

TERRITORIAL JOB PROFILE IN HEALTH AND SOCIAL ASSISTANCE SECTOR

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Abstract:

The aim of this article is to highlight the potential use of spatial analysis in public policy decisions concerning older people. We intend to see to what extent it can be better understood where the elderly are, where the social services are provided, and most importantly to identify policy measures that could improve the provision of services for this group of population. The methods used in this chapter include spatial analysis of available data for health and social assistance sector at county or regional levels. The first part covers the national demand for social services; the second part is devoted to the supply of labour in health and social assistance sector. Results demonstrate that many counties have low levels of net average wage for this sector compared to the national average for overall economic activities. Cartographic representations of employees and the distribution of net average earnings at the county level show the geographic areas most vulnerable in terms of the attractiveness of the sector. Comparing the results with the territorial representation of population aged 65 years and over, we observe a partial correlation between the number of employees and the number of older people in need.

Keywords: social and healthcare services, older people, spatial analysis, earnings

JEL Classification: J08, J14, J23

1. Introduction

The health and social assistance sector comprises three categories of economic activities: human health services, combined healthcare and social assistance activities with accommodation and social welfare activities without accommodation. Statistical and spatial analysis in health and social assistance sector are underused within the national researches. Although information on locations and other types of data can be obtained using advanced technologies, they are insufficiently exploited by policy makers. In western European countries the use of maps is a powerful tool which synthesizes information from multiple sources in order to analyse the available data. Worldwide, there has been a higher interest for the use of spatial analysis in healthcare services, especially to measure the difficulties in accessing such services or in the use of healthcare services by different types of patients (children, elderly, etc.). Social assistance for the elderly requires increasingly more long-term care services. From this perspective, the behavior of workers, beneficiaries and providers in this sector could be understood through a deeper knowledge of the context and the environment in which they occur. (Xu, Kennedy, 2015)

Starting from the data available at national and European level, we interpret the geographic information so as to highlight the potential of this type of analysis in the development and the substantiation of public policies.

2. Drivers of employment in health and social assistance activities

Similar to other economic sectors, employment in health and social assistance activities is the result of the demand for such services. In recent years, the demographic and social changes influenced the dynamic of employment in this economic sector.

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Romania is a country with a growing number of older persons. This factor, along with changes in family structure at national level influenced the demand for social services, healthcare, as well as for social care services. (fig. no. 1)

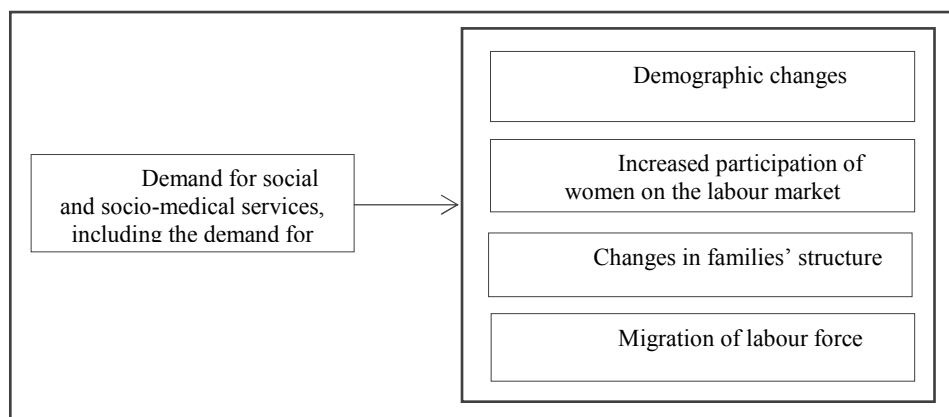


Figure no. 1. Drivers of change in employment in health and social assistance activities

Source: developed by authors.

