

Iwona Ładysz

Dolnośląska Szkoła Wyższa

iwona.ladysz@dsw.edu.pl

<https://orcid.org/0000-0003-0893-7335>

Demographic Safety in Dolnośląskie Voivodeship in the Years 2010-2018

Summary: Demographic phenomena have a major impact on the socio-economic development of Dolnośląskie Voivodeship. The number and structure of the population and the level of the actual increase are of special importance. The objective of this article was to show population changes affecting the level of demographic safety in a given unit against the changes taking place in Poland in the years 2010–2018. The demographic typology by Webb and Osanna triangle was used to capture the similarities and differences in the spatial structure. The methods used allowed to determine the demographic type of Dolnośląskie Voivodship and the reasons for the deepening demographic problems of the region, which will have a negative impact on the labor supply and opportunities for further development of the voivodship.

Keywords: demographic safety, development units (active), regression units (inactive), young, stable, ageing demographically/in demographic terms, natural increase, actual increase, migration, population structure

Bezpieczeństwo demograficzne w województwie dolnośląskim w latach 2010–2018

Streszczenie: Zjawiska demograficzne mają silny wpływ na rozwój społeczno-gospodarczy województwa dolnośląskiego. Szczególne znaczenie mają liczba i struktura ludności oraz poziom przyrostu rzeczywistego. Celem artykułu było przedstawienie zmian liczby ludności wpływających na poziom bezpieczeństwa demograficznego badanej jednostki na tle zmian zachodzących w kraju w latach 2010–2018. W celu uchwycenia podobieństw i różnic w strukturach przestrzennych posłużono się typologią demograficzną Webba oraz zastosowano trójkąta Osanna. Zastosowane metody pozwoliły na określenie typu demograficznego województwa dolnośląskiego oraz przyczyn pogłębienia się problemów demograficznych tego regionu, co będzie wpływało negatywnie na podaż pracy i możliwości dalszego rozwoju województwa.

Słowa kluczowe: bezpieczeństwo demograficzne, jednostki rozwojowe (aktywne), jednostki regresyjne (nieaktywne), młode, stabilne, starzejące się demograficzne, przyrost naturalny, przyrost rzeczywisty, migracja, struktura ludności

Introduction

The demographic potential is an important condition for the rate and direction of regional development which determines the competitiveness in the region and creates the basis for an effective policy aiming to support the processes of socio-economic growth (Strzelecki, Legutko-Kobus, 2013, p. 39).

Dolnośląskie voivodeship, located in the south-western part of Poland, takes seventh place in Poland in terms of its area (19.9 thousand km², or 6.4% of the territory of Poland) and fifth place in terms of the number of its inhabitants (2901,2 thousand people, which accounted for 7.6% of the total number of the nation's population).

The near-border location of the region and the level and dynamics of the socio-economic and spatial development affect the demographic potential of the voivodeship. There are disparities in the status and structure of the population in the region, which are further determined by the varied rate of population changes and current trends in fertility and mortality.

In 2018, as in previous years, a further decline in population was recorded. When compared to the end of 2017, the population of Poland decreased by 22.4 thousand people, i.e., 0.06% and that of dolnośląskie voivodeship dropped by 1.3 thousand people, i.e., 0.05%, respectively and when compared to 2010, the population of Poland declined: by 118,7 thousand, i.e., 0,31 % and that of the voivodeship by 16.0 thousand people, i.e., 0.55%, respectively. In dolnośląskie voivodeship, the population increased primarily in those areas where it is easier to find employment locally or in the immediate large or relatively large town.

In the years 2010-2018, the biggest population increase occurred in dolnośląskie voivodeship within the city's range of impact, i.e., in Siechnice (an increase by 35.4%, 5.7 thousand people), Długołęka (increase by 34.0% 8,2 thousand), Czernica (increase by 33.1%, 3.9 thousand) and Kobierzyce (increase by 25.7%, 4.3 thousand). The population decreased mainly in the southern part of dolnośląskie voivodeship, i.e., in Karpacz (decrease by 8.2%, 0.4 thousand), Duszniki Zdrój (decrease by 8.1 thousand, 0.4%), Kamienna Góra (decrease by 7.9%, 1.6 thousand people), Bogatynia (decrease by 7.4%, 1.9 thousand) and Świeradów-Zdrój - (decrease by 7.4%, 0.3 thousand). In Jelenia Góra, the population diminished by 4.5 thousand people (5.4%).

