

CHANGES IN RESOURCES AND QUALITY OF HUMAN CAPITAL IN RURAL AREAS OF POLAND AND EAST GERMANY

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Abstract

The purpose of this article is to present the changes in stocks and quality of human capital and to assess the impact of the implementation of ESF co-financed interventions to improve the quality of human resources. An important element of the work was the genesis of research on the subject of human capital as one of the most important economic resources. For this purpose, a review of economic theory with regard to the importance and role of human capital in socio-economic development of the country and the region was made. The areas of the study were Northern and Western Poland and East Germany. To evaluate the quality of human capital demographic (population growth, migration) and social elements (employment, the economic dependency ratio, unemployment) were added. Conducted research allowed us the selection of rural growth areas of human capital and potential problem areas.

Key words: Human capital, Poland, East Germany, rural areas

JEL Code: J10, J11

Introduction

Modern-day changes in the socio-economic structure of Poland, resulting from the transformation of the political system and the integration with the European Union, have significantly contributed to demographic changes in rural areas. The most important changes include rural-urban migration. Migration involves mainly young people of working age, with at least secondary education (Jezierska-Thöle, Gwiazdzinska-Goraj, 2013). As a result of out-migration to the cities, depopulation of rural areas and aging of rural communities have intensified, which leads to marginalisation of rural areas. This triggers other changes, including depreciation of the human capital value (Ekins, 2009). Unfavourable conditions for the development of human capital in rural areas contribute to the deepening of disparities in the level of socio-economic development between urban and rural areas. At the same time, changing priorities in the development of rural areas, i.e. a shift away from understanding them in agrocentric terms and strengthening their deagrarianisation as well as development of

non-agricultural functions requires diversification of economic activities of rural population (Poczta, 2007, Gwiazdzinska-Goraj, Goraj, 2015). In the face of multifunctional development of rural areas the role of human capital increases, both in terms of its quantity and quality, in determining strategies and directions of socio-economic changes in rural areas. Rural areas with favourable demographic structure grow faster and show higher level of socio-economic development (Domański, 1998, Cahuc, Zylberberg, 2004, Jezierska-Thöle, Kluba, 2011, Stanny, 2014).

1. Purpose and scope of the research

The main objective of the study was to present changes in human resources in rural areas of Poland and East Germany. Research areas were rural areas of north and west Poland as well as East Germany, which show similar natural conditions as well as political and economic past, but different directions of development today. The entire East Germany was included in the EU Common Regional policy in 1990 (after reunification), while Poland in 2004 (after the accession to the European Union). Comparative analysis of development of human capital allowed to determine the distance in its quality in Poland and Germany as well as identify top locations ranking as potential human capital growth areas, and weakest locations as the potential problem areas. To evaluate the quality of human capital demographic elements (population growth, migration) and social elements (employment, dependency ratio, unemployment) were adopted. Analysis of changes in human capital covered the period 2002-2010.

