The demise of the rural Nordic region? Analysis of regional population trends in the Nordic countries, 1990 to 2040

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Abstract

The population of the Nordic region has grown substantially during recent decades, though most of this growth has been in urban regions. While the Nordic countries are projected to see continued population growth in the future, almost all of the increase will be concentrated in urban centres, with population decline or stagnation in many rural municipalities. This will make it difficult for these regions to remain economically competitive and for national governments to provide a uniform level of services across entire countries. This article provides policymakers at the national, regional, and municipal levels with projections of the size, composition, and geographic distribution of rural populations in the Nordic countries in 2040. In total, remote rural regions will not become depopulated and are projected to grow moderately from 5.3 to 5.5 million persons to 2040, though many will experience significant declines in their total and working-age populations and will have much older age structures. For many rural municipalities in the Nordic region, their population peak was at some point in the distant past, and they should therefore develop policies based on smaller populations.

Keywords
Rural policy, population projections, shrinking cities, aging

Introduction

The settlement patterns of the Nordic countries are unique, with large concentrations in urban areas and along the coasts and large swaths of sparsely populated land (Roto, 2012). This is a result of physical geography and the availability of arable land combined with historical factors which include the changing economic structure of the countries (Stjernberg & Penje, 2019). The population in the Nordic countries has grown substantially, by 18 percent since 1990 from 23.2 million people to 27.3 million in 2019 (Nordregio, 2020). Of the total population increase of 4.1 million over this period, half was in predominantly urban regions. The rural and sparsely populated regions in the Nordic countries continue to decline in population size and their populations are aging faster than other regions in the countries. While the Nordic countries are projected to see continued population growth in the future, almost all of the increase will be concentrated in urban centres, with population...
decline or stagnation in many rural municipalities. This will make it difficult for these regions to remain economically competitive and for national governments to provide a uniform level of services across entire countries.

Important inputs into rural policy planning are projections of the size, composition, and spatial distribution of the populations in the rural municipalities of the Nordic region. The purpose of this article is to provide interested people at the national, regional, and municipal levels with an idea of what the size, composition, and geographic distribution of the rural populations in the Nordic countries might look like in 2040. It does so by compiling the population projections done by the national statistical offices of the Nordic countries to examine the size, regional concentration, age distribution, and other characteristics of the rural populations in the Nordic countries in the future. The future size of the urban and rural populations are examined to provide context for the expected population trends in rural areas. The article is based in part on a Nordregio report and executive summary (Sánchez Gassen & Heleniak, 2019a; Sánchez Gassen & Heleniak, 2019b).

The next section examines some of the rural policy dilemmas in the Nordic region. Following this is a description of the data and methods and the urban-rural typology employed. The results portion of the paper is divided into four sections. The first examines the projected size and composition of the Nordic countries at the national level. The second, titled ‘Urbanisation and rural exodus in the Nordics: past and future trends’, examines which Nordic regions and municipalities were growing and which were shrinking in the past and which are expected to grow or decline in the future. The period under examination is 1990 to 2040. The third is titled ‘Population ageing in the Nordics: past and future trends’, which looks at ageing trends at the national, regional, and municipal levels. The fourth is titled ‘The working age population in the Nordics: past and future trends’ and looks at the size and share of the working-age population. The conclusions examine the implications of the expected size, composition, and distribution of the rural populations in the Nordic countries, and possible policy solutions.

Rural dilemmas in the Nordic region

The Nordic region has a rather unique physical setting which influences the spatial distribution of its population. It is the only part of Europe which extends north of the Arctic Circle. Sweden, Norway, and Finland are three of the six largest countries in Europe in terms of land area. Iceland is comparable in size to Bulgaria but has a much smaller population. Greenland is the world’s largest island, but only small portions along the coast are habitable. The Faroes consist of eighteen islands, of which sixteen are inhabited. Sweden, Finland, and Norway contain the most islands of any countries in the world, many of which are inhabited. Åland is a self-governing region of Finland consisting of about 6,700 islands, of which about eighty are inhabited. This natural setting results in large uninhabited or sparsely populated areas. It is these remote, sparsely populated municipalities which are shrinking in population size the most.

