
Population changes and internal migrations in Mazowieckie voivodship

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SUMMARY

The study presents the dynamics of internal migration in the context of population changes in the region; positive and negative internal migration balances in the voivodship, strongly diversified inflow of residents to Warsaw. The data on migrations show how these result in significant social and economic problems and differences in the size and structure of the population by gender and age.

An analysis of migration flows between the capital city of Warsaw and other parts of the region indicates considerable changes in the migration patterns over two decades. In particular, the relations between Warsaw and other parts of the region have changed. The dominance of Warsaw in terms of in-migration is important. The suburban zone serves as an area that attracts migration from Warsaw and other parts of the region.

Key words: population change, suburbanisation, internal migration, Warsaw, Mazovia, Poland

1. Introduction

Migrations are important processes of population mobility from the point of view of spatial distribution. Changes in the distribution of population of large cities and urban agglomerations are closely related to the development of their spatial systems. Migrations are a basic element of these continuous changes while high spatial mobility characterises in particular the populations of strongly urbanized areas. From a demographic point of view, migrations are the main factor causing changes in the spatial distribution of a population and its structure, the factor affecting the division into populations living in cities and in rural areas and in administrative or economic regions. The importance of migrations' influence on the spatial distribution of a population results from the fact that migrations, despite being a common and mass phenomenon, are differentiated at the regional level [Champion 1992].

The above issues are the subject of this study which concerns mainly the spatial structure of internal migrations in the Mazovia region (Mazowieckie voivodship) and the factors and conditions of the development of population in the region. The article is based on official statistical data of the Central Statistical Office (CSO) and of the Statistical Office in Warsaw. The analysis concerns the 1995–2017 period, with particular focus on 2015 and 2002–2015.

2. Population changes in the Mazowieckie voivodship

A demographic analysis of population evolution in Warsaw and Mazowieckie voivodship is necessary due to the role of Warsaw as the Polish capital and core of the region, but also due to the specific demographic character of the city as compared to the region. The development of the population of Warsaw is closely related to demographic changes in the Mazovia region and thus it may not be analysed separately.

The demographic evolution of Warsaw and Mazovia after World War II was characterised by cyclical phases. Subsequent stages of development were dependent both on the demographic phenomena (i.e. oscillations caused by baby booms or demographic declines in specific periods and population movements between Warsaw, its region and the rest of the country in the form of high or low inflows of population) and on the administrative changes related to administrative reforms of Poland or expanding of the city borders (through the incorporation of subsequent towns and communes (gminas) into Warsaw at the expense of the region) [Dziewoński 1992; Korcelli 1995; Potrykowska 1993b, 2017b].

The dynamics of Warsaw's population growth are determined by two components: natural increase and net migration. It is necessary to consider the specificity of different phases of population change in Warsaw and the region as well as the contribution of both components to the volume of population growth. In the Mazovia region, migrations constituted a larger (sometimes many times larger) component of the volume of population change than natural increase for a long period after World War II. Only in the late 1950s and early 1980s (baby booms) was the rate of natural increase higher. Since 1989, when the natural increase rate was negative, this decrease was compensated by positive net migration.¹ Since 1992, a tendency of significant population growth has been observed in the urban and rural areas of the suburban zone of Warsaw and subregional urban centres with county (powiat) status in the region. The growth dynamics were higher in the cities than in the rural areas, especially in areas neighbouring with Warsaw (as attractive centres from the point of view of housing conditions) [Potrykowska 1997, 2002b]. In 1998, the highest annual population growth in the region was noted in communes (10.3%) and towns of the suburban zone of Warsaw (5.9%).

According to official statistics of the CSO in 2016 the Mazowieckie voivodship was inhabited by 5365.9 thous. persons (in 2015 – 5349.1 thous.), which accounted for 13.9% of the total population of Poland. In the cities of the region, the population amounted to 3449.5 thous. persons (3438.2 thous. in 2015), i.e. 14.8% of urban population of Poland, while in rural areas there lived 1916.4 thous. persons (1910.9 thous. in 2015) – 12.5% of the total rural population. The urbanization rate (64.3%) was significantly higher than the country average (60.2%), and much higher than official statistics – due to the development of suburbanization processes in a highly urbanized suburban zone of Warsaw.

¹ A systematic decrease in the population of Warsaw was observed since 1987. At the beginning of the period of socio-economic transformation (1990–1998) the total number of inhabitants of Warsaw decreased from 1655.7 thous. to 1618.5 thous., i.e. by 37.2 thous. (2.2 %), while the population of the voivodship decreased by 3.2 thous. persons, i.e. by 0.1% at the same time. In the same period the annual population growth of Warsaw decreased to -3.0%, while, in the case of the voivodship, the annual birth rate ranged from 1% to 0.1%. The decrease in the population of Warsaw was caused by a negative birth rate and decrease in the volume of migrations which were unable to compensate for the natural decrease in population. In the mid-1990s a rapid process of suburbanization developed in the area around Warsaw [Potrykowska 2002b, Korcelli-Olejniczak 2012; Degórska 2017]. This new demographic growth of the urban area can be interpreted through the 'stages of urban development' model [Van den Berg et al. 1982] and its phases (i.e. urbanization – suburbanization – disurbanization and reurbanization).

The Mazovia region is one of the four voivodships in Poland (along with Pomorskie, Małopolskie and Wielkopolskie) where a population increase was observed. In Mazovia it was relatively the highest and amounted to 2.7‰ in 2015 and 3.1‰ in 2016.²

Figure 1 presents the population growth of Poland by counties in 2015 and the average annual population growth rates in 2002–2015 (per 1000 population). For many years, the highest increase in population characterised all of the counties surrounding the largest Polish cities, including in particular Warsaw and regional centres. In general, an almost stable annual population growth was observed in the suburban areas of large cities (Warsaw and the largest sub-regional centres) which resulted in the intensification of the phenomenon of suburbanization and uncontrolled urban sprawl. An annual decrease in population was observed in the majority of counties located outside of these areas. In the vast majority of peripheral counties, especially those located in the voivodships of north-eastern, eastern, south-western, western and central Poland, a significant actual decrease in population was observed in 2015.

The presented pattern of spatial differences in increase and decrease in population in 2015 is confirmed by observations of differences occurring during the whole period of 2002–2015. In this period the pattern of voivodships with the highest decreases and increases in the number of inhabitants was almost identical to that of 2015. One of the reasons for the decrease in the population of Poland after Poland's accession to the European Union, was the emigration of Poles for permanent residence abroad (the number of people de-registered from permanent residence in Poland was 12.5 thousand in 2015). The scale of temporary emigration was considerably larger as – according to a recent estimate developed by Statistics Poland – 2515 thous. Poles were temporarily staying abroad at the end of 2016. Such a scale of emigration (mostly to EU countries: the United Kingdom, Germany, Ireland, the Netherlands, Norway) undermines the demographic potential of Poland. The negative side of this process is the scale of departures of young well-educated Poles and people with high professional qualifications which are often not used in the destination country. One of the consequences of the considerable emigration of Poles during recent years is the fact that an increasing number of children was born abroad with at least one parent being a Polish citizen (this is particularly visible in the United Kingdom). Young people of reproductive age move abroad, where they find suitable conditions for starting a family and giving birth.

