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## SPATIAL DIVERSIFICATION OF THE BALANCE ON THE LABOUR MARKET IN RURAL AREAS IN POLAND

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**ABSTRACT.** The purpose of the study is to present the spatial diversification of the level of the balance on the local labour market in the rural areas. The spatial unit of the analysis is constituted by rural communes (*gminas*) and the rural areas of the urban-rural communes in Poland according to the administrative division into town and village. This means that the research concerns the spatial diversification observed according to 2,171 units. It was accepted in the research that a balanced labour market occurs where favourable demographic structures are located around the largest regional centres in Poland. This is connected with the development of the communes' non-agricultural economic functions and a strong dependence on urban markets.

**KEY WORDS:** Poland, rural areas, spatial variations, labour market, labour resources, demographic.

### INTRODUCTION

The socio-economic transformations which commenced in Poland after the year 1990 resulted in the fact that the role of numerous factors which constitute the basis of the regional diversifications in the structure of labour resources changed as well. The major factors which exert an influence on the diversification level of the professional activity in rural areas in Poland can be basically categorized with respect to the following aspects: (a) the spatial diversification being the effect of the partitions (of Poland in the 18<sup>th</sup> and 19<sup>th</sup> centuries), and the shift of the borders as a result of the Second World War; (b) changes in the system, i.e., the restructuring processes including the results of their effect on the local structures depending on the force and direction of the changes; (c) a diversification of the economic structure of the rural areas; (d) a diversification of the structure of the rural settlement network; (e) directions and intensification of migration processes.

The purpose of the present study (1) is to present the spatial diversification of the level of the balance on the local labour market in villages. The spatial unit of the analysis is constituted by rural communes and the rural areas of the urban-rural communes in Poland according to the administrative division into town and village from the year 2004. This means that the research concerns the spatial diversification observed according to 2,171 units.

It was accepted in the research that a balanced labour market occurs where favourable demographic structures are located around the largest regional centres in Poland. This is connected with the development of the non-agricultural economic functions of communes and a strong dependence on urban markets (Szymańska, Biegańska, Gil, 2009).

An empirical approach in the study required a precise translation of those terms which describe the level of the balance on the labour market into the language of empirical indices. Each empirical variable which describes the supply aspect of the labour market serves to describe a different aspect of the issue, i.e., a different category of professionally active people. It was accepted in the research that the level of the balance of the local labour market is a resultant of the variables applied for the construction of a synthetic measure. The data required for the description of the individual variables were taken from the National Census from the year 2002. This is the only (most up-to-date) full source of information in Poland concerning the professional activity of Polish people which covers all the units of the statistical population. The basic criterion for the selection of the indices was that, for all the units, data taking part in the construction of the index are collected in an identical manner, and hence according to the same methodology.

A synthetic measure based on the non-model method of standardized sums was applied for the evaluation of the level of the labour market's balance in rural areas in Poland. This method is referred to in literature as Perkal's index (cf. Chojnicki, Czyż, 1991). While using a synthetic index of sums, a classification of the objects (districts) was pursued. The principle of the division of the set into quintile groups (20 per cent each) was accepted as the basis of their dispersion, by assigning quintile I to the most favourable indices, and further until quintile V for those with the lowest level of development.

## ANALYSIS OF VARIABLES

Three indices were used for the characteristics of the level of the balance on the local labour market. The first one of them is the registered unemployment rate (Fig. 1), the second one is the number of those working when of working age, exclusively or mainly in agriculture per 100 ha (Fig. 2); this index, however, was

