

SPATIAL PATTERNS ON THE LABOUR MARKET ON RURAL AREAS IN POLAND

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Labour market in rural areas is diversified across Poland. Different processes have been influenced it during the last years. The study deals with spatial approach to sectoral structure of employment, including also characteristics for males and females. It was based on the data of the Central Statistical Office of Poland referring to the numbers of employees in three sectors: (a) agriculture, forestry and fishing like services; (b) industry and construction; (c) services. A new European Union typology of: predominantly rural, intermediate, and predominantly urban regions, based on a variation of the OECD methodology, was applied. Graphical presentation of the sectoral employment structures across NUTS 3 regions was used.

Generally in Poland, very similar proportions of rural inhabitants work in agriculture, forestry and fishing like in the sector of services (third sector). In 2013, in predominantly rural regions, 37 % of inhabitants worked in agriculture, forestry and fishing (respectively 38 % of males, 37 % of females), 25 % of inhabitants worked in industry and construction (respectively 36 % of males, 15 % of females), and 37 % of inhabitants worked in services. Industry and construction is a sector important for employment of male rural inhabitants whereas services were typical for female employment. Agriculture, forestry and fishing is a very important sector of employment in the south-eastern part of Poland whereas the second and third sectors are more popular in the north-western part of Poland. Identification of these spatial patterns contributes to spatial characteristics of rural economies across Poland as well as it proves existence of a functional region, exceeding regional administrative boundaries, of high importance of agriculture in the economy.

Keywords: employment, labour market, rural areas, spatial approach, agriculture, services

INTRODUCTION

In general, the tertiary or service sector (third sector) is the main field of economic activity in the European Union. It represents about two thirds of the value added in both predominantly rural as well as intermediate regions and even more in predominantly urban regions. In line with this fact, the majority of the EU-28 workforce is employed in this sector. In 2011, the importance of this sector for employment was highest in predominantly urban regions (79 %), but it provided also the majority of jobs in intermediate (68 %) and predominantly rural (59 %) regions (European Commission, 2014). Predominantly rural areas in Poland were a place of the most significant relative decrease in employment in the primary sector and increase in the tertiary sector (Drejerska, 2014). This shift from the primary sector to the service sector is a sign of multifunctional development of rural areas observed in Poland for example in the research results of the Institute of Agricultural and Food Economics - National Research Institute (Sikorska, 2013).

Polish rural inhabitants have been facing many challenges connected with the economy's transformation, including a decrease of the primary sector's role and the development of other, non-agricultural functions of rural areas. These processes contribute to changes in the labour market (Drejerska, 2010). Owing to changes resulting from past and recent transformation processes, as well as from present demographic trends, the condition of Polish labour market at the local level varies significantly: from more job opportunities in large cities to significant losses in jobs and increases in unemployment in small towns and rural communes, especially those situated in regions lagging behind in social and economic development (Rakowska, 2011). The demographic and financial situation of rural population is largely determined by the distance between place of residence and a large urban center. Rural areas located near large cities can be characterized by higher population density, high positive net migration and lower share of the unemployed in comparison to remote rural areas (Central Statistical Office of Poland, Statistical Office in Olsztyn, 2013).

The contemporary rural economy connects local business entities representing all the three sectors of economy: agriculture, industry, and services. The market potential of these entities is strongly differentiated between regions (Nurzyńska, 2014). However, it should be pointed out that the service sector was pointed out as a part of economic infrastructure that fosters growth (Begg, 1993). Thus it is important to investigate what role it plays in rural economies through for example participation in the employment structure.

Different authors prove that structure of employment is an important part of socio-economic analyses. For instance, employment in agriculture and generally sectoral approach to employment is a part of wider analyses of development tendencies. For example, in case of Latvian regions it was referred by Bulderberga (2013) whereas for Slovak regions by Zemková and Bartová (2013). Economic activity sectors of rural inhabitants in different areas/localities were applied as a background for the individual perception of competitiveness in Lithuania by Šimanskienė and Burbulytė-Tsiskarishvili (2013). Analytical description of rural areas also includes share of agricultural employment in total employment, like for Poland (Gwiaździńska-Goraj and Jezierska-Thöle, 2013) or in a case of a rurality index performance for China (Li et al., 2015).

Based on the above, the main objectives is to identify spatial patterns of employment across Polish subregions (NUTS 3 regions), verify if there are some clusters of subregions of similar employment patterns in agriculture, which can represent functional regions of a high importance of agriculture in regional economy. It is important to verify if such clusters of agricultural subregions cover administrative boundaries of regions (voivodships in Poland). If not, it proves existence of functional regions, so territories of common advantages and/or problems exceeding administrative regional boundaries. It is justified to take up such an approach as there are advanced studies on functional urban areas, for example ESPON (2007), whereas spatial analyses of rural areas and agriculture have been developing, like for example during the 150th seminar of the European Association of Agricultural Economists on the spatial dimension in analysing the linkages between agriculture, rural development and the environment (2015).