Based on the long-term population forecast, in 2040, all the voivodeships will be affected by the population decline in comparison to 2018. The smallest population decline will occur in mazowieckie voivodeship (in 2040 by 0.5% and 2050 by 1.6%), pomorskie (in 2040 by 1.1% and 2050 by 2.9%), małopolskie (in 2040 by 1.4% and 2050 by 3.6%). The highest population decline is projected in świętokrzyskie voivodeship (in 2040 by 13.7% and 2050 by 21.3%) and opolskie voivodeship (in 2040 by 16.3% and 2050 by 24.5%) (*Prognoza ludności na lata 2014–2050*, 2014).

The forecast for dolnośląskie voivodeship until 2040 implies its further population growth for wrocławski district (by 30.7%, 44.8 thousand people), trzebnicki district (by 5.9%, 5.0 thousand people), średzki district (3.6%, 2.0 thousand people) and oławski

district (by 0.6%, 0.5 thousand people). In the following 20 years, the most depopulated towns will be Walbrzych (22.8% 25.7 thousand people), Jelenia Góra (22.5%, 17.9 thousand people), and as regards the quantitative change - wrocławski district (49.3 thousand people, i.e., 7.7%).

The Demographic Typology by Webb

The differentiation of socio-economic determinants is the main factor of demographic changes, especially as regards the population dynamics in countries and regions. In dolnośląskie voivodeship, the volatility of these dynamics is visible. In order to capture the similarities and differences in the spatial structure both in terms of its static and dynamic nature in the population movement, Webb's typology was used. The typology defines the relationship between the natural and migration movements. It seems to be one of the most common methods of measuring the relationship between the natural increase (decline) and positive (negative) migration balance, which - in turn - determine the specific type of the actual increase (see more in Kurek et al., 2013, p. 59-77; Majdzińska, 2018, p. 23-54).

The biggest and positive natural increase of the population occurred in the voivodeships: małopolskie (plus 5397), pomorskie (plus 4103), wielkopolskie (plus 3657), podkarpackie (plus 1897), mazowieckie (plus 1760). In other voivodeships, the natural increase was negative. The largest decline occurred in the following voivodeships: śląskie (minus 9563), łódzkie (minus 8572), dolnośląskie (minus 5201). The biggest positive natural increase in population per 1000 people occurred in the voivodeships: pomorskie (plus 1.8), małopolskie (plus 1.6), wielkopolskie (plus 1.0), podkarpackie (plus 0.9), mazowieckie (plus 0.3). In other voivodeships, there was a natural population decline per 1000 population, including the largest drop in łódzkie (minus 3.5), świętokrzyskie (minus 3.1), opolskie and śląskie (minus 2.1) voivodeships.

These changes result from the shifts in family patterns and fertility patterns. In dolnośląskie voivodeship, the number of women in their reproductive age (15-49 years), i.e., potential mothers, at the end of 2018 was: 679.5 thousand women, i.e., by 3.6 thousand women fewer than in 2017 (i.e., by 0.5% less) and by 35.5 thousand fewer than in 2010 (i.e., by 5.3% less). Apart from the recorded decrease in the number of women at the age of 15-49 years, changes in the structure of this community took place. Among 100 women in the reproductive age, there were 50 women aged 25 years, while in 2010 - 54 women, respectively.

In 2018, female inhabitants of dolnośląskie voivodeship most frequently became mothers at the age of 30-34 - 9.4 thousand women, i.e., 33.8% of all mothers and at the age of 25-29 - 8.6 thousand women, i.e., 30.9% (in relation to an average of 33.2% and 32.8% in Poland).

