



Labour migrant working at fish processing plant in Suðureyri, Iceland. Photo: Timothy Heleniak

Scenarios for 2015-2080: The impact of migration on population and ageing

One possible policy option for countries concerned about declining or aging populations is replacement migration – allowing or even encouraging international migration in order to counteract decline and aging of native populations. In the past two decades, net international migration into the Nordic region has been a much larger contributor to population growth than natural increase. This policy brief explores the likely demographic contribution of migration to population growth in the Nordic countries in the future and the extent that it could compensate for population decline or aging.

The population of a country grows or declines as a result of the combination of two trends. One is natural increase, the difference between the number of births and deaths. A number of European countries have been experiencing ‘negative natural increase’ (i.e. more deaths than births) because women have had fertility rates well below two children per woman and older age structures. In recent decades, the Nordic countries have had positive natural increase as a result of having relatively higher fertility rates of just below two children per woman and relatively younger age structures.

The other trend influencing population change is net migration, the difference between immigration and emigration. Overall for the Nordic region, natural increase has accounted for

about one-third of total population increase since 1990, and net migration about two-thirds. The relative contribution of migration to population growth has increased even more in the past decade with the large influx of refugees and others into the Nordic countries.

The Nordic countries, particularly Sweden, have been among the largest recipients of refugees among the EU countries. Nonetheless, the demographic impact of international migration does not seem to be a prime concern in the migration policies of the Nordic governments. Only in Finland does the government explicitly acknowledge the ageing process of the population and discusses the migrants’ role in reducing the dependency ratio and alleviating labour shortages. Given the current and expected continued migration into the Nordic region, it is useful to examine the demographic impact of international migration on the size and age structure of the Nordic countries. This brief summarizes the results of such scenarios contained in a Nordregio working paper, *The impact of migration on projected population trends in Denmark, Finland, Iceland, Norway and Sweden: 2015-2080* (available on www.nordregio.se November 2016).

Migration and population dynamics

Migrants have numerous impacts, both positive and negative, in their destination countries.

One important impact is demographic, as increased immigration helps increase the population size of the country to which people migrate. Related to this is that increased migra-