Such objectives result from a theoretical concept of an economic region introduced by Lösch (1938) who indicated differences between the economic region shaped as a result of socio-economic process taking place there and the administrative region. Contemporary this spectrum of issues is referred for example by Korenik (2011) or Noworól (2013) as well as in a practical sphere of spatial policy within National Spatial Development Concept 2030 (KPZK 2030).

The tasks of the paper are to: (a) describe structure of employment in predominantly rural areas in Poland according to three main economic sector, so agriculture, industry and services; (b) to indicate if there are differences between male and female in the sectoral structure of employment.

RESEARCH METHODS

The first step in any analysis of rural areas is to clearly define what territories are considered as rural. There are many various classifications used for different purposes. A quite comprehensive presentation of those used in Europe but also in other countries of the world was provided for example by Rakowska (2013). For the purposes of this study, a new European Union (EU) typology of: predominantly rural, intermediate, and predominantly urban regions, based on a variation of the OECD methodology, was applied. To summarize this methodology, it can be described in three steps (Eurostat, Urban-rural typology):

1. creation of clusters of urban grid cells with a minimum population density of 300 inhabitants per km² and a minimum population of 5 000. All the cells outside these urban clusters are considered as rural.
2. grouping NUTS 3 regions of less than 500 km² with one or more of its neighbours solely for classification purposes, i.e. all the NUTS 3 regions in a grouping are classified in the same way.
3. classification of NUTS 3 regions based on the share of population in rural grid cells:
 - more than 50 % of the total population in rural grid cells = predominantly rural,
 - between 20 % and 50 % in rural grid cells = intermediate,
 - less than 20 % = predominantly urban.

In Poland, according to this methodology there are (Figure 3):

- 16 predominantly urban regions,
- 22 intermediate regions,
- 28 predominantly rural regions.

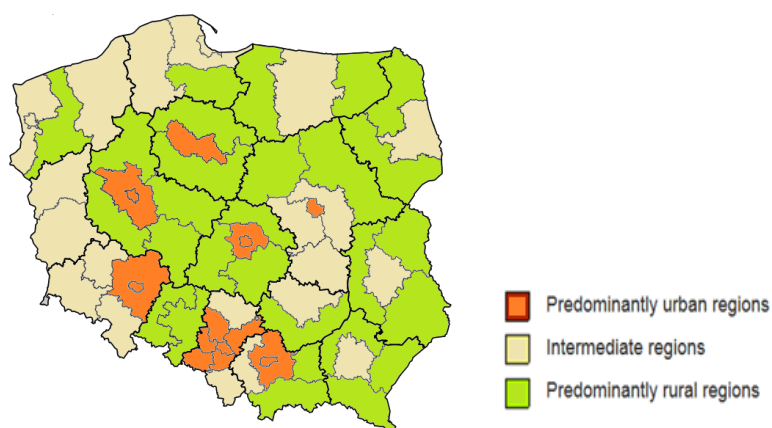


Figure 1. Rural-urban typology of the Polish NUTS 3 regions

Source: own elaboration based on: Eurostat, Urban-rural typology. http://ec.europa.eu/eurostat/statistics-explained/index.php/Urban-rural_typology (accessed on 31/08/2015).

Basing on the methodology described above, the predominantly rural regions in Poland were research subjects and the second step was to describe the structure of employment there. Data of the Central Statistical Office of Poland for the year 2013 was the most recent data referring to the division for predominantly urban, intermediate, and predominantly rural regions. Then, predominantly rural NUTS 3 regions were divided according to the main sector of employment in order to identify spatial patterns across Poland. Results were presented using radar charts and maps.

RESEARCH RESULTS

Generally, in 2013 in predominantly rural regions, the employment structure was as follows (Figure 2):

- 37 % of inhabitants worked in agriculture, forestry and fishing (respectively 38 % of males, 37 % of females),
- 25 % of inhabitants worked in industry and construction (respectively 36 % of males, 15 % of females),
- 37 % of inhabitants worked in services (respectively 26 % of males, 49 % of females).

Then predominantly rural NUTS 3 regions were divided into groups, according to the sector which represented the highest proportion of employment. The radar chart (Figure 3) shows that agriculture, forestry and fishing represents a relatively higher proportion of employment in 14 predominantly rural regions. There are even four regions where this sector employees half and more than a half of inhabitants. Basing on the map (Figure 3) it could be clearly seen that agriculture, forestry and fishing is the most popular sector of employment for inhabitants of the south-eastern part of Poland. Simply commenting, rural areas in Poland could be divided by a line for a north-western part with the highest level of employment in services and a south-eastern part of Poland where agriculture is the most important sector of employment.

