REGIONAL IMBALANCES IN THE AGRICULTURAL DEVELOPMENT IN POLAND

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Abstract. The research study is aimed at determining the selected reasons for and characteristics of regional imbalances in the agriculture in Poland and recognising instruments of regional policy. The research used reference books and the CSO data concerning voivodships. The research showed that the agricultural development in Poland varies from region to region and this results from natural, organisational and economic as well as historical conditions. The actions taken within the framework of the regional policy in Poland should be oriented towards effective use of developmental potential of the particular regions in order to reduce regional disproportions as well as to the state’s development and the increase in its competitiveness in the European Union. Significant instruments of execution of regional policy are financial resources obtained from structural funds.

Key words: production factors, agriculture, regional policy, structural funds.

JEL code: Q10, R10, R11, R58

Introduction

The agriculture and rural areas of Poland are characterised by considerable regional imbalances, which are the consequences of natural, organisational, and economic conditions (Krasowicz, Kopinski, 2006). What is more, an important source of these imbalances stems from different historical experiences. Spatial variation of development becomes a fundamental problem of the modern economy, and levelling regional disproportions in this scope constitutes the main aim of the measures taken within the framework of regional policy.

Unevenness of development at a regional level is connected with an economic activity and investment of capital. Generally, the regions of higher level of economic development show an increased economic activity and vice versa. This leads to further disproportions and causes weakening a part of the regions despite the need of executing sustainable economic development practices. Therefore, there is a necessity of regionalisation of developmental policy in order to give equal opportunities to the regions of unfavourable conditions. Simultaneously, the regional development should be subordinated to the state’s long-term policy, and there should be a research study concerning conditions and possibilities of the particular areas conducted prior to the establishment of strategies of regional development (Wiatrak, 1999).

The level of the particular regions’ development determines the level of their competitiveness towards each other. Currently, among the basic factors influencing this process, one can mention modernity, diversity and innovativeness of regional economy, quality of spatial development, level of

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infrastructure development, and human capital thanks to which the regions are capable of making the offer attractive to participants of international markets (Sokolowicz, 2008).

The existent imbalances in the regional development are challenging to the regional policy on the one hand, with regard to increasing economic, social and territorial cohesion; and on the other hand, within the scope of increasing competitiveness and attractiveness of the regions by means of investments in the economy based on knowledge, encouraging entrepreneurial behaviour, increasing the research and innovation potential, and developing transport and telecommunications infrastructure (Kurek, 2010). What is more, imbalances of agriculture and rural areas in Poland are important reasons for the regional policy. These are indicators of problems requiring a support and objective scientific evaluation.

The research is aimed at determining the selected reasons for and characteristics of the regional imbalances of the agriculture in Poland, and recognising instruments of regional policy. To attain the main objective, there were several detailed tasks formulated:

- to recognise diversity of voivodships with regard to UAA share in their areas;
- to determine the percentage of persons employed in the agriculture in the selected administrative units;
- to identify the value of fixed assets in farms;
- to define the size of capital expenditures in the agriculture according to voivodships;
- to recognise the objectives of the agricultural policy of Poland.

The research used reference books concerning definitions of regions, reasons for regional imbalances, the EU regional policy, and its priorities. The analysis showed that a notion of region can be defined variously, e.g. from the economic, geographical, natural, political, statistical, administrative, and social perspectives. According to B. Klepacki (2006), a region is a separated area of specific features, structure, geographical environment, human and material resources with specific spatial relations. Whereas according to the Nomenclature of Territorial Units for Statistical Purposes (NTS), there are several levels, which can be used to divide Poland:

- NTS1 - the whole state;
- NTS2 - 16 voivodships;
- NTS3 - 45 sub-regions;
- NTS 4 - 314 powiats and 65 cities with powiat status;
- NTS5 - 2478 gminas and 18 districts of Warsaw.

