

The scale and the dynamics of permanent migration in rural and peri-urban areas in Poland – some problems

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Abstract. This article refers to the analysis and the evaluation of permanent migration as observed in rural areas of Poland, especially in peri-urban areas of the Polish cities between the years 1995 and 2011. The article covered all 2,173 rural and rural-urban (excluding urban parts) gminas in the country. In the article there were shown what are the migration volumes and dynamics in rural areas and what is the situation of large cities' peri-urban areas in terms of permanent migration.

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1. Introduction

Migration is one of major indicators of socio-demographic and economic transformations taking place in regions of the country. Migration patterns and directions frequently allow identifying places where jobs, services, etc., are either easily available or in short supply.

This article refers to the analysis and the evaluation of permanent migration as observed in the rural areas of Poland, especially in peri-urban areas of the Polish cities between the years 1995 and 2011. The article covered all 2,173 rural and rural-urban (excluding urban parts) gminas (administrative regions of the 3rd order) in the country. To ensure data consistency and to avoid conclusions based on a single year, the authors calculated mean values for the periods 1995–2000 and 2006–2011. Some of the questions that the authors of the article try to answer are the following: how much do new arrivals contribute to the total population gain in the rural areas; what are the migration volumes (inflows and outflows); what is the status of large cities' peri-urban areas in terms of permanent migration; how dynamically does the volume of permanent migration change; does the peri-urban population in Poland grow faster and faster (i.e. in a growing number of peri-urban gminas, thus constantly extending the perimeter of large cities' influence) or perhaps some signs of deceleration can be seen; and finally does the outflow of city dwellers to rural areas mark another stage of urbanisation in Poland, a so-called counterurbanisation?

2. Research results: the peri-urban areas on the background of rural areas in Poland in the context of permanent migration

2.1. Contribution of migration to rural population gain

Number of population in rural areas in Poland was steadily increasing after the late 1990s, from 14.6 million in 1999 to 15.5 million in 2011 (over 39% of the country's population) (cf. Szymańska, Biegańska, 2010). This growth had two sources: the positive natural increase in rural areas (but gradually declining from 6.1‰ in 1990 to 0.8‰ in 2011) and the positive migration balance that appeared in the rural areas after the year 2000. The migration balance rose from –0.3‰ in 1999 to as much as 2.6‰ in 2011. This means that two major factors driving the growth of rural population were inflows of new residents and the related positive migration balance (Fig. 1, 2, 3). While in the years 1995–2000 rural areas received on average 13 people per 1,000 population annually, in the period 2006–2011 the rate rose to over 14 people. Moreover, the group of rural gminas representing the uppermost range of new arrivals, i.e. 25 and more people per 1,000 population, increased threefold in the analysed period from 2% (1995–2000) to 6% (2006–2011) (Table 1). These rural gminas usually surround large cities and less frequently the medium and small towns (cf. Fig. 1).