For the last 15 years, the ageing phenomenon led to an increased demand for social services and social care services, including long-term care services. On the one hand, the share of elderly population (65 years and over) in the total population increased from 14.1% in 2003 to 17% in 2014. (National Institute of Statistics, 2016a) Life expectancy at age 65 increased during a decade (2004 to 2014) up to 2.2 years (from 14.4 to 16.6 years), although healthy life expectancy at the same age (both for men and women) remains low (5.7 years for women and 5.9 years for men). (Eurostat, 2016e; Eurostat, 2016f) At regional level (NUTS 2), the most important leaps in life expectancy were recorded in the North-West Region (an increase of 2.2 years) and West Region (an increase of 2 years). The lowest increases of life expectancy were recorded in Bucharest-Ilfov Region (an increase of 1.3 years) and in North-East Region (an increase of 1.3 years). (Eurostat, 2016g)

In 2015, the territorial profile (NUTS 3) shows that the total population aged 65 years and over is located mostly in Bucharest. Among the counties with low shares of population aged 65 years and over in total population, are the northwestern, central and southwestern counties: Satu-Mare, Sălaj, Maramureş, Bistriţa-Năsăud, Arad, Alba, Sibiu, Hunedoara, Gorj, Vâlcea, Caraş-Severn, Mehedinţi. In 2015, more than a half (53.5%) of the total population aged 65 and over, lived in rural settlements. A choropleth map with 3 classes applying the natural breaks (Jenks) clasification method was used to represent the inequalities in the distribution of older persons at county level. (fig. no. 2)

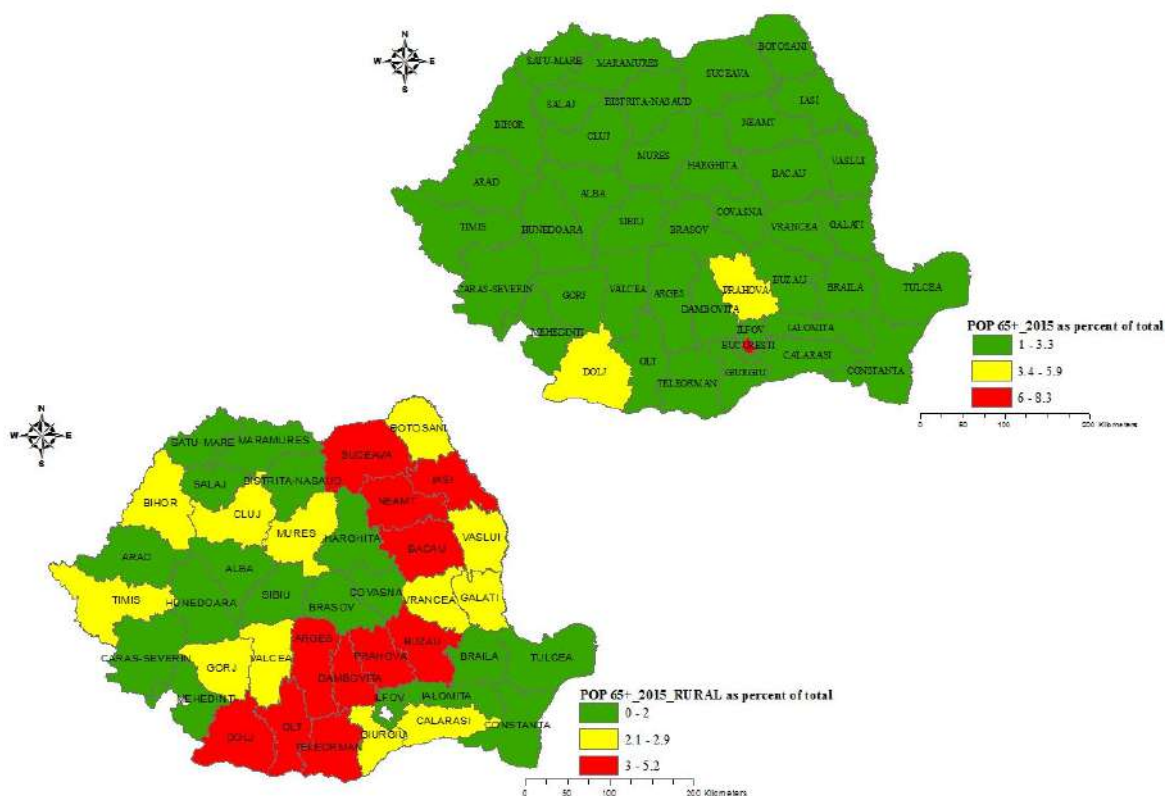


Figure no. 2. Share of population aged 65+ in total population and population 65+ in rural areas – spatial diversity (2015)

