Nordic-Baltic Demographic Vulnerability Assessment at municipal level

Across the world people are moving nationally from rural areas to bigger towns and cities, and within the European Union, people are also increasingly moving between countries. While immigration to the Nordic countries has exceeded natural population increase as the most prominent driver of population growth, the Baltic countries have experienced significant out-migration in the latest decades.

However, migration is only one of several demographic challenges that affect the demographic structure in municipalities and regions. Ageing of the population is another key challenge; in some places emphasised by out-migration of people in age groups being active in the labour force. Life-expectancy has steadily increased and together with the decrease in birth and death rates, people are living longer while the number of children is declining. Retirement age, the age when people exit the labour force, has not changed in parallel with the increasing life-expectancy and thus adds to the increased proportion of non-productive elderly citizens. These changes in the composition of the population will increasingly affect vital societal parameters such as the labour supply and the dependency burden, and eventually the ability to provide sufficient social services at municipal level.

Individually and collectively these trends will have a crucial impact on the development potential in the Nordic-Baltic municipalities and to aid the policy-makers in identifying these complex demographic challenges, Nordregio has used demographic vulnerability indicators as a tool to detect these local demographic challenges; a tool that can be used in various contexts to benchmark municipalities but also enabling policymakers to identify the ongoing demographic changes in their municipalities and regions.

Indicating demographic vulnerability

To highlight the demographic diversity across Nordic and Baltic municipalities, Nordregio utilises the concept of “demographic vulnerabilities” based on demographic data; a concept that has been applied to the Nordic municipalities and regions since 2011, and which in this project has been extended to include also the Baltic countries.

The demographic vulnerabilities map of the Nordic-Baltic region (overleaf) is a summary of ten demographic components on municipal level in all countries; except Lithuania where the NUTS3 regions were used; a decision based partly on data availability but also due to the very small size of the Lithuanian municipalities which would have made them difficult to distinguish in the pan-Nordic-Baltic map.
How can the demographic vulnerability assessment map be used?

The demographic vulnerability assessment map can be used as a point of departure by the policy-makers and authorities in order to:

- identify own municipality’s demographic vulnerabilities
- assess prioritisations for future work in addressing demographic change
- find municipalities with similar challenges for sharing knowledge and ideas for cooperation
- benchmark against other Baltic and Nordic municipalities

On the basis of the 10 demographic indicators - five related to age structure, two related to gender balance, two to natural population change and one to migration - the map overleaf facilitates the understanding of the demographic dynamics that characterises the Nordic-Baltic region.

It helps to identify municipalities which share common demographic development options as well as specific challenges. It is however important to bear in mind that the existence of a large number of indicators over or below the risk level does not necessarily indicate a bad demographic situation but rather simply illustrate the level of complexity of the specific demographic situations.

For each of the indicators a threshold has been calculated identifying whether or not they can be considered ‘at risk’ in case the demographic development surpasses or declines below the threshold value.

For the age indicators, the threshold is set on the potential replacement in comparison to a Nordic-Baltic average. For example, if the age group of 0-14 years drops below 17.8% a proper reproduction rate comparable to the Nordic-Baltic standard will not be maintained, and the population will decline unless compensated for by other factors such as in-migration.

For the other indicators (gender balance, natural population change and migration) the threshold values have been calculated in relation to what is needed in order to maintain a balanced situation i.e. a female rate below 100 (female shortage) results in a distorted gender structure which reduces the natural reproduction rate, just as it, with the present pattern of educational and occupational choices, will have implications for the potential labour force.

To aid the understanding of which vulnerabilities are the most determining for each municipality, Nordregio has also produced maps for each of the 10 vulnerability indicators that make up the total Nordic-Baltic Demographic Vulnerability Assessment indicator. These maps can be assessed on the webpage: www.nordregio.se/NB_DVA

Additionally, the complexity map as well as the 10 vulnerability indicators have been summed up to regional level - these maps are also available on the abovementioned webpage.

Benefit of Nordic-Baltic demographic comparisons

The consequences of increased interaction within the Nordic-Baltic labour market illustrates very well how the challenges and perspectives become evident when the concept of demographic challenges is brought into use.

Even though the concept of demographic vulnerabilities was initially tailored specifically to the Nordic municipalities, the extension of the concept to cover both Nordic and Baltic municipalities within the same map provides an opportunity, first of all, to identify potential receivers and providers of labour force when stable labour force structures should be obtained. It is interesting to note how the adapting of thresholds in relation to Nordic-Baltic averages on one hand serves as indicators of drivers of future mobility in the region, and furthermore enables the exchange of experiences with handling the demographic challenges across borders in the Nordic-Baltic region - thereby serving as a positive background for the practice of individuals who are part of diasporas.

Managing different identities should be useful cultural know-how for others since the individuals’ frequent cross-border connections across the continent, due to family linkages, migrations or to cultural connections, contribute to the web of human contact that connects European society. They contribute to the circulation of ideas and knowledge and to keeping our societies open and forward-looking as established diasporas are becoming an important part of the fabric of Europe but also have much yet to contribute. For more on this diaspora discussion, see www.europeofdiasporas.eu
Nordic - Baltic Demographic Vulnerabilities

Thresholds for vulnerabilities
Indicator is understood to be above the risk level, if:
- Crude birth rate < 11.1%
- Crude death rate > 13.9%
- Net migration rate < 0.1%

Share of population in age group:
- 0-14 years is below 17.81%
- 15-24 years is below 12.63%
- 25-54 years is below 39.97%
- 55-64 years is above 12.34%
- 65+ years is above 19.00%

Balance, females vs. males:
- Less females than males
- Less than 95.2 females per 100 males in age group 15-64 years

Total number of vulnerabilities
- 0: None
- 1-10: Above the risk level

Number of Indicators
- Data year: 2015
- Adm. level: DK, FI, NO, SE: municipality, EE: Valdži un Latvijas SVD: municipality, LV: Republikas pilsētas/Novada
- Source: NSRIS

National boundary
Regional boundary
0 100 200 km
About this project

The Nordic-Baltic demographic vulnerability assessment was conducted as part of the project “Enhanced Nordic-Baltic cooperation on challenges of labour mobility in the Nordic-Baltic region 2014-2015”.

This project was led by the Nordic Council of Ministers' Office in Lithuania in cooperation with the NCM offices in Estonia and Latvia, and Nordregio.

The project is a follow-up to the initiative “Challenges of Migration in the Nordic-Baltic Region: Impact on National Labour Markets, Welfare State and Demographic Situation” implemented by the NCM offices in the Baltic countries in 2013.

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