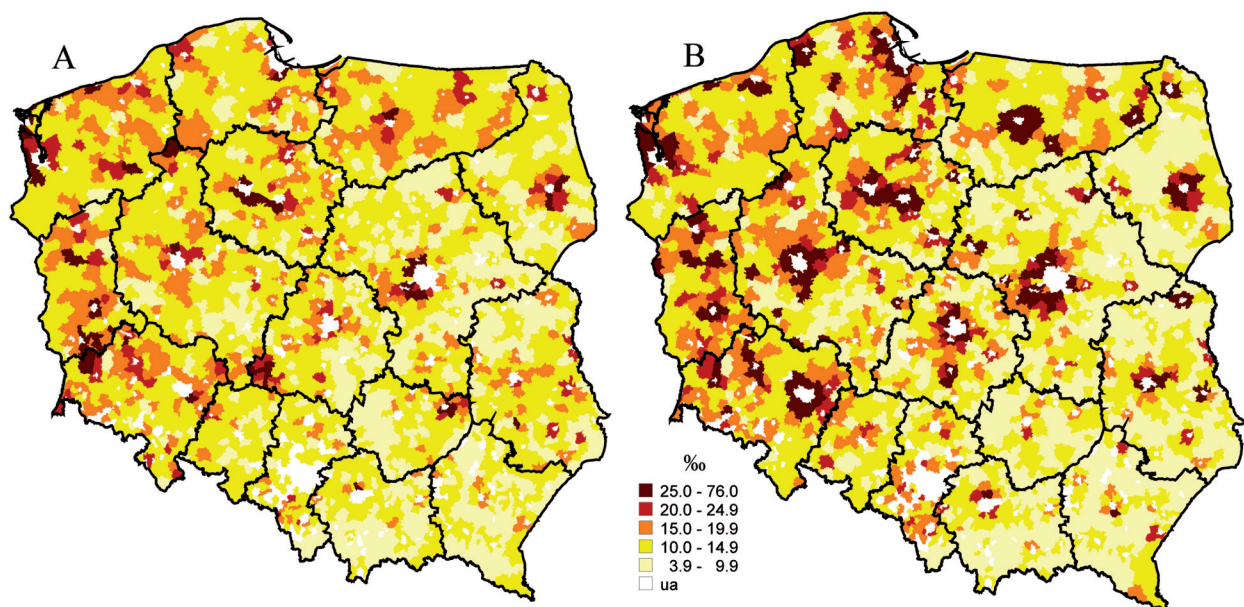


Fig. 1. Total inflow per 1,000 population in rural areas of Poland

Explanation: A – 1995-2000, B – 2006-2011; ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

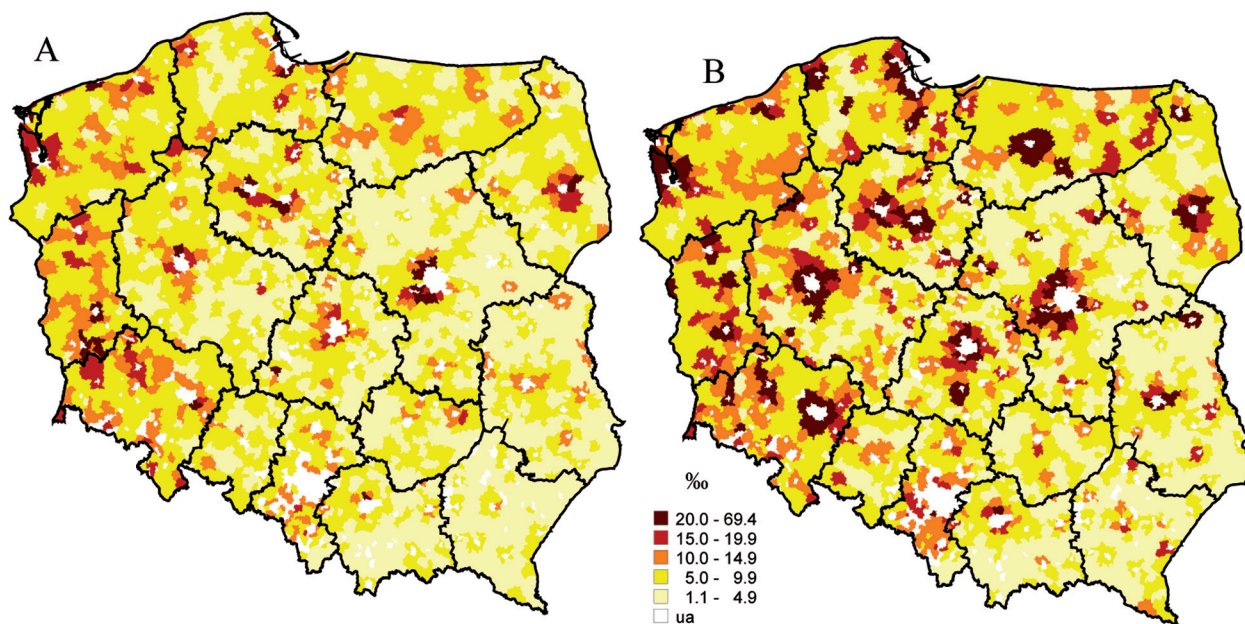


Fig. 2. Inflow from urban to rural areas per 1,000 population in Poland

Explanation: A – 1995-2000, B – 2006-2011; ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