Mothers from older age groups (35 and more) gave birth to 5.4 thousand live newborns (19.3% of total live births) and below the age of 25 years - 4.4 thousand babies (15.9%). Similarly, at the national level, the number of births given to live children whose mothers

were more than 34 years old increased (to 18.4% from 12.0% in 2010), and decreased in mothers aged below 25 years (to 15.7% from 23.3% in 2010).

Fertility is an important factor affecting the population, i.e. the natural increase in the investigated population of women who are in the reproductive age. The basic measure of fertility in women is the total fertility rate. In 2018, the total fertility rate was 41.0; thus dolnośląskie voivodeship ranked 8th in Poland. The highest level of this rate occurred in pomorskie (47.7) and mazowieckie (47.2) voivodeships, the lowest one, however, was reported in opolskie (37.1) and świętokrzyskie (37.1) voivodeships, in Poland – 43.0.

Similarly to the fertility at the national level, in dolnośląskie voivodeship in the years 2000–2010, the fertility in women increased, in 2000 on average among 1000 women aged 15–49 years – 32 women were mothers, whereas in 2010 – 42 women were mothers. In the years 2010–2015, a large decline in fertility of women was observed – in 2015 on average there were 38 live births per 1000 women in their reproductive age (i.e., by four fewer than in 2010). In 2016, a small increase in women's fertility was noticeable – to the level of 40 live births and in 2018 – a further slight increase – to the level of 42 live births (despite the reduction in the number of women in their reproductive age).

The natural increase in the population of women in their reproductive age varied in different age categories. As in previous years, the age of the highest fertility in women remained without any changes – in the group aged 25–29 years, which in 2018 was at the level of 91 live births per 1000 women at this age (in 2010 – 85 births). Then, the older the age group, the fertility of women decreased, and still higher fertility was noted in the group of 30–34 year-olds (78 births) than in the group aged 20–24 years (49 births, i.e., by 29 births fewer).

The highest fertility of women in the group aged 25–29 years was recorded in all voivodeships. In 2018, among the voivodeships with the lowest fertility of women in this age group, one could find wielkopolskie voivodeship (110 live births, i.e., by 19 more than in dolnośląskie voivodeship), pomorskie (108 births, i.e. by 17 more), mazowieckie (105, by 14 more) and małopolskie (104, by 13 more).

Table 1. Dolnośląskie voivodship on the background of the country – population, increase (decrease) of population, natural increase, total net migration for permanent residence

Years	Increase (decrease) of population		Natural increase		Total net migration internal		Total net migration international	
	Poland	Dolnośląskie	Poland	Dolnośląskie	Poland	Dolnośląskie	Poland	Dolnośląskie
2010	32708	1213	34822	-172	x	1579	-2114	-194
2011	8581	-665	12915	-1736	x	1559	-4334	-488
2012	-5148	-2215	1469	-3207	x	1735	-6617	-795
2013	-37640	-4365	-17736	-4693	x	2391	-19904	-2364
2014	-17057	-1540	-1307	-2736	x	2426	-15750	-1870
2015	-41363	-4250	-25613	-5282	x	2652	.	.
2016	-4247	-497	-5752	-3114	x	2659	1505	150
2017	566	-1163	-870	-3637	x	2595	1436	188
2018	-22410	-1322	-26022	-5201	x	3200	3612	512

Source: own elaboration based on the information from *Local Data Bank GUS*.

In dolnośląskie voivodship, the annual actual increase – based on two negative values of the actual increase and positive, permanent migration balance and positive balance in temporary migrations – was minus 1.3 thousand people (Poland minus 22.4 thousand people). Taking into account the place of residence, in the countryside in dolnośląskie voivodship, a positive actual increase, namely plus 4.5 thousand people (in Poland – plus 35.4 thousand) and in towns a negative increase – 5.8 thousand people (in Poland – minus 57.8 thousand people) was reported.