² In 2015, a significant increase of annual population growth was noted only in four regions, all of which contained developing, multifunctional urban agglomerations (metropolitan areas): Mazowieckie voivodship – Warsaw, Pomorskie voivodship – Tricity (Gdańsk, Gdynia and Sopot), Małopolskie voivodship – Cracow and Wielkopolskie voivodship – Poznań. In 12 voivodships a decrease in population was noted (Fig. 1). The most significant decrease in the number of inhabitants was observed mainly in problematic regions, i.e.: the Opolskie, Świętokrzyskie, Łódzkie, Lubelskie, Śląskie, Warmińsko-Mazurskie, Zachodniopomorskie and Podlaskie voivodships. These are mainly 'agricultural' regions of Eastern and Northern Poland and 'old' industrial regions of Southern and Central Poland [Krzysztofik, Kantor-Pietraga, Runge 2017]. Differently than in the previous years, there was no change in the population of voivodships traditionally characterised by a 'younger population', namely in the northern, north-western and south-eastern parts of Poland [*Sytuacja demograficzna Polski 2015-2016*, Raport RRL, Warszawa 2017].

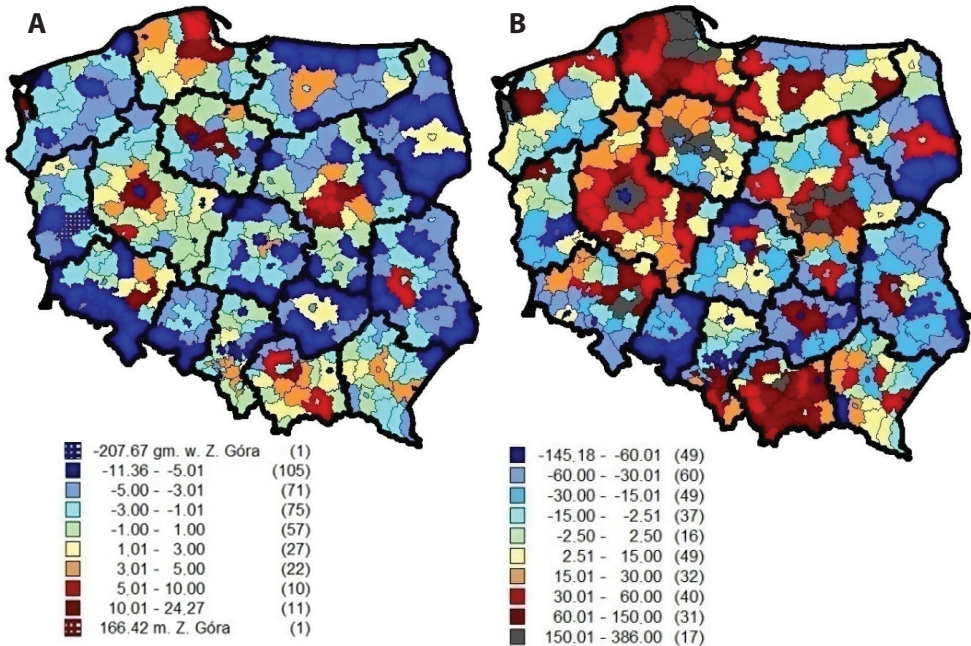


Fig. 1. Population increase/decrease in Polish counties in %

A. 2015, B. Annual average 2002–2015

Source: *Sytuacja demograficzna Polski w latach 2015–2016*, Raport RRL (*The demographic situation of Poland 2015–2016*, Report of the Government Population Council), Warszawa 2017

Such an aggregated ‘long-term’ approach even more clearly presents an increase in population in counties related to the largest Polish cities (capitals of voivodships, the largest sub-regional centres). A decrease in population was observed in the majority of counties located in the peripheral parts of those areas. A comparison of both situations may indicate a ‘strengthening of demographic potential through economic potential’: the areas most attractive in terms of settlement clearly draw population in.

The period of system transition activated movement processes of demographic potential resulting from the occurring economic transformations. In this period the observed stagnation, decrease or periodical slight actual increase in the national population were the result of a polarisation phenomenon, i.e. an increase in the population of some areas and a decrease in the number of inhabitants of others, taking into account the importance of internal migrations in those processes.

Figure 2 presents changes in the population of the Mazowieckie voivodship in 1995–2017, by components of annual population growth. An increase in the population of the region was affected by internal migrations having a positive balance for the last twenty years.

Another element – a negative birth rate –had a negative influence hampering population growth until 2006. Since 2007, a positive birth rate has contributed to an increase in the total population of the region. Net international migrations for permanent stay oscillating around zero had a minimal impact on the population change in Mazowieckie voivodship.

In 2007–2016 the total regional population increased both due to a positive birth rate (1.7‰ in 2016), and positive net internal migrations (1.1‰). However, in urban and rural areas, an increase in the number of inhabitants was mostly due to positive net internal migrations (2.4‰ and 2.5‰ respectively) and a low birth rate (1.3‰ and 0.1‰).

Warsaw, the capital city of the region and of Poland, had 1754 thous. inhabitants in 2016 (1744 thous. in 2015), which constitutes 5% of the population of Poland, 32.6% of Mazowieckie voivodship and 50.7% of the urban population in the region (78.9% of the population of cities with county status). However, according to estimations of the existing, not officially registered population – the volume of the population of Warsaw is ca. 250 thousand higher than official statistics indicate [Śleszyński 2017].

During the last ten years mutual relations of population growth in the capital city and the voivodship are strengthening, i.e. the degree of population concentration in Warsaw as compared to the Mazowieckie voivodship has increased. In turn, the annual population growth of Warsaw was higher than the voivodship's in 2016 and amounted to 5.5‰, due to positive net migrations (4.4‰) and birth rate (1.4‰). This results from the high inflow of the population of neighbouring counties to Warsaw, due mainly to job seeking. The highest population growth in 2016 occurred in counties belonging to the urban agglomeration of