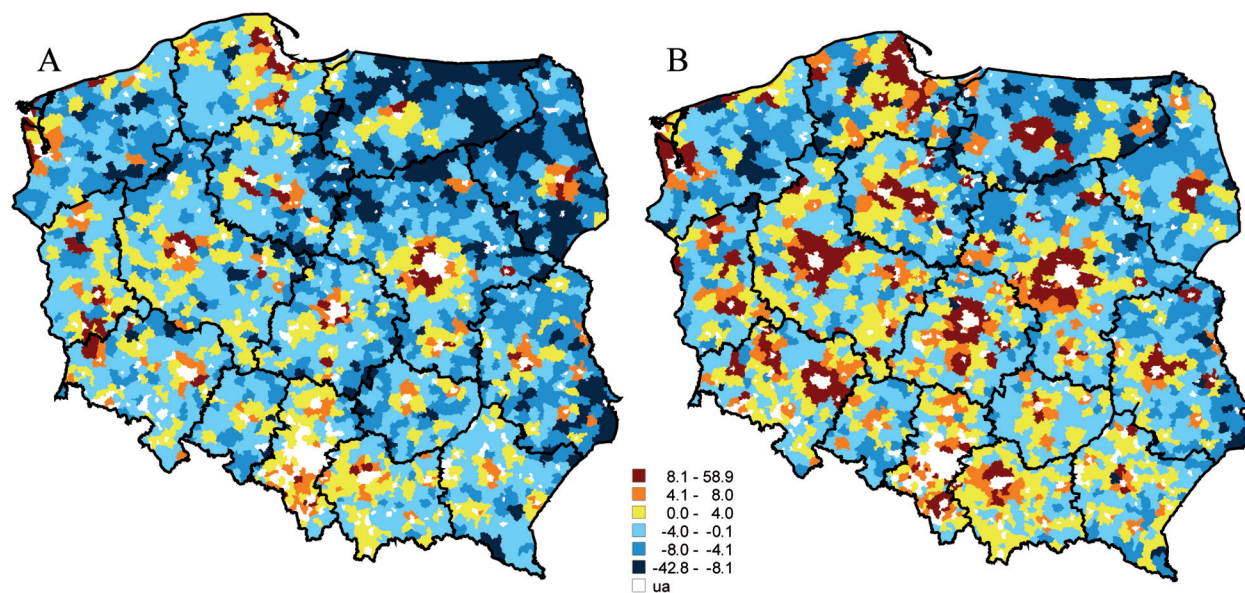


Fig. 3. Total migration balance per 1,000 population in rural areas of Poland

Explanation: A – 1995-2000, B – 2006-2011; ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

Table 1. Some characteristics of migration and population age structure in Poland

	Total inflow per 1,000 population		Inflow from urban areas per 1,000 population	
	1995-2000	2006-2011	1995-2000	2006-2011
PL	11	12	PL	6
ua	10	11	ua	5
ra	13	14	ra	7
a			a	
25.0–76.0	2	6	20.0–69.5	1
20.0–24.9	4	5	15.0–19.9	3
15.0–19.9	15	13	10.0–14.9	9
10.0–14.9	53	41	5.0–9.9	44
4.5–9.9	26	35	1.1–4.9	43
Migration balance per 1,000 population			Share of working-age population (in %)	
	1995-2000	2006-2011		1995-2000
PL	0	0	PL	59
ua	0	-2	ua	62
ra	-1	2	ra	56
a			a	
8.1–58.9	3	10	66.0–70.3	0
4.1–8.0	6	9	64.0–65.9	0
0.0–4.0	19	24	62.0–63.9	1
-4.0–0.1	39	37	60.0–61.9	3
-8.0–4.1	24	17	45.2–59.9	96
-42.9–8.1	9	3		

Explanation: a – % of rural gminas within particular percentage bands (N=2,173); PL – Poland; ua – urban areas; ra – rural areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

2.2. Composition of the population flowing into rural areas

An analysis of the findings presented in Fig. 1 requires us to answer the question about the composition of the population flowing into rural areas, that is about the shares of rural residents and urban residents (especially those coming from large cities) in the flows. It is worth mentioning at this point that the latter category of migrants becomes more and more important for the total structure of migrants flowing into rural gminas. In the analysed period, i.e. 1995–2011, migration from urban to rural areas increased from 23% in the years 1995–2000 to 31% between 2006 and 2011 (Table 1). It was also the largest category of all inflows into rural areas. The phenomenon is the most visible and dynamic around large cities (Fig. 2).