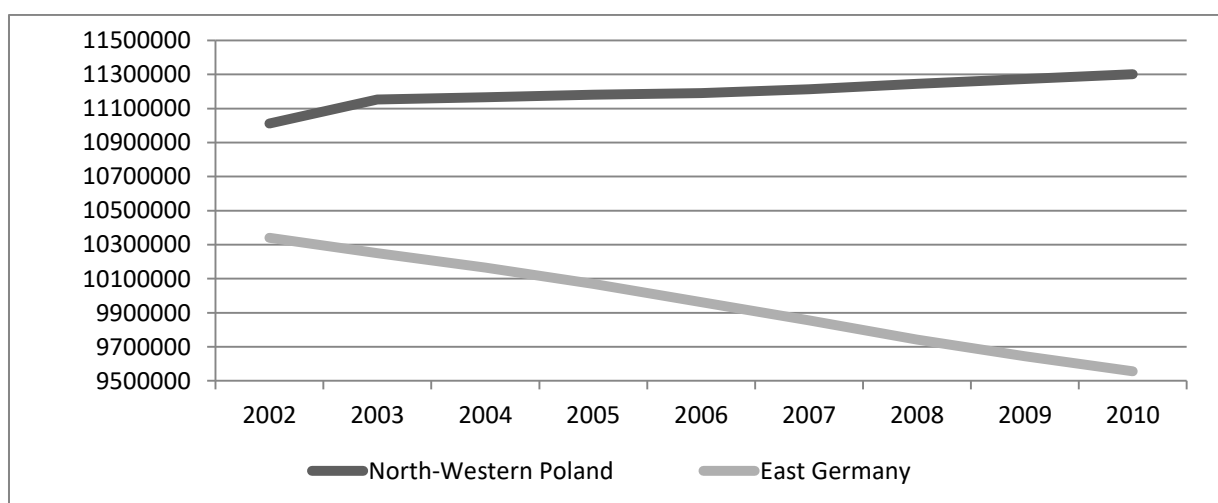
2. The concept of human capital

The impact of human capital on the economic development has been described primarily in the papers of Becker (1975), Romer (1990) and Lucas (1988). The concept of human capital was introduced in 1961 by T. Schultz (Nobel laureate 1979), who in his article *Investment in Human Capital* in the *American Economic Review* noted a correlation between the country's economic growth and human capital increase measured by the size of labour force, and the level of its qualifications (Fitz-Enz, 2001). According to the definition of the Organisation for Economic Cooperation and Development (OECD), human capital means: knowledge, skills, competencies and attributes embodied in a man facilitating the creation of individual, social and economic well-being (Keeley, 2007).

3. Changes in human resources and its quality

In the years 2002-2010 north and west Poland recorded 2.6% of population growth. The yearly average population growth was about 2%. At the same time, population decreased by 0.05% nationally. The course of the trajectory of rural population size of north and west Poland shows its stable development. In the early 2000s there was a sharp increase in the population size in rural areas of north and west Poland, and then a decline until 2006, when perturbations occurred associated with the weakening dynamics of the demographic development of the turn of the twentieth and twenty-first century, followed by a monotonic increase with gradually weakening dynamics. The trajectory representing population of East Germany shows a steady decline between the early 2000s and 2010s. The annual average decline rate was about 1% (fig. 1).

Fig. 1: Change of the number of population in rural areas in North and West Poland and East Germany in 2002–2010



Source: own elaboration based on: GUS, Statistisches Jahrbuch Deutschland

The increase in the population of the study area of Poland was the result of mainly population growth, which in 2002-2010 amounted to 56 471 people. In 2010 north and west Poland recorded positive population growth. The exceptions were two voivodeships: Opolskie (-796) and Dolnośląskie (-10), in which the number of births did not offset the total number of deaths. Additionally, in the Opolskie Voivodeship the negative balance of internal and international migration contributed to the loss of population. Real population increase in the Dolnośląskie Voivodeship was offset by positive net internal migration (1732), while the

negative balance of internal migration in the Warmińsko-Mazurskie, Pomorskie and Lubuskie Voivodeships was compensated by positive birth rate (tab.1).

