

Demographic changes: Challenge or opportunity for Nordic societies?

Recent demographic changes in the Nordic Region are consistent with global trends in developed countries. Urbanisation has been a core feature of population increase, with the 30 largest functional urban areas absorbing over 97% of the Region's overall growth over the past 20 years. Migration has been an important source of this growth, accounting for two thirds of the total population increase over the past 25 years. At the same time, rising old age dependency ratios are putting pressure on rural and remote regions and municipalities as younger members of the population drift towards urban and urban adjacent municipalities. Regions are also struggling with gender balance with men outnumbering women everywhere but in urban areas.

These demographic changes pose a challenge to existing social structures and modes of service provision in Nordic countries. Similarly, meeting these challenges with creative approaches to governance, successful strategies to promote social cohesion and positive overall outcomes presents an opportunity for the Nordic countries to demonstrate leadership on the world stage.

Theme 1
**DEMOGRAPHIC
CHANGES**

Chapter 2

URBANISATION:

A core feature of Nordic population growth

Authors: Lukas Smas and Julien Grunfelder
 Maps and data: Julien Grunfelder, Linus Rispling and Lukas Smas

The population of the Nordic countries increased by 7.4% between 2005 and 2015 and has now reached 26.5 million inhabitants. Since 1995, the Nordic population has grown by about 2.6 million people. Population change at the European regional level shows that the population increase has mainly occurred in regions with major urban areas, but the map of population change in the municipalities suggests a more nuanced picture as it also shows the concentration of people in and around urban areas. The population in the 30 largest functional urban areas has grown by 21.5% during the last 25 years or in absolute terms, by more than 2.5 million people. Total population growth outside these functional urban areas has been less than 70 000. In short, over the last twenty years, more than 97% of the population growth in the Nordic Region has occurred within the 30 largest functional urban areas.

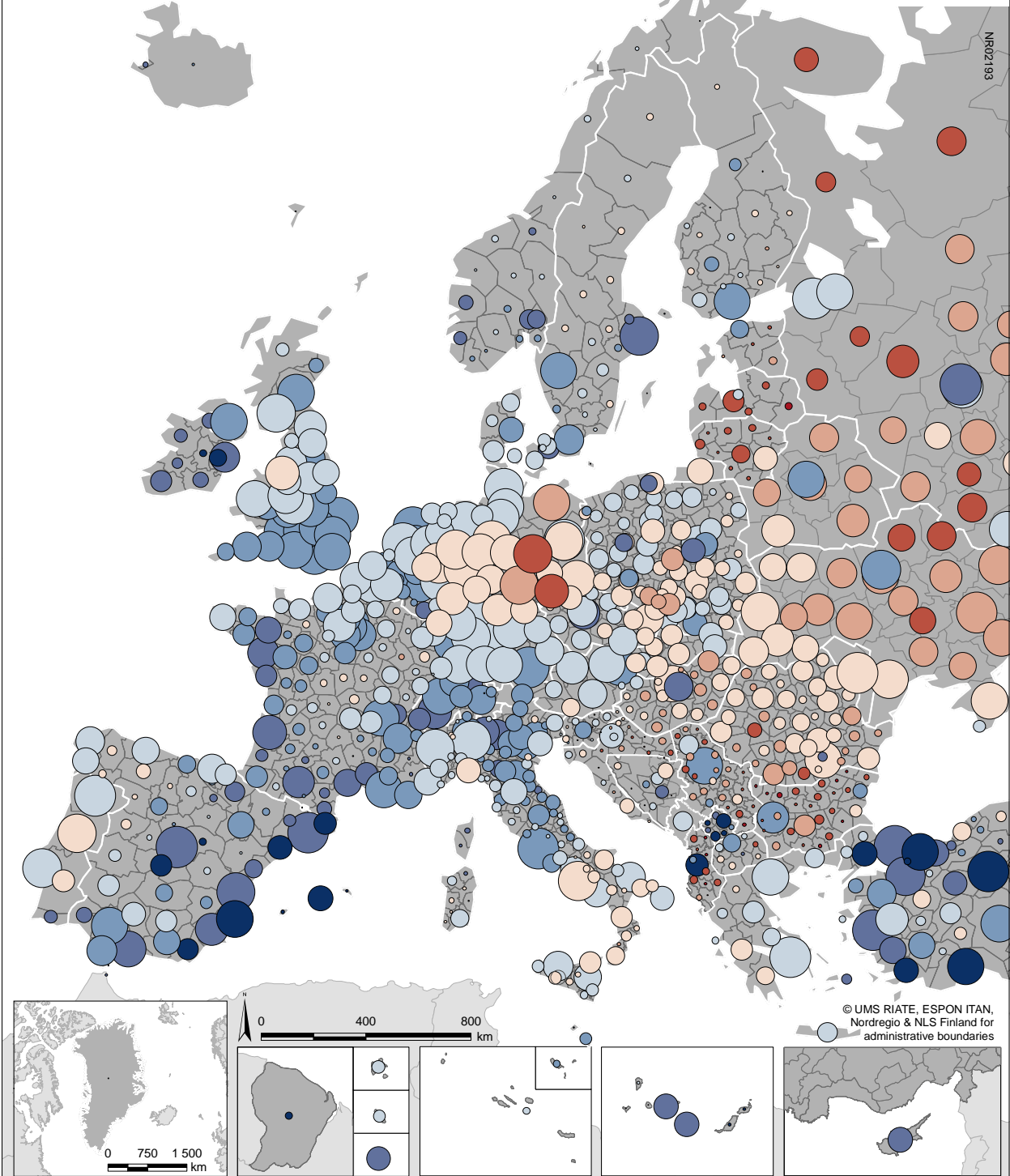
Population changes in European regions

The map of population change in European regions (figure 2.1) shows that the fastest growing regions in Europe with a population increase above 2% between 2000 and 2013 are to be found in Ireland, Spain, Albania, Macedonia and Turkey. There is a clear divide in Europe between east and west, with many regions, especially in the Baltic countries, Russia, Ukraine, Bulgaria and Romania experiencing a population decrease, while population increases are experienced in many other regions (particularly in the more populated regions) in the western part of Europe. This pattern may however already be in the process of dissolving since the map of popula-