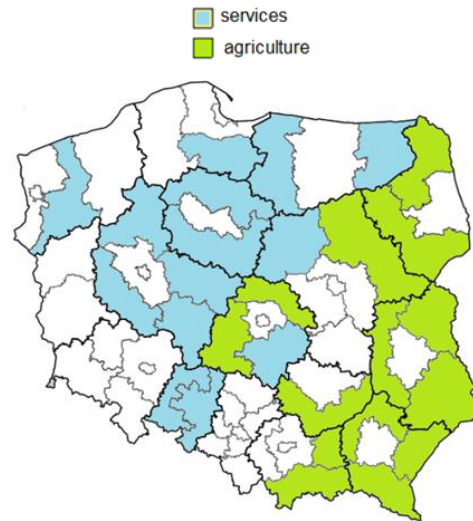
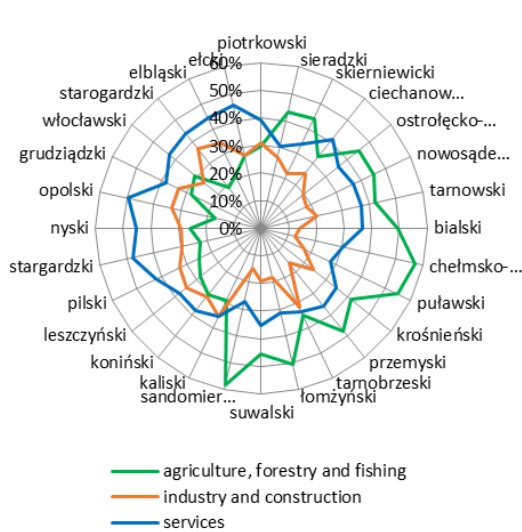


Figure 2. Sectoral structure of employment in predominantly rural NUTS 3 regions in Poland
Source: own elaboration based on the data of the Central Statistical Office of Poland.

Figure 3. Predominantly rural NUTS 3 according to the sector with the highest rate of employment in the sectoral structure
Source: own elaboration based on the data of the Central Statistical Office of Poland.

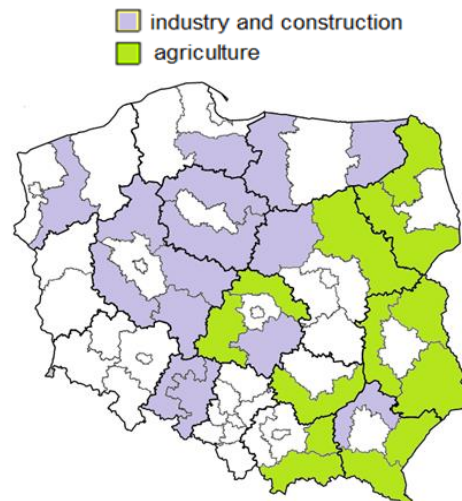
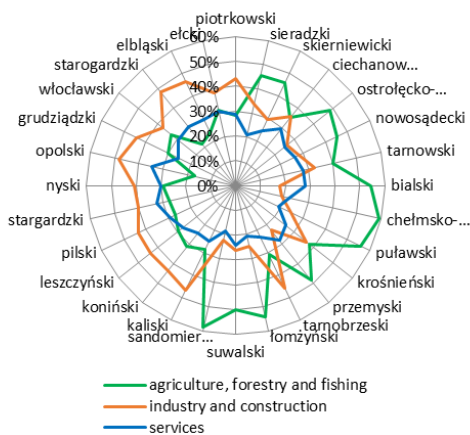


Figure 4. Sectoral structure of male employment in predominantly rural NUTS 3 regions in Poland
Source: own elaboration based on the data of the Central Statistical Office of Poland

Figure 5. Predominantly rural NUTS 3 according to the sector with the highest rate of male employment in the sectoral structure
Source: own elaboration based on the data of the Central Statistical Office of Poland.

Some similar patterns to those observed for the whole population of rural inhabitants can be also identified when employment of males (Figures 4 and 5) and females is considered (Figures 6 and 7). The main difference between males and females is that industry and construction is more important for male employment, whereas services are more typical as the employment sector for females.