Tab. 1: Balance of population in the study area in 2010

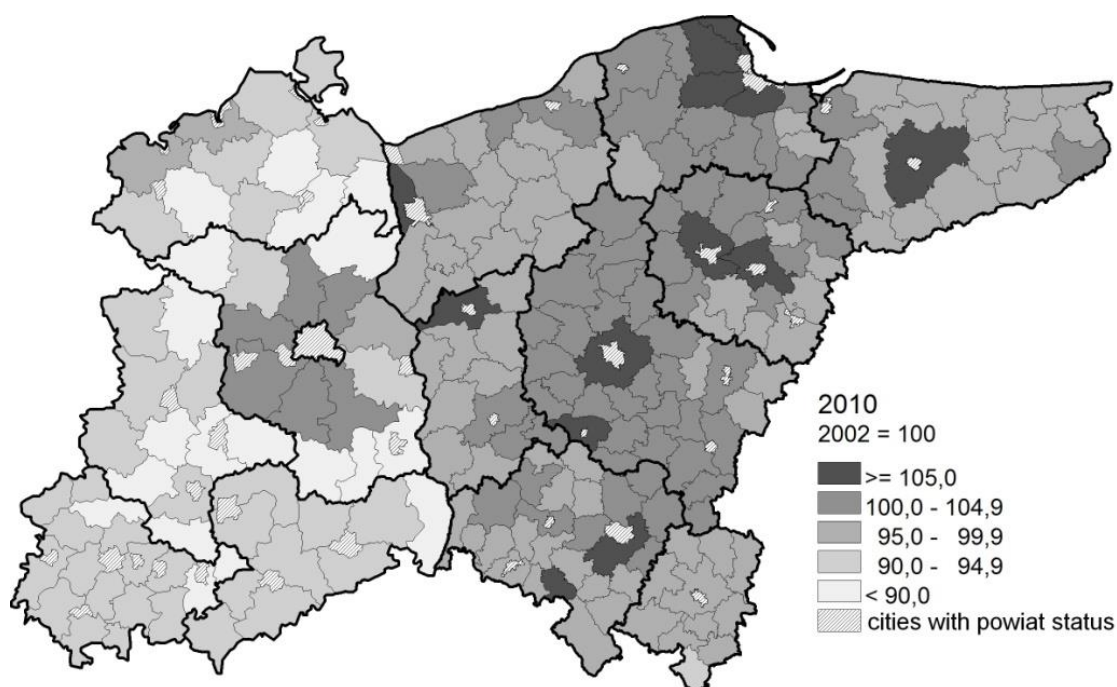
| Voivodeships/ land | Total population | Birth rate | | Balance of internal migration | | Balance of international migration | | Real population | |
|--------------------------------|---------------------|------------|-------|----------------------------------|-------|--|-------|-----------------|--------|
| | | Number | % | Number | % | Number | % | Number | % |
| Lubuskie | 767931 | 1225 | 1,60 | -326 | -0,42 | -129 | -0,16 | 770 | 1,00 |
| Wielkopolskie | 2617491 | 9247 | 3,53 | 5178 | 1,98 | -121 | -0,05 | 14304 | 5,46 |
| Pomorskie | 1138759 | 1245 | 1,09 | -635 | -0,56 | 9 | 0,00 | 619 | 0,54 |
| Dolnośląskie | 2056929 | -10 | 0,00 | 1732 | 0,84 | -532 | -0,25 | 1190 | 0,58 |
| Opolskie | 902875 | -796 | -0,88 | -575 | -0,64 | -1059 | -1,17 | -2430 | -2,69 |
| Kujawsko- Pomorskie | 1292383 | 2269 | 1,76 | 968 | 0,75 | -93 | -0,07 | 3144 | 2,43 |
| Pomorskie | 1401232 | 7227 | 5,16 | 4027 | 2,87 | -124 | -0,08 | 11130 | 7,94 |
| Warmińsko- Mazurskie | 1124729 | 2460 | 2,19 | -2073 | -1,84 | 100 | 0,08 | 487 | 0,43 |
| Polska północna i zachodnia | 11302329 | 22867 | 2,02 | 8296 | 0,73 | -1949 | -0,17 | 29214 | 2,58 |
| Brandenburg | 2112168 | -8458 | -4,00 | -1764 | -0,84 | 1719 | 0,81 | -8503 | -4,03 |
| Meklemburgia | 1122413 | -4409 | -3,93 | -6298 | -5,61 | 1301 | 1,16 | -9406 | -8,38 |
| Saksonia | 2860288 | -15241 | -5,33 | -14273 | -4,99 | 365 | 0,12 | -29149 | -10,19 |
| Saksonia Anhalt | 1783612 | -11416 | -6,40 | -10666 | -5,98 | 1584 | 0,88 | -20498 | -11,49 |
| Turyngia | 1678635 | -8146 | -4,85 | -7263 | -4,33 | 1346 | 0,80 | -14063 | -8,38 |
| Niemcy wschodnie | 9557116 | -47670 | -4,90 | -40264 | -4,35 | 6315 | 3,77 | -81619 | -8,49 |

