

Summary

ÖROK REGIONAL FORECASTS 2014-2030 - POPULATION

Introduction

Demographic projections are assigned high priority in many areas of public perception and discussion. Current political discussions focus on the increasing international migration. Moreover, the continued process of demographic ageing necessitates course settings for a number of health and socio-political questions, as e.g. on the care of the elderly. Demographic projections differentiated according to political districts (or forecast regions) support the planning of future infrastructure as, for example, in education and the social fields (schools, kindergartens, care institutions for the elderly) on the federal, provincial and communal levels.

The present **main variant** of the small-scale population forecast by 122 forecast regions or 35 NUTS 3 regions in Austria describes the regional development of the Austrian population up to 2030 and according to the assumptions made on modifications concerning fertility, mortality, international and internal migration. For the first time, this forecast is subdivided according to the dichotomous variable "native born / foreign born".

Based on the scenario "All competition" as included in the ÖROK studies on "Szenarien der Raumentwicklung Österreichs 2030"³ and the assumptions made there on the future spatial development, the **variant "Spatial scenario"** tries to derive their influences on the above mentioned demographic parameters and thus to draw another picture of a possible future population development.

Forecast model

Data were calculated with the help of the multi-regional forecast programme SIKURS 9.2 of the German KOSIS group. Two variants have been presented: one main variant on the basis of a simple "bottom-up model" aggregating provincial results as well as national results from the data projected for the 122 regions and, on the other hand, the variant "Spatial scenario". A separate chapter explains the underlying forecast assumptions. In addition, data are compared with the results of the popula-

tion forecast for Austria and its provinces compiled by Statistics Austria in autumn 2014 as well as the presentation of a variant consistent with the results of the Statistics Austria forecast.

To account for insecurities increasing with duration the main variant defines only the period projected until 2030 as "forecast". The main variant characterizes the period projected from 2030 to 2060 "projection". For this period, estimated modifications in forecast parameters (fertility, mortality, migration) derived from the past are continued; their validity, however, declines year after year, a fact which should be expressed by the terming of the calculation period. Finally, calculations are continued for the period from 2060 to 2075. For these years, no modifications are assumed any more with regard to the three forecast parameters which are kept stable to the values extrapolated for 2060. This period, therefore, is termed „model calculation“.

Results according to main variant

Austria in total | The number of Austrian inhabitants increases and, at the same time, the population ages. These are the main trends of the current demographic development supposed to continue in the future. The increase in population is mainly due to a positive migration balance. Birth rates have been balanced over the past and will continue to do so over the next few years. This signifies that, on a national level, no population growth can be expected.

In the following, population development for Austria and the regions is summarized for the forecast period up to 2030: On reference date 1 January 2014, the starting point of calculations, 8.51 million persons lived in Austria. On 1 January 2015 the nationwide population had increased by about 70 000 due to immigration. The present forecast for the year 2020 shows 8.83 million inhabitants, by 3.8% more than in 2014 (each referring to 1 January of the respective year), for 2030, after all, 9.24 million are projected (+8,3%). The forecast population growth of 707 000 persons between 2014 and 2030 by 94.5% will be due to migration gains by 5.5% to birth surplus. With regard to immigration from abroad it must be observed that the majority of workers are immigrating from the European Union (ab. 50 000 per year); the number of those coming from third countries is a projected 7 100 persons per year.

3 ÖROK (2008): Szenarien der Raumentwicklung Österreichs 2030. Material volume, series no. 176/I.

ÖROK (2009): Szenarien der Raumentwicklung Österreichs 2030. Regionale Herausforderungen & Handlungsstrategien, series no. 176/II

Laender / provinces | With regard to **provinces**, results show that, in future, **Vienna** will experience the strongest population growth. Vienna receives about 40% of international immigration. Already in 2025 Vienna will count 2.00 million inhabitants, again, and their number will increase to 2.08 million (+17.6%) by 2030. The second largest population growth until 2030 is expected for the two western provinces with both +10.3%. The population of **Tyrol** will increase from 722 000 to 796 000, that of **Vorarlberg** from 375 000 to 414 000. In each of these cases, we observe positive birth balances and an international migration surplus but minor losses in internal migration. With a plus of 7.0% **Lower Austria** is fourth. Here, the population will rise from 1.63 million to 1.74 million between January 2014 and January 2030. Lower Austria's natural population decrease is compensated by positive external as well as internal migration balances. Until 2030 the population of **Salzburg** will grow by 6.6% from 534 000 to 569 000 inhabitants. Population growth will be due to positive birth and migration balances, which more than compensate internal migration losses. A population increase of 5.9% until 2030 is forecast for **Upper Austria**, namely from 1.43 million to 1.51 million inhabitants. Again, birth and international migration surpluses compensate for the observed internal migration losses. The population of **Burgenland** will grow by 4.9% from 287 000 to 301 000 between 2014 and 2030. Besides Vienna and Styria, Burgenland is one of the three provinces with a positive internal migration balance. Burgenland has - as the other provinces - an international migration surplus, but it also has a negative birth balance. **Styria** is the province with the lowest population growth. Here the population will increase from 1.22 million (in 2014) by 3.3% to 1.26 million. Internal and external migration growth will be reduced by the surpluses in deaths. **Carinthia** is the only province where a slight population decrease is forecast. Between 2014 and 2030 the Carinthian population will decrease by 0.6% from 556 000 to 553 000. As all other provinces Carinthia has a positive international migration balance, the sum total from internal migration losses and death surpluses is slightly higher, however.