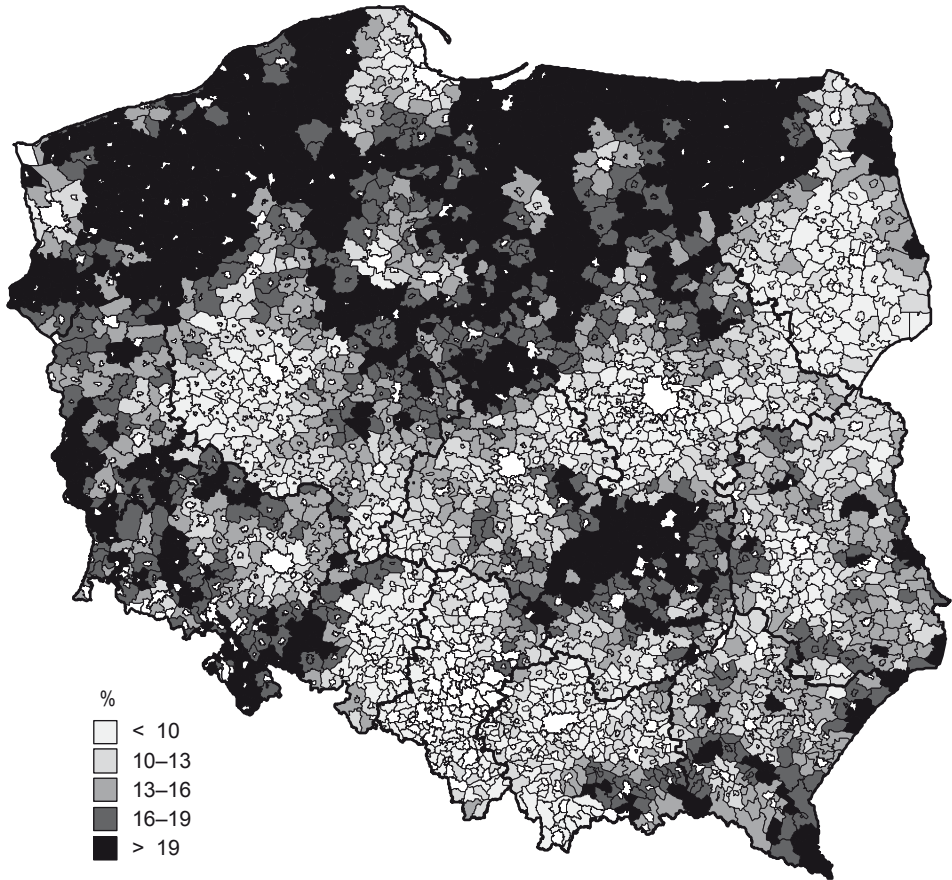


Fig. 1 Rate of registered unemployment

Source: Own calculations based on Bank Danych Regionalnych (Regional Data Bank), 2004

calculated for farms from the individual sector. The third one is the population employment index related to the working age (Fig. 3). As can be easily seen, the first index, the unemployment rate, focuses on the problems of the non-agricultural population, the second, the population related to families who use land for agricultural purposes, while the third one concerns the whole working age population.

The registered unemployment rate in the case of urban-rural districts was calculated for the whole district, i.e., including the town. This solution is due to the fact that the local economic system constitutes a certain entirety: non-agricultural jobs in the case of these communes are counted in the town as