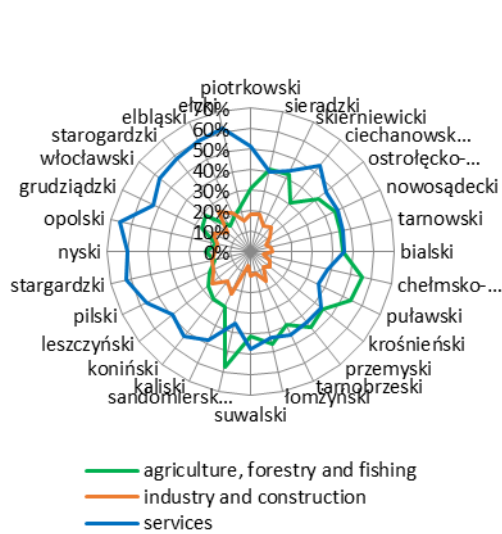


Figure 6. Sectoral structure of female employment in predominantly rural NUTS 3 regions in Poland
Source: own elaboration based on the data of the Central Statistical Office of Poland.

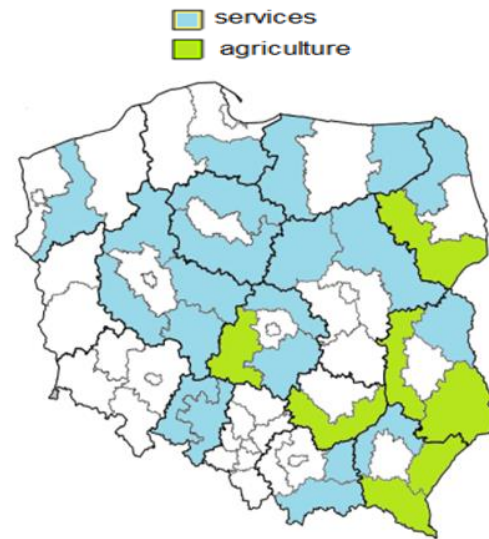


Figure 7. Predominantly rural NUTS 3 according to the sector with the highest rate of male employment in the sectoral structure
Source: own elaboration based on the data of the Central Statistical Office of Poland.

The north-western part of Polish rural areas can be characterized by a significant role of industry and construction in male employment – this sector employs the highest proportion of men there. A line dividing Polish rural areas into two parts in case of male employment is quite similar to those which divided regions according to employment of the whole rural population in agriculture and services. There is not so clear spatial division in the case of female employment. Generally, there is the highest proportion of women working in the third sector in majority of predominantly rural regions. There are only seven regions where the highest proportion of women works in agriculture. These regions are located in the south-eastern part of Poland. Moreover, it should be also noticed that in case of women, the relative difference in employment in the third sector (services) and two others (agriculture and industry) is more significant than in the case of male – there are some regions where about 60 % of women work in services.

The long-term analysis of a role of agriculture for employment in rural areas in the Swedish case can be an interesting comparison for the present picture of employment of rural inhabitants in Poland presented above. The work of Hedlund and Lundholm (2015) argues that a first restructuring period in the Swedish rural areas occurred in the first half of the 20th century and was a transition from agriculture into manufacturing. Then, a second one started in the 1980s and occurred as a transition from manufacturing towards the service sector. Referring to this work, it can be concluded that some of the Polish rural regions (central and northern part of the country) have the same patterns as present Swedish rural areas – the third (service) sector is relatively the most important for employment, especially in case of female employment. However, some eastern Polish regions have been still areas where agriculture can be pointed out as the backbone of the rural economy.

CONCLUSIONS

There are many different factors which contribute to spatial patterns on the labour market on rural areas in Poland. For sure, an average size of a farm or main field of production should be taken into account from the agricultural perspective. On the other hand, a situation on local/regional labour markets should be considered. These examples make a comprehensive study quite difficult. Moreover, data accessibility limits such kinds of analysis. As far as the administrative approach to the definition of rurality is used by public statistic services in majority of issues in Poland, there is lack of appropriate data according to different definition of rural areas, like for example the new European Union (EU) rural-urban typology.

However, even taking into account constraints mentioned above, it can be concluded that some spatial patterns of employment in rural areas can be identified. Undoubtedly, agriculture, forestry and fishing is a very important sector of employment in the south-eastern part of Poland. Moreover, there are different alternatives for the primary sector in case of male and female – for male industry and construction is relatively more frequent as the employment sector, whereas for female it is the service sector. Identification of these spatial patterns contributes to spatial characteristics of rural economies across Poland. What is more, this kind of conclusion can be important for example for planning locations of

education facilities in particular fields, e.g. agriculture or planning the local/regional labour market policy. The analysis provided in the paper can be also a starting point for deeper investigations on rural economies, also for international comparisons. From the practical point of view, the results proves existence of the functional region (the north-western part of Poland) of a high importance of agriculture in the economy. This area exceeds administrative regional boundaries, so cooperation of regional self-authorities is necessary in order to run coherent regional economic and spatial policy.

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