Source: representation and calculations developed by authors, National Institute of Statistics (INSSE) TEMPO online data code: POP105A.

Note: shapefile Development regions 2014, ESRI Romania.

At county level (NUTS 3), the cartographic representations highlight trends in the agglomeration of older people (65+) in Bucharest. For rural areas, the map indicates a concentration of older persons in counties from the north-east (Suceava, Iași, Neamț, Bacău) and south (Buzău, Prahova, Dâmbovița, Argeș, Dolj, Olt, Teleorman) part of the country. National studies concerning the older people in rural areas (Consiliul Național al Persoanelor Vârștnice, 2014) revealed that:

- there is a significant proportion of older people living alone;
- their income level is low;
- a severe material deprivation continues to raise concerns among the older persons in rural areas;
- most of the income (from pension) is allocated to food products.

The results of these studies are consistent with the statistical data concerning the level of income and consumption of population living in rural areas and highlight the material deprivation of the residents in rural settlements. In addition, other factors that continue to influence the evolution of employment in health and social assistance activities, are:

- a higher number of people 65+ are living alone: 28.5% in 2008, respectively 30% in 2014. (Eurostat, 2016b) Census data from 2011 reveals that 26.6% of people aged 65 and over, were living alone. North-West and North-East regions have the high shares of persons 65+ living alone: 26.7% and 27.7%. Salaj (29.3%), Mureș (27.5%), Satu-Mare (27.7%), Neamț (27.4%), Iași (27.8%), Botoșani (29.3%), Bacău (28.4%), Harghita (29.8%), Mehedinți (28.9%) are above the national

average. In Bucharest approximately 31% of people aged 65+ are living alone. (Eurostat, 2016a)

- the increase of employment among women aged 55-64 years old in 2008-2014. (Eurostat, 2016c)
- migration of labour force in formal or informal care services in Western countries and other Central and Eastern European countries. (Vladescu Olsavsky, 2009; Schulmann et al., 2014).
- 15.5% of people aged 65+ were living in 2014 (Eurostat, 2016d) with an income below the poverty line, set at 60% of the median equivalent national income. In other words, about one in six elderly had difficulties in accessing goods and services, including social services and social care.

Even the female participation on labour market increased, we cannot draw conclusions about their willingness to take care of dependents, as researches conducted at national level are mostly qualitative and limited and do not allow generalized statements for the entire population. (Ghența, 2015) The high percentage of older people living alone creates difficulties for the national system of social assistance in terms of financial resources needed, but it creates also opportunities for employment.

2. Employment profile in health and social assistance activities

2.1. Characteristics of employment

In this section we conducted an analysis of employment in health and social assistance sector based on indicators related to employment, the number of employees (including distribution by gender), the vacancy rate, gross average earnings and net average wage. The data are analysed based on the availability, either at regional or county level.