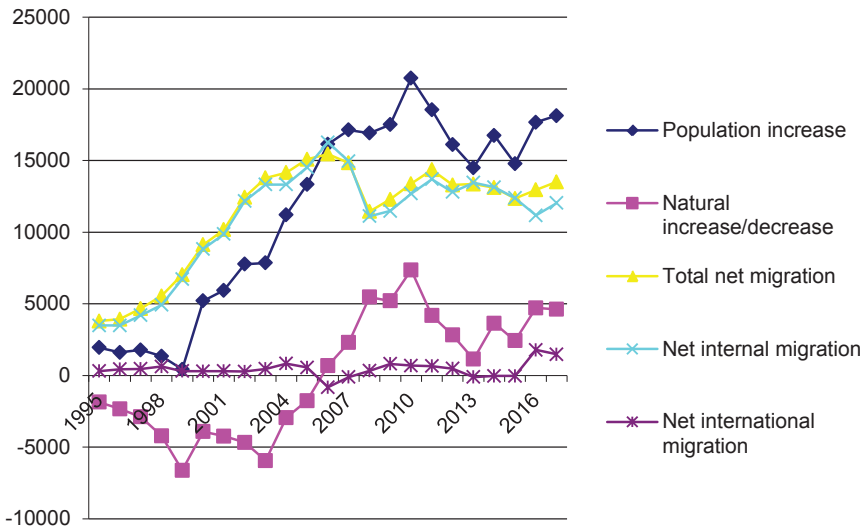


Fig. 2. Components of population change in the Mazowieckie voivodship, 1995–2017

Source: Demographic Yearbooks, 1996–2018, Central Statistical Office, Warszawa 2018

Warsaw, focusing around the capital, mostly on the left bank of the Vistula river: Piaseczno (14.1‰), Wołomin (14.6‰), Grodzisk (10.9‰), Legionowo (10.4‰), Warsaw West (9.9‰), Pruszków (5.4‰). In turn, the highest decrease was observed in counties situated on the periphery of the Mazovia region: Łosice (-7.3‰), Lipsko (-6.3‰), Sokołów (5.0‰), Przasnysz and Koźnice (-4.5‰) and Maków (-4.1‰). It is important to note the significant increase in population observed in the suburban areas of Warsaw and in other larger towns of the region (first of all, those with county status, e.g. in Ostrołęka county the increase amounted to 4.7‰, in Siedlce county to 2.2‰, along with a simultaneous decrease or slight increase in the units themselves (an increase of 1‰ was observed only in the city of Siedlce) and a decrease in the population of peripheral counties of the Mazowieckie voivodship, which for many years have been subject to depopulation.

The process of depopulation results in weakening the demographic potential of rural areas (gminas), and entails numerous accompanying processes related to the ageing of the society and depletion of human resources.

The demographic development of the region differs significantly in spatial terms, which demonstrates the deepening polarisation of the demographic situation in the Mazowieckie voivodship.³

The significant role of internal migrations in the demographic development of the Mazovia region points to their important function as movements of population on the regional scale.

3. Spatial structure of internal migrations in Mazowieckie voivodship

3.1. Inter-voivodship and intra-voivodship migration patterns

The impact of migrations on the spatial distribution of a population results, first of all, from migrations being a common and mass phenomenon, but differentiated at the regional level. An increase in the population of the Mazowieckie voivodship was mostly due to a positive balance of inter-voivodship migrations during the last several years.⁴

The intra-voivodship movements account for more than 70% of the total internal migrations – this indicates the importance of those migrations in the region. The leading role of intra-regional migration flows in Mazowieckie voivodship and in the country as a whole is played by Warsaw, as the central node in the settlement system.

³ In 2015, out of the 42 Mazovian counties – 17 were ‘demographically active’ (i.e. an increase in population was observed), of which 12 noted an increase in population due to both a positive birth rate and positive net migrations. In 25 counties, the changes were of a regressive nature; in 20 of them the birth rate and net migrations were negative, which clearly indicates depopulation of those areas. See: *Ludność, ruch naturalny i migracje w województwie mazowieckim w 2015 r.* (Population, natural increase and migrations in Mazowieckie voivodship in 2015), US, Warszawa 2016.

⁴ In this study the official CSO statistics were used, i.e. the internal migrations for permanent residence concern only the registrations for permanent residence (moving from other units of administrative division and from abroad) or deregistrations from permanent residence (resulting from moving to other units of administrative division and abroad).

The leading role of Warsaw and the Mazowieckie voivodship in the spatial pattern of migrations occurs both in case of migrations from rural to urban and from urban to rural areas. Also significant is the spatial pattern of migrations between cities.⁵

Figure 3 presents net-internal migration rates in Poland by county in 2015 and the annual average rates of net-internal migration for the 2002–2015 period. The map presents the attractiveness of the most important suburban areas of the largest Polish cities as destination centres for migration. In turn, almost all peripheral counties can be seen to be losing their population because of migration outflows. The Mazowieckie voivodship, especially Warsaw and its suburban zone with its neighbouring communes, is an area of population inflow.

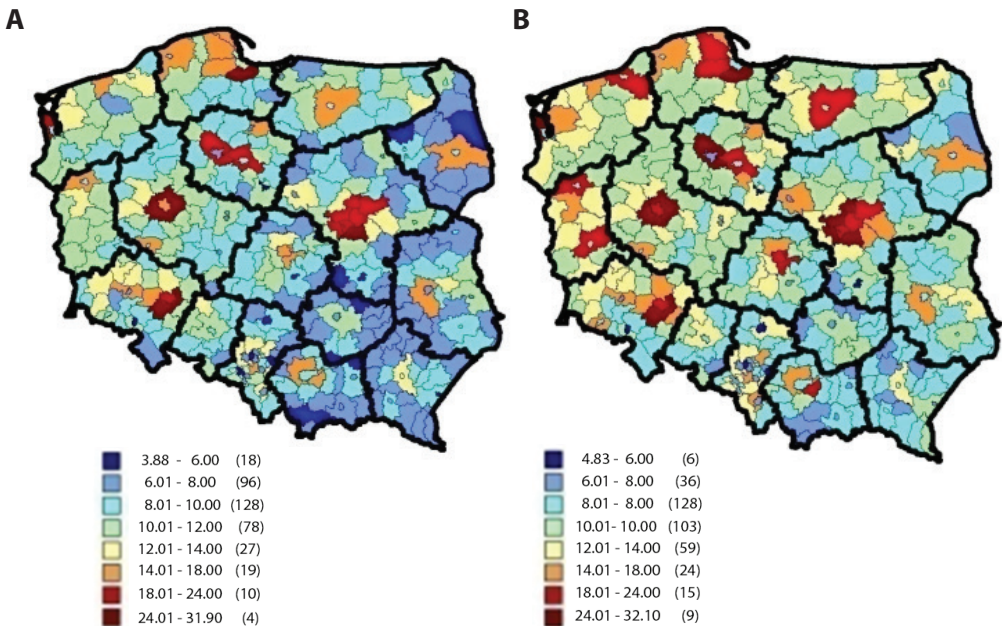


Fig. 3. Internal migrations in Poland. Net migration by county in %
A. 2015, B. Annual average 2002–2015

Source: *Sytuacja demograficzna Polski w latach 2015–2016*, Raport RRL (*The demographic situation of Poland 2015–2016*, Report of the Government Population Council), Warszawa 2017

⁵ The only positive exceptions are large areas of the following voivodships: Wielkopolskie, Małopolskie and smaller parts of Śląskie, Dolnośląskie, Łódzkie and Pomorskie. The highest negative net migration was observed in all the 'problematic' voivodships: Opolskie (-4.14 persons per 1000 inhabitants), Warmińsko-Mazurskie (-2.40), Lubelskie (-2.34), Śląskie (-2.15), Świętokrzyskie (-1.99) and Podlaskie (-1.76). A decrease in population caused by migrations was observed in the majority of counties located within the following voivodships: Opolskie, Lubuskie, Zachodniopomorskie, Warmińsko-Mazurskie, Podlaskie, Lubelskie and Podkarpackie [Potrykowska 2005].

