

2024 population projection until 2085. Methodology

The population projection is based on the sex-age distribution of the population as at 1 January 2024. The total population of Estonia is projected until 2085 and the population of the counties until 2050. The further into the future we look, the more reality and projections may diverge. This needs to be taken into account when using projection results. To assess possible trends, several scenarios have been developed in the projection: three for fertility, two for life expectancy, and three for external migration. Combining these, seven complete scenarios have been created: one main and six additional scenarios.

In the calculation of fertility rates and life tables, the statistics for births and deaths in 2023 have been used and earlier time series have been analysed. Materials from Eurostat and UN population projections have also been drawn on, and leading Estonian population experts have been consulted.

Determining the fertility rate

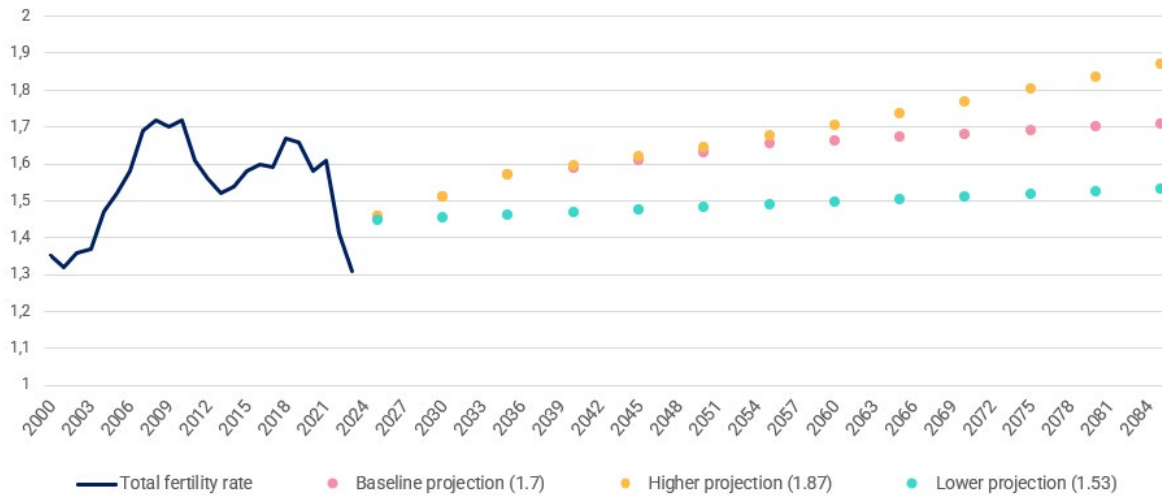
In determining the baseline fertility rate, the figures for the last three years were taken into account. In 2021, the fertility rate stood at 1.61. In 2022 and 2023, the number of births fell sharply, with the fertility rate dropping to 1.41 and 1.31 respectively. Based on the average of these three years, the baseline fertility rate for the projection was set at 1.45.

The future total fertility rate was set taking into account the completed fertility rate (in 2023, the average number of children born to women aged 40 was 1.82) as well as expert judgement. Population experts estimate that recent surveys show a lower number of desired children among the younger generations, so the completed fertility rate is expected to fall. The total fertility rate for 2085 was therefore set at 1.7. Similarly, Eurostat projections of 2019 and 2023 and the UN projection of 2022 estimate Estonia's fertility rate at around 1.7¹.

In addition to the baseline fertility scenario, two more scenarios were prepared, one in which the total fertility rate increases by 10% above that of the baseline scenario to 1.87 and the other in which it decreases by 10% below the baseline scenario to 1.53. In the scenarios of higher and medium fertility, the total fertility rate is expected to increase faster in the first ten years, i.e. the currently declining fertility rate will return to a more usual level. The low fertility scenario follows a more linear growth curve, with little change between the first and the last year. Also, the age-specific fertility rates calculated in each fertility scenario reflect the assumption that the average age of the mother at the birth of a child rises by one year – to 32 years – by the end of the projection period.

¹ Eurostat projections: <https://ec.europa.eu/eurostat/web/population-demography/population-projections> , UN projection: <https://population.un.org/wpp/>

Figure 1. Total fertility rate in 2000–2023 and fertility scenarios in the population projection



