INDEX OF LOCATION OF EMPLOYED PERSONS AND PART OF NON-AGRICULTURAL ACTIVITIES IN THE RURAL AREAS OF SOUTH CENTRAL BULGARIA (IN THE CONTEXT OF SOUTH-CENTRAL REGION)

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Abstract

Rural areas with specific socio-economic activities within the EU RDP, and in particular for Bulgaria, are the main subject in the above-mentioned program in the new framework period 2021-2027. The study examines part of the non-agricultural activities in the field of Services - Hotel and restaurant business (I), Construction (F) and Transport, warehousing and post offices (H) in the South-Central Region (SCR). A deductive, comparative method is applied, as well as an Index of localization (IL), including: enterprises, number of labor units working in the relevant subsector. An analysis is made of the derived location index, comparing the different activities to the considered territories according to the NUTS classification. The conclusions and generalizations are based on the results obtained and their relation to the EU CAP.

Key words: location index, rural area, non-agricultural activities, district.

INTRODUCTION

Integration is a process that develops not only in a certain country or state, but covers large geographical areas in a global aspect (Bashev 2017) [1]. The need to create an integrated society leads to the formation of various unions or associations based on political or economic interests. Regional integration applies under certain conditions imposed by the object to the subject. Rural areas (RA) in the SCR are characterized by a specific natural resource and socio-economic potential (Bashev, 2022) [2]. On this basis have been built the research, analysis and conclusions related to the sub-sectors of non-agricultural activities: Hotel and restaurant industry, Construction and Transport, warehousing and post offices, as a part of the sphere of Services.

In the scientific study the authors accept the national definition, which defines as "Rural areas - the municipalities of (LAU 1)in which there is not a settlement (municipality) with a population of more than 30,000 people". According to this definition, 232 of them are classified as rural, out of a total of 265

municipalities in Bulgaria for 2020. Rural areas cover approximately 82% of the country's territory and 35-38% of the country's population (Mutafov and Marinov, 2022) [12].

From the last two national censuses, related to the general European census, the statistical data indicate that for 2011, the population in RA of the country was 2,463,083persons, respectively in Region 1 it was 1 511 400 or 61.31%. For the same year for Region 2, the population numbered 951,683, or 38.63% of the total (Markov, 2019) [8].

For 2021, there are 2 234 791 peoples in RA, in Region 1 the population's number is 1,299,699 peoples, or 58.15%; for Region 2 there are 935,092 persons, or 41.84% (National Statistical Institute- NSI) [13].

In Table 1, RAs are presented, divided by districts corresponding to the National definition of the same. The research covers a period of ten years, meeting the requirements for scientific study.

Table 1. Population in Rural areas by districts from South Central Region

DISTRICT	2010	2015	2020
DistrictKardzhali	85,165	83,700	89,461
DistrictPazardzhik	126,122	118,817	95,346
DistrictPlovdiv	230,386	219,407	216,756
DistrictSmolyan	80,019	73,329	66,599
DistrictHaskovo	101,529	97,195	93,113

Source: NSI and author's calculations [13].

The main role of the scientific research in this publication is to present the socio-economic picture in RA of the SCR, focusing on non-agricultural activities, which are related to the number of the population in the mentioned municipalities. Employment and enterprises, which in turn form GVA, which is part of the country's GDP, and all of this determines the socio-economic status of the population in these territories (Kolaj et al., 2021) [5]. Table 1 shows the number of the population by districts in the RA of the same for a period of ten years. For the five mentioned districts, as part of the SCR, it can be seen that the population in RA decreased from the beginning to the end of the period, with the exception of Kardzhali district, where there is an increase by 4.75%. Non-agricultural activities in the RA are subject to the CAP of EU and Bulgaria, as a member of this Union, must take into account the political situation (Krustev and Fidanska, 2022) [6].