3.2. Intra-regional migrations in Mazovia region

Internal migrations in the Mazowieckie voivodship significantly affect the condition and structure of the population. The majority of the internal migrations are intra-voivodship movements. In 2015 these migrations constituted 67.4% of the total inflows and 83.9% of the total outflows. Net migration in cities, which was negative for a long period of time, in 2015 amounted to 2840 persons.

For several years the annual inflow of population has exceeded the outflow, which resulted in a positive net migration.

Warsaw is still the main destination of the migration, however an increase was observed in the share of the suburban zone as the destination area of migrations from Warsaw. This indicates the formation of a more balanced pattern of population flows between Warsaw and other areas of the region [Potrykowska 1997, 2002b]. In 2015, the net internal migration rate amounted to 2.3, given that it was higher in cities (2.41) than in rural areas (2.2). Among the cities with county status, only in the capital city of Warsaw was the net internal migration positive (4.6 per 1000 population), while in other towns it ranged from -1.2 in Siedlce to -6.5 in Ostrołęka. In the remaining counties, the net migration intensity ranged from -5.2 in Maków county to +12.3 Piaseczno county (Fig. 4). The population of Warsaw decreased by 1120 persons due to the intra-voivodship migrations.⁶

Intra-regional and intra-city migrations in the Mazovia region are of a multilateral and complex character. The spatial pattern of migrations from rural to rural areas clearly indicates the local nature of those movements. Communes directly surrounding Warsaw on the left Vistula river bank showed high positive values of net migrations, which indicates an intensification of the suburbanisation process. Less numerous are communes with high positive values of net migration located on the right river bank of the suburban zone of Warsaw, which indicates spatial asymmetry (Fig. 4). The hypothesis of the spatial barrier constituted by the Vistula river in the Warsaw region is also confirmed by Figure 4.

The asymmetry in the migration system also indicates the existence of differences in the social and economic development of both parts of the region.

Migration outflows from Warsaw to the region are of lower intensity and shorter range, limited to the communes located in the suburban zone. The spatial barrier effect is visible in outflows from Warsaw to the zone, where migrations come from the same direction or are directed to the neighbouring communes. This indicates a deconcentration process of population from the centre to the suburban zone of the urban agglomeration [Potrykowska 1996, 1997, 2002b].

⁶ In 2015, migration inflow in the internal movement concerned 63121 persons, while outflow – 50736 persons. There were 39662 registrations for permanent residence noted urban areas, in rural areas – 23459. In the structure of outflows by directions the vast majority were migrations from cities to cities (50.6%) and from cities to rural areas (22.3%), less frequent were migrations from rural to urban areas – 16.2% and from rural to rural areas – 10.9%. [*Ludność, ruch naturalny i migracje w województwie mazowieckim w 2015 r. (Population, vital statistics and migrations in the Mazowieckie voivodship in 2015)*, US, Warszawa 2016)].

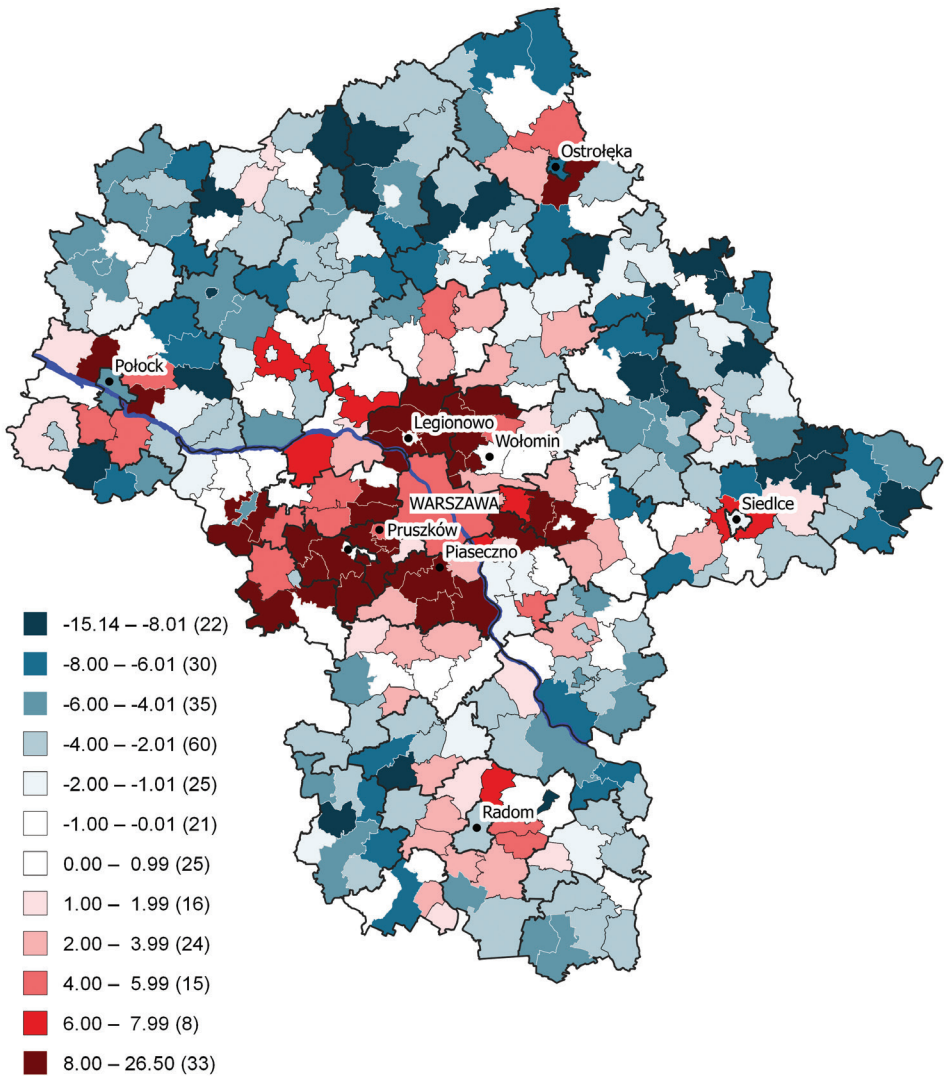


Fig. 4. Net migration in communes of the Mazowieckie voivodship in %
Source: *Ludność, ruch naturalny i migracje w województwie mazowieckim w 2015 r. (Population, vital statistics and migrations in the Mazowieckie voivodship in 2015)*, US, Warszawa 2016

The migration system of the Mazowieckie voivodship indicates the impact of distance on the volume and intensity of migrations in accordance with the gravity model: along with an increase in distance, the force of interactions weakens, while the area of influence decreases [Grasland, Potrykowska 2002; Potrykowska 2002b].