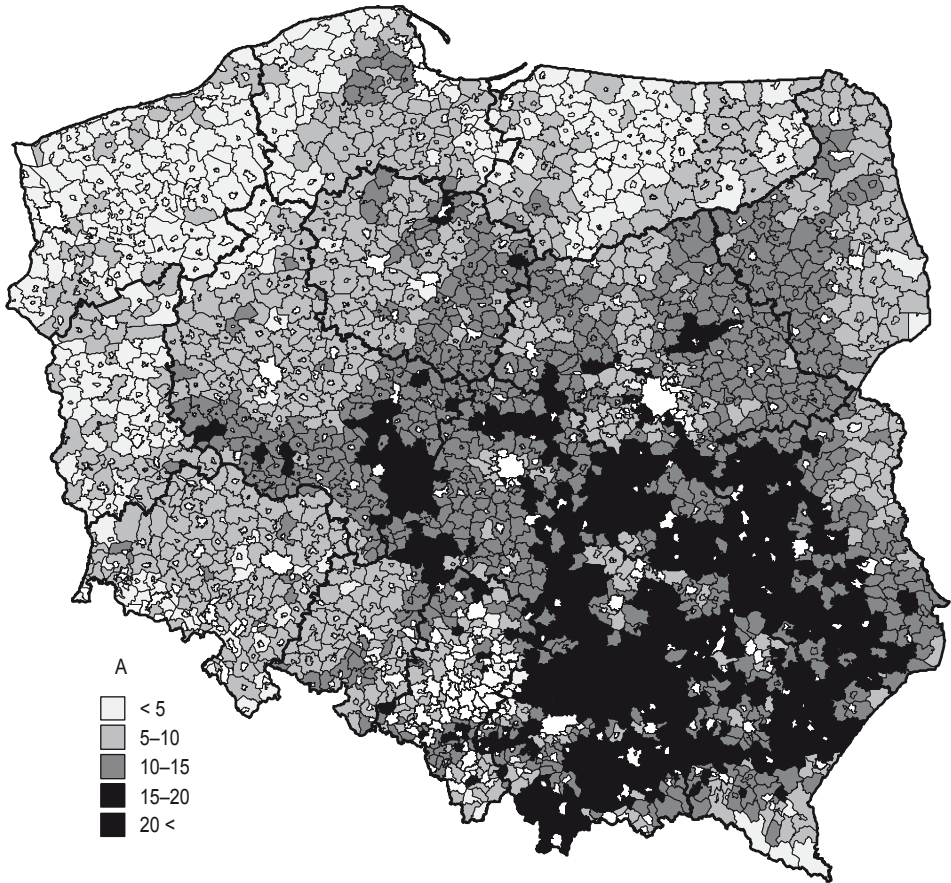


Fig. 2 Those working solely or mainly in agriculture (individual farms) per 100 ha of arable lands

Explanation: A – number of those working per 100 ha arable lands

Source: Own calculations based on Bank Danych Regionalnych (Regional Data Bank), 2004

a rule, and dividing the local labour market would be quite unnatural. Many of those towns which are the seats of local authorities in urban-rural districts are very small units, which are not much different from villages. It is obvious that from the perspective of the balance on the labour market, the unemployment rate is treated as a destimulant.

The spatial diversification of the rate of registered unemployment (cf. Fig. 1) exhibits a large span of the phenomenon. High unemployment in an open form is characteristic of the areas where the former state agriculture sector occurs. It covers the north and west areas of the state. A large group of districts with

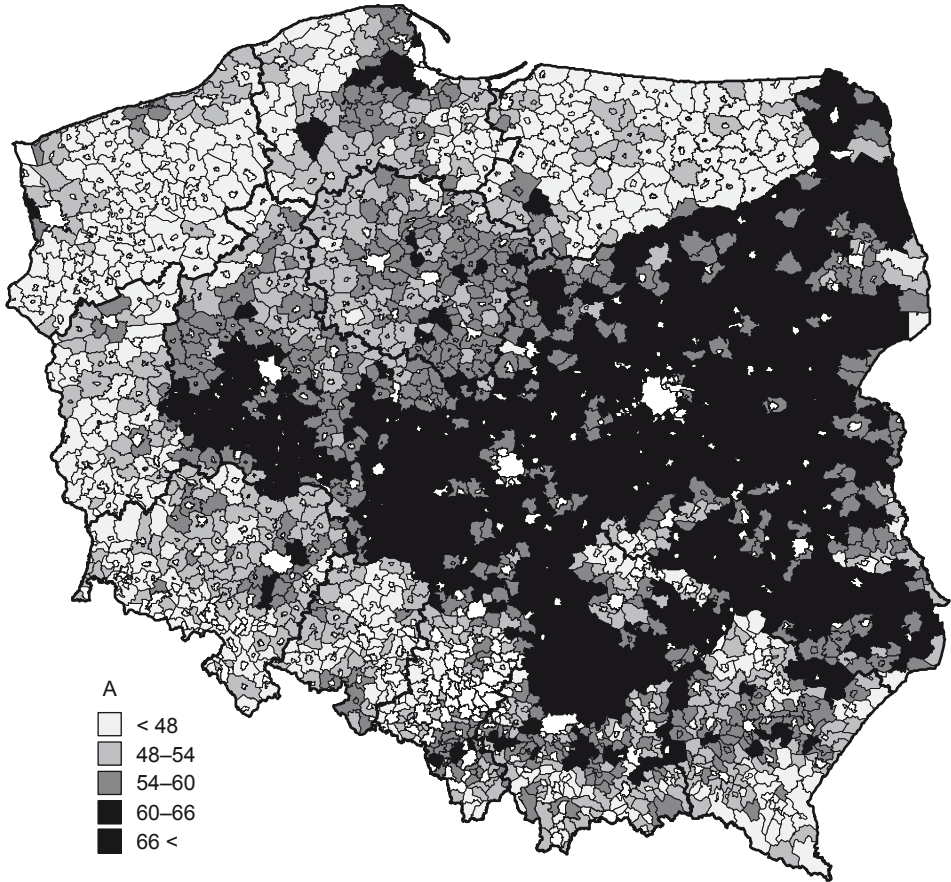


Fig. 3 Employment rate for working age population

Explanation: A – number of those working per 100 people of working age

Source: Own calculations based on Bank Danych Regionalnych (Regional Data Bank), 2004