Between the periods 1995–2000 and 2006–2011, the average annual inflows of urban population into rural areas increased from 7 to 10 people per 1,000 population. The number of rural gminas characterised by the largest inflows, i.e. in excess of 20 people per 1,000 residents, grew every year. For instance, the number of rural gminas receiving most city dwellers, i.e. 20 and more people per 1,000 population, quadrupled between 1995 and 2011, rising from 28 (1%) to 124 (6%) (Table 1, Fig. 2).

2.3. Changes in dynamics of migration balance

Among 39 Polish cities inhabited by more than 100,000 people (2011 data), slight growth in population was found in only every fourth of them, while the other cities lost large numbers of their inhab-

itants, the most frequent reason being outflows to rural areas that could not be compensated either by new arrivals or natural increase. For instance, in 2011 the rate of natural increase in Łódź was -5.7% , the migration balance -2.0% and the total population gain -7.7% ; in Poznań the rates were, respectively, $+0.8\%$ and -4.5% (total gain of -3.7%); in Bydgoszcz -0.8% and -3.1% (-3.9%); in Sosnowiec -3.5% , -4.4% (-7.9%); in Katowice -3.1% and -3.7% (-6.8%). Many other large cities in Poland showed similar trends (Szymańska, 2007).

The migration balance indicates that new arrivals to rural gminas, particularly those located around large cities, are becoming increasingly important for the rural population growth. The annual average migration balance for rural areas being -1 person per 1,000 population at the end of 20th century became positive with the onset of the 21st century, rising to over 1 person in the years 2000–2005 and to over 2 persons between 2006 and 2011. Naturally, the number of rural gminas where the migration balance was positive also grew. Compared with the years 1995–2000, when these gminas accounted for 28% of all rural gminas in Poland, over the period 2006–2011 their proportion expanded to as much as 43% (Fig. 3). It should be mentioned here that while it was not until the year 2000 that the total migration balance for rural areas became positive, being then 0.1 people per 1,000 rural population, the total growth of rural population became positive in 1993 and has been positive since then. This means that the number of rural population increases in Poland every year.

This increase also manifests itself through a larger and larger number of rural gminas where populations expand in real terms, i.e. where both the natural increase and the migration balance are positive, but the migration balance considerably exceeds the natural increase (type C, Webb typology). While in the years 1995–2000 the gminas accounted for 10% of all gminas surveyed, in the period 2006–2011 their rate surpassed 18%.

2.4. Outflow of city dwellers to rural areas as another stage of urbanisation in Poland

Migration pattern and vital statistics changes that we have been able to observe in Poland for over a decade now show that population decreases in

large cities should be attributed to greater numbers of city dwellers moving to the neighbouring rural areas and small towns, whose populations grow because of migration gain. While in 1999 small towns inhabited by not more than 20,000 people accounted for 12% of the total population in the country, in the next decade their proportion increased to 13%.

The varying migration patterns and preferences has led in Poland, as well as in many other European countries, to counterurbanisation that can manifest itself as ex-urbanisation (the better-off urban residents move to rural areas to live there, but they maintain their ties with the city and commute every day to work there), displaced-urbanisation (it occurs when families decide to move to new places to seek new jobs and lower living and housing costs) or anti-urbanisation (it takes place when people who reject the urban lifestyle and show anti-urban attitudes leave their homes to live in smaller settlements) (cf. Szymańska, Biegańska, 2011). Anyhow I.S. Lowry (1990), C.J.A. Mitchell (2004) and other researchers stress that regardless of what drives the migrants, the ultimate results being dispersion or decentralisation of the urban population and re-population of rural areas are exactly the same.

2.5. Peri-urban areas in Poland in the light of selected socio-demographic and economic indicators

The research conducted by Szymańska, Biegańska, and Gil (2009) showed that rural areas lying around large cities are usually targeted by young, working-age population. As a result, this age group increases its proportion in the total rural population. Between 1995 and 2000, the working-age rural population typically represented 56% of all rural population, but over ten years later the rate went up to 62% (2006–2011). The number of rural gminas characterised by the highest rates of the working-age population (62% and more) steadily grew. While in the years 1995–2000 such units constituted only 1% of all rural gminas, in the period 2006–2011 the rate reached as much as 46% (see Table 1, Fig. 4). As far as the absolute numbers and percentages are concerned, the working-age population grew the most in the peri-urban areas of large cities, such as Warsaw, Poznań, Olsztyn, Wrocław, and many others.

