

Resident population¹ projection for Poland 2023-2060

28.12.2023


12.7%

Projected decrease of resident population till 2060 compared to 2022.

The starting point of the projection is the resident population on 31st December 2022. The assumptions for fertility, mortality and migration are consistent with the main scenario of projection published in August 2023 (which was based on national definition of population²).

Resident population of Poland will amount to 32.9 million people in 2060. Compared to the number in 2022, it means a decrease in the population by 4.8 million, i.e. by 12.7%. In addition to the negative natural increase, further unfavorable changes in the population structure by age and a decrease in the number of women of reproductive age will be observed. Persons aged 65 and more will constitute approximately 30% of the population and their number will increase by 2.5 million compared to 2022. On the other hand, women of reproductive age in 2060 will constitute only 71% of the number in 2022.

Changes in resident population structure

The ageing process of Polish population will continue. The number of persons aged 65 and more will increase. It is assumed that at the end of the projection horizon, their number will be over 2.5 million higher compared to 2022 (an increase by 34.2%). A significant increase in the number of persons aged 80 and more is also projected. By 2060, their number will be more than double (compared to 2022).

It is worth to highlight the change in the number of women aged 15-49, i.e. potential mothers. This number is expected to decline by as much as 29.2% by 2060 (compared to 2022).

By 2060, the number of persons aged 65 and more will increase by over one third, and the number of persons aged 80 and more will double.

¹ Residents (residing population) is the category of residence of population developed for the purposes of international statistics in accordance with Regulation of the *European Parliament and the Council (EU) no. 1260/2013 from 20.11.2013*, on the European demographic statistics. Residents of the gmina include all persons residing or intending to reside in the unit for at least 1 year. This means that, the number of residents of the gmina includes: a) permanent inhabitants (persons registered there or residing permanently without registration), except for those inhabitants, who left for a period of at least 12 months to another place in Poland or abroad, b) persons who came from another place in Poland or from abroad (immigrants without permanent residence card) for the period of at least 12 months.

² Population of the given gmina includes persons residing (staying) therefore the period of at least 3 months. This means that the size of population of the given gmina includes: a) permanent residents (persons registered there) excluding those inhabitants, who left for at least 3 months to another gmina within Poland, b) persons who came from another place in Poland for the period of 3 months. Population of the gmina does not include immigrants temporarily residing in Poland, while permanent residents of Poland temporarily residing abroad (regardless of the period of absence) are included in the population size of the given gmina.

Chart 1. Projected total resident population and selected age groups 2023-2060

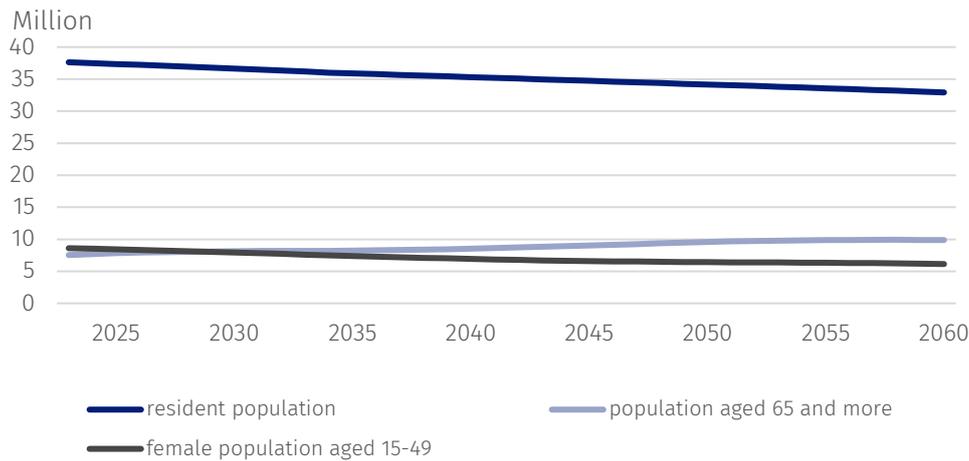


Table 1. Projected total resident population (in million) and selected age groups in chosen years