a high unemployment rate also occurs in the regions of mono-functional towns with obsolete industries. Relatively low unemployment is characteristic of mono-functional agricultural areas which saw the most intense migrations to towns in the 1970s, which consequently led to relatively small labour resources in the villages. In the regions with a high rate of unemployment, there are areas where it is less intense: in the neighbourhood of large cities with a well-developed structure of urban functions (Szczecin, Gdańsk, Bydgoszcz, Lublin, Olsztyn, Wrocław, etc.).

Employment in agriculture per 100 ha of arable lands in the sector of individual farms constitutes another index which is seen as an indirect indicator of excessive



employment in agriculture, and therefore as a destimulant. Additionally, this is an alternative measure to the index which describes hidden unemployment, in view of the fact that its calculation in agriculture is not possible on the basis of available data.

A high rate of employment in agriculture in relation to the area of arable lands is to be observed in central and east Poland, as well as in the peasant and working area of former Galicia (i.e., Małopolska). The Świętokrzyskie voivodship is of particular interest, where there is an accumulation of labour surplus in the form of open unemployment and a very high rate of employment in agriculture. Low employment in agriculture is characteristic of the areas where there used to be many state owned agricultural farms (see Fig. 2).

The last change: the index of working age employment, i.e., proportion – of those employed in the total number of people working age, exhibits high values in the area of central and east Poland. Generally lower values of the employment index occurred in west and north Poland, and in the south-east part of Podkarpackie voivodship.

Generally speaking, the index exhibits high values in the regions of family agriculture, which was poorly transformed by the processes in the 1990s. These values are low in the regions with former state owned farms, in the areas where the average acreage of farms exhibited a stronger increase, and the regions with extremely fragmented family agriculture, and what follows from it, the occurrence of a large proportion of non-commercial farms.

Correlative relationships between the indices used for the evaluation of the level of the balance on the local labour markets reveal the fact, as was expected, that open unemployment and the excess of employment in agriculture exhibit a negative relationship ( $r = -0.3$ ); therefore, they partly constitute two different forms in which an excess of labour resources is revealed. It is the nature of the economic structure, and especially types of employment in agriculture (hired labour or a family farm) that determine which of them dominates in a given region. A large contribution of agriculture based on hired labour is favourable to these excesses being revealed in the form of open employment, with a domination of family agriculture, in the form of agricultural overpopulation.

The employment index calculated for the working age groups is correlated positively with the index of employment per 100 ha ( $r = +0.6$ ), as people employed (statistically) are those who are superfluous on farms. It is correlated negatively with the rate of unemployment in an open form ( $r = -0.5$ ).

## TAXONOMIC ANALYSIS

The classification of a synthetic level of the balance on the labour market for districts is in accordance with Perkal's taxonomic method. It exhibits a spatial distribution of units inversely proportional to the results of the distribution of the registered unemployment rate (see Fig. 4).

Rural suburban areas located in the regions of the largest agglomerations in Poland show the greatest level of the balance on the labour market, while in the areas with a low level of the synthetic measure, suburban units of all the former provincial capitals (until the year 1999) (with the exception of Radom and Nowy Sącz) present higher values.