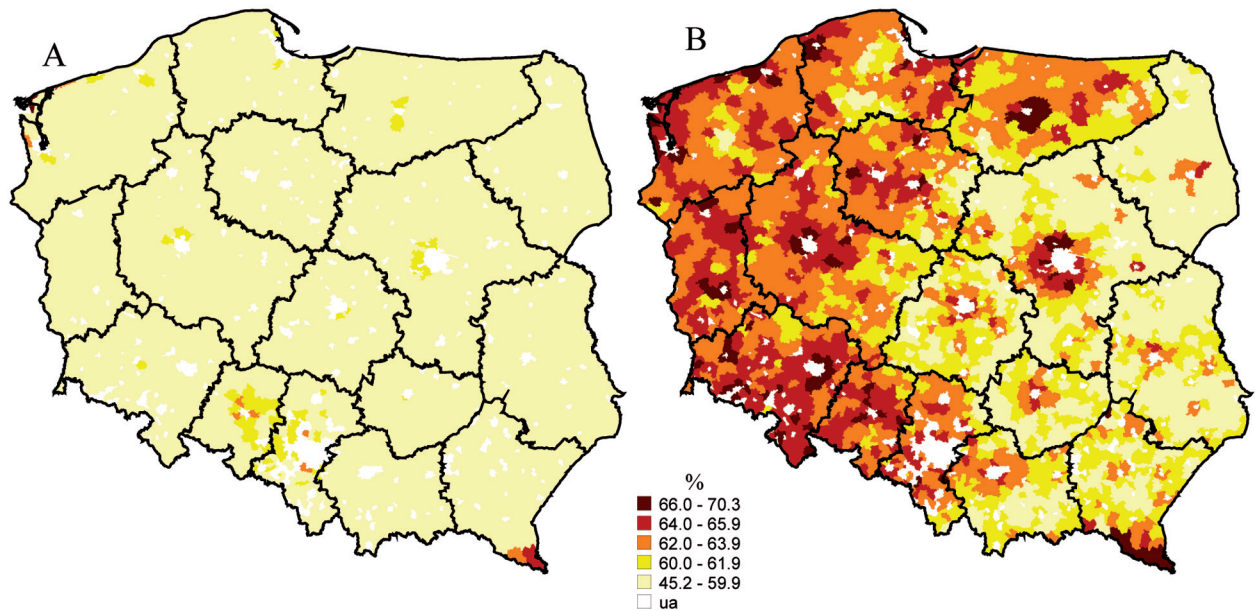


Fig. 4 . Share of working-age population in total population number in rural areas of Poland

Explanation: A – 1995-2000, B – 2006-2011; ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

The above situation apparently contributed to larger shares of population with secondary and tertiary educational level in the total population number aged 15 years and older, likewise the population with the main source of income outside agriculture in the total population number with own income sources. Again, the trends are the most noticeable in the areas surrounding large cities (Fig. 5, 6, Table 2). For the same reasons, the rural population also becomes more and more business-minded every year, as illustrated by the growing numbers of entities of national economy (firms) per 1,000 working-age adults. The

working-age residents set up new firms and create more new jobs. Compared with the period 1995–2000 when 1,000 working-age individuals accounted for 69 firms, over the next decade the rate increased to 97 firms (2006–2008). In rural areas, people living in the peri-urban areas are the most entrepreneurial among all rural residents and they establish new firms the most actively (Fig. 7). Because of that, the peri-urban gminas of some large cities have as many as 150 and more firms per 1,000 residents, which rate largely exceeds the national average for Poland (150 in the years 2006–2008) (Table 3).