The first indicator is the employment in health and social assistance sector. Data concerning the employment for the period 2008-2014, highlight decreases in most of the counties, with the exception of Brașov (an increase of 0.8 thousand in 2014 compared to 2008), Sibiu (an increase of 0.8000 people), Giurgiu (up to 0.2 thousand persons), Argeș (up to 1.5 thousand people), Bucharest (the highest increase: 5.4 thousand) and Timiș (an increase of 0.400 people). Regardless of the county, most of the employed persons in this sector were women. (INSSE, 2016b)

The number of employees in the sector has experienced significant decreases between 2008-2014, although the share of employees from this sector in the total employees remained the same in 2008 compared to 2014: 7.2%, respectively 7.08%. During 2008-2014 the decrease was more pronounced among women than men: a decrease of 22,500 women, compared to a reduction of 7,300 men. (INSSE, 2016c) At regional level, Bucharest-Ilfov Region registered an increase of 4,690 employees in 2014 compared to 2008. South-East, North-West and North-East regions had the most significant decreases of employees in 2014 compared with 2008: 7,678 (16.8%), 6,530 (10.8%) and 6,270 people (11.7%). (INSSE, 2016c) The dynamics of the number of employees by gender shows that the number of female employees dropped more pronounced than in the case of male employees. In Bucharest-Ilfov Region, the increase was the result of the positive change among female employment. The counties with the highest number of employees in 2014 were Bucharest, Cluj, Iași, Timiș. The distribution of employees at NUTS level 3 overlaps only partially the distribution of population 65+ at county level. (fig. no. 3)

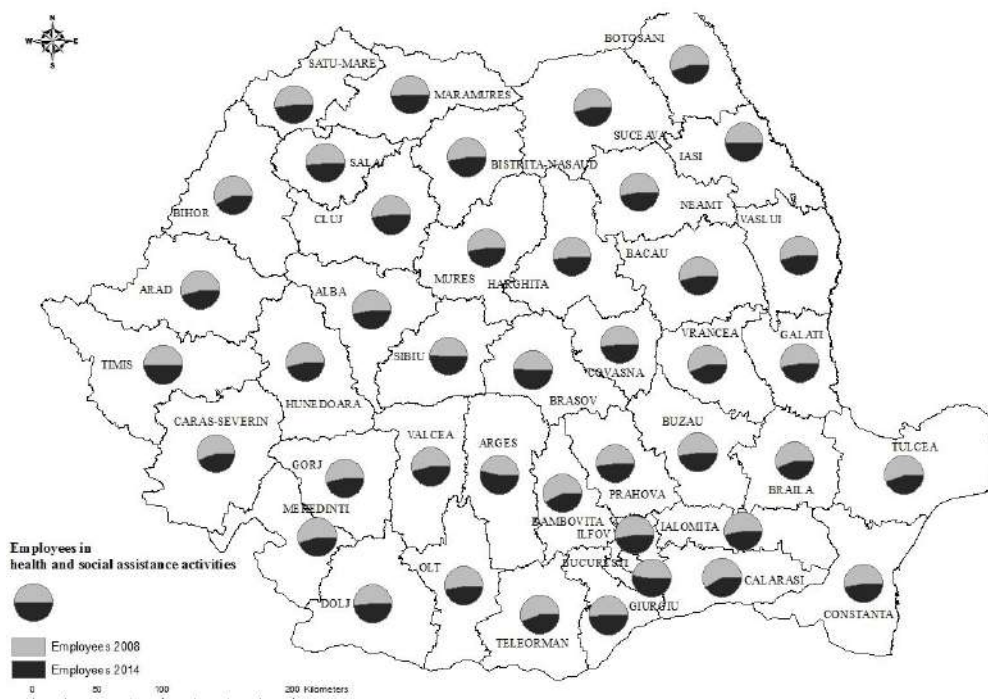


Figure no. 3. Employees in health and social assistance activities at county level (2008 versus 2014)

Source: representation and calculations developed by authors, INSSE TEMPO online data code: FOM105F.

Note: shapefile Development regions 2014, ESRI Romania.

The vacancy rate was 6.3% in 2008 and declined from year to year, up to a difference of 2.1 pp in 2015. (fig. no. 4) The dynamics of vacancy rate for all economic activities highlights a decrease of 0.8 pp in 2015 compared to 2008. At regional level, the most significant reductions of the vacancy rate were recorded in the Centre Region (a decrease of 6.7 pp), Bucharest-Ilfov Region (a decrease of 5.3 pp) and the North-East Region (a decrease of 5.2 pp). In the North-West and South-East regions, the vacancy rate registered the smallest decreases in 2015 compared to 2008: by 1.6 pp, respectively 2 percentage points.