Source: own elaboration based on: GUS, Statistisches Jahrbuch Deutschland

In contrast to Poland, in the years 2002-2010 rural areas of East Germany showed a decrease in population by 7.6%. Similarly, the population in entire Germany decreased by 1%. The decrease of the population in the eastern lands of Germany was highly impacted by negative natural increase and negative net migration sustained throughout the period considered. The current demographic situation in East Germany is a result of the so-called "Wendeknick", i.e. the political and economic changes after 1990 (Grundmann, 1998). Since that times rural areas of the east federal states have undergone depopulation. The opening of the border after 45 years of the "Iron Curtain" caused unprecedented scale of migration to the western federal states. The age structure of migrants was dominated by young women (age cohort 18-32); this contributed significantly to the decline in births. In 2010 rural areas of East Germany recorded negative natural growth (-4.9%) and negative net internal migration (-

4.35‰). Depopulation is observed in all regions of East Germany, which recorded negative population growth in 2010. The most difficult demographic situation occurs in two federal states in which the decline in the population was below 10‰, i.e. Saxony-Anhalt (-11.49 ‰) and Saxony (-10.19 ‰). The decrease in population in Saxon states is the result of very low birth rate (-6.40‰ and -5.33‰ respectively) and negative migration balance (-5.98‰ and -4.99‰). Negative balance of migration in Mecklenburg (-5.61‰) was offset by positive net international migration (+1.16‰, fig. 2).

Fig. 2: Dynamics of the population in North and West Poland and East Germany in 2002–2010



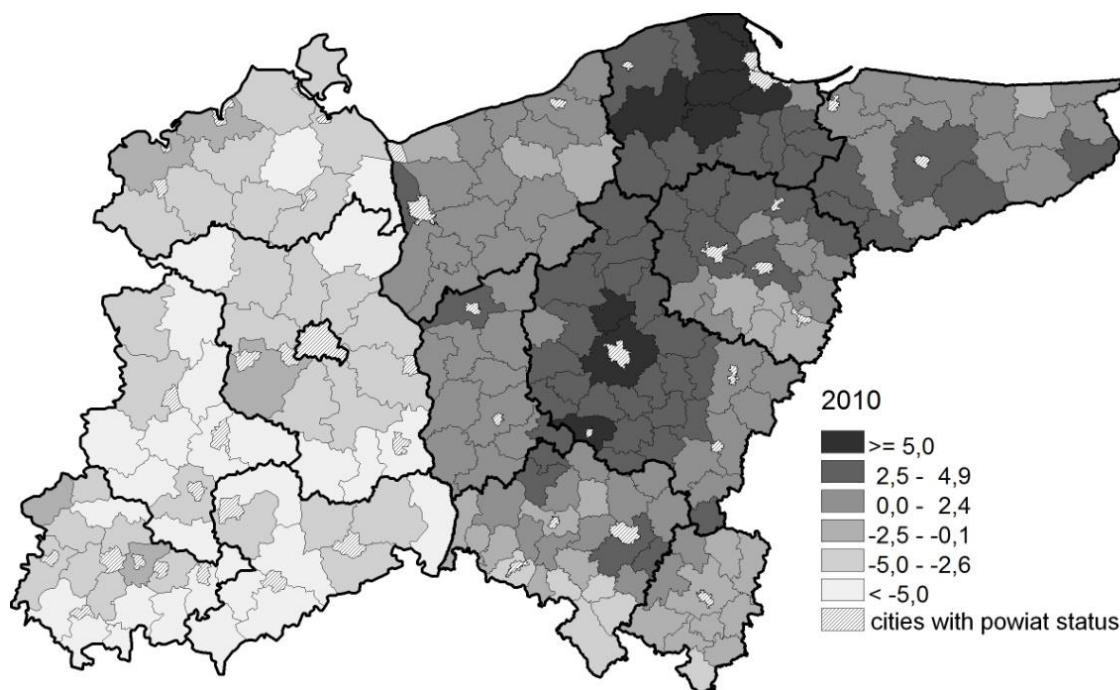
Source: own elaboration based on: GUS, Statistisches Jahrbuch Deutschland