The highest positive actual increase rate occurred in the following voivodeships: pomorskie (plus 3.97‰), mazowieckie (plus 3.48‰), małopolskie (plus 2.70‰) and wielkopolskie (plus 1.36‰). Dolnośląskie voivodeship was ranked 6th in Poland (minus 0.46‰, which is above the average for Poland – namely minus 0.58‰). In other voivodeships, negative actual increase rate occurred, including the lowest value in voivodeships: świętokrzyskie (minus 4.98‰), lubelskie (minus 4.11‰), and łódzkie (minus one 4.05‰).

Based on the typology by J.W. Webb, spatial units can be grouped in terms of the actual population movement. In this manner, the following demographic types appear to be recognised (cf. Webb, 1964, p.134–138).

1) **(active) development units** – positive actual increase (increase in population):

- A type – positive natural increase exceeds negative migration balance,
- B type – positive natural increase is higher than positive migration balance,
- C type – positive natural increase rate is lower than positive migration balance,
- D type – positive migration balance with surplus compensates for the negative natural increase,

2) **(inactive) regressive units** – negative actual increase (decline in population):

- E type – negative natural increase is not compensated for by positive migration balance,
- F Type – negative natural increase with negative but not lower (in absolute value) migration balance, which means that the decline in population was due – to a greater extent – to the negative natural increase than the negative migration balance,
- G Type – negative natural increase with negative but not greater (in absolute value) migration balance, which means that the decline in population was due – to a greater extent – to the negative migration balance than the negative natural increase,
- H Type – negative migration balance is not compensated for by the positive natural increase.

In this paper, the basis of demographic typology for spatial units was the observation of the relationship between the natural increase and the migration balance that enabled the assessment of a type of increase or an actual decline in population in a given voivodeship, district, and municipality.

In 2018, dolnośląskie voivodeship was in the group of demographically inactive voivodeships – a regressive E type. Apart from this unit, no other voivodeship represented this type. The recorded negative natural increase was not compensated for by the positive migration balance. Poland, like in 2016, was considered inactive in terms of demographics – E type (in 2017 demographically active – D type).

Map 1. Demographic typology of voivodships according to Webb in 2018

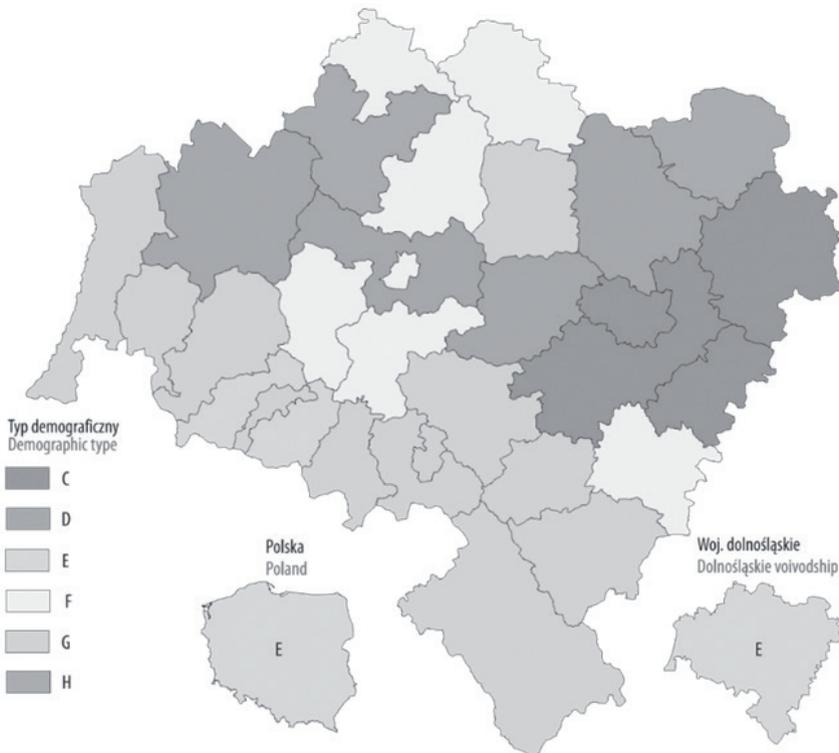


Source: Ładysz, I. (2019). *The demographic situation of dolnośląskie voivodeship in 2018*. Wrocław: Central Statistical Office in Wrocław, p. 31.