	2025	2030	2035	2040	2045	2050	2055	2060
Resident population	37.4	36.6	35.9	35.3	34.7	34.2	33.6	32.9
of which								
population aged 65 and more	7.8	8.1	8.2	8.5	9.0	9.6	9.9	9.9
population aged 80 and more	1.6	2.1	2.7	3.0	3.0	2.9	3.1	3.5
female population aged 15-49	8.4	7.9	7.4	6.9	6.6	6.4	6.3	6.1

A large decrease of working age population (18-59/64) is expected. It is projected that by 2060 their number will decrease by over 23% (compared to 2022), i.e. by 5.1 million people. At the same time, post-working age population will increase by approximately 2 million and pre-working age population will decrease by a similar amount (Table 2, Chart 2 and 3). The above-mentioned phenomena will increase the non-productive age dependency ratio from 72.2 in 2022 to 96.3 in 2060.

Increase of the non-productive age dependency ratio is expected - to 96.3 in 2060.

Chart 2. Projected resident population by economic age groups 2023-2060

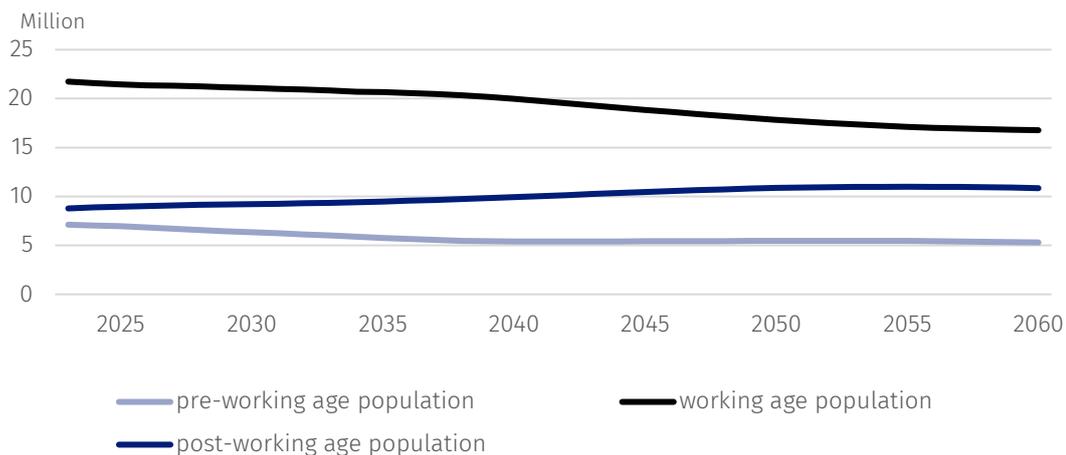


Chart 3. Projected resident population by economic age groups in chosen years

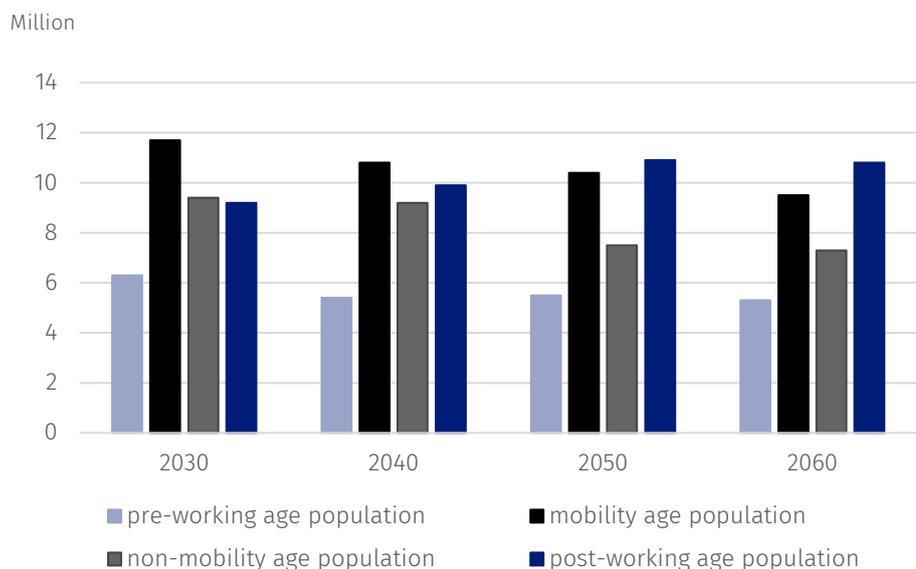


Table 2. Projected resident population (in million) by economic age groups in chosen years

	2025	2030	2035	2040	2045	2050	2055	2060
pre-working age population	6.9	6.3	5.8	5.4	5.4	5.5	5.5	5.3
working age population	21.4	21.1	20.7	20.0	18.8	17.8	17.1	16.8
of which								
mobility age population	12.7	11.7	11.1	10.8	10.5	10.4	9.9	9.5
non-mobility age population	8.7	9.4	9.6	9.2	8.3	7.5	7.2	7.3
post-working age population	9.0	9.2	9.5	9.9	10.5	10.9	11.0	10.8

Projection of vital statistics for resident population