The majority of communes located outside the Warsaw agglomeration area showed negative net migrations, indicating a predominance of migration outflows from the peripheral areas, i.e. the rural areas and small cities. Some of those communes are located unfavourably in the strip directly bordering the agglomeration, in the so-called shadow of the agglomeration [Korcelli, Potrykowska 1994]. As a result of more intense outflows of population, especially from the areas located in the northern, eastern, and southern part of the region, a phenomenon of depopulation of those peripheral areas of the Mazowieckie voivodship can be observed, which indicates spatial differentiation and polarisation of demographic processes in Mazovia. To a large extent, spatial differentiation of the demographic situation corresponds to the differentiation of the social and economic development level.

4. Age and gender structure of internal migrations in Mazowieckie voivodship

Migration as a phenomenon of spatial movement of population has specific structural features and causes specific effects in two communities: in the new and previous place of residence of the population. These changes may facilitate the processes of integration or disintegration of the local communities, migration conditions, the migrants social adaptation process, etc. The dominant feature of the changes in levels of migrations in the Mazowieckie voivodship and Warsaw is the strengthening of the role of Warsaw as an area of inflow of population and an increase in outflows. This results, first of all, from the development of housing construction, as well as high costs of living in the capital city. Moreover, an increase

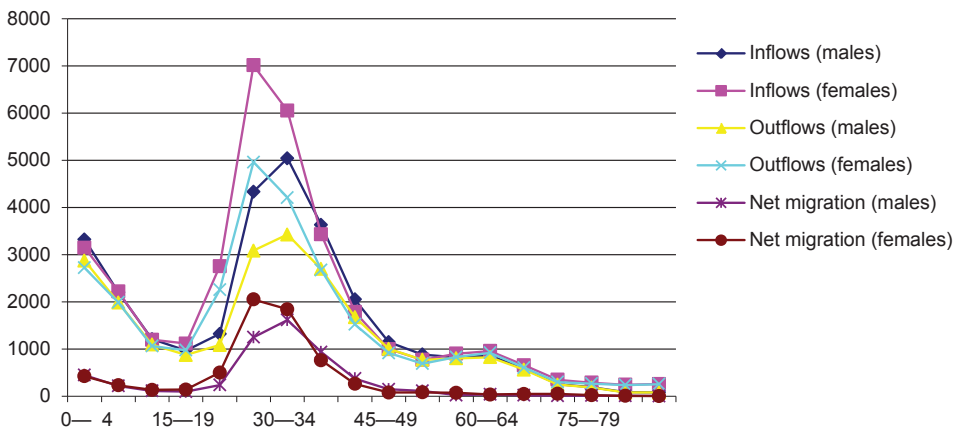


Fig. 5. Age migration schedules in the Mazowieckie voivodship, 2015
 Source: Demographic Yearbook 2016, Central Statistical Office, Warszawa 2017

in migration to Warsaw at the expense of other areas is to a certain extent the result of changes in the age structure of the population – a decrease of 20–29 years-olds in the total number of inhabitants. Persons at this age are more prone than others to undertake migrations related with starting or changing jobs, education and forming of a family, i.e. related to the family life cycles [Potrykowska1996; Strzelecki 1989; Warnes 1992; Salvati, Carlucci 2014].

The age structure of migrants in Mazowieckie voivodship and Warsaw (Figures 5–9) shows a clear peak in the range of 0–4 years (children migrating together with parents) and a much higher peak at the age of 20–29 years. The age migration schedules are typical, i.e. similar to the model distribution described by A. Rogers and L. Castro [1981].

The difference between the shape of the age profile of female and male migrants in Mazowieckie voivodship and Warsaw city are characteristic. The value of the volume of migrations of women at the age of entering the labour market are higher that the respective

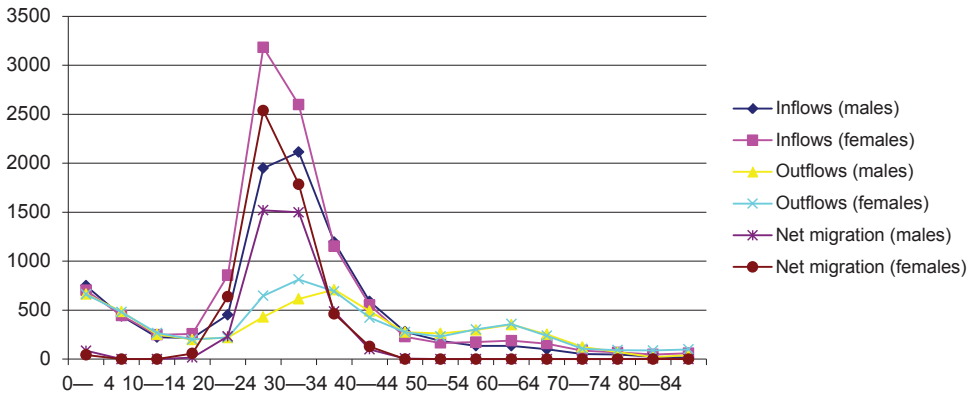


Fig. 6. Age migration schedules in Warsaw 2015
 Source: Demographic Yearbook 2016, Central Statistical Office, Warszawa 2017

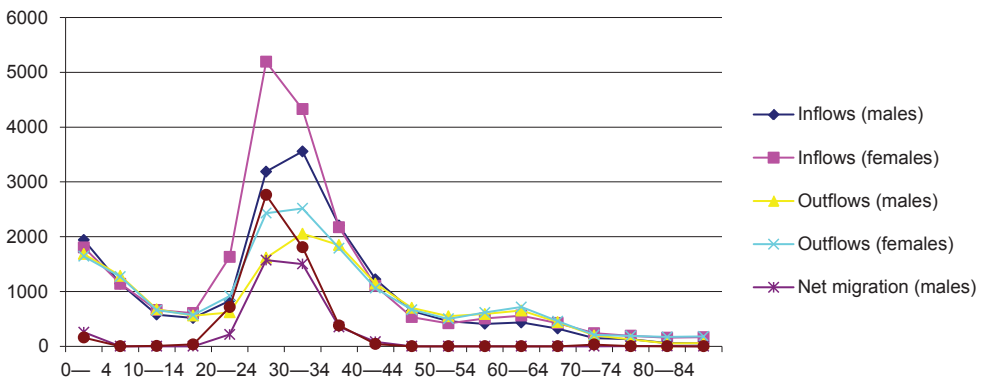


Fig. 7. Age migration schedules in urban areas of the Mazowieckie voivodship, 2015
 Source: Demographic Yearbook 2016, Central Statistical Office, Warszawa 2017

values for men. Moreover, culmination of the value falls to the age of 20–24 years or 25–29 years of age, while in the case of men at 25–29 years and 30–34 years of age. Only the shape of age migration schedules in the case of inflows to Warsaw and outflows from Warsaw is different due to a lower intensity of outflows, and as a result it has the flattened shape of a distribution curve. Analogically, the ‘flat’ profile also characterises the culminations at the ages of 0–4 years, 24–29 years and 30–40 years, which indicates a specific character of those migrations, namely outflow of families from Warsaw, which migrate to cities and communes in the outer zone of Warsaw, in order to settle in new houses.