In 2018, out of 30 districts of dolnośląskie voivodeship 27.7% were put in the category of demographically active ones, i.e., populating (C type – 4 districts: wrocławski, Wrocław, oleśnicki, oławski, D type – 4 districts: średzki, trzebnicki, legnicki). In 19 districts, both the negative natural increase and negative migration balance were observed; however, the most numerous group of districts were the units falling under the G group category, i.e., the ones where the population decline was caused to a greater extent by the negative migration balance than the negative natural increase – 12 units (in 2017 – 4 districts). While F Type was observed in 7 districts – i.e., where the population decline was caused to a higher degree by the negative natural increase than by the negative migration balance.

In comparison with 2017, demographic changes occurred in 21 districts. Among them, one district – following the change of its demographic type - became the district that has growth potential in demographic terms – i.e., bolesławiecki district. While districts: oleśnicki, średzki and trzebnicki, after the change, still remain demographically active – populating districts. The majority of the districts with the increased population is located near Wrocław. Persons leaving this city increased the population of their inhabitants. (Gołata, Kuroпка, 2016).

Map 2. Demographic typology of districts according to Webb in 2018



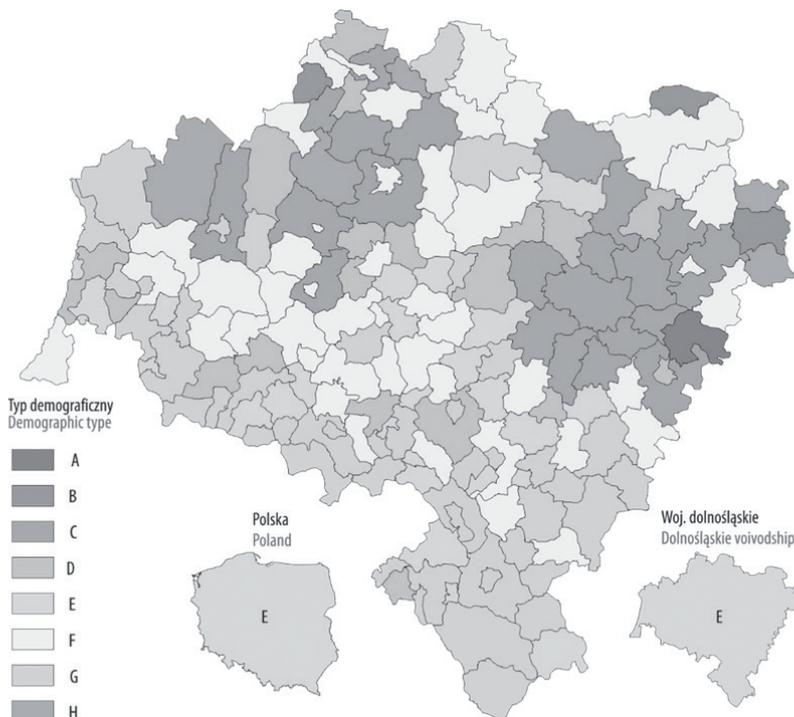
Source: Ładysz, I. (2019). *The demographic situation of dolnośląskie voivodeship in 2018*. Wrocław: Central Statistical Office in Wrocław, p. 32.

Yet, such districts as dzierzoniowski, głogowski, górowski, kamiennogórski, kłodzki, lubański, lubiński, lwówecki, świdnicki, wałbrzyski, wołowski, ząbkowicki, zgorzelecki, złotoryjski, Jelenia Góra, Legnica, Wałbrzych still remain among the demographically inactive ones – depopulating districts. None of the districts changed the status from the active one in demographic terms to a passive in demographic terms.

