Index of localization of agricultural holdings and employees in the rural areas of the South Central Region for Bulgaria

Petar Marinov

Agricultural Academy, Institute of Agricultural Economics, Sofia 1113, Bulgaria
E-mail: tea4er@mail.bg

Abstract

Marinov, P. (2019). Index of localization of agricultural holdings and employees in the rural areas of the South Central Region for Bulgaria. *Bulgarian Journal of Agricultural Science*, 25(3), 464–467

Research and analysis of the social and economic processes in agriculture of smaller administrative units (NUTS rural areas and Rural Development Program – RDP 2014-2020), gives an accurate idea of the actual condition. The problem is relevant in terms of the functioning of farms within the countryside and the employed persons. Provide employment, produce agricultural produce, contribute to gross value added, and meet commitments in relation to the Common Agricultural Policy of the EU. The policy for rural development in Bulgaria is dictated by the accompanying facts, that is, approximately 45% of the population lives in them, encompassing 85% of the territory.

The aim of the publication is to reveal the real social and economic picture of the state of the agricultural holdings and the employed persons, the specialization of the respective region (rural municipality) in the border of the South Central Region on the territory of the Republic of Bulgaria.

The application of the localization index for agricultural holdings and employed persons in the rural areas of the South Central Region (Bulgaria) reveals their real status. The study of the specialization coefficient for agricultural holdings and employed persons covers an eight-year period 2008-2016. The localization index is the basis for the analysis of different types of economic processes and phenomena, it is also applicable in smaller administrative areas, namely in the rural municipalities of the South Central Region.

Keywords: localization index; rural areas; agricultural holdings

Introduction

The rural areas in the country are diverse in terms of geostrategic location, physico-geographic, socio-economic and ecological features. This is one of Bulgaria's biggest resources. Different economic, social and environmental programs have been implemented in recent decades (RDP 2014-2020, Horizon 2020, The European Agricultural Fund for Rural Development – EAFRD), which attempt to improve the social status of the population in those non-urbanized areas. For a number of reasons, much of the expected results are slowing down and not getting their realization. Applying modern approaches to rural integra-tion is a potential guarantee for overcoming differences.

Research and analysis is conducted within eight years using the Localization Index – IL (Isard, 1978, 1998, 2003; Geneshky, 2000; Patarchanova, 2006; Kovalenko, 2008; Nurgalev, 2012; Petrov, 2014; Marinov, 2015, 2018; Bachev et al., 2017). To help rural areas, their development in social and economic growth, the EU has three main objectives: 1) improving the competitiveness of agriculture; 2) achieving sustainable management of natural resources and climate action; 3) balanced territorial development of rural areas. The Localization Index and the analysis obtained in its develop-ment can be applicable to the objectives and tasks set by the EU Committees.

Materials and Methods

The Southern Central Region in Bulgaria with territory 22,365 km², (Kardzhali, Pazardjik, Plovdiv, Smolyan and Haskovo), seven municipalities of the urban type (Kardzhali, Pazardjik, Plovdiv, Asenovgrad, Smolyan, Haskovo and Dimitrovgrad) and 51 rural municipalities with area 18,441 km², meeting the National definition of the same[1]. The astronomical situation of the area is between: 42°40´/41°14´ n.g.w. and 23°35´/26°25 e.g.l. In the article I analyze the farms and the employed in rural areas, applying the localization index as a basis for comparison with the region and the country for the period 2008-2016. For the preparation of the scientific material, we apply different types of methods (localization index, comparative analysis, mathematical and statistical) which correspond to the need for their application with greater reliability and completeness in the analysis and the conclusion.

