as depopulation processes. Additionally, the state of local finance makes it impossible to trigger a grassroots development mechanism. The aforementioned factors interact with different strengths and directions.

The research findings did not show a simple dependence between rural development and the share of former state-owned farms in the communes. Areas with a high share of former state-owned farms could be found both in the group of best and least-developed communes. Due to the range of research it is illegitimate to make other than intuitive inferences. Thus, we can intuitively indicate that the following group of factors triggered the process of development and helped to break the barriers resulting from the liquidation of state-owned farms: location in an urban agglomeration, natural and tourist values as well as the activity of local authorities. The research should be continued in order to identify the factors and pathways of development in individual areas under analysis.

In order to identify the significance of former state-owned farms to the formation of peripheral rural areas we suggest dynamic measurement of development, because it will enable identification of the rate and trend of changes. The next step should involve the identification of factors (e.g. by means of factor analysis) so as to select a group of traits that are decisive to the economic success. This research procedure will indicate the potentials that should be developed by territorially-oriented investments.

Apart from that, it is advisable to conduct parallel research on rural areas in Poland so as to compare the areas of former state-owned farms with other areas. It is recommended to make an attempt to build a regression model in order to continue the search for dependences between development and the areas of former state-owned farms.

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