Initially, the number of births is expected to decrease from 304.5 thousand in 2023 to 287.1 thousand in 2035 (Table 3, Chart 4). Subsequently, this number will slightly increase - to 294.5 thousand in 2045. In the last projected years, another decrease (to 248.7 thousand in 2060) is expected. The projected results will be primarily a consequence of decreasing number of potential mothers - in the following years progressively higher fertility would be necessary to maintain the number of births at the same level. Apart from the first two years, in the entire projected period, the number of births will not exceed 300 thousand.

A constant increase in the number of deaths from 423.7 thousand in 2023 to 500.2 thousand in 2046 is projected (Table 3, Chart 4). This is related to the systematic increase in the number of persons aged 65 and more and the fact that from 2025, the very old age (80 and more) will also be reached by many people born after the Second World War. After 2046, a slight decrease in the number of deaths is projected.

Throughout the entire projection period, a negative natural increase is expected (Chart 4), which means that the number of deaths will exceed the number of births. This phenomenon will continue to deepen and in 2060 it will amount to -233.8 thousand.

Negative natural increase is expected throughout the projected period. In 2060 it will amount to -233.8 thousand.

Chart 4. Projected number of births and deaths 2023-2060

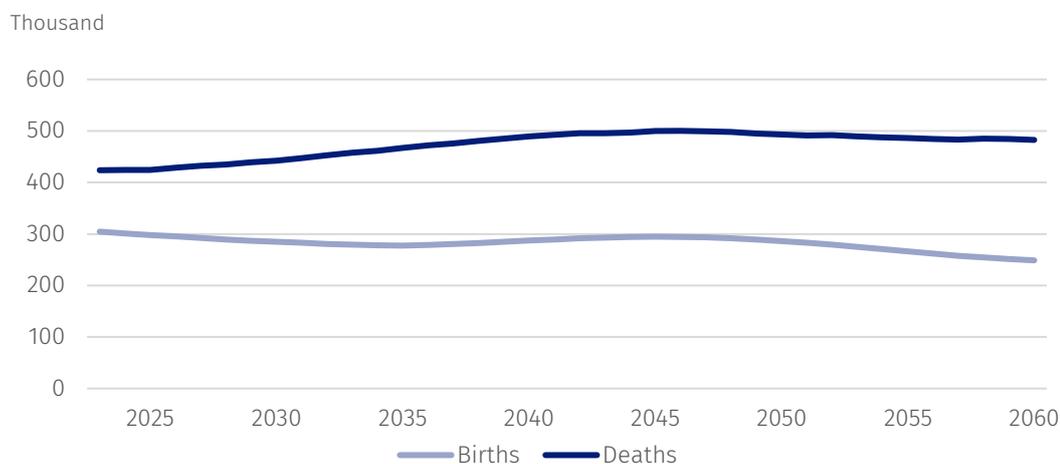


Table 3. Projected number of births and deaths (in thousand) in chosen years

	2025	2030	2035	2040	2045	2050	2055	2060
Births	297.9	284.7	277.7	287.1	294.5	286.4	266.0	248.7
Deaths	424.4	442.3	466.8	489.1	500.2	493.0	486.0	482.5