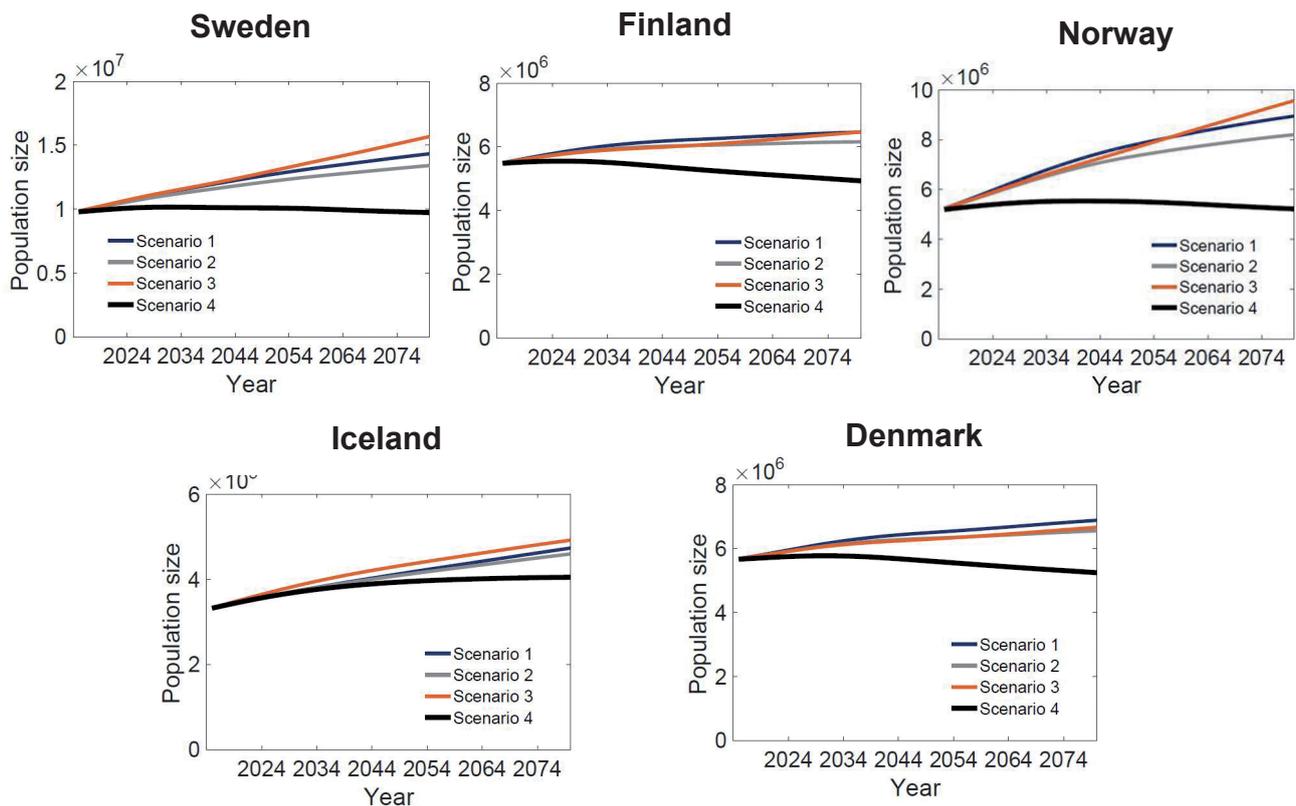


Figure 1: Total population size in the Nordic countries, projected from 2015 to 2080

Development of the total population size between 2015 and 2080 in the five Nordic countries. Four scenarios: **Scenario 1:** Europop2013 'Main scenario', **Scenario 2:** Europop2013 'Reduced migration scenario', **Scenario 3:** 'High migration scenario' – Assuming future migration levels for each year that correspond to the average annual

migration numbers of the period 2010 to 2014, **Scenario 4:** 'No migration scenario' – Assuming no immigration to or emigration from the Nordic countries.

Source: Europop2013 projection set published by Eurostat (<http://ec.europa.eu/eurostat/data/database>) and own calculations

tion also helps to make the age structure younger because migrants tend to be younger than the resident population. A recently-released report by Statistics Sweden titled 'Migration results in a younger population' (<http://www.scb.se/en/Finding-statistics/Articles/Migration-ger-en-yngre-befolkning/>), demonstrated the impact of migration on population growth and aging in Sweden since 1970.

If Sweden had completely closed its borders in that year and did not allow any migration, population growth would have stopped and the country would have 2 million less persons than the near 10 million it has today. Without the contribution of migration, since 1995 there would have been more deaths than births in Sweden, and the age structure would have been older.

Just as migration has shaped the population size and age structure in Sweden in the past decades, it will influence population growth in Sweden and the other Nordic countries in the future.

The future impact of migration on populations can be estimated with the help of population projections. In 2001, the United Nations published a report entitled *Replacement Migration: Is it a solution to declining and ageing populations?*. It described population decline and population ageing as two critical trends which could have large-scale social and economic implications for the European Union and other regions and countries around the world. For the European Union, then consisting of 15 member states, the UN concluded that the population could be kept from declining in size if fu-

ture migration levels would remain stable at the levels experienced between 1990 and 1998. Population ageing could only be prevented with migration numbers that would be 15 times higher than the levels experienced in the 1990s. The migration levels necessary to fully prevent population ageing in Europe were considered too high to make this a realistic strategy.

Scenarios: Migration and population size

The question how and to what extent international migration may influence the population size and age structure of receiving countries remains important, not least in the context of the ongoing refugee crisis. To simulate the demographic impact of migration on population sizes, we applied various scenarios to the Nor-

dic countries to the year 2080, or roughly two generations into the future. The scenarios were partly taken from the latest set of population projections published by the European statistical office Eurostat (Eurostat2013: <http://ec.europa.eu/eurostat/data/database>) and partly defined by Nordregio.

Initially, three different scenarios for future migration trends in the Nordic countries were examined.

Scenario 1: In its so-called ‘main scenario’, Eurostat assumes that annual net migration numbers will be positive throughout the projection period in all Nordic countries.

Scenario 2: An additional ‘reduced migration’ scenario, assumes lower, but still positive, net migration numbers for all Nordic countries.

Scenario 3: We calculated the average annual net-migration inflow to the five countries for the time period 2010 to 2014, which has been a period of comparatively high immigration for the Nordic region. We then assumed that the same number of persons will move to the Nordic countries each year between 2015 and 2080. The three scenarios differ only with respect to their underlying migration assumptions.