In 2018, out of 169 municipalities (including towns with county rights) in dolnośląskie voivodeship, 44 municipalities were considered demographically active, i.e., populating ones. Positive natural increase that exceeded the negative migration balance (A type) was reported in Jelcz-Laskowice municipality located near the capital city in the voivodeship. The simultaneous positive natural increase and the positive migration balance (B and C type) were found in 24 municipalities in the vicinity of Wrocław and Lubin. This is the effect of the suburbanisation process - that involves leaving the cities and settling down in the suburban municipalities - so intense in recent years (Zathey, 2004).

The positive migration balance with surplus compensating for the negative natural increase (D type) was found in total in 19 municipalities. 3 urban-rural municipalities were among them: Brzeg Dolny, Środa Śląska and Oborniki Śląskie, followed by 1 urban municipality (Oława) and 15 rural municipalities (Jordanów Śląski, Kotla, Kunice, Zawonia, Krotoszyce, Stare Bogaczowice, Jerzmanowa, Zgorzelec, Miłkowice, Stara Kamienica, Jeżów Sudecki, Gromadka, Świdnica, Lewin Kłodzki, Platerówka).

Map 3. Demographic typology of municipalities according to Webb in 2018



During the investigated year, 125 municipalities were found to be demographically inactive. The negative natural increase that is not compensated for by positive migration balance (E type) was found in 26 municipalities. While the population decline – caused to a larger extent by the negative natural increase than by the negative migration balance (F type) – was found in 47 municipalities, whereas the decline caused to a larger extent by the negative migration balance than by the negative natural increase (G type) was found in 46 municipalities. The negative migration balance not compensated with the positive natural increase (H type) can be observed in 6 municipalities.

As mentioned earlier, for the purposes of typology, two factors were considered – the natural increase and permanent migration balance. Due to the balance of values in one of the two phenomena, six municipalities in dolnośląskie voivodeship were put in the category of active or inactive units taking into account only one of the factors. In municipalities: Rudna and Trzebnica, where the number of births was balanced by the number of deaths, exclusively, the negative migration balance was taken into account and it was placed among the group of municipalities that are active in demographic terms (C type). In municipalities with a balance of registered and de-registered persons, only the positive natural increase was taken into account – namely in municipality Gaworzyce – which was treated as demographically active (B type) and municipalities: Mściwojów, Sulików and Jedlina Zdrój were considered demographically inactive (E type). As regards municipalities: Lewin Kłodzki and Platerówka, the natural increase is balanced by migrations and municipalities were qualified as inactive (D type).

The Demographic Typology by Osanna

The processes of population ageing in the territorial system can be presented using the **Osanna Triangle**. The method originally used by Alfred Karol Osann for the chemical classification of rocks has found wide application as a form of statistical data presentation in statistics and socio-economic cartography (see more in Korycka-Skorupa, 2007, p. 340-353; Borowska-Stefańska, 2015, p. 535-553). It was built based on the coordinate system, the axes of which are the sides of an equilateral triangle specifying one of the age groups, i.e., A – population aged 0–17 years, B – 18–59/64 years, C – 60/65 years and more. On the axes, there is a scale presenting the participation of these age groups in the general population. Therefore, participation may vary between 0% and 100%. The data are adopted at the end of the period in question and are compared to the average value. Reading the coordinates of the point situated inside the triangle allows to specify the individual components of the structure.

In this manner, one can divide spatial units into six demographic groups:

- a) Young in demographic terms:
 - **II Type:** A > average, B < average, C < average,
 - **III Type:** A > average, B > average, C < average,
- b) Stable in demographic terms:
 - **I Type:** A > average, B < average, C > average,

- **IV Type:** A < average, B > average, C < average,
- c) Ageing in demographic terms:
- **V Type:** A < average, B > average, C > average,
 - **VI Type:** A < average, B < average, C > average,