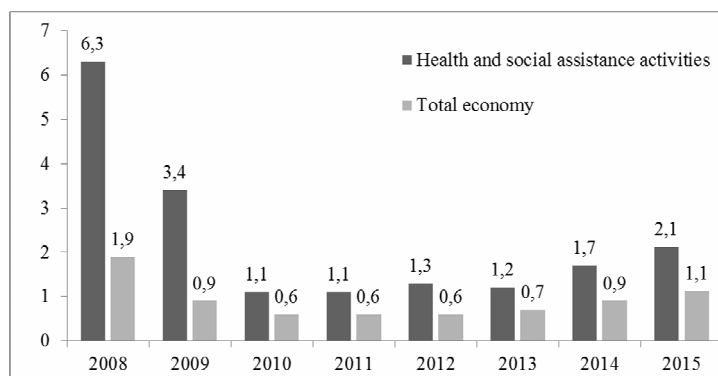


Figure no. 4. Vacancy rate in health and social assistance activities, 2008-2014 (%)

Source: INSSE TEMPO online data code: LMV101B.

The gross average earnings in the economy has grown between 2008-2014. In health and social assistance activities, the average gross earnings increased in 2014 (2,055 lei)

compared to 2008 (1,702 lei) by approximately 20%. (INSSE, 2016) Between 2008-2014, the average gross earnings either in total economic activities or in health and social assistance activities among male workers was higher compared to female employees.

At regional level (NUTS 2) Bucharest-Ilfov Region had the highest value of the gross average earnings, regardless of gender. The lowest value of average gross earnings was recorded in South-Muntenia Region. The counties with values of average gross earnings above the national average of 2,055 lei for health and social activities sector, were: Bucharest, Cluj, Iași, Timiș, Brăila, Sibiu, Dolj, Brașov, Neamț, Bihor Mureș. (fig. no. 5).

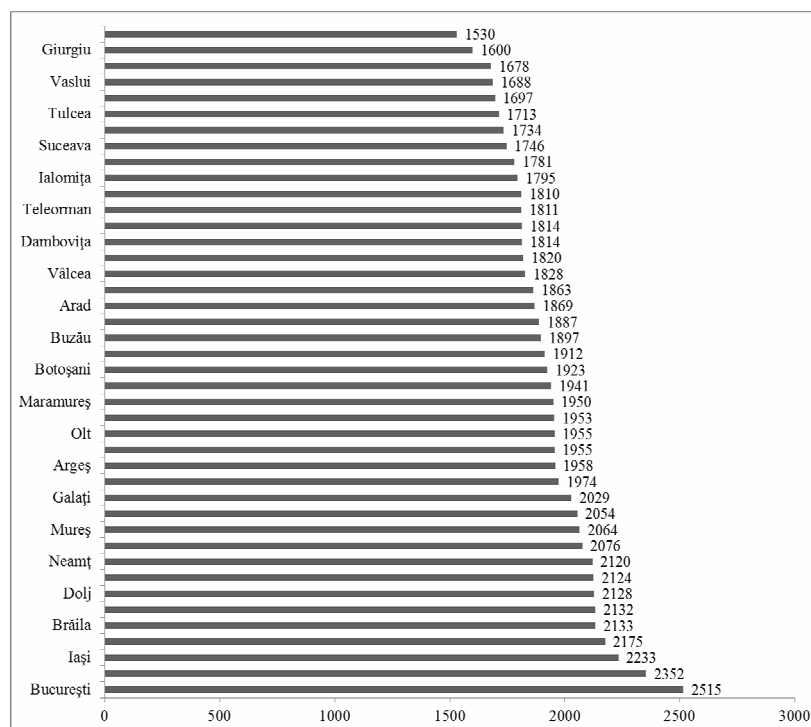


Figure no.5. Average gross earnings in health and social assistance activities at county level, 2014 (national currency)

Source: INSSE TEMPO on-line, online data code: FOM107E.