In contrast to Poland, a characteristic feature of the federal states is a positive balance of international migration (+0.75‰). Despite negative real population growth (-4.03‰) the best demographic situation is recorded in the rural areas of Brandenburg, mainly due to the ongoing direct impact of urbanization processes of the Berlin metropolis associated with the development of the German capital.

Analysis of the correlations of the main components, i.e. birth rate and migration balance, shows large spatial differentiation of demographic development, which is a reflection of unequal socio-economic development. In the years 2002–2010 birth rate dropped in 48 poviats of north and west Poland and in 46 of East German counties, which accounted for

31.6% and 85.2% of the surveyed counties respectively. Reduced rates of natural increase is the result of the earlier processes of depopulation and a consequence of aging of the rural population. It is a pan-European phenomenon characteristic also for the countries of Central and Eastern Europe, including East Germany (fig. 3).

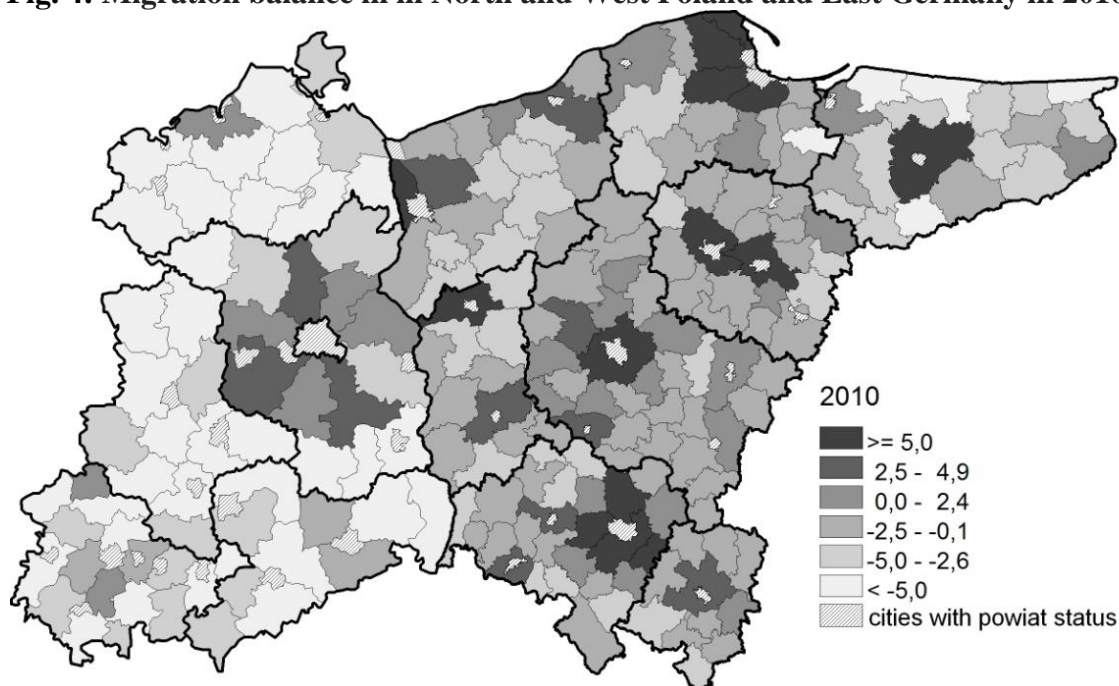
Fig. 3: The birth rate in North and West Poland and East Germany in 2010



Source: own elaboration based on: GUS, Statistisches Jahrbuch Deutschland.