In 2018 in dolnośląskie voivodeship, a progressive process of ageing in the society can be observed. The typology of Osanna triangle which takes into account the structure of the economic age groups allowed for the classification of the investigated region to the group of voivodeships that are demographically ageing (type VI – together with voivodeships: lubelskie, śląskie, łódzkie and świętokrzyskie) since the participation of children and adolescents aged under eighteen years was less than the average in Poland by 1,1 percentage points and was 17,0%, the participation of persons aged 59/64 years was less than 0,2 percentage points and was 60,4% and the participation of the population aged 60/65 and more was higher by 1,3 percentage points than the average in Poland and was 22.6%. Type V aging voivodeships were: zachodniopomorskie and opolskie. Yet, a group of demographically young voivodeships were: pomorskie voivodship (type II) and voivodeships: wielkopolskie, małopolskie, warmińsko-mazurskie, podkarpackie and lubuskie (type III). Mazowieckie voivodeship appeared to be type I stable voivodeship, whereas type IV – voivodeships were: kujawsko-pomorskie and podlaskie.

Among the districts of dolnośląskie voivodeship, 40% of units were considered to be demographically young. This means that the participation of children and adolescents was greater than the average in the voivodeship (17.0%), and the participation of the population aged 60/65 and more was less than average (22.6%). Some neighbouring districts surrounding Wrocław and certain districts situated in the vicinity of Legnica are demographically young. Type II comprised the following districts: milicki and głogowski, and Type III included ten districts, i.e., wrocławski, polkowicki, trzebnicki, średzki, oleśnicki, oławski, górowski, legnicki, bolesławiecki, strzeliński. Types V and VI corresponding to demographic ageing included 12 districts: świdnicki, kamiennogórski, lubański, ząbkowicki, jeleniogórski, wałbrzyski, Wrocław, Legnica, dzierzoniowski, kłodzki, Wałbrzych, Jelenia Góra. In these districts, the participation of children and adolescents was lower than the average in the voivodeship and the participation of persons in their post-productive age was higher than the average one in the voivodeship. The other six districts were demographically stable.

In 2018, out of 169 municipalities (including municipalities with district rights), 92 municipalities in dolnośląskie voivodeship were considered to be demographically young. This means that the participation of children and adolescents was greater than average in the voivodeship (17.0%) and the participation of the population aged 60/65 and more was lower than the average (22.6%).

Types V and VI, translate into population ageing comprised 43 municipalities. The municipalities where the participation of children and adolescents was lesser than the average in the voivodeship, and the participation of the post-productive persons was higher than the average in voivodeship were located mainly in the southern part of

the voivodeship¹. Type VI of demographic ageing covers all towns with district rights [*municipal boroughs*]: Jelenia Góra, Legnica, Wrocław, and Wałbrzych. The other 34 municipalities were reported to be demographically stable².

Summary

The observed trends of demographic processes clearly show a difficult population situation both in Poland and in dolnośląskie voivodeship. In the near term, one cannot expect any significant changes that will guarantee any stable demographic development. The problem is a low level of the fertility rate that will have a negative impact on the future number of births. This is due to the reduction in the number of women in their reproductive age.

Changes in socio-economic conditions in Poland lead to demographic and structural changes in individual regions of the country. As a consequence of these processes, demographic threats arise, which include depopulation and aging of societies (Długosz, Biały 2013, p. 17). Demographic problems in Poland are not a new phenomenon; however, they have intensified in recent years, which is visible, among others, in processes related to natural and migration movement and directly affects the structural changes of the population (Długosz 2011, p. 52). The analysis of data for 2010-2018 showed that the demographic condition of the Lower Silesian Voivodship, as well as other Polish regions, is deteriorating rapidly.

In dolnośląskie voivodeship, during the year, the percentage of the population aged 65 years and more increased (to 17.5%) and was higher than the national level by 0.9 percentage points. The progressive process of the population ageing in dolnośląskie voivodeship confirmed the adverse changes in the rate of demographic ageing and the ageing ratios as well as the intergenerational support ratio.