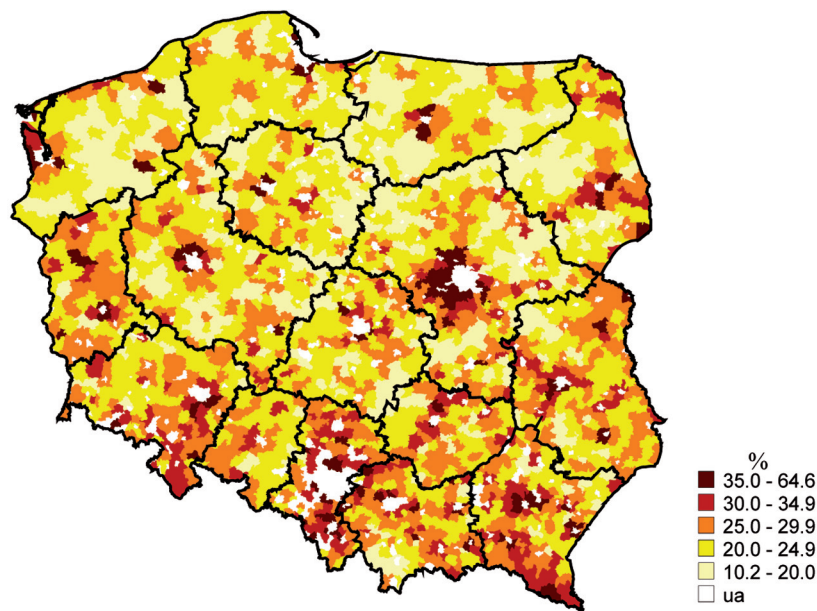


Fig. 5. Share of population with tertiary and secondary educational level in total number of population aged 15 years and older in rural areas of Poland in 2002

Explanation: ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

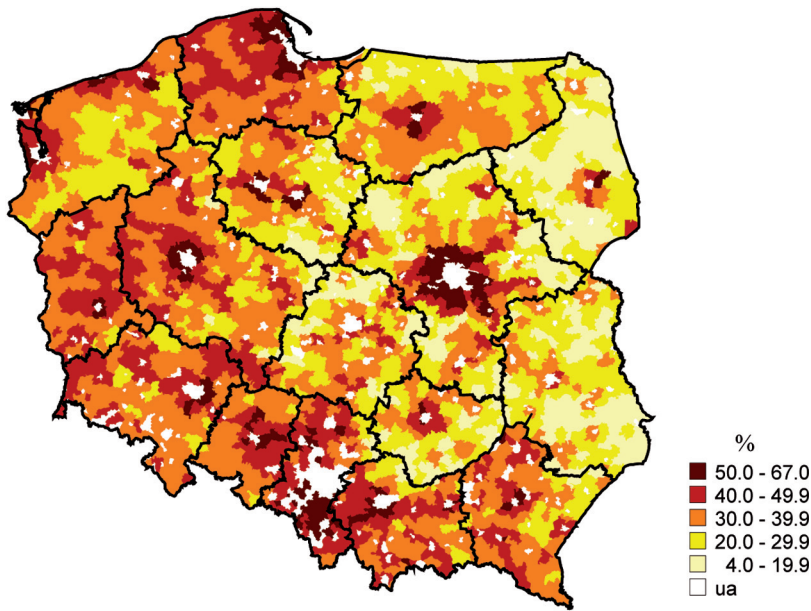


Fig. 6. Share of population with the main source of income outside agriculture in total population number having own source of income in rural areas of Poland in 2002