In the article, the regions are voivodships according to the administrative division of Poland that has been effective since 1 January 1999. The basic source material was the data of Central Statistical Office (CSO) and the Ministry of Agriculture and Rural Development (MARD). The conditions of agricultural production associate with the form of basic production factors, i.e. land, capital, and labour. The utilised agricultural area in the structure of voivodships’ area, size of farms, proportion of workforce employed in agriculture and in terms of utilised agricultural area unit (UAA), value of fixed assets per 1 ha of UAA, and size of capital expenditure in farms were analysed in detail. The data analysis used the clustering method, grouping the voivodships according to three features: UAA share in the areas of voivodships; percentage of persons employed in the agriculture; and the value of fixed assets per 1 ha of UAA.
In order to create clusters, k-means method was used that belongs to the group of dividing methods. It provides dividing of the whole group of objects according to the principle of maximum variance formulation between the particular groups with the simultaneous minimum variance formulation within the investigated groups. As the result of using this clustering method, the voivodships differing in the selected features were presented on the map.

Research results and discussion

Production potential of agriculture is composed of three basic production factors, i.e. land, labour, and capital. Their resources and mutual relations are regionally differentiated, though. According to the CSO data, the utilised agricultural area in Poland was 15 million ha and 97.3% of it was privately held in 2012. The utilised agricultural area constituted 48.1% of the state’s total area, and the crops covered 69.3% of this area. There is a permanent trend of reducing the utilised agricultural area to the benefit of other forms of land use. According to the agricultural census, in 2002, the utilised agricultural area was 16.9 million ha, and in 2010, it was 15.3 million ha. The decreasing of utilised agricultural area is connected with the development of urban areas, residential housing as well as industrial and commercial centres. Moreover, the state development with regard to the communication infrastructure is of great significance here. The gradual decreasing of UAA, when faced with the diminishing economic significance of agriculture, results in lowering of the production potential of this sector.

The percentage of utilised agricultural area in relation to the areas of the particular voivodships is diverse. In Lubelskie and Lodzkie voivodships, it was over 70%, and in Lubuskie and Zachodniopomorskie it was less than 50% (Figure 1). In the last decade, the most considerable growth of UAA area was noticed in Lubelskie and Mazowieckie voivodships, and the reduction of area of this type of land was recorded for Zachodniopomorskie and Warminsko-Mazurskie voivodships.

Imbalances in UAA areas also concern farms. In 2012, there were 1534.9 thousand farms in Poland, including 54.8 thousand farms of area of 1.0 ha inclusive, and nearly 1480.2 thousand of farms of more than 1 ha of UAA. The average area of utilised agricultural area in total to a farm was 9.81 ha, and the average area of UAA in farms of more than 1 ha of UAA was 10.14 ha.

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\[ More \text{ information about this classification may be found in the article of Nowak E., 1990, Metody taksonomiczne w klasystyfikacji obiektow spoleczno- gospodarczych (Taxonomic Methods in the Classification of Socio-Economic). Publishing house - PWE, Warsaw \]
From the territorial perspective, the most considerable average of utilised agricultural area in farms was recorded in the following voivodships: Zachodniopomorskie – 17.57 ha, Warminsko-Mazurskie – 15.06 ha, and Pomorskie – 12.84 ha. The smallest farms, with regard to the area of UAA, were found in the following voivodships: Malopolskie – 2.43 ha, Podkarpackie – 2.69 ha, and Slaskie – 2.90 ha.

A human factor is also of great significance in connection with the development of agriculture. Despite the distinct downward trend, Poland still has got one of the highest, in comparison with other European states, percentage of population connected with agriculture. Nevertheless, the employment in this sector of the national economy shows very considerable regional imbalances. The highest percentage of the employed in the agricultural sector is visible in Lubelskie and Podkarpackie voivodships (Figure 2). Slightly lower values are found in three voivodships: Malopolskie, Swietokrzyskie, and Podlaskie. This is connected with a lack of some distinct alternatives for the agricultural production in these regions. The economic potential of these voivodships is too weak to generate non-agricultural jobs. What is more, a relatively high percentage of the employed in the agriculture is shown by Wielkopolskie and Kujawsko-Pomorskie voivodships; however, the situation there is different as these voivodships have a specialised agricultural production which is very profitable. The highest number of people professionally linked with the agriculture can be found in Lubelskie voivodship (328 thousand) where every third worker is engaged in the agricultural production. Furthermore, a high employment level in the agricultural sector is specific for the following voivodships: Mazowieckie, Podkarpackie, Malopolskie, and Wielkopolskie.