One main result stands out from Figure 1: Populations will increase in all Nordic countries until 2080. This is the result of the Scenarios 1 to 3. The more migrants are assumed to come to the Nordic countries, the stronger the population increase will be. Even in Scenario 2, which assumes the lowest net migration numbers, do we see an increase in population sizes. The strongest increase is expected in Norway, where the population could reach between 8 and 10 million persons in 2080, starting from 5.2 million in 2015.

Scenario 4 in Figure 1 shows how population trends would develop if all immigration and outmigration into and from the Nordic countries would stop today. All population dynamics are hence purely the result of fertility trends, mortality trends, and the ageing of the resident populations. Without future migration, populations would decline in Denmark, Finland and Norway until 2080. In Sweden, the population would remain almost

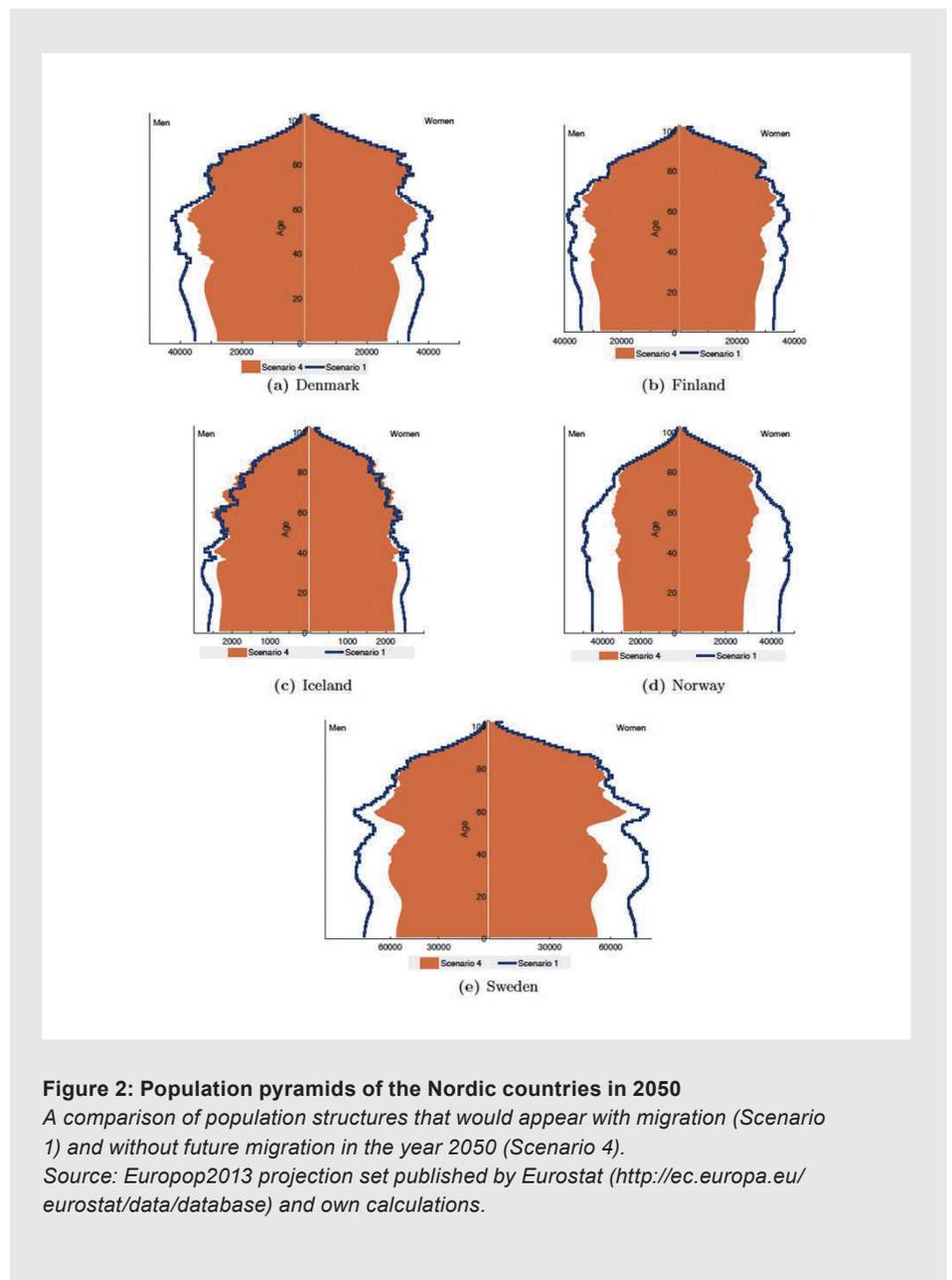


Figure 2: Population pyramids of the Nordic countries in 2050
A comparison of population structures that would appear with migration (Scenario 1) and without future migration in the year 2050 (Scenario 4).
Source: Eurostat2013 projection set published by Eurostat (<http://ec.europa.eu/eurostat/data/database>) and own calculations.