The focus of the Nordic Council of Ministers thematic group for Sustainable Rural Development in the Nordic region is on social, economic, and environmental sustainability in the rural, remote, and sparsely populated regions of the Nordic countries (Nordregio, 2020). The rural regions of the Nordic countries comprise an abundance of natural resources which are important sources of agricultural products. Sustainable development of these rural regions is important not just for the current residents, but for all residents of the Nordic countries. There is a long tradition among Nordic residents of spending time in
nature, thus the rural areas are an important part of the countries’ national identities. As the Nordic countries developed and industrialised in the twentieth century, there was a large-scale migration from rural areas to the larger urban settlements—a process which continues to the present, albeit at a slower pace. The development of rural, sparsely populated and peripheral areas is important for the cohesive development of the Nordic region as a whole. However, there is a growing regional imbalance between urban and rural areas in terms of population growth, economic growth, access to services, and social outcomes. The potential of the Nordic rural areas also vary widely depending on population concentration, distance to major markets and cities, and natural and human resources.

Nordic welfare states are characterised as providing high-quality public services. Regional and municipal authorities play a central role in the delivery of key services, but this can be challenging as capacity and resources vary greatly, making them heavily dependent on financial support (Wiberg & Limani, 2015). Shrinking cities or municipalities lead to lower tax revenue and thus a decline in funds available for social expenditures (Syssner, 2015). Smaller populations will also cause an increase in per-capita expenditures. Municipalities in the Nordic region have broad responsibilities for the delivery of social services and thus the burden of shrinking populations is largely their responsibility. In Sweden, three-quarters of the average municipality’s budget is devoted to welfare services, including education, health, and social care. However, most politicians and planners disregard shrinkage and plan for growing populations, even though reality shows a quite different trend. Most municipalities adopt growth-oriented strategies, not wanting to acknowledge population decline, which is often viewed quite negatively. To admit that one’s municipality’s population peaked at some point in the past and is now shrinking is often seen as a weakness and is coupled with efforts to make the municipality more attractive for potential residents, tourists, and investors.

Methods and data
Population projections produced by NSIs
The national statistical offices (NSI) of all the Nordic countries and autonomous areas regularly produce projections of their populations. These differ in detail, assumptions, and length of the projection period. The population projections are used for a variety of planning purposes. The standard practice for doing population projections is the cohort-component method. The components of population change—fertility, mortality, and migration—are applied to the cohorts or the age-sex structure of the population. This is an extension of the population-balancing equation through which the population at the beginning of a period (usually a year) plus the number of births minus the number of deaths plus the number of in-migrants minus the number of out-migrants equals the population at the end of the period or year. The difference between the number of births and deaths is called natural increase. The difference between the number of in-migrants and out-migrants is called net migration. It is important to distinguish between these two components of population change because they are influenced by and influence populations differently.

Due to the influence of exogenous factors, migration is the most difficult component of population change to project. This applies to the smaller municipalities in the Nordic region where the movement of people, in or out, can have a significant influence on population change. Factors such as climate change could have a large influence on migration towards the Nordic region, but methods to project such movements are still developing.
Typology of regions

The term ‘region’ is used differently in this report. The Nordic region consists of Iceland, Norway, Sweden, Finland, and Denmark, as well as the Faroe Islands and Greenland (both part of the Kingdom of Denmark) and Åland (part of the Republic of Finland) (Nordregio, 2020). The analysis and maps in this article are done at both the regional and municipal levels. The regional level within each Nordic country consists of five regions in Denmark,
19 landskap in Finland, eight landsvaedi in Iceland, 18 fylke in Norway, and 21 län in Sweden. These are comparable from a Nordic perspective and are the basis for the Nomenclature of Territorial Units for Statistics (NUTS) classification which is used to divide European countries into statistical units for research purposes.

The Nordic states and autonomous regions each have their own typologies of regions and municipalities which they use for planning and operational purposes (Nordregio, 2011a, 2011b). In this analysis of past and future population trends across the Nordic regions, a common typology of urban and rural regions is used with five different types of regions: 1) predominantly urban regions (red), 2) intermediate regions, close to a city (orange) 3) intermediate regions, remote (yellow) 4) predominantly rural regions, close to a city (light green) and 5) predominantly rural regions, remote (dark green) (figure 1). This pattern of colours will be used throughout the article in tables and figures to be able to quickly distinguish demographic patterns according to the regional typology.