Forecast regions | Regarding the **122 forecast regions**, strong growth rates are expected for the big cities, mainly, and their surroundings until 2030. Apart from the Vienna area stretching into Northern Burgenland, the regions around the provincial capitals Graz, Salzburg, Innsbruck and Bregenz as well as the Upper Austrian central area around Linz and Wels are outstanding. In these regions the population will increase massively until 2030. Key growth driver is the strong immigration movement from other countries, as well as mostly positive balances regarding external and internal migration. One region with very strong population losses is the area along the two rivers Mur and Mürz in upper Styria, another one is the Carinthian region off the central area

around Klagenfurt-Villach. Mostly peripheral regions with a weak economic structure are concerned when it comes to increased outmigration and low birth rates. The only district where a decrease of more than 10% is forecast until 2030 is the most western district of Styria, Murau, with -11.3%.

Future development of the age structure | The number of **children and adolescents up to 19 years** will continue to stagnate for some time, but will slowly start to grow again nationwide in the future. This is a consequence of in-migration and the slightly increasing numbers of births indirectly related. In 2014, 1.69 million children and adolescents were counted in the whole of Austria, and in 2030 this group will hold 1.78 million which will be an increase of 5.1%. The **labour force potential** (population aged 20 to 64 years), however, will not go on growing over the entire forecast period until 2030. Starting from the 5.26 million persons aged 20 to 64 years on 1 January 2014, the maximum will be reached with 5.45 million (+3.3%) at the beginning of the year 2021. After this, the labour force potential will decrease again as during the 2020ies, a large number of persons will change from working to pension age and fewer young persons including immigrants are expected to turn up. Thus, with 5.30 million the number of 20 to 64 year-olds will be higher by only 0.7% in 2030 compared to 2014. On the other hand, the **pension-aged population** will continue to grow in the future as measured by persons 65 years old and older. The strong baby boom cohorts will gradually move into this age group until by 2030, the majority of them will be older than 65 years. In 2014 1.56 million persons at the age of 65 and more years were resident in Austria. Until 2030 their number will rise to 2.14 million, which will be by more than a third or plus 37.5% compared to 2014. In future, the group with the highest increases in percent will be that of **the very old aged 85 and more years**. In 2014 this population group comprised 209 000 persons compared to 333 000 persons in 2030, which will be an increase of 59.5%. A particularly significant rise is expected for the 2nd half of the 2020ies which is the period when the strong birth cohorts around 1940 change into this group.

With regard to **provinces**, the number of **children and adolescents** is bound to increase significantly only in Vienna (+16.1%) and in Tyrol (+8.5%) during the forecast period up to 2030. In Carinthia, a decrease of 5.7% must be expected, in all other provinces the projected change will be between +0.3% (Upper Austria) and +4.8% (Lower Austria). Up to 2030, the **labour force potential** (population aged 20 to 64 years) is going to increase strongly in Vienna, only, that is by 14.3%. In 2030, the active population in Vorarlberg (+3.9%) and in Tyrol (+1.3%) will still be slightly higher than at present. Decreases in the other 6 provinces are between -1.2% (Lower Austria) and -10.9% (Carinthia). Until 2030, the **pension aged popu-**

lition of 65 years and more will increase between 31.7% (capital Vienna) and 46.6% (Vorarlberg). The generally strong growth of this age group especially in the western provinces is mainly due to the high birth rates in the earlier past. Major differences will occur in the increase of the very old population aged 85 and over. With +81.7%, this group will grow almost twice as strongly in Vorarlberg than in Burgenland (+44.3%) until 2030.

By regions, the number of **children and adolescents** will increase by an overall of 16.1% in the capital of Vienna until 2030. A particular growth might be expected in the central districts where in some areas growth rates of more than one third are forecasted. But also in the provincial capitals of Innsbruck, Graz and Linz more children and young persons will live than today. A sharp decline in the under 20 year-old population must be borne by the peripheral Austrian regions with net outward internal migration as Eastern Tyrol (district of Lienz, -19.7%), at Spittal an der Drau (-18.4%), at Tamsweg (18.0%), und at Murau (-17.9%). All in all, in 18 of the 122 Austrian forecast regions a decrease in the group of the under 20 year-old population of more than 10% is projected.

