Summary
ÖROK-REGIONAL FORECAST 2021–2050: POPULATION

1 Overview

Population forecasts are an important basis for decision-making for a wide variety of stakeholders. They can have a decisive influence on the evaluation of infrastructure projects, the location decisions of companies and, at least implicitly, on the individual residential choice of individuals. Particularly in the context of demographic change, the need for health and personal care and nursing and the continuously worsening shortage of skilled workers, the spatially differentiated forecast of population development supports decision-makers in their strategic planning.

This forecast shows that Austria's population will continue to grow steadily over the coming decades and will exceed the 9 million mark as early as 2023 (2050: 9.63 million). The future population growth is primarily attributable to immigration, since the ongoing demographic change is increasingly leading to a negative birth rate. The proportion of people born abroad will increase from around one-fifth of the population at present to around one-quarter by 2050.

Demographic change is also accelerating the shift in the age structure, and the labor force potential (persons aged 20 to 64) will decline slightly over the entire forecast period until 2050. The provinces of Carinthia and Styria are particularly affected. Over the forecast period, however, a similar picture emerges in all federal provinces with the exception of the federal capital Vienna.

Moreover, the forecast results show clear regional disparities between functional agglomeration areas and peripheral regions. Stronger population growth in the projection period up to 2050 is essentially only to be expected in the large cities and their surrounding areas. A positive development is also discernible along the entire western axis between the central region of Upper Austria and Salzburg.

In addition to differences between urban centres, urban surroundings and peripheral regions, there are also strong differences between western and eastern regions and between the municipal districts of the federal capital. For example, demographic change is more advanced in the southern provinces, especially in Carinthia and Styria, than in the others.

The projected population figures include persons with their main residence in the respective region; secondary residence cases are not included in the calculations.

The impact of the Covid19 pandemic on the regional distribution of the population was deliberately excluded for this forecast, as it has not yet been reflected in the available figures for long enough. It is not yet possible to predict whether increased opportunities for mobile working or the increased desire for personal space will actually have a longer-term impact on internal migration and benefit more peripheral regions.

2 Results

Austria's population is rising steadily. As of January 2021, there were 8.93 million people nationwide who were registered with their main residence in Austria. As of 2001 census date, the figure was 8.03 million, around 900,000 fewer people. Austria's population will continue to grow in the future. The present forecast predicts a population of 9.22 million in 2030, 3.2% more than in 2021 (based on January 1st of the year in question), and 9.63 million in 2050 (+7.8%).

Stronger population growth in the projection period up to 2050 is mainly expected only in the larger cities and their surrounding areas. In addition to the Vienna metropolitan area, which extends to Weinviertel and northern Burgenland, the regions in the catchment area of the provincial capitals of Graz, Salzburg, Klagenfurt, Innsbruck and Bregenz as well as the central Upper Austrian region of Linz-Wels will develop above-average dynamics. In these regions, the population will grow by 10% or more by 2050. This growth will be driven on the one hand by strong external immigration and, on the other hand, by positive internal migration balances and birth surpluses. In addition to the vicinity of urban agglomeration areas, stronger growth can also be observed on the east-west axis along the main transport corridors.

In general, regional disparities in terms of population growth are eminent. In order to be able to address these within the framework of the forecast, regional clusters for different growth components were formed. Demographic characteristics were supplemented by other structural and socioeconomic indicators such as income, employment, education and accessibility measures. There are clear differences between

urban centres, the urban surroundings and peripheral regions as well as between western and eastern regions. Also striking are the differences between the municipal districts of the federal capital, which in some cases differ considerably, especially in terms of fertility and life expectancy. The relatively homogeneous regional clusters were used to make assumptions for the forecast.

Austria's population growth is primarily attributable to immigration. Although slight birth surpluses were also recorded in 2014 to 2019, in 2020 and also in 2021 the number of deaths outweighed those of births due to the Covid 19 pandemic. An examination of gender-specific life expectancies at birth shows differences between eastern (lower) and western regions (higher), with these being more pronounced for men. An urban-rural divide can also be identified, with lower life expectancy in cities. Finally, there are clear differences between Vienna's districts. While districts such as Meidling, Favoriten and Brigittenau have some of the lowest life expectancies (lower educational level and lower income, higher share of population born abroad), life expectancy is particularly high in the districts of Innere Stadt, Josefstadt and Währing (high income and education levels). Due to the aging of the population, negative birth balances are to be expected in the future. There are also regional differences in fertility. As in the case of life expectancy, there are differences between eastern (moderate fertility) and western (highest fertility) regions, with the main difference being observable between urban (low) and rural (high) areas. The disparities within the federal capital also follow a similar pattern – while districts such as Mariahilf, Josefstadt or Neubau have the lowest fertility rates, Favoriten or Simmering have comparatively high rates for urban regions. In the period from 2021 to 2050, a total of 448,000 more deaths than births are expected. The birth balance is negative in most of the forecast regions, but this negative balance is significantly larger in the eastern provinces than in the western regions, in line with the disparities mentioned above.

On the other hand, there is a positive migration balance (international immigration minus emigration) of +1.156 million persons. The projected population growth of about 700,000 persons between 2021 and 2050 is thus only due to migration gains from abroad. In terms of internal migration, districts in Lower Austria located in Vienna's neighborhoods, districts in Burgenland and Styria, as well as Vienna's outlying districts of Floridsdorf, Donaustadt and Liesing are the main winners. In general, it is mainly districts in the urban hinterland that record gains in domestic migration over the forecasting period.