A constant increase of immigration is projected (Table 4), most of which will be temporary immigration for a long-term stay, i.e. 12 months and longer. Emigration will decrease. It was assumed that a significant part of Ukrainian citizens³, currently covered by temporary protection due to the war in Ukraine, who are also residents of Poland will return to their country, what will be reflected in the negative migration balance. It was assumed that approximately 37.5% of citizens from this country will stay in Poland permanently. Similarly to the EUROPOP2023 projection⁴, it was assumed that their gradual return to their country will take place between 2024 and 2034.

Table 4. Projection of international migration (in thousand) in chosen years

	2025	2030	2035	2040	2045	2050	2055	2060
Immigration	100.8	115.4	124.0	130.0	134.8	138.6	141.9	144.7
Emigration	108.8	105.1	48.3	46.8	45.6	44.8	44.1	43.4
Net migration	-8.0	10.3	75.8	83.2	89.2	93.9	97.8	101.3

Regional results

A decrease in the number of persons residing in Poland is expected for most voivodeships (Table 5, Map 1). For Świętokrzyskie and Opolskie voivodeships this decrease will be the largest, by approximately 26% by 2060 (compared to 2022). For these voivodeships, this means a reduction in the number of residents by 308.5 thousand and 238.4 thousand people, respectively. The smallest decrease is projected for Małopolskie and Pomorskie voivodeships (a decrease by approximately 2%) (i.e. 70.4 thousand and 38.2 thousand, respectively).

Only in the Mazowieckie voivodeship there will be an increase in population in the perspective of 2060. However, it will be small, by approximately 2.1% (116.5 thousand people) compared to 2022.

The number of resident population of Poland is expected to decrease for most voivodeships.

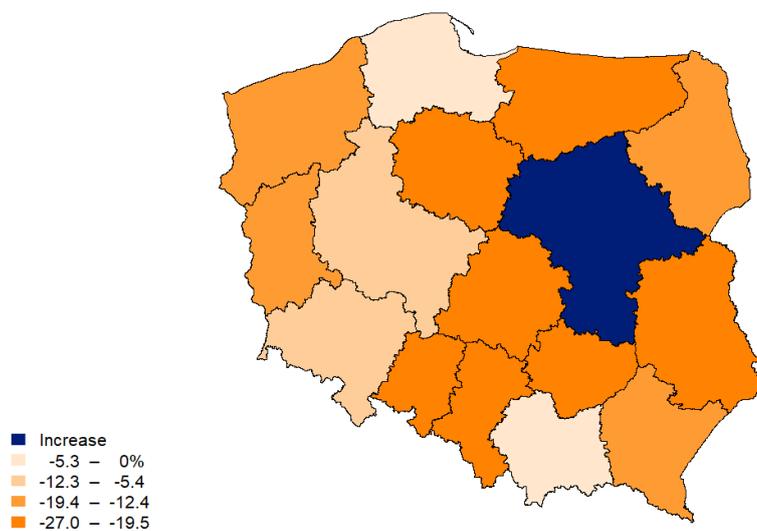
³ The stay of residents of Ukraine is regulated in the Act of March 12, 2022 on assistance to citizens of Ukraine in connection with an armed conflict on the territory of that country.

⁴ Eurostat, methodology of population projection EUROPOP2023, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_projections_in_the_EU_-_methodology#Assumptions_for_migration (access 11.12.2023).