The urban-rural typology classifies the Nordic regions based on the Eurostat methodology (Eurostat, 2018). The classification is completed in three steps: identify rural area population, classify regions, and adjust classification based on the presence of cities. This typology uses a simple two-step approach to identify population in rural areas: rural areas are all areas outside urban clusters; urban clusters are clusters of contiguous grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5,000. The regions are classified on the basis of the share of population in rural areas: predominantly rural if the share of population living in rural areas is higher than 50 percent; intermediate, if the share of population living in rural areas is between 20 percent and 50 percent; predominantly urban, if the share of population living in rural areas is below 20 percent. Applying a European-wide methodology to the Nordic region, especially some of the more sparsely population areas, produces some anomalies.

Results
National population projections
The population of the Nordic region continues to grow through a combination of natural increase and net migration (Nordregio, 2020). Since 1990, the population of the Nordic region has increased by 18 percent from 23.2 million to 27.3 million, an increase of 4.1 million persons. The majority of the increase came from having more people migrate to the Nordic region than away, as there has been a net immigration of 2.7 million persons. The natural increase of 1.4 million has had a smaller but still substantial impact. The trend of net immigration being the larger contributor to population increase has been especially prominent since 2006. Norway, Sweden, and Denmark followed the regional trend of net migration being the larger contributor to population increase and all had proportional increases of their populations of about the same as the entire Nordic region. Iceland had the highest population growth, 41 percent, fuelled by high natural increase and fluctuating but overall positive net immigration. In Finland, natural increase and net migration contributed equally to a population increase of 11 percent, which was positive but lower than the other four Nordic countries (Heleniak, 2020a).

Iceland, Norway, and Sweden are projected to have population increases of about one-quarter between now and 2060 (larger increases over a longer projection period in Norway and Sweden) (Table 1). Denmark is projected to have a smaller increase of 12 percent and the population of Finland is projected to decline. About two-thirds of the projected growth in Norway and Denmark is to come from net migration, whereas in Iceland and Sweden,
natural increase and net migration are projected to contribute equally. For Finland, the population is projected to decline by 20 percent from a greater rate of deaths than births, but not to decline more due to projected immigration.

Table 1: Projected population change in the Nordic countries

|                      | Iceland | Norway | Sweden | Finland | Denmark |
|----------------------|---------|--------|--------|---------|---------|
| Start year           | 2018    | 2018   | 2019   | 2019    | 2019    |
| End year             | 2067    | 2100   | 2100   | 2071    | 2060    |
| Total population     |         |        |        |         |         |
| Start year           | 348,450 | 5,295,619 | 10,326,381 | 5,517,919 | 5,806,081 |
| End year             | 435,966 | 7,294,267 | 14,160,144 | 5,180,411 | 6,478,162 |
| Population change (absolute) |     |        |        |         |         |
| Total                | 87,516  | 1,998,648 | 3,833,763 | -377,508 | 672,081 |
| Natural increase     | 39,691  | 537,052  | 1,756,173 | -1,118,861 | 203,488 |
| Net migration        | 44,858  | 1,482,314 | 2,173,786 | 781,369  | 484,694 |
| Population change (percent) |     |        |        |         |         |
| Total                | 25      | 38      | 37     | -6      | 12      |
| Natural increase     | 11      | 10      | 17     | -20     | 4       |
| Net migration        | 13      | 28      | 21     | 14      | 8       |
| Population change, 2018 to 2060 (percent) | 24 | 23 | 22 | -4 | 12 |

Source: Nordic NSIs

Several dependency ratios are important to examine and how they will evolve in the future. As is shown, there is considerable variation in the age structure among municipalities, which impacts their growth rates. The total dependency ratio is the sum of those aged 0 to 14 and 65 and older as a share of those aged 15 to 64. The elderly dependency ratio is those aged 65 and older as share of those aged 15 to 64. The use of ages 15 to 64 as working ages is done for simplicity and comparisons across countries, including outside the Nordic region. Obviously, people in the Nordic countries have different official working ages and many people working beyond age 65.