MATERIALS AND METHODS

In the research study have been analyzed part of the non-agricultural activities - Hotel and restaurant sub-sector (I), Construction (F) and Transport, warehousing and post offices (H), as a part of the sphere of Services in the RA of the SCR, based on: Classification of economic activities (CEA) of 2008 [3], EC Regulation № 1893/2006 of the European Parliament and of the Council of 20.12.2006 - to establish a statistical classification of economic activities NACE Rev. 2, and to amend Regulation (EEC) №3037/90 of the Council, as well as some regulations (EC),

regarding specific statistical areas at the regional level for the member countries. In the publication I refer to Section II, Art. (9 to 21) and Appendix I and II of the above CEA (CEA, 2008) [3].

The purpose of the research is to reveal part of the non-agricultural activities in the field of Services – (Hotel and restaurant sub-sector - I, Construction - F and Transport, warehousing and post offices - H) in RA of the SCR. During the research, using the statistical information for the region, administrative centers and settlements with a population of more than 30 000 peoples were removed, leaving only rural municipalities (Milusheva, 2012) [10]. They are related to the socio-economic activities of this type of administrative-territorial units, bound by the law on Regional Development inforce from 31.08.2008, State Gazette No 50 of May 30, 2008, amended SG., No 21 of March 13, 2020, Chapter Two - Territorial basis of regional development, Art. 4. (2), (4) and (5), (suppl. - SG No 21/20, in force from 13.03.2020), (Law of regional Development, 2008) [7].

The Index of Localization (IL), applied in the study, is a basic indicator (Isard et al., 1988) [4] that serves to compare regions, rural areas, municipalities and settlements according to the main, regional socio-economic activities for the same to the country. When using IL for a sector, sub-sector, production, employed persons in a given administrative-territorial unit and it is bigger than 1 (unit), at a basic indicator for the country as a whole, then the production (activity) of the industry has a higher concentration in the region or municipality, which is an indicator of localization of the relevant economic or social activity. With a coefficient less than 1 (unit) in the respective territory, localization processes are absent or there is a small concentration of sectors, sub-sectors, productions and employed persons. The use of the economic indicator IL can be tied to the number of the population of a certain territory, employed persons in various types of industries, sub-industries in production activities (specifically for the

population of working age). The following formula is used to calculate IL:

IL = (Sj / Nj) / (S / N) = (Sj / S) / (Nj / N)

....(1)

where:

IL –Index of localization

S_j – the number of employed persons/enterprises in the sector j in the region

S – the number of employed persons/enterprises in the processing industry in the area

N_j– the number of employed persons/enterprises in the sector j in the country

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

The research used the European NUTS classification, the definition of Rural Areas corresponding to the country, the National Statistics Office of Bulgaria, statistical information from the National Statistical Institute on the number of non-financial enterprises and employed persons for a period of ten years - 2010, 2015 and 2020, according to the CEA. The research is applicable, using a comparative analysis between the EU when using the NUTS classification also for smaller administrative-territorial units of the same. Microsoft Word and Excel were used in the research and analysis of statistical information.

Note* The Index of Localization formula base model presented by Walter Isard for this study has been adapted to publishers' requirements. The study is based on the indicated number of Rural Municipalities (232), before the adoption of the Strategic Plan for the Development of Agriculture and Rural Areas of the Republic of Bulgaria for the period 2023-2027.

RESULTS AND DISCUSSIONS

In the scientific publication, I have examined the employed persons and non-financial enterprises in the RA by regions of the SCR for a period of ten years. I have analyzed the subsectors - Hotel and restaurant industry (I), Construction (F) and Transport, warehousing

and post offices (H), which are in the sphere of the Services sector for the territory of the country. The final result of IL, visualized in figures, indicates the years and the territories considered above. In Figure 1, the IL of persons employed in a sub-sector is presented - Hotel and restaurant industry (I).
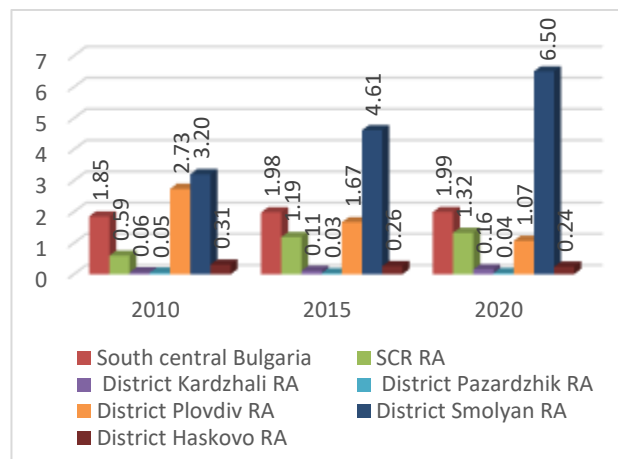

Fig. 1. Employed persons under CEA – I by Regions for RA by IL for Bulgaria
Source: NSI and author's calculations [13].