The age schedules of migrants of both sexes are stable even when the intensity of migrations between inflows and outflows slightly changes. Despite the differences in the level of profiles, there are three analogical culminations, corresponding to the three age categories of migrants.

Figures 5–8 present distribution by model profile described by A. Rogers and L. Castro [1981]. What draws attention is the stability of the structure of migrants by age and sex which constitutes a premise for the analysis of the structures and spatial distributions of intra-regional migrations.

Larger differentiations of migration distribution by age groups may be observed between different categories of areas (Warsaw, other cities, rural communes). During the analyses of age migration schedules, the curves were supplemented with distributions of migrations dependent on the destination and source (inflows and outflows), as well as sex, therefore the curves reappear in different schedules.

Figure 8 presents the distribution of inflows to rural areas and outflows from them to Warsaw and other urban areas. Dominant are the outflows of young women at the age of 20–24 years. Inflow to the rural areas in the older age groups of 35–50 should be associated with the suburbanisation process and the increased mobility of those social groups.

The intensity of migrations is lower and has a flattened shape of the distribution curve. Analogically, the ‘flat’ profile characterises both culminations, at the age of 0–4 and at the 30–40 years, which indicates the specific character of these migrations, namely outflow from Warsaw of families which migrate with children to towns and communes in the outer zone of Warsaw in order to settle in new homes. The age profiles of migrants of both sexes are stable even when the intensity of migrations between inflows and outflows slightly changes [Kurek, Wójtowicz, Gałka 2017].

The changes resulting from the social and economic transformation in Poland are more dynamic in urban agglomerations. Warsaw, along with the Mazowieckie voivodship, is undoubtedly the leader of those changes. Changes in functional and spatial organisation and the transformation of the housing market are important factors in the process of social differentiation of population movements on the city, agglomeration and regional level.

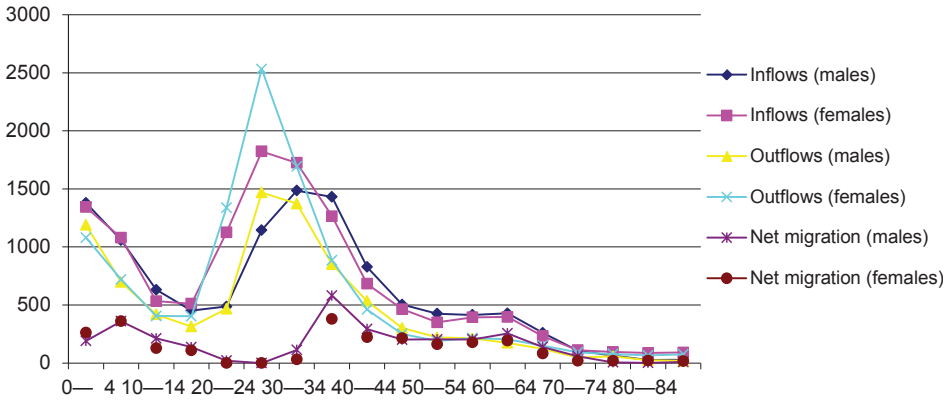


Fig. 8. Age migration schedules in rural areas of the Mazowieckie voivodship, 2015
Source: Demographic Yearbook 2016, Central Statistical Office, Warszawa 2017

5. Conclusions

Mazovia is a unique region from the point of view of its development potential, internal differences and a specific development model, marked by dualism – the rate and character of development of urbanised areas, in particular Warsaw and the Warsaw agglomeration, significantly differs from that of the rural and peripheral areas.

The Mazowieckie voivodship, despite having the largest demographic potential among Polish regions, echoes the unfavourable demographic changes visible in Poland as a whole. The positive low birth rate and net migration do not compensate the unfavourable changes in the structure of population by age. The population’s ageing process is intensifying, which is one of the most important demographic challenges for the voivodship. The occurring demographic processes result in the depopulation of the areas located in the peripheries of the region. Concentration of the population potential occurs mainly in Warsaw and the neighbouring counties. Strong differences between the centre and peripheries are also visible in the level of social and economic development.

Within the voivodship, it is possible to observe problematic demographic areas, characterized by depopulation (the northern, eastern and southern parts of the region) and by concentration of the population in the Warsaw agglomeration. Depopulation results in a weakening of the communes’ overall demographic potential and, subsequently, numerous processes accompanying the ageing of the population and depletion of human resources.

At present, internal migrations are oriented from the peripheral areas towards the capital city and its agglomeration, in general omitting the intermediate hierarchical stages in the form of smaller cities. A drainage of human resources is visible.

Gradual stratification and polarisation leads to a division of the region into areas with proper demographic structure and ones in which it is unfavourable. Further on, this results in deepening development barriers and social tensions.

To a large extent, spatial differentiation of the demographic situation corresponds to the differentiation of the social and economic development level. The social and economic disproportions which have determined the differentiation of the demographic situation in the voivodship are the territorial distribution of wealth (economic stratification) of the population and uneven access to education or health services, which are important for human resources development. The prevailing conviction is that the demographic changes in Mazovia (especially weakening of the level of births, and the internal migrations facilitating population concentration and depopulation of the peripheral areas) are the consequence of deep structural, social and economic transformations.