Explanation: ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

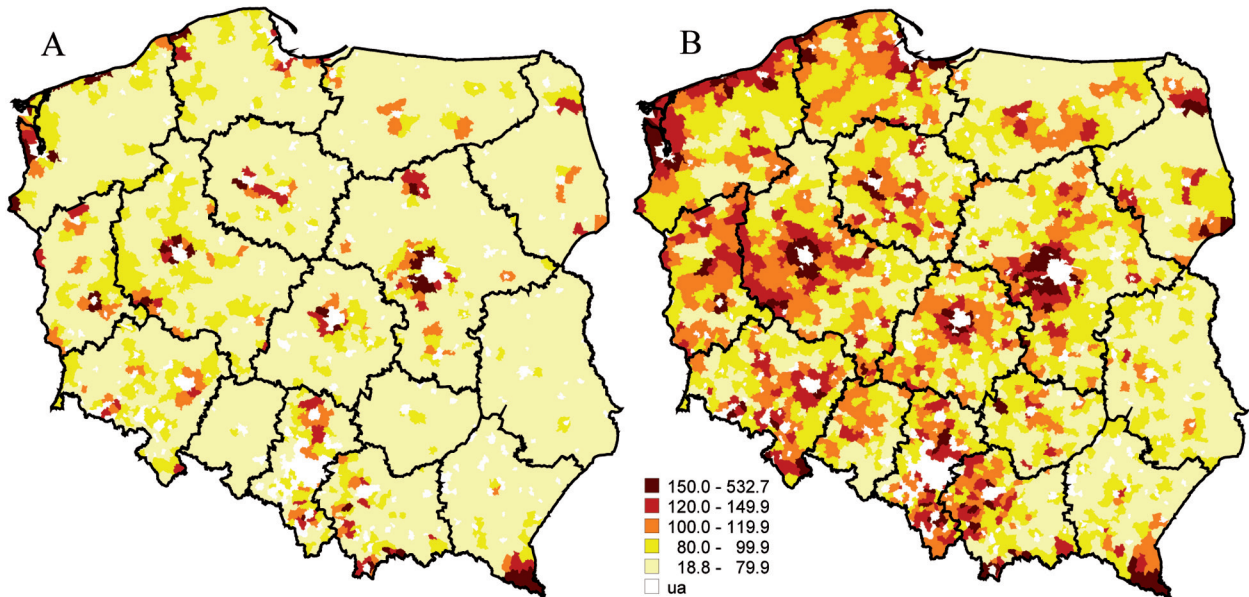


Fig. 7. Number of entities of national economy per 1,000 working-age population in rural areas of Poland

Explanation: A – 1995-2000, B – 2006-2008; ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

Table 2. Some characteristics of population educational level and source of income in Poland

Share of population with secondary and tertiary population (in %) (2002)		Share of population with the main source of income outside agriculture (in %) (2002)	
PL	42	PL	46
ua	-	ua	-
ra	-	ra	-
	a		a
35.0-64.6	6	50.0-67.0	6
30.0-34.9	10	40.0-49.9	20
25.0-29.9	25	30.0-39.9	34
20.0-24.9	40	20.0-29.9	26
10.2-20.0	19	4.0-19.9	14

Explanation: a – % of rural gminas within particular percentage bands (N=2,173); PL – Poland; ua – urban areas; ra – rural areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

Table 3. Some characteristics of population entrepreneurship and housing in Poland

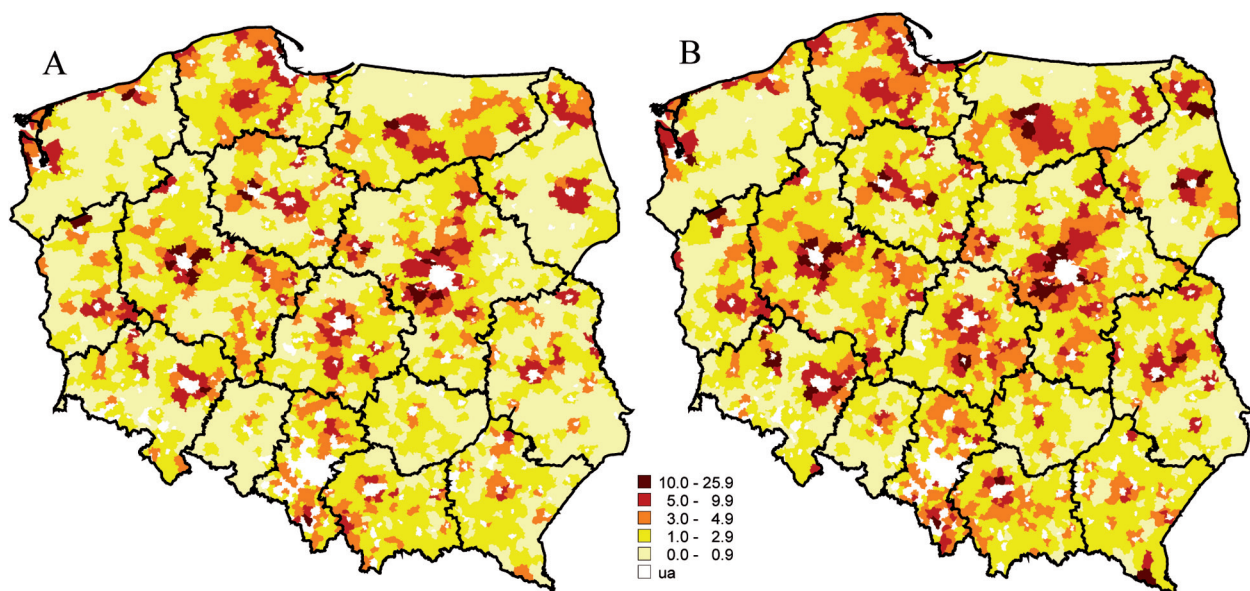
	Entities of national economy per 1,000 working-age population		New residential buildings completed per 1,000 population		
	1995-2000	2006-2008	PL	2004-2005	2006-2008
PL	113	150	PL	1	2
ua	138	181	ua	1	1
ra	69	97	ra	2	3
	a			a	
150.0–532.7	2	5	10.0–25.9	1	2
120.0–149.9	2	9	5.0–9.9	7	9
100.0–119.9	4	18	3.0–4.9	12	16
80.0–99.9	12	30	1.0–2.9	39	44
18.8–79.9	80	38	0.0–0.9	41	29