The analysis of IL in Figure 1 reveals that there is the highest localization of I in the RA of Smolyan region for the entire study period. According to the IL for employed persons in the RA of Plovdiv region, they occupy a smaller concentration in the sub-sector - I and both territories have an indicator above 1. In South Central Bulgaria, related to the country, IL is above one for the entire period of research, there is a specialization in sub-sector I. Rural municipalities in the SCR, throughout the study period report an index above 1, the territory has a specialization in this sub-sector. With values below one are the RAs of Pazardzhik, Haskovo and Kardzhali districts.

The Index of localization for non-financial enterprises during the research period reports a specialization above one in sub-sector - I for South Central Bulgaria, relative to the country.

From RA by districts with an index above one are Smolyan and Plovdiv, and in 2010, the latter surpassed the former with an index of 0.49. In the following years, there is an equalization and overtaking in the localization of non-financial enterprises in I.
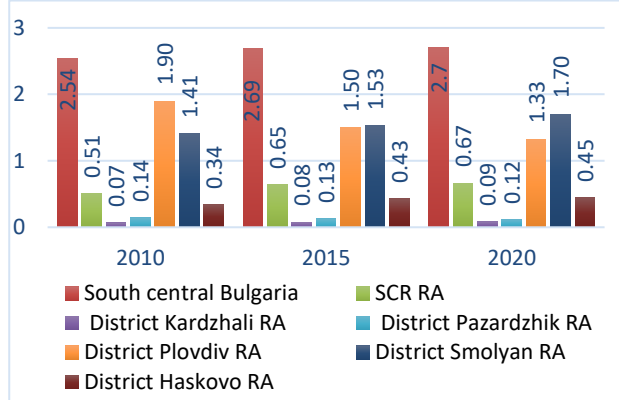
Fig. 2. Non-financial enterprises under CEA – I by Regions for RA under IL for BG
Source: NSI and author's calculations [13].

For the RA of the SCR during the study period, IL reports values below one compared to the country at the end of the period, there is an increase of 0.16 index (Yankov, 2016) [17]. The rest of the RAs in Pazardzhik, Kardjali and Haskovo districts are under one, they have minimal localization of this type of non-financial enterprises from the sub-sector - I.

The following Figures (3 and 4) present the employed persons and non-financial enterprises from the sub-sector - Construction, part of the sphere of Services in Bulgaria for a period of ten years in the RA by regions of the SCR and the country.
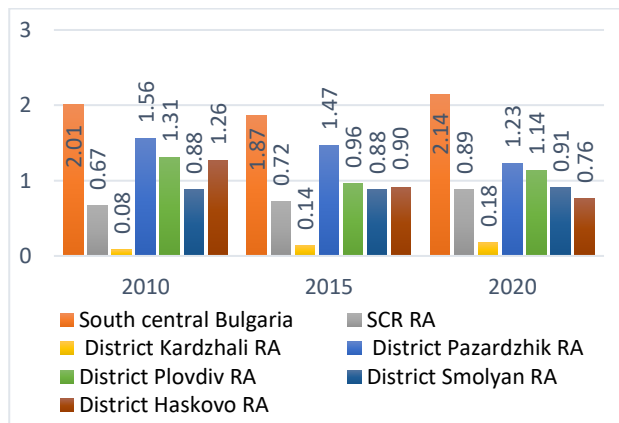

Fig. 3. Employed persons under CEA – F by Regions for RA by ILfor Bulgaria
Source: NSI and author's calculations [13].