Up to 2030, the population between 20 and 64 years of **working-age** will increase in only 47 of the 122 forecast regions. Due to migration, urban regions may anticipate another addition of labour potential, while rural as well as peripheral districts will tend to lose 20 to 64 year-old residents. Fast growing Donaustadt (22nd district of Vienna.) is in a top position with its labour potential growing by 25.2% until 2030. Further regions where more than 10% of labour potential growth is projected are other Vienna districts as well as the cities of Wiener Neustadt, Innsbruck and Graz, the regions of Schwechat and Dornbirn. Decline of labour potential is projected, once more, for the Styrian district of Murau (-22.5%) followed by other districts in Styria, Carinthia, in the Waldviertel as well as in Lungau. In all those forecast regions the decline in the 20 to 64 year-old population group is expected to amount to more than 15%.

In the whole of Austria, the figure referring to the **population aged 65 and more years** will rise by 37.3% until the year of 2030. In a total of 18 forecast regions the number of over 65 year-olds will have more than doubled by 2030. Top region is the surrounding area of Urfahr with 60.4% followed by the surrounding area of Salzburg (+58.9%), Imst and the 7th district of Vienna (Neubau; +58.5% each).

Demographic development according to country of birth | The Austrian population grows by in-migration. Therefore, the number of persons living in Austria who were born abroad will considerably increase. The result of the calculations shows that the absolute figure of the

native born population remains relatively constant throughout the whole calculation period with between 7 093 000 (for 2014) and 7 205 000 (for 2030) persons. At present, 1 415 000 persons who were **born abroad** are living in Austria. Their number has risen in the past and will continue to do so in the future. At the end of the forecast period, that is, on 1 January 2030, 2 010 000 persons who were born abroad will live in Austria, that will be 21.8% of the overall population or by 42.1% more than in 2014. The population group born abroad will grow until 2030 in all Austrian provinces and all forecast regions. The strongest growth is expected for Tyrol (+45.4%), followed by Vorarlberg (+43.4%) and Vienna (+43.0%). Next are Upper Austria (+42.7%), Styria (+41.9%) and Lower Austria (41.6%). Three provinces will register increase rates lower than 40%, namely Salzburg (+36.5%), Carinthia (+36.3%) and Burgenland (+34.7%). Higher per cent increases can be expected in some regions bearing in mind that, in many of these cases, very small figures are concerned, meaning that the number of the population born abroad was very small in 2014.

Assumptions on population forecast in main variant | Starting from the current population structure future modifications in the population figure and age structure will be determined by annual births, deaths, international in- and out-migrations as well as internal migration flows between the 122 forecast regions. Therefore, assumptions are necessary on the future development of the parameters that control these flows. On the basis of guidelines worked out by the accompanying ÖROK working group consisting of representatives of the Federal Chancellery, dept. IV/4 as well as the provincial statistical services of Burgenland, Lower Austria, Upper Austria, Salzburg, Styria, Tyrol and Vienna, in a first step Statistics Austria identified groups of regions with similar demographic behaviour by using cluster-analytical techniques. Uniform forecast parameters and target values were imputed to these groups. The projected birth figures are controlled through age-specific fertility rates the summarized measure of which is the **Total Fertility Rate** (TFR). At present, this rate is at 1.44 births per woman and in future should rise to the level of 1.55 nationwide until 2060. Currently, native born women have a TFR of 1.32 expected to rise to 1.51 until 2060 auf. For the women born abroad the TFR will decline from currently 1.87 to 1.81 until 2060 von. Regional disparities are imputed to remain constant in the future. The average age at giving birth will continue to rise. The annual number of deaths is calculated on the basis of age-specific mortality, the summarized indicator of which represents **life expectancy**. In this variant, too, regional disparities according to gender and country of birth are maintained. Austria-wide the life expectancy of native-born men will rise from 77.6 to 87.3 years until 2060, for native-born women from 83.0 to 90.6 years. Foreign-born persons