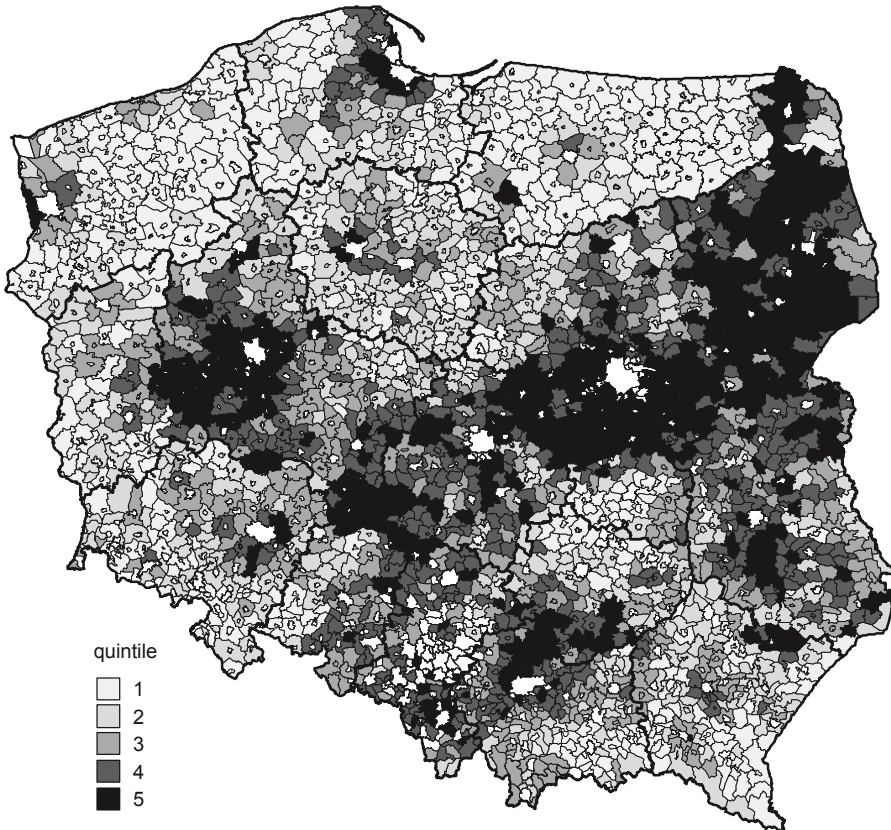


Fig. 4 Synthetic level of balance on the labour market in accordance with the method of standardized sums

Source: Own calculations based on Bank Danych Regionalnych (Regional Data Bank), 2004

The quintile of the units with the highest level of the balance on the labour market, apart from a visible dependence on large agglomerations in the distribution of its intensification, covers almost the whole Podlaskie voivodship and a larger part of the districts in Lubelskie voivodship. Such a favourable economic activity on what is called the ‘east wall’, obtained after taking into account three variables (which cover the working age only) in the synthetic measure, is the result of the processes which cannot be captured in a static image. What is meant at this point is a selective influence of industrial migrations in the 1970s on the demographic structures, i.e., a removal of the young demographic structure from this region.

At the same time, it is an area of a relatively low share of non-agricultural households in the structure of these farms. The indices of registered unemployment are consequently low. High employment in agriculture per 100 ha, and the indirect index of overpopulation in agriculture had the lowest weight relatively attributed in the research. This was justified by the fact that employment in agriculture in relation to the area depends also on the structure of agriculture, which could not be taken into account in the research. What is more, ‘superfluous’ people employed on family farms are ‘employed’.

The second pole of the level of the balance on the labour market, which covers one quintile of units, relates chiefly to the area of those provinces where there used to be many state-owned farms, mainly region of Pomorze Środkowe, Warmia i Mazury. Here, the percentage of those employed in nationalized agriculture among those professionally active was over 30 per cent in the year 1988, with the average of 7 per cent for rural areas in Poland. Additionally, a low level of development is exhibited by the districts in the west and south-east provinces, as well as the post-industrial area in central Poland.

Generally speaking, the ‘east wall’ as well as region of Łódzki, Warszawski, Poznański and Małopolskie voivodship indicate the most favourable level of the balance on the labour market. Such a distribution of the results of the analysis shows that a similar result of synthetic measures can be connected with very different situations; it can be related with a well-developed labour market, but also with a relatively very low demand for labour due to, for example, the nature of the demographic structure (Rosner, 2007).

## CONCLUSIONS

Poland is a state with a very strongly spatially diversified agricultural structure, which is connected with the period of the partitions and the shifts of the borders after the Second World War. Apart from regions with a highly fragmented agriculture, there are areas with a large proportion of farms with large acreages (Stanny, 2008). Different models of the flow of the rural labour resources’ surpluses



to non-agricultural sectors occurred in regions with a relatively dense network of urban centres, while there were different models in the regions with a sparse network of towns. Depending on these factors, among other things, depopulation areas (the ‘east wall’) and peasant-working areas were formed. These structures were shaped under the influence of a strong selectivity of migration phenomena, among other things. What is more, as young people who are only reaching the working age, are dominant in migrations, the areas with prevailing emigration area getting older, their mono-functional nature is becoming more evident, while areas with a concentrated population are characterized by relatively advantageous structures of age, education, the proportion of young women to young men, etc., and structures of professional activity.

### NOTES

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