Analysis of IL in Figure 3 reveals that there is the highest localization of employed persons with values above one in sub-sector - F for South Central Bulgaria, during the study period. For RA of the SCR, IL has values

minimally close to one (Sarov, 2021) [14]. The rural municipalities of Pazardzhik district in sub-sector F are the leaders in IL for the entire research period with a value above one. Followed by RA of Plovdiv district, reporting IL above one for the ten years. For the above two areas for sub-sector – F, the index indicates that there is specialization and concentration of employed persons. The RAs of Haskovo and Smolyan districts follow with values close to one. The rural municipalities of Kardzhali region have minimal IL for the above-mentioned sub-sector during the research period.
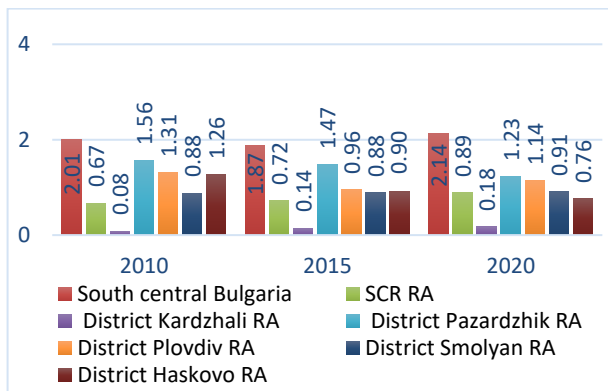

Fig. 4. Non-financial enterprises under CEA – F by Regions for RA under IL for BG
Source: NSI and author's calculations [13].

The Index localization for non-financial enterprises during the research period reports specialization above one in sub-sector – F, South Central Bulgaria. In the rural municipalities of the SCR, IL reports values slightly below one. From RA in areas with high localization of non-financial enterprises is Pazardzhik and Plovdiv, above one for the entire research period. RA of Smolyan and Haskovo districts, IL reported values slightly below one. The RAs of Kardzhali region have a low localization index below one for – F.

The statistical information refracted through IL is visualized in Figures (5 and 6), employed persons and non-financial enterprises from the sub-sector – Transport, warehousing and posts (H), part of the sphere of Services in Bulgaria for a period of ten years in the RA by regions of the SCR and the country.

Analysis of the IL in Figure 5 reveals that the highest localization of employed persons with

values above one is in the sub-sector - Transport, warehousing and post (H), for the RA of Plovdiv region throughout the study period, with values approaching at the end index five.
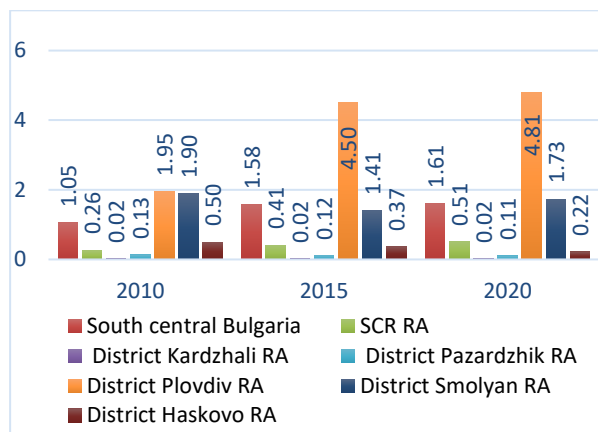

Fig. 5. Employed persons under CEA – H by Regions for RA by ILfor Bulgaria
Source: NSI and author's calculations [13].

Followed by RA of Smolyan region with values above one, throughout the entire period. South Central Bulgaria reports an IL above 1 relative to the country for the entire period, which indicates concentration and specialization in this sub-sector in the field of Services. For the rural municipalities of the area, as a whole, IL is below one compared to the country, during the ten years of study. For the remaining RA of the districts of Kardzhali, Pazardzhik andHaskovo, IL for sub-sector – H reports low values below one.
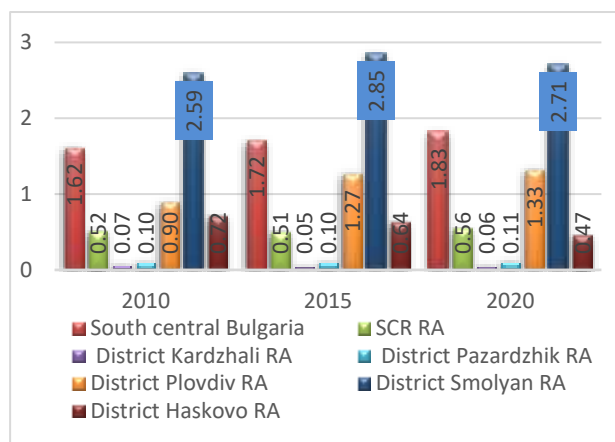