References

- Abramowska-Kmon A., 2017, *Proces starzenia się ludności województwa mazowieckiego (Population ageing process in the Mazowieckie Voivodship)* [in:] J. Hryniewicz, A. Potrykowska (eds.), *Sytuacja demograficzna Mazowsza jako wyzwanie dla polityki społecznej i gospodarczej (Demographic situation of the Mazovia Region as a challenge for social and economic policy)*, Rządowa Rada Ludnościowa, 7, Warszawa, pp. 85-117.
- Champion A.G., 1992, *Urban and Regional Demographic Trends in the Developed World*, *Urban Studies*, 29, 3–4, pp. 461-482.
- Champion T., Hugo G., 2004, *Moving Beyond the Urban-Rural Dichotomy* [in:] T. Champion, G. Hugo (eds.), *New Forms of Urbanization*, IUSSP, Routledge, London and New York.
- Degórska B., 2017, *Urbanizacja przestrzenna terenów wiejskich na Obszarze Metropolitalnym Warszawy. Kontekst ekologiczno-krajobrazowy (Spatial urbanization of rural areas of the Warsaw Metropolitan Area: Ecological and Landscape context)*, *Prace Geograficzne*, 262, IGiPZ PAN, Warszawa.
- Dziewoński K., 1992, *Changes in migrational patterns during the crisis and reform in Poland*, *Geographia Polonica*, 59, pp. 83-86.
- Grasland C., Potrykowska A., 2002, *Mésures de la proximité spatiale: les migrations résidentielles à Varsovie*, *Éspace Géographique*, 3.
- Kabish N., Haase D., Haase A., 2012, *Urban population development in Europe 1991–2008. The examples of Poland and the UK*, *International Journal of Urban and Regional Research*, 36, 6, pp. 1326-1348.
- Korcelli P., 1990, *Recent urban and population change in Poland*, *Geoforum*, 21, 2, pp. 173-180.

Korcelli P., 1995, *Urban restructuring in East-Central Europe: Selected questions*, *Geographia Polonica*, 66, pp. 7-12.

Korcelli-Olejniczak E., 2012, *Region metropolitalny – pojęcie, struktura przestrzenna, dynamika (Metropolitan region – concept, spatial structure, dynamics)*, *Prace Geograficzne*, 235, IGiPZ PAN, Warszawa.

Korcelli P., Potrykowska A., (eds.), 1994, *Zagadnienia rozwoju Warszawy (Problems of the development of Warsaw city)*, *Biuletyn*, 163, KPZK PAN, Warszawa.

Korcelli P., Potrykowska A., Węclawowicz G., 1994, *Warsaw: development problems and strategies* [in:] G.O. Braun (ed.), *Managing and marketing of urban development and urban life*, *Proceedings of the IGU-Commission on Urban Development and Urban Life*, Berlin, August 15th to 20th, 1994, Dietrich Reimer Verlag (Abhandlungen – Anthropogeographie / Institut für Geographische Wissenschaften Freie Universität Berlin, 52).

Kozłowska Z., 2017, *Sytuacja demograficzna województwa mazowieckiego – stan obecny i perspektywy (Demographic situation of the Mazowieckie Voivodship – the present state and perspectives)* [in:] J. Hryniewicz, A. Potrykowska (eds.), *Sytuacja demograficzna Mazowsza jako wyzwanie dla polityki społecznej i gospodarczej (Demographic situation of the Mazovia Region as a challenge for social and economic policy)*, *Rządowa Rada Ludnościowa*, 7, Warszawa, pp. 20-31.

Kurek S., Wójtowicz M., Gałka J., 2017, *Does suburbanisation contribute to the rejuvenation of a metropolitan area? Changes in the age structure of the Kraków Metropolitan Area in Poland in the light of recent suburbanisation*, *Geographia Polonica*, 90, 2, pp. 59-70.

Krzysztofik R., Kantor-Pietraga I., Runge A., 2017, *Is the suburbanisation stage always important in the transformation of large urban agglomerations? The case of the Katowice conurbation*, *Geographia Polonica*, 90, 2, pp. 71-85.

Ludność, ruch naturalny i migracje w województwie mazowieckim w 2015 r., 2016, US, Warszawa.

Murawska H., Cieciora I., 2017, *Ruch naturalny ludności w województwie mazowieckim w latach 2011–2015 (Vital statistics of population in the Mazowieckie Voivodship in 2011–2015)* [in:] J. Hryniewicz, A. Potrykowska (eds.), *Sytuacja demograficzna Mazowsza jako wyzwanie dla polityki społecznej i gospodarczej (Demographic situation of the Mazovia Region as a challenge for social and economic policy)*, *Rządowa Rada Ludnościowa*, 7, Warszawa. pp. 66-84.

Potrykowska A., 1993a, *Housing development and population structure in the urban region of Warsaw*, *Sistemi Urbani*, 1, pp. 65-85.

Potrykowska A., 1993b, *Intra-urban migration in the Warsaw urban region* [in:] A. Potrykowska, P. Korcelli (eds.), *The urban population at a microscale*, *Geographia Polonica*, 61, p. 281-292.

Potrykowska A., 1994, *Ludność Warszawy (Population of Warsaw city)* [in:] P. Korcelli, A. Potrykowska (eds.), *Zagadnienia rozwoju Warszawy (Issues of development of Warsaw)*, Biuletyn, 163, KPZK PAN, Warszawa, pp. 57-76.

Potrykowska A. 1996, *A study of intra-urban migration: the case of Warsaw* [in:] J.P. Bocquet-Appel, D. Courgeau, P. Dumain (eds.), *Spatial Analysis of Biodemographic Data*, INED, Congresses & Colloquia, 16, Paris.

Potrykowska A. 1997, *Analiza migracji jako przesłanka prognozowania ludności Warszawy i województwa warszawskiego (Analysis of migrations as a feature of the population projection of Warsaw city and Warsaw voivodship)*, *Demografia*, 1, Zarząd Rozwoju m. Warszawy.

Potrykowska A. 2000, *Struktura przestrzenna migracji w regionie miejskim Warszawy (Spatial structure of migrations in the urban region of Warsaw)*, *Przegląd Geograficzny*, 72, 4, pp. 467-478.

Potrykowska A., 2002a, *Housing and spatial mobility in the urban region of Warsaw* [in:] R. Domański (ed.), *Cities and regions in an enlarging European Union*, *Studia Regionalia*, 10, Committee for Space Economy and Regional Planning, Polish Academy of Sciences, Warszawa.

Potrykowska A., 2002b, *Zróżnicowanie przestrzenne migracji wewnętrznych w regionie miejskim Warszawy (Spatial differentiation of the intra-regional migrations in the urban region of Warsaw)* [in:] G. Węclawowicz (ed.), *Warszawa jako przedmiot badań w geografii społeczno-ekonomicznej (Warsaw as a subject of studies in socio-economic geography)*, *Prace Geograficzne*, 184, IGiPZ PAN, Warszawa, pp. 103-114.

Potrykowska A., 2005, *Migracje wewnętrzne w Polsce (Internal migrations in Poland)* [in:] *Sytuacja demograficzna Polski*, Raport RRL 2004, Warszawa.

Potrykowska A., 2017a, *Sytuacja demograficzna województwa mazowieckiego (Demographic situation of the Mazowieckie voivodship)*, *Mazowsze. Studia Regionalne*, 20, MBPR, Warszawa, pp.129-131.

Potrykowska A., 2017b, *Migracje wewnętrzne w województwie mazowieckim (Internal migrations in Mazowieckie Voivodship)* [in:] J. Hrynkiewicz, A. Potrykowska (eds.), *Sytuacja demograficzna Mazowsza jako wyzwanie dla polityki społecznej i gospodarczej (Demographic situation of the Mazovia Region as a challenge for social and economic policy)*, *Rządowa Rada Ludnościowa*, 7, Warszawa, pp. 121-143.