The localization index (IL) is a benchmark that serves to compare the areas, municipalities and types of settlements by economic indicators and productions with the country's basic indicators. Using the Localization Index (Isard et al., 1998), may apply for analysis of a certain territory on which different types of economic activities develop, as well as the employees in them. The index in this article applies to the analysis of farms and employed persons in the Southern Central Region by the NUTS classification for Bulgaria. If the index is higher than 1, the production of farms and employees in the sector – agriculture, forestry and fisheries (into classification of CEA[2] 2008), it has a higher concentration, which is an indicator of the localization of the respective economic or social activity. For a factor of less than 1, localization processes are missing or have a low concentration. The results of the study and analysis of specialization for the rural areas of the South Central Region in Bulgaria are directly related to the scale of the study. The lower the rank of a survey, an economic activity for the specialization coefficient in one territory, the higher the economic values are. It reveals the real economic picture of the state of the surveyed and analyzed municipality, farms, (production) and occupied places:

$$IL = \frac{S_j : N_j}{S : N} = \frac{S_j : S}{N_j : N},$$

where: S_j – the number of employed/farms in sector j in the area;

S – the number of employed/holdings in the processing industry in the area;

N_j – the number of employees/holdings in the industry j in the country;

N – the number of employed/holdings in the processing industry in the country.

Results and Discussion

The Localization Index is a benchmark used to compare and analyze farms and employees on a given territory in this case in the rural areas of the South Central Region in Bulgaria. Specialization of the area, besides the technical, social infrastructure, internal and external markets, depends to a large extent on the factors: natural resource, farms and skilled labor. There are objective factors influencing economic development in the rural municipalities of the region. They have to be considered individually, like sustainable development indicators, they have no exact formula or definition for their template implementation. Conditional factors are similar to the characteristic of each rural municipality in the South Central Region for the territory of Bulgaria.

According to Milusheva (2012) "The choice of indicators should be dictated by the need to reveal opportunities to increase competitiveness. This choice is too complex, because each of the factors of the external and internal environment influences". In the article, the underlying factors – external (natural resource potential) and internal (farms and employees) are key to the development of competitiveness for each rural municipality. It is not possible to produce a universal set of factors that can be applied locally. Each region or rural community must have its own set of factors that are characteristic of and on the basis of which to develop different methods, models and programs for competitive development. It is the interrelationship between the different factors, the natural environment and the agriculture that determine the development strategy in the rural municipalities. The natural resource potential as a factor for the development of the region agriculture is characterized by three climatic zones (transitional, Mediterranean and mountainous). The usable agricultural area for the area is 4975.47 км².

Agricultural holdings and employees are an internal factor for the development of the rural area of the South Central Region. In the initial stage of the survey, farms for 2008 are 10920 and the number of employees is 80260. The total number of agricultural holdings in 2003 was 666548, and in 2013 it reached 254142, or the falls within ten years is 411406 or 62%. For Bulgaria, according to the statistical information from the National Statistical Institute, the number of agricultural holdings in 2014 is 176230 and in 2016

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[1] "Identifies as rural areas of the municipalities (LAU 1) in which there is no settlement with a population of over 30000 people". This definition is used in the SAPARD Program and will also apply to the Rural Development Program for the period 2014-2020.

[2] The classification of economic activities in Bulgaria for 2008.

– 199980. Within the period 2008-2016 there is a growth rate of 40.23% for farms. For employees 94450 for 2016, in the same period, the analysis shows 15% growth.

In the article, the survey period is within eight years, overlapping the latest World Economic Crisis, its end and the time of stabilization. Applying the localization index for analysis of agricultural holdings and employees in the rural areas of the South Central Region in Bulgaria reveals the economic picture of the state of the internal factors in the smaller municipalities. Fig. 1 shows the location index for farms for a period of eight years in rural areas compared to Bulgaria and the region.
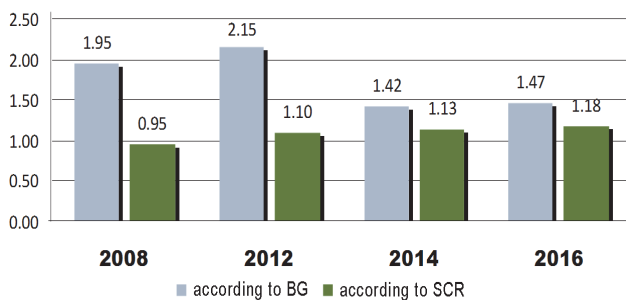

Fig. 1. Index of localization of agricultural holdings in rural areas of the South Central Region in the period 2008-2016