Table 5. Resident population (in thousand) by voivodeships in chosen years

	2030	2040	2050	2060
Total	36 647.4	35 312.0	34 158.2	32 920.4
Dolnośląskie	2 852.8	2 770.8	2 714.6	2 654.9
Kujawsko-pomorskie	1 894.9	1 789.2	1 687.1	1 586.4
Lubelskie	1 875.8	1 749.6	1 636.9	1 534.5
Lubuskie	940.6	889.4	843.8	800.0
Łódzkie	2 282.3	2 129.4	1 992.2	1 862.8
Małopolskie	3 395.6	3 377.5	3 370.9	3 337.1
Mazowieckie	5 725.3	5 755.3	5 808.6	5 796.0
Opolskie	853.8	786.2	729.1	679.2
Podkarpackie	1 924.8	1 845.3	1 770.7	1 693.5
Podlaskie	1 061.4	1 021.2	985.1	949.2
Pomorskie	2 365.9	2 356.9	2 353.3	2 328.1
Śląskie	4 098.4	3 811.9	3 559.5	3 319.3
Świętokrzyskie	1 076.6	990.1	909.9	839.2
Warmińsko-mazurskie	1 254.6	1 171.4	1 090.3	1 015.0
Wielkopolskie	3 480.2	3 386.2	3 296.0	3 180.0
Zachodniopomorskie	1 564.4	1 481.6	1 410.3	1 345.2

Map 1. Projected population change (in %) in voivodeships till 2060 in relation to 2022



The highest (i.e. 34.6%) share of persons aged 65 and more in 2060 is expected for Świętokrzyskie voivodeship (Table 6). In all voivodeships, by 2060 the share in this age group will increase from 9 to approximately 13 percentage points.

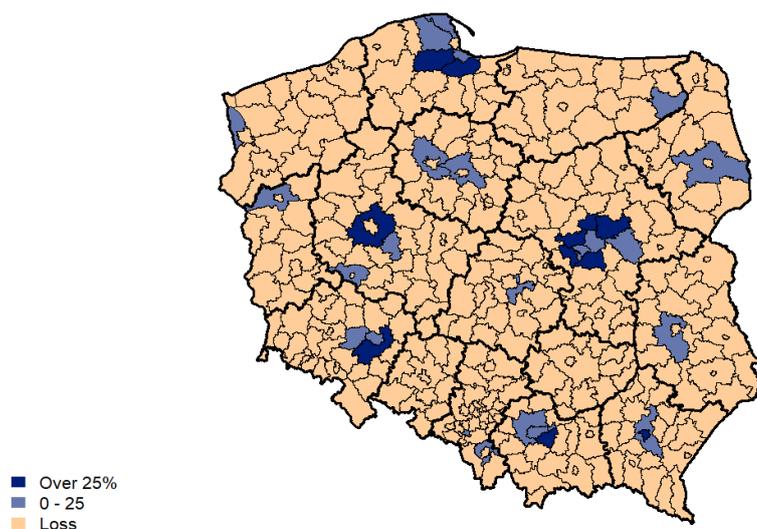
The largest increase in the percentage is expected for Warmińsko-Mazurskie voivodeship, and the smallest for Mazowieckie voivodeship.

Table 6. Projected share of persons aged 65 and more in total population (in %) by voivodeships in chosen years

	2030	2040	2050	2060
Total	22.2	24.2	28.1	30.0
Dolnośląskie	22.5	23.6	27.5	29.7
Kujawsko-pomorskie	23.3	25.8	30.0	31.8
Lubelskie	24.1	26.6	30.6	32.1
Lubuskie	23.1	25.4	30.1	31.9
Łódzkie	24.5	26.8	31.0	32.7
Małopolskie	20.1	21.8	25.2	27.6
Mazowieckie	19.6	21.1	25.1	27.5
Opolskie	24.8	27.5	30.8	32.0
Podkarpackie	22.3	24.8	28.5	30.3
Podlaskie	23.2	25.3	28.4	29.9
Pomorskie	20.2	21.8	25.3	27.6
Śląskie	24.1	26.4	30.6	32.1
Świętokrzyskie	25.9	28.5	33.0	34.6
Warmińsko-mazurskie	23.9	26.8	31.2	32.8
Wielkopolskie	20.6	22.8	26.9	29.1
Zachodniopomorskie	24.1	26.2	30.4	32.2