In 2019, the highest dependency ratios were in Sweden and Finland, with about 61 dependents per 100 persons in the working ages. The lowest ratio was in Iceland, with 50 dependents per 100 working-age persons, with Denmark falling between these two. The dependency ratio is projected to rise in all countries and in 2060 (the last year for which projections are done for all countries) to be about 70 to 72 dependents per 100 working-age persons in all the countries except Finland, which is projected to have 75 dependents per 100 persons in the working ages. The dependency ratios are projected to continue to rise and reach 81 dependents per 100 workers in Finland in 2070, and 79 and 74 respectively in Norway and Sweden in 2100.

Focusing on the elderly dependency ratio shows a different picture. In 2019, the elderly dependency ratio was lowest in Iceland with 21 elderly dependents per 100 working-age persons. This was followed by Norway and Sweden with about 26, Denmark with 31, and Finland with 35. Like the overall dependency ratio, the elderly dependency ratio is projected to
rise. In 2060, it will be between 42 and 45 elderly dependents per 100 working-age persons in all but Finland, where it will be 55. The elderly dependency ratio will continue to rise to 61 elderly dependents per 100 working-age persons in Finland in 2070, to 46 in Iceland in 2067, and to 52 in Norway and Sweden in 2100. Thus, using either the total or elderly dependency ratio, it is obvious that Finland will have a much higher dependency ratio in the future than the other four Nordic countries, placing the greatest strain on public finances.

Urbanisation and rural exodus
As other parts of Europe, the Nordic region is undergoing a process of urbanisation. More people are moving from the countryside to cities than in the opposite direction, leading to population growth in urban areas and population decline in many rural and remote municipalities. This raises concerns and planning dilemmas at both ends of the urban hierarchy. The urban hierarchy is a range of settlements from large cities to small rural towns. The article focuses on two population-related policy questions. First, areas of population decline, where the populations of Nordic regions and municipalities are shrinking. Second, future and past trends examining whether trends of population shrinkage or growth will indeed persist across Nordic regions and municipalities in the future, or trend changes are to be expected. We address these questions by first taking stock of how populations sizes have changed in Nordic regions and municipalities during recent decades. In the second part of the section, we will present the results of the most recently published sub-national projections from the Nordic countries and investigate which population trends are expected until 2040.

![Figure 2](Image)

**Figure 2**
Figure 2 show the geographic distribution of the Nordic population in 1990 and 2017. We distinguish between the five different types of regions introduced earlier, each identifiable with a distinct colour. In 1990, more than 20 percent of the Nordic population – 5.3 million persons – lived in urban areas. This category includes the Nordic capital regions Stockholm, Oslo, Helsinki and region Hovedstaden in Denmark, but also the region (fylke) of Akershus in Norway. Another 5.1 million people lived in remote rural regions (in dark green) such as Finnmark (NO), Lappi (FI) or Austurland (IS). Hence in 1990, the most urban and the most rural Nordic regions were home to almost the same number of people and therefore arguably equally attractive living environments. Between 1990 and 2017, the population increased in all five types of regions. Nonetheless, population growth was stronger in the urban than in the rural regions.
In the three more remote and rural Nordic regions, the population increased less strongly. The dark green regions, for instance, only had around 153,000 inhabitants more in 2017 than in 1990 (an increase of 3 percent). The differences in population growth have influenced the distribution of the Nordic population across the five types of regions, as can be seen in Figure 2. Whereas 23 percent of all people lived in predominantly urban, ‘red’ regions in 1990, in 2017 this was 26 percent. The population share living in orange regions also increased slightly, from 34 percent to 35 percent. The three more rural and/or remote types of regions were all home to a comparatively smaller share of the total population in 2017 than in 1990, and the decline has been particularly pronounced in the dark green regions. They were home to 20 percent of all Nordic inhabitants in 2017, down from 22 percent in 1990.