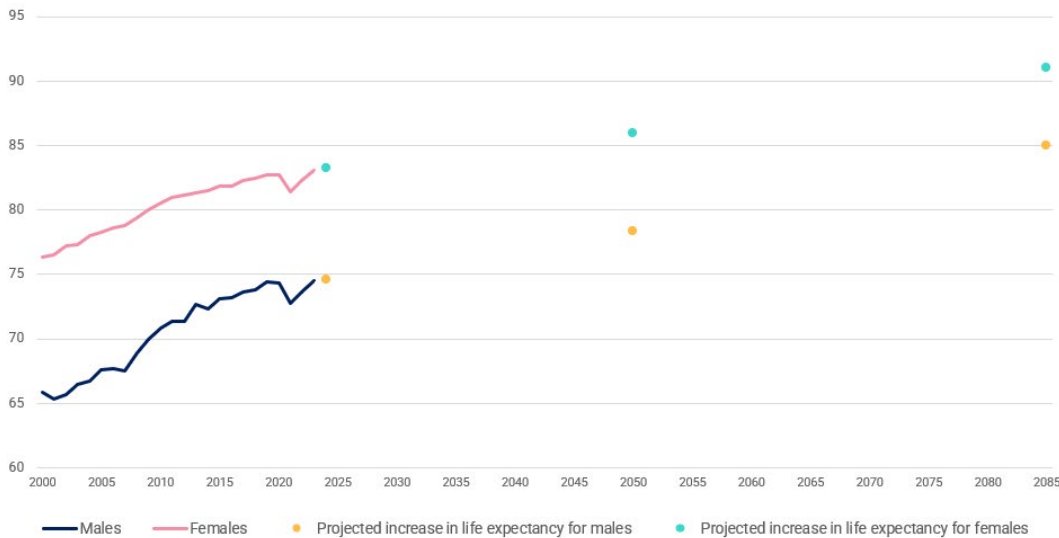
Life expectancy

In 2024, life expectancy is 74.6 years for men and 83.3 years for women. As in the 2019 projection, two scenarios were developed for life expectancy. In the first scenario, life expectancy increases to 85 years for men and 91 years for women by 2085. The difference between men's and women's life expectancy decreases from the current 8.6 years to 6 years.

Similar increases in life expectancy are projected for Estonia by Eurostat and the UN as well. According to this, women would reach the projected European average and men would be only slightly behind.

In the second scenario, life expectancy is left unchanged from the starting year of the projection for the entire projection period. Such a scenario is unlikely under normal circumstances, but it helps to assess the potential impact of health crises, for example.

Figure 2. Life expectancy in 2000–2023 and the scenario of increasing life expectancy in the population projection



Net migration

Estonia's net migration has been positive since 2015. Over the period 2015–2021, net migration averaged 4,566, fluctuating between 1,030 and 7,071.

The 2019 projection estimated a net migration of 1,500 people in the baseline scenario and 2,500 people in the higher migration scenario. In the 2024 projection, the net migration in the baseline projection was estimated at 4,000. This would mean that around 4,000 more people would arrive than leave Estonia each year during the projected period. The higher migration scenario estimates a net migration of 6,000 people.

In the 2024 projection, it was also important to take into account the migration of beneficiaries of temporary protection. Drawing on Eurostat's latest population projection methodology², and adapting it to Estonia with the help of Estonian demographers, it is estimated that half of those granted temporary protection or extending temporary protection in 2023 will leave Estonia within the next ten years. This means that instead of 4,000 or 6,000, net migration will be lower in the decade to come. It should be noted that the assumptions made for the projections regarding persons under temporary protection are not assumptions about the war in Ukraine or its duration. They are made in order to calculate possible population changes. In reality, of course, no one knows how many of those under temporary protection will return to Ukraine at the end of the war or when they will do so.

² https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_projections_in_the_EU_-_methodology

In order to measure the impact of migration on the Estonian population, a third migration scenario in which no migration takes place was included. This is an imaginary scenario that can be used to demonstrate the impact of no migration on the Estonian population. In this zero-migration scenario, beneficiaries of temporary protection are not assumed to emigrate.

County projections

For the counties, a single scenario up to the year 2050 based on the baseline scenario for Estonia as a whole has been prepared. This means that for each county, the total fertility rates, survival probabilities and migration rates set in the baseline scenario have been taken into account. Regarding the county projections, it should be noted that, as this is a mathematical calculation, the sum of the population figures of the counties does not quite equal the projected total population of Estonia due to rounding.

The above scenarios are combined in the population projections as follows:

Name of scenario	Summary of projection trends		
	Total fertility rate 2050/2085	Life expectancy 2050/2085	Net external migration 2050/2085
Scenario 1 (baseline) ³	1.63/1.7	M 78, F 86 / M 85, F 91	4,000/4,000
Scenario 2 (higher fertility)	1.65/1.87	M 78, F 86 / M 85, F 91	4,000/4,000
Scenario 3 (lower fertility)	1.48/1.53	M 78, F 86 / M 85, F 91	4,000/4,000
Scenario 4 (life expectancy stays the same)	1.63/1.7	M 75, F 83 / M 75, F 83	4,000/4,000
Scenario 5 (excluding migration)	1.63/1.7	M 78, F 86 / M 85, F 91	0/0
Scenario 6 (higher migration)	1.63/1.7	M 78, F 86 / M 85, F 91	6,000/6,000
Scenario 7 (lower fertility, higher migration)	1.48/1.53	M 78, F 86 / M 85, F 91	6,000/6,000

³ The county population projection assumes the baseline scenario