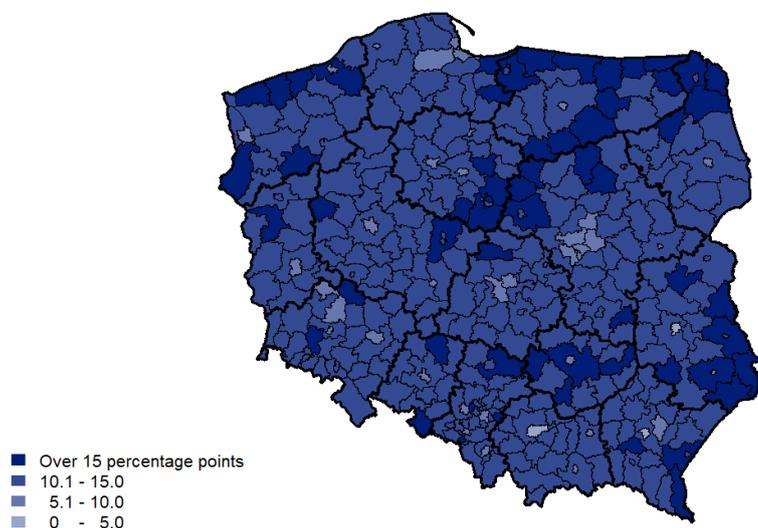
For most powiats a decrease in number of residents is projected. The units located in close or even immediate vicinity of major cities will primarily experience the increase of population. The most favourable migration balance will be observed for powiats located in the immediate vicinity of the largest cities (Map 2). These areas will attract migrants both from adjacent large cities (suburbanization) and from more remote parts of the country.

Map 2. Projected change in the number of population in 2060 (in %) in relation to 2022



Till 2060, an increase in the percentage of persons aged 65 and more is expected for all powiats (Map 3). It is worth emphasizing that by 2048, a slight decrease (up to 2 percentage points) will be observed in seven powiats. These are the major cities: Gdańsk, Kraków, Poznań, Rzeszów, Sopot, Warszawa and Wrocław.

Map 3. Projected change of the share of persons aged 65 and more in total population in 2060 (in percentage points) in relation to 2022



Comparison of the population projection prepared by the Statistics Poland with EUROPOP2023 and UN projection

The comparison below was prepared based on the presented projection of the Statistics Poland, the base scenario of the Eurostat projection⁵ and the average scenario of the UN projection.⁶

All three projection are consistent in one fundamental aspect. The population of Poland will constantly decrease (Table 7) and in 2060 it will amount to approximately 32.6-33.2 million. Both the Statistics Poland and Eurostat predict a similar rate of population ageing expressed as the percentage of persons aged 65 and more in the entire population (Chart 5). At the end of the projection horizon, this percentage will be the lowest in the Statistics Poland projection (30.0%) and the highest in the UN projection (34.4%).

In each projection a comparable value of the total fertility rate in the years 2040-2060 is assumed. The observed difference between the Statistics Poland and other institutions is approximately 0.1 in these years. In the first projected years, it is expected to be higher and the difference between the UN assumptions (the highest projected coefficient) and the Statistics Poland (the lowest projected coefficient) will amount to 0.2 in 2025.