Coefficient of internal migration balance decreased in 68 poviats in Poland and 20 counties in Germany, which accounted for, respectively, 44.7% and 37% of all studied counties. In 13 poviats in Poland and two counties in Germany balance of migration changed from negative to positive, and in 11 in Poland and one in Germany - from positive to negative (fig. 4).

Fig. 4: Migration balance in in North and West Poland and East Germany in 2010

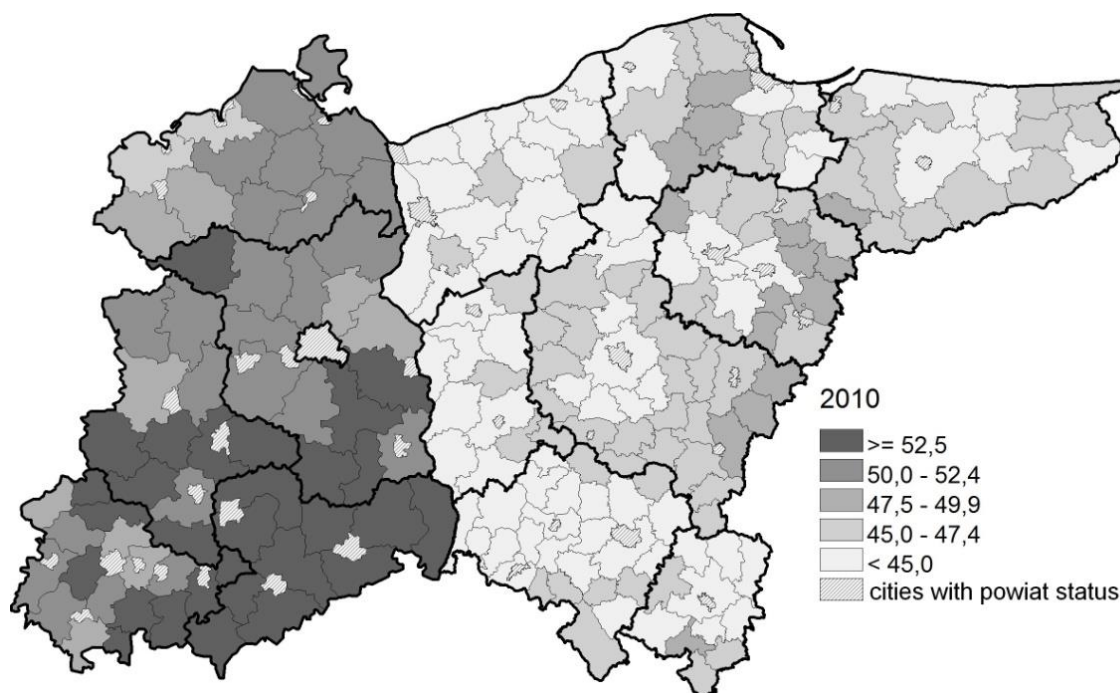


Source: own elaboration based on: GUS, Statistisches Jahrbuch Deutschland

In 2010 high positive net migration was recorded in rural areas located in suburban areas of voivodeship cities, such as Gdańsk, Wrocław and Poznań. Influx of urban population to rural areas accelerated at the beginning of the 21st c. when eco-friendly lifestyle got promoted, and companies and housing corporations offered rural residential areas "by the forest." Negative migration balance was recorded in all poviats situated along the northern border of Poland as well as along the southern border with the Czech Republic.