The average net earnings increased in 2014 compared to 2008 with 18.2% (230 lei) from 1,266 lei to 1,496 lei, and the changes occurred both in the case of male and female employees. At county level, the most important values above the average of the net earnings were registered in Bucharest, Cluj and Iași. Other counties with net earnings above the average were Bihor, Timiș, Sibiu, Mureș, Brașov, Neamț, Brăila, Gorj and Dolj. (INSSE, 2016e)

The analysis emphasises the inequalities in the distribution of employees in health and social assistance activities. The higher percentages of female employment in this economic sector, along with the significant differences of average gross earnings in health and social assistance activities compared to the values for all the economic activities, draw attention to the vulnerability of employment in this sector.

2.2. Territorial profile of earnings in health and social assistance activities

In this section we looked for a geographical distribution of counties by the values of net average earning.

Table 1. Methodological aspects

Data	Net average earnings in health and social assistance activities at county level - 42 values.
Source of data	INSSE, 2014
Method	The relationship between the average net earnings and the values of the same feature for neighbouring counties. (Local clustering)
Techniques	Spatial clustering using two tools: <ul style="list-style-type: none"> Cluster and Outlier Analysis (Anselin Local Moran I) identification of HH, LL, HL, LH. (fig. no. 5) Getis-Ord General G indicating whether clusters of high values (hot) and low (cold) between the characteristics analyzed. (fig. no. 5)
Spatial relationship	<ul style="list-style-type: none"> Contiguity edges and corners in case of the Cluster Outlier Analysis (Anselin Local Moran I) – the analysed units (counties) are polygon (NUTS 3). According to Darmofal (2015) checking the existence and degree of spatial dependencies in which it is determined by neighbouring units, it involves the definition of the “neighbour” concept. According to the same author, neighbours are those units that share edges (edges), corners (corners) or edges and corners (edges and corners). The same type of spatial relationship has been applied in Getis-Ord General G (Hot Spot Analysis), to ensure comparability of results.

In the first phase we mapped the distribution (NUTS 3) of net average earnings in health and social assistance activities using a choropleth map with 5 classes defined using the standard deviation classification method. The Bucharest area has the highest value and around it, there are two groups of counties: in the immediate vicinity Giurgiu and Ilfov counties with values of net average earning below the average and Teleorman, Dâmbovița, Prahova, Ialomița, Călărași counties with values below the national average, but still closer to it compared to the counties from the first group. (fig. no. 6)



Figure no. 6. Net average earnings, 2014

Sursa: representation and calculations developed by authors, INSSE TEMPO online data code: FOM106E.

Note: shapefile Development regions 2014, ESRI Romania.

Referring to the two types of analysis, the results are similar.

- By applying the Getis-Ord General G technique, we obtained two clusters:
 - First cluster with high confidence (99% significance level) and low value of the net average earnings for the sector, respectively Giurgiu county, located next to districts with low net average wage.
 - A cluster represented by Călărași and Dâmbovița counties with high significance (95% significance level) and low net average wages.
 - For the remaining counties, average earning net values were not statistically significant to differentiate from a random distribution.
- Applying the Cluster and Outlier Analysis (Anselin Local Moran I), it resulted also two clusters:
 - Giurgiu county (LL Cluster) with low values of net average earnings, surrounded by other districts with low earnings.
 - Bucharest (HL Cluster) as an area with high net average earnings surrounded by counties with low values for the same indicator.