A gradual increase in average life expectancy is expected in each of the projections, but the Statistics Poland assumes that it will be slower. This means that the highest mortality rate

⁵ Eurostat, population projection, EUROPOP2023, <https://ec.europa.eu/eurostat/data/database> (access 11.12.2023)

⁶ UN, population projection, World Population Prospects, <https://population.un.org/wpp/Download/Standard/Population> (access 11.12.2023)

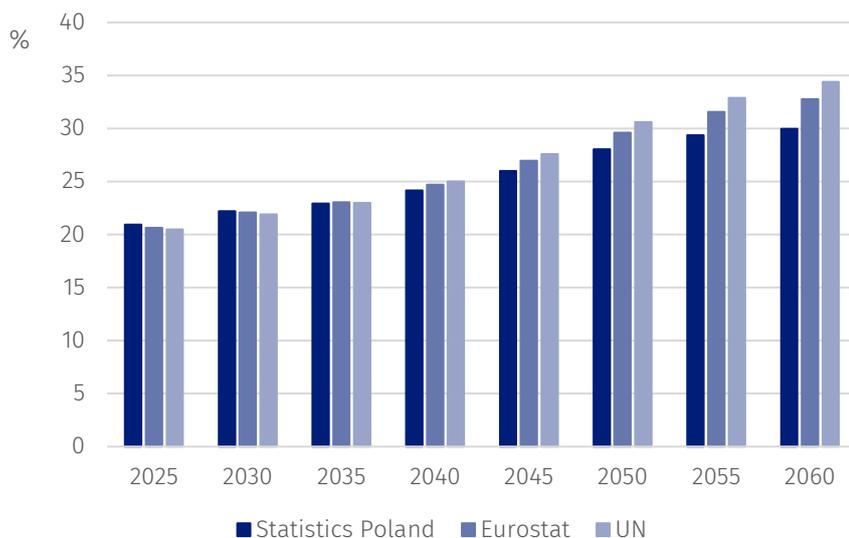
was assumed in the Statistics Poland projection. The largest difference is observed for men between the Eurostat projection and the Statistics Poland projection - life expectancy is projected to be 3.6 years longer in 2060.

The assumptions regarding migration are different. Both Statistics Poland and Eurostat assume a negative balance in the first projected years and its gradual increase. However, the Statistics Poland assumes a much greater increase in the number of immigrants. Only the UN predicts that the number of emigrants will outweigh immigrants throughout the entire projected period. Additionally, the UN assumes that from 2028, net migration will remain at the constant level.

Table 7. Comparison between Statistics Poland and Eurostat (EUROPOP2023) and UN projections

Projection	2025	2030	2035	2040	2045	2050	2055	2060
Population in million								
Statistics Poland	37.4	36.6	35.9	35.3	34.7	34.2	33.6	32.9
Eurostat	38.2	37.2	36.4	35.7	35.1	34.5	33.9	33.2
UN	39.4	38.6	37.9	36.9	35.9	34.8	33.8	32.6
Life expectancy - males								
Statistics Poland	74.5	75.2	75.8	76.4	77.0	77.6	78.1	78.7
Eurostat	74.4	75.7	76.9	78.1	79.2	80.3	81.3	82.3
UN	75.3	76.3	77.3	78.4	79.3	80.2	80.9	81.6
Life expectancy - females								
Statistics Poland	82.1	82.6	83.1	83.6	84	84.5	84.9	85.4
Eurostat	82.3	83.2	84.1	85	85.8	86.6	87.4	88.1
UN	82.5	83.2	83.8	84.4	85	85.6	86.1	86.7
Net migration in thousand								
Statistics Poland	-8.0	10.3	75.8	83.2	89.2	93.9	97.8	101.3
Eurostat	-71.0	-44.5	24.9	43.5	56.1	62.5	60.7	57.5
UN	-460.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Total fertility rate								
Statistics Poland	1.28	1.40	1.43	1.45	1.46	1.47	1.49	1.50
Eurostat	1.42	1.45	1.49	1.51	1.54	1.56	1.57	1.59
UN	1.48	1.51	1.52	1.53	1.55	1.56	1.57	1.57

Chart 5. Projected share of persons aged 65 and more in total population (in %)



Methodological notes

The projection was developed on the base of definition of resident population and data on vital statistics, which concern legally documented facts derived from administrative data. In the case of foreign migration, both permanent and temporary migration were included, assuming the length of stay or absence would last at least 12 months.