Source: author’s construction based on the CSO data

Fig. 1. Percentage of UAA in relation to the area of voivodship
The upper limit of production capacity of farms is determined by the quality and amount of fixed assets. According to the Polish Accounting Act, fixed assets include asset components and other objects completed and ready for usage on the receipt with an expected period of utility exceeding 1 year. According to the CSO, the basic type groups of fixed assets are as follows: buildings and structures; machinery; technical equipment and tools; transport equipment; long-term plantings; detailed meliorations; and livestock. Fixed assets influence organisation, day-to-day running, and economic and financial results of farms. With regard to production and economic aspect, they have several distinctive features:

- they participate in many production cycles;
- they retain unaltered tangible form during the whole production process;
- they are not tangibly included in the composition of new products;
- they are clearly diverse with regard to the tangible composition, shape, and technological level;
- as a result of active participation in production processes, they undergo a gradual physical and economic consumption;
- only their total consumption starts the process of renewal of fixed assets.
The highest value of fixed assets in 2010, namely, 8.8 thousand per 1 ha UAA, was detected in farms in Wielkopolskie voivodship (Figure 3). Slightly lower values were detected in four neighbouring voivodships: Kujawsko-Pomorskie, Lodzkie, Opolskie, and Slaskie. These data showed a considerable equipment of farms with fixed assets; yet, they did not reflect their actual consumption in these regions. A contrasting situation occurred in Lubuskie voivodship where the value of fixed assets per UAA area unit was only PLN 4.8 thousand. Similar values were noticed in the farms of northern Poland as well as Dolnoslaskie and Podkarpackie voivodships. However, the latter voivodship is characterised with a very small area of farms, while in the others one can find rather considerable areas which can indicate a different level of fixed assets’ consumption.

Source: author’s construction based on the CSO data

Fig. 3. Value of fixed assets (PLN thousand/ha of UAA)

A condition of continuity of business activity is successive renewal of production potential, which not only provides production but also the development of farms. The decisions on replacing operational fixed assets are the consequences of technological progress (Zarzecki 2006).

An effective policy within the scope of renewal of fixed assets requires the commitment of the funds derived from acquired income, credits, and loans, and the EU funds. In 2010, the highest investment expenditures of farmers were recorded in Wielkopolskie voivodship and constituted approximately PLN 322 per 1 ha of UAA. In Lubuskie, Mazowieckie and Malopolskie voivodships, the value of these expenditures was also high and it was over PLN 270 thousand. Definitely lower value of investments was noticed on farms in the following voivodships: Dolnoslaskie, Zachodniopomorskie, Podkarpackie, and Warminsko-Mazurskie - it was from PLN 176 to PLN 194/ ha of UAA.

All the investigations connected to the subject confirm the existence of regional imbalances of agricultural development in Poland. However, with regard to using different production potential and economic development level indicators, the studies show different classification of voivodships.
instance, A. Kaminska (2011), based on synthetic indicator, showed that during 2008 and 2009, the highest level of development took place in Wielkopolskie voivodship, followed by Kujawsko-Pomorskie and Opolskie voivodships. An extremely different situation was found in Podkarpackie and Lubuskie voivodships. However, according to the research conducted by W. Poczta and N. Bartkowiak in 2012, the highest level of potential per 1 ha of UAA was characteristic of four voivodships: Wielkopolskie, Warminsko-Mazurskie, Zachodniopomorskie, and Opolskie. While the group of the lowest level of production potential included three voivodships: Podkarpackie, Lubelskie, and Swietokrzyskie.

The differences visible between the particular regions within the scope of natural as well as social and economic conditions of the agricultural production are also reflected in the achieved production results. The voivodships located in the Northwestern Poland are characterised with greater production potential and higher level of agricultural development. A different situation is found in the Southeastern voivodships of Poland.