Explanation: a – % of rural gminas within particular percentage bands (N=2,173); PL – Poland; ua – urban areas; ra – rural areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

More people coming to rural areas stimulate the building industry, as new residents boost the demand for residential buildings outside the towns

(cf. Szymańska, Biegańska, 2012). Again, most new houses are erected in the areas surrounding the large cities (cf. Fig. 8).

**Fig. 8.** Number of new residential buildings completed per 1,000 population in rural areas of Poland

Explanation: A – 2004-2005, B – 2006-2008; ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

3. Peri-urban areas in Poland in the context of principal components method as conclusion

To identify similarities and differences and to ensure a more objective quantification of the chang-

es occurring in Polish rural areas, the multivariate statistical analysis were employed in the investigation, i.e. the principal components method. Twelve variables were selected for analysis, namely x_1 – inflow of urban population into rural areas (%), x_2 – population density (persons/km²), x_3 – share of

the working-age population (%), x_4 – share of population with secondary and tertiary educational level (%), x_5 – share of population with a main source of income outside agriculture (%), x_6 – number of entities of national economy per 1,000 population, x_7 – number of rooms per person, x_8 – number of new residential buildings completed per 1,000 population, x_9 – cubic volume of new residential buildings completed per person (m^2), x_{10} – share of dwellings fitted with water-line system (%), x_{11} – share of dwellings equipped with toilet (%), and x_{12} – share of dwellings equipped with central heating (%).

One of the important findings arising from the investigation is that rural gminas surrounding large cities usually form a separate and clear-cut group (cf. Fig. 9), irrespective of the research procedure applied. In the principal component analysis, the first principal component of eigenvalue 6 extracted from the statistically significant variables (representing 77% of total variance) explained as much as 51% of the total variance. The spatial picture it has produced indicates that the rural gminas lying around large cities are generally different from their counterparts (component value ≥ 1.5).

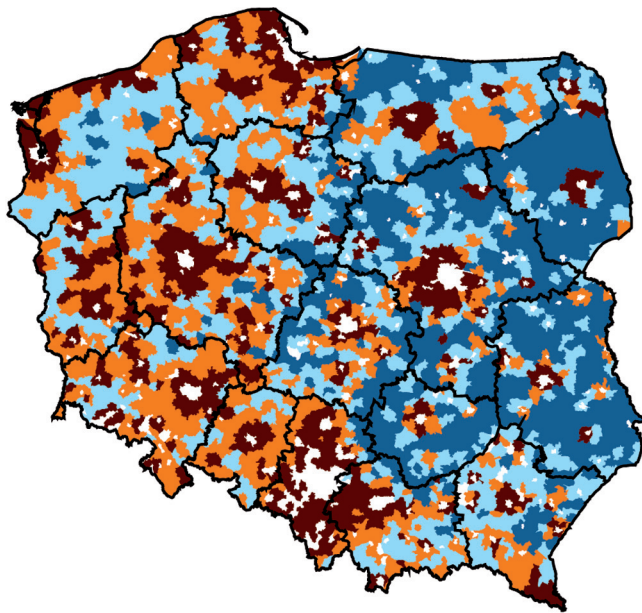


Fig. 9. Rural areas in Poland according to the principal components method

Explanation: ua – urban areas

Source: Developed by the authors based on data available at Central Statistical Office, Regional Data Bank

The overarching conclusion is that both urban and rural areas in Poland have undergone major socio-economic changes since the early 1990s. The investigation has demonstrated that rural areas, particularly those surrounding large cities, keep receiving more and more new residents, mostly the working-age adults who rejuvenate the areas' demographic structure and indirectly boost economic activity that brings larger numbers of new firms and contributes to the expansion of social and technical infrastructure. All these processes drive the growing competitiveness of the peri-urban gminas.

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