The population in the Nordic region is expected to grow further in size during the coming decades. Until 2040, the combined population size of the Nordic countries and regions is projected to increase from currently 27.1 million to 29.5 million people. Figure 3 shows that all types of regions are expected to share in this trend: The largest increases in population numbers are expected in the predominantly urban (“red”) and intermediate regions that are close to a city (“orange”). The population living in these two types of region will be more than three million people larger in 2040 than it is today. This constitutes a 12 percent increase. The population in the three more rural and/or remote regions is also expected to be larger in 2040 than it is today. Nonetheless, the increase is expected to be more modest. In the dark green regions, for instance, the population is projected to increase from 5.3 million to 5.5 million persons – an increase of 3 percent.

Figure 3

Just as in the past, projected population trends until 2040 on a municipal level are highly diverse. On the aggregate level, all five types of urban and rural regions that we distinguish here are expected to have larger populations in 2040 than they have today, but municipalities within these regions do not necessarily follow this trend. This is illustrated in Figure 4 which shows the expected level of population increase or decline in all Nordic municipalities between 2017 and 2040.

In the two types of regions classified as predominantly rural ("light green" and “dark green” regions), population growth largely remains concentrated in larger towns and their suburbs. This is particularly the case in Sweden and Finland. For instance, the regional capitals Östersund in Jämtland (SE) and Seinäjoki in South Ostrobothnia (FI) are expected to have larger populations in 2040 than today, while most other municipalities in these regions will decline. Lappi is an exception in Finland, since here population growth is also expected in several less populated municipalities outside of the city and municipality of Rovaniemi. In Norway and Iceland, a somewhat more nuanced pattern applies, just as in the past. Here population growth is not only expected in regional capitals and other larger towns, but also in some smaller and
more remote municipalities. These include Gamvik in Finnmark (NO) or Árneshreppur in Vestfirðir (IS). In Denmark, finally, population growth is expected for large parts of the country until 2040, in more rural and urban areas alike. Population loss is only expected in some of the most remote municipalities at the northern, eastern and southern borders of the country. While the population loss in rural regions is hence expected to continue across the Nordic region, it appears to be more pronounced in some countries than in others.
Figure 5 synthesises the demographic past and prospects of each municipality. It shows the decade with the lowest average number of inhabitants. The reference timeframe is the 1990s to 2030s, hence the decade with the lowest population numbers may lie in the past, present or future. The majority of Nordic municipalities falls into one of two groups: Many municipalities had their lowest population numbers – within the fifty-year time period displayed here – in the 1990s. This group includes urban municipalities and their suburbs and hinterlands. In these municipalities, population numbers have been growing since the 1990s. Where declines in population numbers occurred, they never pushed the average population size below that experienced in the 1990s. These municipalities have remained and are expected to remain attractive living environments for an increasing number of persons.

A second large group of municipalities falls in the opposite category. In these municipalities population numbers are expected to reach the lowest level in the 2030s. They are generally located in more rural and remote regions and at a greater distance from larger towns and cities. Only few municipalities fall in between these two groups and have their largest population sizes in present times.
Overall, this confirms that many rural and remote municipalities – particularly in Sweden, Finland and northern Norway – are facing continued population decline in the coming years. Many rural municipalities hence have to continue or start planning for population decline. The goal should be to uphold the quality of life of its residents and exploit opportunities that come with declining population numbers to the largest extent possible.

Population ageing
A second trend that has characterised the demographic development of the Nordic region over recent decades – apart from urbanisation – is population ageing. Population ageing is defined as “a process in which the proportions of adults and elderly increase in a population, while the proportions of children and adolescents decrease” (Population Reference Bureau, 2019). One of the most commonly used indicators to measure trends in population ageing is the old-age dependency ratio (OADR). The OADR typically measures the number of people aged 65 years and older (the “old” or retired population) as a share of the number of people aged 15 to 64 (defined as the “working age” population).

In the Nordic region, the OADR has increased from 24 percent in 1990 to 30 percent in 2017. In other words, 100 persons in the working-age population supported 24 persons of retirement ages in 1990. In 2017, the ratio was 100 working-age persons to 30 retirement-age persons. The more remote and rural regions not only have substantially older population structures than the predominantly urban regions, the pace of population ageing has been faster there too.