Potrykowska A., Śleszyński P., 1999, *Migracje wewnętrzne w Warszawie i województwie warszawskim (Internal migrations in Warsaw city and Warsaw voivodship)*, *Atlas Warszawy*, 7, IGiPZ PAN, Warszawa.

Rocznik statystyczny województwa mazowieckiego 2016, 2017, US, Warszawa.

- Rogers A., Castro L., 1981, *Model Migration schedules*, Working Papers, IIASA, Laxenburg, Austria.
- Salvati L., Carlucci M., 2014, *In-Between Stability and Subtle Changes: Urban Growth, Population Structure, and the City Life Cycle in Rome*, Population, Space and Place.
- Słodczyk J. (ed.), 2011, *Procesy suburbanizacji w wybranych miastach Polski*, Studia Miejskie, 3.
- Strategia rozwoju województwa mazowieckiego do 2030 roku. Innowacyjne Mazowsze, (Strategy of the development of the Mazowieckie voivodship until 2030. Project study: Innovative Mazovia)*, 2013, Warszawa.
- Strzelecki Z., 1989, *Cykl życia rodziny a migracje, (Family Life Cycle and migrations)*, Instytut Statystyki i Demografii SGPiS, 296, Warszawa.
- Sytuacja demograficzna Polski w latach 2015–2016*, 2016, Raport RRL (*The demographic situation of Poland 2015–2016*), Report of the Government Population Council, Warszawa.
- Śleszyński P., 2012, *Warszawa i Obszar Metropolitalny Warszawy a rozwój Mazowsza (Warsaw and Metropolitan Area of Warsaw and the development of the Mazovia Region)*, Trendy Rozwojowe Mazowsza, (Development Trends of the Mazovia Region), 8, MBPR, Warszawa.
- Śleszyński P., 2014, *Przemiany społeczno-demograficzne województwa mazowieckiego w latach 1990–2030 (Socio-demographic changes in the Mazowieckie Voivodship, 1990–2030)*, Trendy Rozwojowe Mazowsza, (Development Trends of the Mazovia Region), 15, MBPR, Warszawa.
- Śleszyński P., 2017, *Sytuacja demograficzna województwa mazowieckiego i jej uwarunkowania dla polityki rozwoju (Specificity of the demographic situation of the Mazowieckie voivodship and conditions for the development policy)* [in:] J. Hrynkiewicz, A. Potrykowska (eds.), *Sytuacja demograficzna Mazowsza jako wyzwanie dla polityki społecznej i gospodarczej (Demographic situation of the Mazovia Region as a challenge for social and economic policy)*, Rządowa Rada Ludnościowa, 7, Warszawa, pp. 32-65.
- Van den Berg L., Drewett R., Klaasen L.H. Rossi A., Vuverberg C.H.T., 1982, *Urban Europe: A study of growth and decline*, Pergamon Press. Oxford.
- Warnes A.M., 1992, *Migration and the life course* [in:] A.G. Champion, A.J. Fielding (eds.) *Migration Processes and Patterns*, Research Progress and Prospects, 1, pp. 175-187.

Dynamika ludności i migracje wewnętrzne w województwie mazowieckim

STRESZCZENIE

Województwo mazowieckie to region wyjątkowy z punktu widzenia jego potencjału rozwojowego, zróżnicowań wewnętrznych i wynikającej z nich specyficznej ścieżki rozwoju, która jest naznaczona dualizmem – tempo i charakter rozwoju obszarów zurbanizowanych, a szczególnie Warszawy i aglomeracji warszawskiej, to jedna rzeczywistość regionu, zaś druga odnosi się do obszarów wiejskich i peryferyjnych.

Województwo mazowieckie pomimo największego wśród pozostałych województw potencjału demograficznego przejawia niekorzystne zmiany obserwowane w kraju, zarówno wskutek braku prostej zastępowalności pokoleniowej, jak i drenażu spowodowanego emigracją. Dodatni niski przyrost naturalny i saldo migracji nie rekompensują niekorzystnych zmian w strukturze ludności według wieku. Nasila się proces starzenia się populacji, który jest jednym z najważniejszych wyzwań demograficznych województwa. Rezultatem zachodzących procesów demograficznych jest depopulacja obszarów położonych peryferyjnie w stosunku do centrum regionu. Koncentracja potencjału ludnościowego występuje głównie w Warszawie i otaczających ją powiatach. Silne zróżnicowanie między centrum a peryferiami jest widoczne również w przypadku analizy poziomu rozwoju społecznego i gospodarczego.

W obrębie województwa można wyróżnić demograficzne obszary problemowe, związane z depopulacją (północne, wschodnie i południowe części regionu) oraz z koncentracją ludności w aglomeracji warszawskiej.

Depopulacja powoduje osłabianie ogólnego potencjału demograficznego gmin, a w dalszej kolejności liczne procesy towarzyszące i współzależne, związane zwłaszcza ze starzeniem się społeczeństwa i zubażaniem ich kapitału ludzkiego. Migracje wewnętrzne są obecnie skierowane wybitnie dośrodkowo, z terenów peryferyjnych w kierunku aglomeracji stołecznej, w zasadzie z pominięciem pośrednich poziomów hierarchicznych w postaci mniejszych miast. Następuje wewnętrzny drenaż zasobów ludzkich. Stopniowe rozwarstwianie się i polaryzacja przestrzenna prowadzi do podziału regionu na obszary o prawidłowej i niekorzystnej strukturze demograficznej, a dalej do pogłębiania się barier rozwojowych i napięć społecznych. W dużym stopniu przestrzenne zróżnicowanie sytuacji demograficznej pokrywa się ze zróżnicowaniem poziomu rozwoju społecznego i gospodarczego. Czy jednak terytorialne rozwarstwienie zamożności (ekonomicznej) ludności, nierównomierny dostęp do edukacji czy usług zdrowotnych, które są ważne dla rozwoju kapitału ludzkiego – to następstwo określonej sytuacji demograficznej czy odwrotnie – te nierówności społeczne i gospodarcze zadecydowały o zróżnicowaniu sytuacji demograficznej województwa. Przeważa przekonanie, że przemiany demograficzne na Mazowszu (zwłaszcza osłabienie poziomu urodzeń, a także prawidłowości wewnętrznych migracji ludności sprzyjających koncentracji i depopulacji obszarów peryferyjnych) są konsekwencją głębokich przekształceń strukturalnych, społecznych i gospodarczych. Ta zależność zwiększa jeszcze charakter wyzwań, przed którymi stoi polityka społeczna i gospodarcza regionu.

Słowa kluczowe: zmiany zaludnienia, suburbanizacja, migracje wewnętrzne, Warszawa, województwo mazowieckie, Polska

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