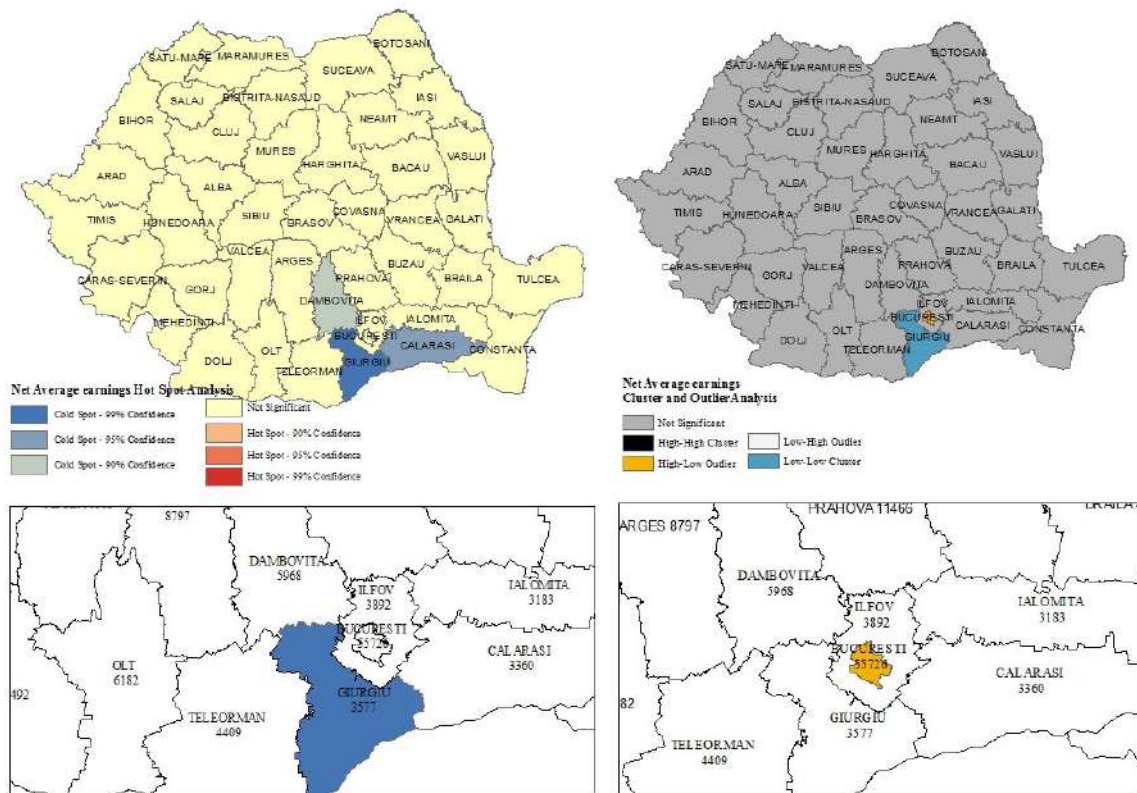


Figure no. 7. Average net earnings at county level - Cluster and Outlier Analysis și Getis-Ord General G

Sursa: representation and calculations developed by authors, INSSE TEMPO online data code: FOM106E.

Note: shapefile Development regions 2014, ESRI Romania.

From the data obtained, it can be seen that there is a certain group of counties but it is not clear enough, which is why we wanted to see to what extent these counties are either counties with low or high number of employees. We consider that a link between the two indicators would help us to shape an image on the attractiveness of the sector among the active population. Giurgiu is also a county with a low average number of employees in this sector and it is surrounded by counties like Ialomita with the lowest number of employees in health and social assistance activities for 2014. Bucharest on the other hand has the

highest average of earnings and employment, as well as an extended older population and a high proportion of older people living alone.

Conclusion

The results demonstrate that many counties have low levels of average net earnings for this sector compared to the national average of earnings for the overall economic activities. The cartographic representations of employees and the distribution of net average earnings at the county level show the geographic areas most vulnerable in terms of the capability of the sector to attract highly qualified labour force (especially for the social assistance part). Comparing the results of this representation with that for the population 65 +, we see that there is only a partial correlation between the number of employees and number of the older persons. The results lead to the conclusion that the development of employment in health and social assistance sector is determined primarily by the availability of financial resources of communities and less by the need of services.

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