The trend of population ageing will continue in the coming years. National Statistical Institutes in all Nordic countries and autonomous regions expect that the national OADRs in 2040 will be higher than they are today. Figure 6 visualises the expected trends. In 2017, the Nordic OADR was around 30 percent, i.e. for every person at pension age there were around three people between ages 15 and 64 years living in the Nordic region. In 2040, this ratio is projected to be 40 percent, the equal of 2.5 persons at working age for each person above age 65. The increase in the OADR shows no signs of slowing down, so that further increases after 2040 appear likely.
The diversity of population age structures in the Nordic region is noticeable when comparing projected OADR levels in 2040 at a municipal level (Figure 8). Municipalities with the highest OADR levels lie especially in eastern Finland, but also in northern Iceland. The lowest OADRs are projected for municipalities in Greenland, South-Eastern Iceland, southern Sweden and mostly urban municipalities in Finland, Denmark and Norway.

As a final word, the focus of public and policy debates is all too often solely placed on the negative consequences of population ageing. Potential benefits and opportunities receive substantially less attention. In a rare article that highlights positive effects of population ageing, Kluge and colleagues argue that smaller and older populations of the future may indeed be: smarter and more productive (a larger proportion of the population will have higher educational attainment, which may benefit economic growth); greener (an older population may help reduce greenhouse gas emissions, since older people typically have lower consumption patterns); richer (with fewer offspring, inherited wealth becomes concentrated in fewer recipients which could partly compensate for higher public transfers); and healthier (with increasing longevity and better health prospects, people remain active and in good health until higher ages) (Kluge, Zagheni, Loichinger & Vogt, 2014). Rather than solely planning and preparing for the expected negative impacts of population ageing, attention should also be given to these potential benefits of ongoing population ageing. This may help to find solutions to upcoming challenges, but also point to perspectives and chances for rural areas and beyond.

Working age population
A third demographic trend that is receiving increased attention – in addition to urbanisation and population ageing – is the development of the working-age population in the Nordic region. The working-age population is defined as the population aged 15 to 64 years, i.e. the age groups that are considered most likely to work (OECD, 2019).

In the Nordic region, the size of the total working-age population increased between 1990 and 2017. In 1990, around 15.3 million people aged 15 to 64 years lived in the Nordic
region. In 2017, it was 17.2 million. The pool of potential workers is larger today than at any point during the last 27 years.

Figure 9 indicates that the increase in the working-age population in the Nordic region has been particularly centred in cities. Here, we take a closer look at developments in the more recent past – the last ten years. The figure shows the number of people between ages
and 64 that lived in regions which are classified as urban, intermediate or rural in 2007 and 2017. The size of these age groups increased particularly strongly in predominantly urban regions and intermediate regions close to a city (in red and orange) during the last ten years. In the other types of regions, the size of the working-age population either remained roughly the same (intermediate regions in yellow) or declined slightly (rural regions, close to a city or remote, in light and in dark green).

An analysis of population projections from National Statistical Institutes suggests that the working-age population in the Nordic region should increase in the years to come, albeit at a slow pace. The number of people aged 15 to 64 is expected to increase from 17.2 million people in 2017 to around 17.7 million in 2040. Most of this increase is projected to occur until 2025. After that, the size of the working-age population is expected to remain roughly stable.

Figure 9

The number of people between ages 15 and 64 is expected to increase particularly strongly in predominantly urban regions (in red), but also in intermediate regions that are near a city (in orange). In all other types of regions, the working-age population is expected to decrease, and the decrease will be strongest in the rural and remote regions (in dark green). There, the number of inhabitants aged 15 to 64 years is expected to decline from 3.3 million people currently to 3.1 million in 2040. While the working-age population in the Nordic region as a whole is projected to increase further – albeit at a slow rate – this growth will largely be concentrated in urban regions and their surrounding areas.