The absolute number of the native-born population will remain largely constant over the entire calculation period until 2050 and will range between 7.16 million (2031) and 7.13 million (2050), but the share of foreign-born persons will increase. Currently, there are 1.80 million persons living in Austria who were born abroad and moved to Austria. This is almost exactly one fifth (20.1%) of the population. In 2050, the number of immigrants will amount to 2.50 million, which means an increase of 38.9% compared to 2021 and a population share of 25.9%.

A positive balance of net external migration can be seen in almost all forecasting regions, although this is particularly high in cities. Special cases are the regions of Baden-Ebreichsdorf and Vöcklabruck, where big refugee camps (first reception centres) are located.

As in the past, the age structure of the Austrian population will continue to shift in the future, as demographic change continues. The number of persons of retirement age will increase both in absolute and relative terms, while the number of younger population groups will grow only slightly or stagnate. The labor force potential, i.e. the group of persons aged 20 to 64, will decline slightly over the entire forecasting period up to 2050. Starting from the 5.50 million persons in this age group as of January 1st, 2021, the working-age population will decline to 5.37 million (-2.4%) by 2030 and to 5.26 million (-4.3%) by 2050.

3 Brief technical summary

The small-scale population forecast (main residence concept) for Austria 2021 to 2050 (ÖROK population forecast) was calculated by STATISTIK AUSTRIA on behalf of the Austrian Conference on Spatial Planning (ÖROK) (ÖROK forecast 2021). In advance, JOANNEUM RESEARCH – POLICIES carried out a thematic regional clustering in order to identify homogeneous regions with regard to the most important components of population development.

The forecast as well as clustering and preliminary analysis cover a total of 121 forecasting regions, namely the Austrian Statutory Cities, the Political Districts as well as the 23 Vienna Municipal Districts.

In the preliminary analysis, the focus was on a primarily data-driven approach – for this purpose, different data sources such as population data (population statistics database – POPREG), demographic data (demographic indicators), data on migration movements (migration statistics), supplementary structural data (coordinated employment statistics, wage tax statistics, child care coverage) and data on mobi-

lity (special evaluation of traffic quality classes) were combined in one data set.

Input variables were population status (by age, by gender, by origin), mortality, fertility, internal migration and external migration. In addition, exogenous variables were explicitly and implicitly included in the analyses.
→ socioeconomic (education, labor market, income, share of the labor force by sector etc.),
→ functional (commuting linkages, basic mobility data etc.),
→ morphological (potential for building land and new construction, price of building land etc.) and
→ further information (new construction activity, care and health as an indicator; infrastructure projects)

Relevant target variables (indicators) were defined for each component of population growth, these included: (i) total fertility rate, (ii) average fertility age, (iii) birth rate, (iv) gender-specific life expectancy, (v) death rate, (vi) proportion of internal out-migration to total population, (vii) proportion of internal in-migration to total population, (viii) proportion of international out-migration to total population, and (ix) proportion of international in-migration to total population. Where possible, these indicators were also analyzed by demographic characteristics such as age and origin groups. Finally, the cluster analysis included those variables that showed particularly significant suitability as explanatory variables – in some cases, literature and the experts' empirical knowledge were also used to derive the factors.

In this way, region types were grouped together that are similar with regard to the individual prognosis parameters. A total of seven clusters were identified for fertility, and four for mortality. Six different clusters were identified for international in-migration and out-migration, seven for regional in-migration and six for in-migration. The regional types differ primarily in terms of the level of the individual characteristics, the degree of urbanization and certain demographic factors (e. g., country of birth: Austria or third countries).

In addition to the regional typification, the small-area population forecast for Austria is also based on long-term assumptions based on the main variant of the current population forecast by Statistics Austria. This assumes that the total fertility rate will rise to 1.60 children per woman by 2080, with a simultaneous increase in the average fertility age to 33.0 years. Life expectancy for both sexes increases in the long term to 89.4 years for men and 92.2 years for women. Furthermore, the main variant of Statistics Austria assumes an annual immigration volume of 145,000

persons, as well as constant age- and gender-specific international out-migration rates and, in addition, direction-specific internal migration rates.

The data were calculated using the multiregional forecasting program SIKURS (Statistisches Informationssystem kleinräumlich gegliederte Umlegung und Projektion einer regionalen Bevölkerungs-Struktur.) of the German KOSIS network. This carries out the forecast calculation on the basis of this classical cohort component method, in which the individual age cohorts (birth cohorts) are updated using the components of population growth. For the calculation, it is assumed that the different regions at least partially converge against the values of the long-term assumptions by 2080, which is outside the forecasting period. This partial convergence together with the population level including one-year age and gender as well as the dichotomous characteristic „born in Austria/abroad" represents the driving force of the forecast.

Empirical observations on internal and international migration are also incorporated into the forecast. Thus, in addition to age- and gender-specific migration rates, the direction-specific internal migration matrix also plays a major role.

The calculations of the forecast were carried out for the total population (main residence) using the „bottom-up" method. In this process, all calculation steps are performed at the lowest level and are aggregated to the upper levels. In a second step, the small-area population forecast was calculated by country of birth and calibrated to the precalculated projection of the total population by means of proportional apportionment.