The projection is deterministic. One scenario of expected change of resident population for Poland in the years 2023-2060 has been developed. The population of Ukrainian residents under temporary protection (Journal of Laws of 2022, item 583 – in accordance with the definition of the resident population) was included. The state and structure of the resident population by sex and age group as of December 31, 2022 was adopted as the base population for the development of this projection.

The assumptions of the presented projection for the resident population regarding fertility, mortality and migration are consistent with the main scenario of the population projection (according to the national definition of residence) published in August 2023.

It was assumed that until the end of the projection horizon, both the fertility rate and life expectancy will systematically increase and it is worth emphasizing, that this is consistent with the projection for Poland published by Eurostat and the UN. In case of migration, a constant increase of the number of immigration throughout the projection horizon was assumed, while a downward trend for the number of emigration - with the largest one taking place in the years 2030-2035 - was assumed. The effect of the return of Ukrainian citizens to their country (staying in Poland due to the war on their territory) was taken into account. It was assumed that a significant part of citizens of this country (persons covered by temporary protection), who are currently residents of Poland, will return to Ukraine.

Analysing the factors of demographic change for powiats, it was assumed for fertility, mortality and migration that throughout the projected period, the differences in the relevant coefficients between powiats will remain at a level similar to the observed one in recent years. It was also assumed that the values of these coefficients would differ from the national level by an average difference (calculated on the basis of actual data from recent years).

The projection was made using the cohort-component method. This means that data on fertility, mortality and migration broken down by sex and single age groups were used. The calculations were made at the powiat level, but thanks to the appropriate rounding algorithm,

they are fully consistent with the assumptions adopted at the national level. To create the assumptions for fertility, mortality and migration, the Schmertmann model⁷, the UN model life tables⁸ and the Rogers-Castro model⁹ were used, respectively.

Detailed results for all years of the projection for Poland and by voivodeships and powiats are included in the Excel files attached to this publication.

In case of quoting Statistics Poland data, please provide information: “Source of data: Statistics Poland”, and in case of publishing calculations made on data published by Statistics Poland, please include the following disclaimer: “Own study based on figures from Statistics Poland”.

⁷ Schmertmann, C. P. (2003). A system of model fertility schedules with graphically intuitive parameters. *Demographic Research*, 9, p. 81-110. DOI: <https://doi.org/10.4054/DemRes.2003.9.5>

⁸ UN. Model Life Tables, <https://www.un.org/development/desa/pd/data/model-life-tables> (access 11.12.2023)

⁹ Rogers, A. and Castro, L. J. (1981). Model migration schedules. IIASA Research Report. IIASA, Laxenburg, Austria: RR-81-030, <https://pure.iiasa.ac.at/id/eprint/1543/1/RR-81-030.pdf> (access 11.12.2023)

Prepared by:
Demographic Survey Department
Deputy Director Anna Wysocka
Phone: (+48 22) 608 33 01

Issued by:
**The Spokesperson for the President
of Statistics Poland**
Karolina Banaszek
Phone: (+48) 695 255 011

Press Office

Phone: (+48 22) 608 38 04

e-mail: obslugaprasowa@stat.gov.pl

-  stat.gov.pl/en/
-  [@StatPoland](https://twitter.com/StatPoland)
-  [@GlownyUrzadStatystyczny](https://www.facebook.com/GlownyUrzadStatystyczny)
-  [gus_stat](https://www.instagram.com/gus_stat)
-  [glownyurządstatystycznygus](https://www.youtube.com/glownyurządstatystycznygus)
-  [glownyurządstatystyczny](https://www.linkedin.com/company/glownyurządstatystyczny)

Related information

[Population projection 2023–2060](#)

[Resident population projection for Poland 2015–2050 \(in Polish\)](#)

Terms used in official statistics

[Residents](#)

[Population projection](#)

[Population Balance/Residents Balance](#)