Note: the information comes from NSI and author's calculations

During the initial survey period of 2008, agricultural farms in the countryside compared to the country have a co-efficient of approximately two. This period coincided with the beginning of the global economic crisis. Depending on the region, the coefficient approaches the unit, regardless of the change in objective factors, rural areas retain their specialization. The next stage of the study coincides with the exit from the economic crisis, as a result of which the co-efficients show growth in both indicators – relative to the country and the region. In 2014 the analysis shows a minimal decline from the previous year, compared to the country's coefficient of 0.73 points, the region has a slight increase compared to the previous year 0.3 points – the rural areas retain their specialization. In the last survey period 2016 the analysis shows stabilization of the indicators with the minimum increase for the country being 0.5 points, for the region it is 0.5 points. Throughout the survey period 2008-2016 analyzing the localization index takes into account the specialization of rural areas in agricultural holdings. Agricultural farms are an internal factor for the development of the rural area of the South Central Region in Bulgaria. At the

initial stage of the survey the agricultural holdings for 2008 are 10920 and the employed are 80260 people. Within the period 2008-2016 (for 2014 the number of agricultural farms in Bulgaria is 176230, for the South Central region they are 36510 number, with 22890 in the rural municipalities in the same territory) there is a growth in the farms by 40.23% or by 2016 their number is 27140.

The employees in the Agriculture, Forestry and Fisheries sectors are accepted in larger limits. Over 90% of holdings are private, with some of them family-owned and reporting to employees is rather difficult and inaccurate due to a num-ber of socio-economic reasons. For greater accuracy and re-liability for the employed on agricultural holdings the author uses information from the National Statistical Institute[3].

Fig. 2 shows the index of localization of employed per-sons during the period 2008-2016 in the rural areas com-pared to Bulgaria and the region.
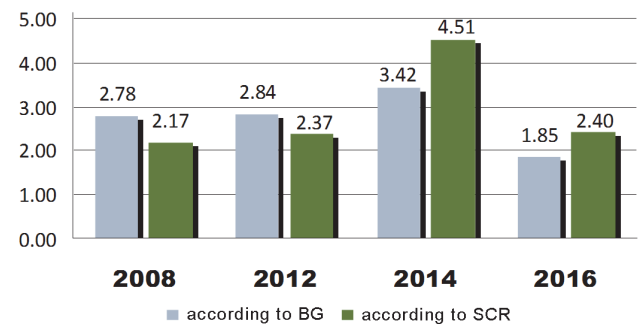

Fig. 2. Localization Index of Employed Persons in Rural Areas of the South Central Region in the period 2008 – 2016

Note: the information comes from NSI and author's calculations

During the initial survey period of 2008, the employed persons in rural areas compared to the country reported a coefficient above two points, the same for the region with minimum values above two points, there is a specializa-tion. The first year of research, like farms, coincided with the beginning of the last World Economic Crisis. However, the worsened external factors during this period in the ru-ral areas the index of localization has positive values. The next stage marks the outbreak of the World Economic Crisis, with the number of employed in rural areas compared to the previous year, the country having a minimal growth of 0.06 points, the region is 0.17 points growth, and there is a spe-cialization. In 2014 the analysis shows the highest growth of employees throughout the survey period, the specialization

retained. At the end of the survey for 2016 the index shows declines in rural, country and regional employment. For both metrics, the values are more than one. During the entire survey period 2008-2016 analyzing the localization index takes into account the specialization of the rural areas in the employed persons.

Conclusion

The natural and climatic features of the area are fundamental to the development of agricultural holdings. There is an increase in the number of farms in the rural area of the South Central Region during the survey period. On the basis of an IL analysis, it was discovered that the number of farms located on the territory of the region retains their specialization. Throughout the survey period, the localization index takes into account the specialization of rural areas in farms. However, worsened external factors during the first survey period in rural areas have a positive index. The study period and the analysis of the localization index take into account the specialization of the rural areas in the employed persons. The increase in the number of agricultural holdings and employees in the agriculture, forestry and fishery sectors in the rural areas of the South Central Region is due to the natural and climatic conditions and socio-economic activities aimed at stimulating this sector. The region retains its specialization and is the leader in these two activities. The development of rural municipalities is based on the implemented state policy, synchronized with the European programs for the stimulation and development of the smaller administrative territories through various programs based on socio-economic growth. In the coming years, the impact of a protectionist policy directed at rural areas must be strengthened in order to keep young people and raise living standards.

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