Moving from a regional to a local perspective, we next compare projected changes in the working age population until 2040 in Nordic municipalities. Strong declines in the working-age population are expected in particular in the northern parts of Iceland, Sweden and large parts of Finland, i.e. in rural and/or remote regions (figure 11). Increases in the number of 15- to 64-year-olds are predicted especially in the larger cities and their suburbs, such as Oslo, Stockholm and Reykjavik. The projection data hence suggest that metropolitan areas will remain magnets for people at the core working ages while many rural and remote
municipalities may further lose people in these age groups. Nonetheless, these exceptions are few. Current projections suggest that small municipalities in rural and remote regions will have to plan for a further declining pool of potential workforce in the future.

The working-age population includes the age groups at which men and women are considered most likely and able to work – from 15 years to 64 years. With this population group projected to decline in many rural and remote Nordic municipalities, new strategies on how to fill emerging gaps and augment the number of potential workers need to be considered. One is trying to attract people of working ages from other municipalities or from abroad by providing good working conditions, salaries and attractive living environments. Another strategy could be to encourage employees to continue working beyond traditional retirement age.

**Discussion**

A key input to population policy and the development of rural policy are projections of the future size, composition, and distribution of the population. Contrary to popular expectation, remote rural regions will not become depopulated and are projected to grow moderately from 5.3 to 5.5 million persons to 2040, though there are diverse trends when examining population change trends at the municipal level. Around half of all Nordic municipalities in predominantly urban regions are expected to have larger populations in 2040 than today (52 percent) and none will experience strong population decline. In Sweden and Norway, the share of municipalities with strong expected population increases is especially large (81 percent and 74 percent). At the other end of the spectrum, around 25 percent and 23 percent of municipalities in the two types of predominantly rural regions are expected to experience strong population decline. The proportion of municipalities with expected population loss is particularly large in Finland (49 percent) and Greenland (50 percent). Thus, population shrinkage is the norm, not the exception.

In the two types of regions classified as predominantly rural, population growth largely remains concentrated in larger towns. This is shown in a separate study examining the
future population of the Arctic, which overlaps to a considerable degree with rural and remote Nordic regions (Heleniak, 2020b).

The percent of Greenland’s population residing in Nuuk has been steadily increasing, growing from 18 percent in 1977 to 32 percent currently. The share is projected to increase to 39 percent in 2030.
The government of the Faroe Islands has long had a policy of linking all settlements via the national road system through a series of bridges and undersea tunnels to connect the entire population and reduce population decline in remote villages. In spite of this effort, the share of the population residing in the capital of Torshavn has been increasing and currently 42.0 percent of the population reside in the capital region, a share which is projected to increase to 47.4 percent in 2055.

In Iceland between 1998 and 2017, the percent of the population residing in the capital area increased from 60.4 to 64.1 percent of the population due to the long-term trend of migration into and population concentration in the Reykjavik capital region as the economy modernises and moves away from agriculture towards services. Also, much of the large increase in the foreign-born population in Iceland in recent years has been concentrated in the capital region. Over the projection period, the share of the population of the capital region will increase to 78 percent – nearly four out of five – of the Icelandic population. Over the period, there will be a decline in the population in the rest of the country.

Within the Arctic regions in Norway, Sweden, and Finland, there has been and will continue to be a clear trend towards centralisation of the populations into the largest urban settlements in each. In 1990, between 16 and 42 percent of the population resided in the largest settlement. Currently, between 21 and 50 percent reside in the largest settlement. By 2040, these shares are projected to be between 24 and 55 percent, with the largest settlement in three regions – Umeå in Västerbotten, Oulu in Norra Österbotten, and Kajaani in Kainuu – containing more than half the region’s populations. Thus, while the populations in these Arctic regions will increase or remain stable, nearly all the growth will be in the largest cities combined with continued decline in outlying rural areas.

The OECD has recently revised its framework for rural policy and notes several megatrends which have also been identified, including population aging, migration, and urbanisation (OECD, 2018). The report also notes that rural areas are diverse and need to be approached with different policy solutions. The OECD has devised a typology to differentiate rural regions like the one used here.