at its current size until 2080 if migration would stop. In Iceland, a fertility rate close to two children per woman and a comparatively young age structure would keep the population growing until 2080, albeit at a lower pace than if additional migrants would come to the country.

Migration and the age structure

The effect of migration on population sizes and age structures also gets clearly visible in Figure 2. It shows population pyramids with and without further migration for all Nordic countries in the year 2050. A comparison of the two population structures in each country clearly shows the contribution of migration. Without

any additional migration, all populations would be smaller in 2050 than they would be with continuing migration inflows. The differences in population numbers are particularly stark in the younger and middle ages. Migrants are often of young adult ages and therefore initially contribute to the size of these age groups.

Population ageing, i.e. the growth in the share of older people within European societies, has caused considerable concern among policy makers and the research community. Already in the year 2000, a range of countries identified population ageing as a major concern for public pension systems, health care and long-term care provision. The Eu- »

Key points

- The Nordic countries are likely to remain popular destinations for migrants in the future. This will lead to sustained population growth in the Nordic region. Without future immigration, population sizes are likely to decline in Denmark, Finland and Norway during the next decades. In Sweden and Iceland, population growth would be substantially lower if migration would stop.
- Migration will also slow down population ageing in the Nordic countries, but

it cannot stop the ageing process. The migration levels required to keep age ratios at current levels are too high to make this a feasible strategy.

- The contribution which refugees and other migrant groups can make to the Nordic countries crucially depends on their integration into education systems, labour markets and societies. It is for this reason that the integration of refugees has been placed high on the political agenda for the coming years. This will benefit the

migrants themselves, ease strain on public finances and help to maintain public support

- The scenarios shown in this report should not be understood as predictions, and the migration assumptions should not be viewed as policy recommendations. Instead, the projections are hypothetical demographic scenarios that are intended to show how different levels of migration would influence population sizes and structures.

» European Commission defined population ageing as a key challenge that has to be addressed in order to maintain employment, productivity and social cohesion in Europe.

The United Nations replacement migration report concluded that migration flows alone cannot stop the ageing trend in the European Union area (then 15 member states), since the required numbers would be unrealistically high. The Nordic countries, however, have more youthful populations than many of their southern European neighbours, so that migration may be a more promising strategy here. In order to investigate this, we calculated how many migrants would have to move to the Nordic countries in each year until 2080 in order to keep the dependency ratios in the region stable.

We find that the migration numbers necessary to keep the dependency ratio at current levels would be unrealistically high. Until 2080, the Nordic countries would have to accommodate between 4.1 million (Iceland) and 40.8 million (Norway) migrants. Overall, these results therefore raise strong doubts about the concept of replacement migration as a strategy to keep the dependency ratios stable in the Nordic countries. The mi-

gration numbers that would be needed for this goal would be unprecedented, lead to population booms in all countries and create enormous, perhaps impossibly large, demands for housing, infrastructure, integration measures, welfare support and on the environment. Within few decades the current host populations living in these countries would become minorities. For this reason alone, replacement migration to maintain age balances is likely to be socially unjustifiable.

While migration cannot stop the ageing process completely, it is one possible measure to boost labour forces and to slow population ageing in the short term. In order to fulfill these functions, it is crucial that immigrants are speedily integrated into societies and particularly into the labour market. If newcomers remain outside of paid employment for longer periods of time due to sickness, lack of qualification or discrimination, this will increase the number of economically dependent persons and the burden on public security systems. The figures and tables presented in this paper did not take these aspects into account. Instead, they focused purely on the demographic impact of migration. Nonetheless, it is important to put the demographic trends into con-

text. After all, the educational profiles of migrants, their integration, labour demands and workforce participation are crucial in determining which contribution migrants can make in the Nordic countries. The current refugee crisis may hence offer both challenges and opportunities for Nordic welfare states.

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