The ageing ratio in Poland was 114.8, and in dolnośląskie voivodeship it was 126.9, which means that 100 children and adolescents aged up to 14 years correspond to 115 persons aged 65 years or more in Poland and 127 persons in dolnośląskie voivodeship, i.e., both in Poland and in the investigated voivodeship by 3 people more – as compared to 2017. The age dependency ratio concerning the elderly that is the relationship between the sub-population size of the elderly and the sub-population size of other adults living in the investigated population (aged 15–64 years) in Poland was 21.6, while in the dolnośląskie voivodeship it was 27.4. In addition, in 2018, the intergenerational support

¹ Municipalities ageing demographically: Niemcza, Jawor, Karpacz, Szklarska Poręba, Podgórzyn, Lubawka, Łądek-Zdrój, Stronie Śląskie, Chojnów, Gryfów Śląski, Wleń, Boguszów-Gorce, Głuszycza, Mieroszów, Walim, Ziębice, Złoty Stok, Złotoryja, Bolesławiec, Bielawa, Dzierżoniów, Kowary, Piechowice, Kamienna Góra, Duszniki-Zdrój, Kłodzko, Kudowa-Zdrój, Nowa Ruda, Polanica-Zdrój, Bystrzyca Kłodzka, Lubań, Świeradów-Zdrój, Lubin, Świdnica, Świebodzice, Jedlina-Zdrój, Szczawno-Zdrój, Ząbkowice Śląskie, Zgorzelec.

² Intergenerational support ratio, also referred to as parent support ratio defines the needs connected with e.g. health protection and social welfare (services).

ratio, understood as a number of people aged 85 years and more per 100 people aged 50-64, in the dolnośląskie voivodeship was 10.7, whereas in Poland it was 10.4. This means that 10 people aged 85 years and more accounted for 100 persons aged 50-64 years. A further increase in this ratio is projected – up to 20.7 in 2040, which means that out of every 100 people aged 50-64 there will be 10 people over the age of 84 more. It will induce necessary changes in the systems of social and health insurance, in the social support system for the elderly in their local environment.

At the same time, one can see an improvement pertaining to health in society. It is reflected in higher life expectancy for men and women. In 2018, an average man in dolnośląskie voivodeship lived more than 73 years. In comparison to 2010, his life was longer by 1.5 years, while in comparison to the last year, it was shorter by almost four months. An average woman lived nearly over 81 years and in comparison to 2010, her life was prolonged by 1 year and 1 month.

It should also be noted that the phenomenon of depopulation in Poland is additionally compounded by the large scale outward migration of Poles abroad. Apart from the natural increase, the factor that directly affects the permanent increase or decrease in the size of the population and also influencing its spatial distribution is migration. These are population movements associated with the change of its permanent residence or temporary stay location. The size and direction of migration and its intensity depend on many factors, of which the most frequently mentioned are those of economic nature, i.e. taking up a job, improving the financial situation etc. In large part, they result from the interregional disparities regarding the level of socio-economic development. The development of the migratory flow (movement) is of great importance for the evolution of the supply side of the labour market.

In dolnośląskie voivodeship, the migration balance for permanent residence in the years 2005-2008 was negative, and over the years 2009-2018, a positive migration balance occurred. This means that the number of persons registered for permanent residence during the year – an inflow (from other voivodeships and from abroad) – exceeded the number of persons de-registered from permanent residence in that period – an outflow (to other voivodeships and abroad). In 2018, the population of the voivodeship, as a result of constant migrations (domestic and international) increased by 3.7 thousand people (in the previous year also an increase by 2.8 thousand people and in 2010 by 1.4 thousand people, respectively occurred), of which in the cities the population decreased by 1.5 thousand people, whereas, the rural population increased by 5.2 thousand people (in the previous year the decrease by 1.5 thousand people in cities and growth by 4.3 thousand people in the country was observed).

As a result of demographic changes, the low level of fertility rate, and the natural increase with the parallel beneficial phenomenon – namely an extended lifespan of Poland's inhabitants, there are problems connected with the labour supply decrease. These problems are due to the increasingly rapid ageing of the society which can be seen mainly in the increase of the number and participation of persons in their old age in the general population and in the increasing number of local government units that are considered to be demographically ageing types. These changes will also have negative

consequences for the social insurance system, health insurance system and the social benefits system.

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