have a slightly higher life expectancy. The general age of men will nationwide rise from 78.8 to 87.4 years, that of women from 83.5 to 90.7 years until 2060. Assumptions on **international immigration** were transferred to the provincial level from current population forecasts of Statistics Austria. The distribution according to individual forecast regions corresponds to the presently observed pattern. For the first forecast year in-migration assumptions were raised for a bit as compared to Statistics Austria to show the increased foreseeable population growth. All in all, the in-migration volume will decrease from presently 170 000 persons (in 2014) to 144 000 persons in 2060. The main part of immigration will take place from European Union member countries (incl. family reunification) and is estimated at around 70 000 (in 2014) and 60 000 (in 2030), respectively, compared to the in-migration from third countries including family reunification which is estimated at about 20 000 persons per year constantly). **International out-migration** is calculated by means of age- and gender-specific rates derived from current migration statistics. The high in-migration level is expected to increase the tendency towards out-migration, too. **Internal migration** is controlled by age-, gender- and direction-specific out-migration rates. Starting point for the calculation of forecasts is the last observed matrix level of direction-specific internal migration rates of the years 2011 / 2013 structured by age, gender and country of birth. Up to the year 2025, this matrix will be modified in a way that internal in-migration towards urban regions is expected to increase, especially in Vienna towards suburban districts with a high potential of new space.

Results in the variant “Spatial scenario”

Austria | The variant “Spatial scenario” expects high population growth in particular for the first 15 forecast years: between 2014 and 2030 an increase of 650 000 inhabitants in total or 7.6% is forecast. According to that variant, in 2030 the population would be 9.157 million, which would be by about 57 000 persons lower than the projected value of the main variant (9.214 million).

Population projection 2030 (2014 = Index 100)

Region	2014 absolute	Population 2030 (Main scenario)		Population 2030 (Spatial scenario)	
		Absolute	Index	Absolute	Index
Austria	8 507 786	9 214 311	108.3	9 157 140	107.6
Burgenland	287 416	301 381	104.9	297 465	103.5
Carinthia	555 881	552 697	99.4	546 426	98.3
Lower Austria	1 625 485	1 738 547	107.0	1 719 506	105.8
Upper Austria	1 425 422	1 509 598	105.9	1 496 624	105.0
Salzburg	534 270	569 333	106.6	565 451	105.8
Styria	1 215 246	1 255 091	103.3	1 241 346	102.1
Tyrol	722 038	796 275	110.3	791 089	109.6
Vorarlberg	375 282	414 088	110.3	412 667	110.0
Vienna	1 766 746	2 077 300	117.6	2 086 567	118.1

Source: Statistics Austria (Population Register), ÖROK (Population Projection 2014).

Provinces | With the exception of Carinthia, where stagnating and downward trends have been registered for years, already, all provinces will record rising population figures during the coming years.

Forecast regions | High population gains (>10 %) are forecast almost exclusively for urban agglomerations as well as for Vienna districts. With regard to the long-time population trend this appears absolutely plausible, as the dynamic development is almost exclusively due to the high migration activity with foreign countries. In total, the population number increases by about 606 000 persons in the 39 forecast regions.

40 forecast regions will have registered population losses by 2030, with quite heavy losses over 8% in some regions of Carinthia (Hermagor, Sankt Veit an der Glan, Spittal an der Drau, Wolfsberg), of Styria (Bruck-Mürzzuschlag, Leoben, Murau, Murtal) as well as in Lower Austria (Gmünd, Waidhofen an der Thaya, Zwettl) and in the district of Tamsweg in Salzburg. For these forecast regions an overall population loss of around 96 000 persons is forecast. For the rest of the 43 regions, slight population growth (up to 10%) is expected.

Although population development does not differ from main variant but minimally this development is based on different demographic weightings. In the spatial scenario, the surplus of deaths over births is estimated at around 109 000 opposed to a surplus of births of 38 000 in the main variant during the forecast horizon. Net immigration from abroad, however, is with about 779 000 persons by 12% higher in the spatial scenario than in the main variant (698 000). Demographic findings demonstrate clearly that various demographic processes affect population development which is why consequences established on this basis must be evaluated critically in particular on the regional level.

Assumptions regarding the population forecast variant “Spatial scenario”

The challenge in formulating assumptions for ÖROK regional forecasts is that, implicitly, assumptions on the orientation of future policies are included, as e.g. influences of measures concerning the compatibility of work and family on the area of fertility or the orientation of immigration policy.

In the development of “Szenarien zur Raumentwicklung Österreichs 2030”⁴ possible orientations of space-relevant policies were drafted forming the basis of different

4 ÖROK (2008): Szenarien der Raumentwicklung Österreichs 2030. Material volume, series no. 176/I.

ÖROK (2009): Szenarien der Raumentwicklung Österreichs 2030. Regionale Herausforderungen & Handlungsstrategien, series no. 176/II.

scenarios. For this very reason, in the course of the present population forecast we have also attempted to calculate a variant on the basis of the scenario “All competition“ Forecast assumptions on the demographic devel-

opment were developed in the framework of a workshop of the ÖROK working group “Prognosen” from the socio-political orientation formulated for the scenario and implemented in turn.