Fig. 6. Non-financial enterprises under CEA – H by Regions for RA under IL for BG
Source: NSI and author's calculations [13].

The Index localization of non-financial enterprises during the research period shows specialization above 2 in sub-sector – H for RA of Smolyan region, strong concentration and localization of this type of activities. They are followed by RA of Plovdiv region with an index above one. South Central Bulgaria has a localization of these services, with IL above one, compared to that of the country during the study period. The rural municipalities of the region report a low specialization of this type of service, below one (Tsvyatkova, 2021) [16]. For the remaining RA of the districts of Kardzhali, Pazardzhik andHaskovo, IL for sub-sector – H reports low values below one, for non-financial enterprises.

CONCLUSIONS

The Hotel and restaurant sub-sector (I) on the territory of the SCR reports a high localization for employed persons and non-financial enterprises, based on socio-economic and natural conditions. The rural municipalities of the Smolyan region locate the socio-economic indices mentioned above, related to the fact that the territory is entirely mountainous and activities related to tourism are developed. RA of Plovdiv region localize this type of activity on the basis of developed tourist infrastructure and the proximity of urbanized areas to RA (Mihailova, ets, 2022) [9]. For Pazardzhik, the accounting of the low localization of employed persons in sub-sector I is lack of municipalities with intense touristic activities but not meeting certain factors from the definition of RA (e.g., Velingrad municipality). The definition of RA, which was adopted for Bulgaria, does not cover a large part of the territories, which are municipalities or villages (e.g. the village of Yagodovo, Plovdiv municipality) meeting the socio-economic profile for such.

Construction (F) has its base for IL – proximity to large urbanized centers, with employment in the RA sub-sector moving from the periphery to the center. South Central Bulgaria, compared to the country, has a high concentration of employed persons, due to the large number of RAs and several highly urbanized centers where permanent

construction activities are carried out. Compared to the country, the RAs of the SCR have a specialization of employed persons and non-financial enterprises in sub-sector F. The RAs of the regions: Smolyan, Pazardzhik and Plovdiv have the highest share of localization. The migration flow from the city to RA creates conditions for the construction of new homes, which creates new jobs and enterprises engaged in this type of activity (Yarkova and Mutafov, 2017) [18].Transport, warehousing and post offices (H) is the sub-sector serving the previous two and is largely related to the socio-economic activities of the Services sector in the SCR as a whole. Employed persons and non-financial enterprises are located in RA of Plovdiv region, due to the proximity of a large urbanized center. On the other hand, IL for RA of Smolyan region for this sub-sector also reports a high localization of employed persons and non-financial enterprises, due to the resort activity of the region, in general. RA of Pazardzhik region report a high concentration of employed persons and non-financial enterprises in this sub-sector, due to its geographical location between the two largest cities in the country and the proximity to cultural and tourist sites. From a total of five districts and their RAs with the lowest values of IL for the three subsectors and their indices - employed persons and non-financial enterprises, the RA of Kardzhali district stands out. On the other hand, this is the area where there is an increase in population within the studied period (Sarov and Tsvyatkova, 2020) [15]. The reasons are socio-economic lack of investment and initiative on the part of the population, poor administrative management and others. In the study of the other sectors and sub-sectors, the results will probably be different, general conclusions should not be made for one territory based on the analysis of several sub-sectors (Mutafov, 2021) [11]. The rural areas of the SCR have a huge potential to develop in all socio-economic and environmental directions on the basis of: geographical and geopolitical location, availability of natural resources (conventional and alternative), traditions of the population, ethnic and

religious tolerance, numerous secondary schools and universities and last but not least, all these must be brought together by the state in the form of Protectionism.

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