The studies of S. Krasowicza (2009) showed that economic and organisational conditionings cause an increase in regional differences and determine diverse possibilities of adjusting plant production to the economic reality and policies of the EU. The existent regional imbalances force diversification of supporting actions and consultancy work methods. What is more, the current analysis of changes in the community policies enabling to take up adjusting actions is necessary.

According to J. Gilarowski (2011), there are two main reasons for the regional imbalances in Europe. The first one stems from geographical and historical conditionings which determine preferences of investors and producers. The second one is connected with changes in production location, abolition of barriers in the transfer of production factors, and liberalisation in the process of area integration which lead to a rapid development of regions of higher level of competitiveness.

The different approaches to the reasons for the regional imbalances in the agriculture imply various opinions. According to some economists, imbalances in the agriculture of the particular regions were established by subsequent stages of social and economic development, and they are of a relatively constant character. Therefore, changing them radically is impossible (Runowski, 1990). However, according to the opinion of, for instance, Wiatrak (1999), the interregional imbalances in the agriculture can be overcome quickly by certain "efforts" of the agricultural policy, reallocation of means of production from higher-level regions to the regions of lower level of agricultural development.

The aim of the regional policy of the European Union is contributing to the reduction of the gap of development levels within various regions and the extent to which the least-favoured regions and islands, including rural areas, are lagging behind. Pursuant to the Treaty of Maastricht of 1992, the instruments (Cohesion Fund) and policies (cohesion policy) have been established and their common goal is reducing disproportions in the development of the regions and improving their competitiveness. Since 2007, one of the main priorities of the EU cohesion policy is convergence, i.e. supporting economic growth and creating new jobs in the least-developed regions, improving competitiveness and employment in more developed regions in the aspects of globalisation and transition towards the knowledge-based economy as well as territorial cohesion, i.e. supporting a closer integration within the Union's territory in all its dimensions aiming at sustainable development at the level of cross-border, supra-national and interregional cooperation (European Commission, 2005).

The strategic objective of the regional policy in Poland is effective use of specific, regional, and territorial developmental potentials in order to achieve goals of the state's development - growth,
employment, and cohesion from the long-term perspective. What is more, in the new regional policy up to 2020, three detailed objectives were adopted:

- supporting the improvement of regions’ competitiveness;
- building territorial cohesion and counteracting the process of marginalisation in the problem regions;
- creating conditions for effective and partnership execution of developmental, territorially oriented activities.

**Source: author’s construction based on the MARD data**

![Received financial resources within the framework of the EU funds from 2007 to 2013](chart)

Fig. 4. Received financial resources within the framework of the EU funds from 2007 to 2013

Rural development measures are mainly financed by the European Agricultural Fund for Rural Development (EAFRD). The aim of this financing is improving farms’ competitiveness, the environment and the countryside as well as the quality of life and economic diversification in rural areas (Figure 4). What is more, the measures of the European Social Fund (ESF) and the European Regional Development Fund (ERDF) indirectly contribute to the development of agriculture. The former one finances measures taken to fight unemployment and to develop human resources. The latter one supports infrastructure development, investments creating new jobs, local development projects, and small and medium-sized enterprises.

**Conclusions, proposals, recommendations**

1. The agricultural development in Poland is regionally diverse. The reasons of this diversity are geographical and historical conditions as well as those of economic policy. The particular regions differ in utilised agricultural areas’ share in the area of voivodeships, the percentage of persons employed in the agriculture, and equipment with fixed assets. Considerable disproportions are especially found between voivodeships of Southeastern and Northwestern Poland.

2. The existent regional imbalances force diversification of supporting actions determined by community policies and adjustment of consultancy works. The regional policy in Poland should pursue effective
use of developmental potential of the particular regions in order to reduce regional disproportions and to develop the state as well as improve its competitiveness in the European Union.

3. A significant tool of regional policy implementation is financial resources within the framework of structural funds. These resources are aimed at improvement of competitiveness of farms, condition of environment and landscape as well as quality of life, and diversification of rural areas. With regard to their use, human factor as well as knowledge and skills of authorities of states, regions, and small units and organisations are important issues.

Bibliography