Within the Nordic countries, there has been an evolution in policies towards rural areas (Nordregio, 2011a, 2011b). There are differences in approaches towards rural policy, but some common solutions emerge. These include the role of digitalisation in helping to deliver services to rural areas, inter-regional, inter-municipal and cross-border collaborations to help overcome challenges of low population density and to deliver more effective public services. Few refer to the issue of shrinking rural regions. As pointed out here, the total population size will stay roughly the same and the settlement structure of Nordic rural regions is expected to change little by 2040, so efforts to enhance the quality of life for residents are laudable. However, some rural regions will have significantly smaller and older populations and a contracted settlement structure.

As pointed out above, for many rural municipalities in the Nordic region, their population peak was at some point in the distant past. Four types of reactions to population decline have been identified: trivialising; counteraction; learning to deal with shrinkage; and using shrinkage as an opportunity (Syssner, 2015). Many municipalities with shrinking populations fall into the second category of creating policies based on reversing the population decline and resuming growth. Given that the projected path is further decline, these shrinking municipalities would be advised to devise strategies around having smaller and older populations.
References

Eurostat. (2018, July 13). Regional typologies overview. Retrieved from Urban-rural typology including remoteness: https://ec.europa.eu/eurostat/statistics-explained/index.php/Regional_typologies_overview#Urban-rural_typology_including_remoteness

Heleniak, T. (2020a). Migration and mobility: more diverse, more urban. In Nordregio, State of the Nordic Region 2020 (pp. 39–49). Copenhagen: Nordic Council of Ministers.

Heleniak, T. (2020b). The future of the Arctic populations. Polar Geography. https://doi.org/10.1080/1088937X.2019.1707316

Kluge, F., Zagheni, E., Loichinger, E. & Vogt, T. (2014). The advantages of demographic change after the wave: Fewer and older, but healthier, greener, and more productive? PLOS ONE, 9(9), 1–11.

Nordregio. (2011a). Perspectives on rural development in the Nordic countries – Policies, governance, development initiatives. Based on discussions and presentations at seminars held by the Nordic working group b1: Future rural areas. Stockholm: Nordregio.

Nordregio. (2011b). Perspectives on rural development in the Nordic countries. Policies, governance, development initiatives. Stockholm: Nordregio.

Nordregio. (2020). DEMOGRAPHY: Ageing population puts the Nordic welfare model to the test. Copenhagen: Nordic Council of Ministers.

Nordregio. (2020, January 16). Nordic thematic groups 2017–2020. Retrieved from Sustainable Rural Development: https://www.nordregio.org/about/nordic-co-operation-programmes/nordic-thematic-groups-2017-2020/sustainable-rural-development/

Nordregio. (2020). State of the Nordic Region 2020. Copenhagen.

OECD. (2018). Rural 3.0. A framework for rural development. OECD. Retrieved from https://www.oecd.org/cfe/regional-policy/Rural-3.0-Policy-Note.pdf

OECD. (2019, March 4). Working age population (indicator). Retrieved from https://data.oecd.org/pop/working-age-population.htm

Population Reference Bureau. (2019, August 14). Glossary of demographic terms. Retrieved from https://www.prb.org/glossary/

Roto, J. (2012). Demographic trends in the local Nordic labour markets. Stockholm: Nordregio.

Sánchez Gassen, N. & Heleniak, T. (2019a). The Nordic Population in 2040 – Analysis of past and future demographic trends. Stockholm: Nordregio. http://doi.org/10.30689/R2019:6.1403-2503

Sánchez Gassen, N. & Heleniak, T. (2019b). The Nordic Population in 2040. Executive Summary. Stockholm: Nordregio. Retrieved from https://www.nordregio.org/publications/nordic-population-in-2040-executive-summary/

Stjernberg, M. & Penje, O. (2019). Population change dynamics in Nordic municipalities – grid data as a tool for studying residential change at local level. Stockholm: Nordregio.

Syssner, J. (2015, May 25). Planning for shrinkage? Policy implications of demographic decline in Swedish municipalities. Journal of Depopulation and Rural Development Studies, 7–31. https://doi.org/10.4422/ager.2015.14

Wiberg, U. & Limani, I. (2015). Scandinavian Journal of Public Administration, 19(1), 63–82. Retrieved from http://umu.diva-portal.org/smash/record.jsf?pid=diva2%3A799138&dswid=actioniq