To evaluate the quality of human capital the following social elements were adopted: economic dependency ratio (which expresses the relationship of the population in the pre- and post-production age to the number of working-age population), as well as the unemployment rate. In the years 2002–2010 the economic dependency ratio (W_{oe}) in rural areas of north and west Poland decreased from 49 to 45 as a result of young population cohorts entering the productive age, but increased in East Germany from 43 to 54 as a result of increasing the share of the population at the post-production age (fig. 5).

Fig. 5: The economic burden rate in North and West Poland and East Germany in 2010



Source: own elaboration based on: GUS, Statistisches Jahrbuch Deutschland

Spatial analysis of the economic dependency ratio shows its highest value in the Görlitz District in Saxony (61), while the lowest in the Police Poviats in the Zachodniopomorskie Voivodeship (37). A characteristic feature of rural East Germany is a high share of districts (83%) with a high rate of economic dependency ratio ($W_{oc} > 50$).

In 2010 the unemployment rate in rural areas of north and west Poland was 9.8% and ranged from 2.2% in the Poznań Poviats to 17% in the Lipno Poviats. Such a large range indicates imbalances in the socio-economic development and a large spatial diversity of the labour market in rural areas. The high unemployment rate (over 20%) in the early 2000s (similarly to the 1990s) was recorded primarily in the Warmińsko-Mazurskie and Zachodniopomorskie Voivodeships as well as in Mecklenburg in East Germany (Jeziarska-Thole, Janzen 2012). By 2010 it began to decline, which undoubtedly was influenced by the opening of labour markets for Poles in other EU countries. In addition, new jobs could be financed from the EU structural funds. Of great importance for the economic development of the border area with Germany was Poland's accession to the EU in 2004. It contributed to an increase in the number of entities with foreign capital in the region. The lowest unemployment rate was observed in the poviats located in the vicinity of agglomeration of Poznań (below 3%) as well as Wrocław and Tri-City (below 4%), i.e. leaders in terms of changes.

Conclusion

The object of the study were changes in the human capital in rural areas resulting from the EU regional policy. A comparative analysis of demographic changes in rural areas in north and west Poland as well as in East Germany has allowed the identification of growth areas regarding human capital as well as potential problem areas in those terms.

A common feature of Poland and Germany is continuing population decline. In the years 2002–2010 the inter-regional differences in terms of the state, dynamics and structure of the population increased. Particularly large differences were visible in the population age structure, which adversely affected the dependency ratio. A historical division into "old" and relatively "young" regions is still visible. Poland and Germany are among those European countries in which regional bipolarity of demographic processes are recognised. This means that in the analysed area regions were distinguished with both growing and diminishing human capital. In north and west Poland the areas of growth are located around the voivodeship cities (Poznań, Gdańsk, Wrocław). Within the voivodeship cities the influx of people from peripheral areas was observed as well as the outflow from the cities to the suburban zone. The effect of population outflow is negative migration balance in the peripheral zone, while positive in the suburban area. In East Germany the areas of growth are found in the "close contact" or "direct impact" of the metropolis of Berlin and other larger agglomerations. It is noted that with increasing distance from the cities the demographic activity of the region decreases, i.e. birth rate decreases and net migration is negative. Exceptions are the areas along communication lines. These areas are gaining due to the so-called location rent. In the analysed area depopulation of rural areas, characteristic of the initial phase of the transition, decreased.

Comparative analysis of regional differences in the employment structure and unemployment in the years 2003–2010 shows that the regions with the highest unemployment are mainly agricultural areas with a high proportion of large farms. The areas of lowest unemployment are the rural areas of the Wielkopolskie (6.9%) and Opolskie (7.7%) Voivodeships, as well as the Land of Thuringia (10.7%). Counties with the lowest unemployment are those with a high level of urbanisation and industrialisation, and with a relatively high share of services. Unemployment in north and west Poland, as in East Germany, is still a fundamental social problem hindering the economic development of the country.

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