Over the last twenty years, more than **97%** of the population growth in the Nordic Region has occurred within the 30 largest functional urban areas.

tion change in European regions 2000-2013 with population size by region (figure 2.1) indicates an east-west belt of regions with population decline in Germany while many smaller regions in, for example, France and Sweden also have declining populations. Furthermore, the Balkan countries display a more diverse pattern with some larger regions growing (see for example Albania and Macedonia) although the largest decreases are also found in Albania (Gjirokastër and Dibër), Bulgaria (Vidin and Vratsa), Latvia (Latgale), as well as parts of Germany (Suhl and Spree-Neisse).

Total population change in European regions 2000-2013
with population size by region



© UMS RIATE, ESPON ITAN, Nordregio & NLS Finland for administrative boundaries

Annual average population change in Europe 2000-2013, in %
at regional level*

Population increase, %	Population decrease, %
0.0 – 0.5	-0.5 – 0.0
0.5 – 1.0	-1.0 – -0.5
1.0 – 2.0	-2.0 – -1.0
2.0 >	< -2.0

Number of inhabitants in 2013

1,000,000**
750,000
500,000
100,000
50,000

Size of circle is relative to the number of inhabitants of the region in 2013

* NUTS 2/3 (mix), SNUTS 2. NUTS 2: AT, BE, CH, DE, EL, NL, PT & UK. SNUTS 2: BY, FO, GL, MD, RU, UA
** 1,000,000+ inh.: decreased circle size for visibility

2000-2013 data, except: IS, Mecklenburg-Vorpommern (DE), MK, RO & UK 2000-2012. AL 2001-2012. BA 2000-2010. HR 2002-2013. MD 2005-2013. RS 2002-2011. TR 2008-2013. XK 2011-2013. Estimates: AL, XK
No data: Brčko District (BA), Republika Srpska (BA) & Transdniestria (MD)

Source: Eurostat, NSIs, Nordregio

Figure 2.1.: Total population change in European regions 2000-2013

Significant growth concentrated in capital and metropolitan regions

In the Nordic Region, the population has increased in the most populated areas of Sweden and Finland decreased in the less populated areas of these two countries (figure 2.2). In Denmark, Iceland and Norway, all regions have had a population increase between 2000 and 2013. The most significant population increases in the Nordic countries have been concentrated in the capital regions, but with a bit less of an increase in Helsinki region than in the others. In Norway the regions of Bergen, Stavanger and Trondheim have also grown by more the 1-2%. The map on population changes in the municipalities in the Nordic countries, between 2005 and 2015, shows that the population increase took place in the more populated municipalities of Denmark, the Faroe Islands, Finland, Iceland, Norway and Sweden, as well as in many coastal municipalities in southern Norway and southern Sweden (figure 2.2). The concentration of

people to urban areas is also evident at this scale as all the largest municipalities have seen an annual average increase between 1 and 2.3%. Even if in relative terms, the largest population increases were in relatively small municipalities in Iceland, western Finland and western Norway such as Kjósarhreppur, Liminka and Rennesøy among others which had annual average population change above 3%.

In absolute terms the urban concentration is even more evident with the most significant population increases occurring in the capital cities and metropolitan regions. The largest population increases for the period 2005-2015 were in the municipalities of Stockholm (+147 000 inhabitants), Oslo (+118 000) and Copenhagen (+78 000) followed by the other largest Nordic municipalities (Helsinki, Göteborg, Malmö, Espoo and Bergen). This population growth in the capital regions and metropolitan areas has not however only occurred in the core municipality but also in the surrounding suburban and peri-urban municipalities. The population increase is in many cases even higher in the surrounding municipi-

City-regions and functional urban areas: elements of definition

City-regions or functional urban areas are usually defined based on three aspects or assumptions (Rodríguez-Pose, 2008). Firstly that there is a (city or urban) core (or cores) surrounded by secondly a (regional or suburban) hinterland, i.e. based on centre-periphery notions. The centre and periphery are, thirdly, connected through some sort of functional links or linkages. In statistical and empirical terms the linkages are often defined in terms of commuter flows, local or regional labour markets or different types of economic activities such as catchment areas.

The OECD uses grid data to identify 'urban cores', which is an urban cluster of more than 50 000 inhabitants and 1500 inhabitants/km², while commuting data is used to demarcate the 'hinterlands' (15% commuting to economic core) but the geographical building block is municipalities (LAU 2). The OECD definition categorises functional urban areas into four classes:

- Small urban areas, with a population of between 50 000 and 200 000
- Medium-sized urban areas, with a population between 200 000 and 500 000
- Metropolitan areas, with a population between 500 000 and 1.5 million
- Large metropolitan areas, with a population above 1.5 million

Iceland is not included in the OECD statistics because it does not produce statistics on inter-municipal commuting. But the Greater Reykjavik area (Höfuðborgarsvæðinu) should be considered as a (approximate) medium-sized urban area with a population of 211 282 (Statistics Iceland, 2015, p. 30). The Greater Reykjavik area includes the following municipalities (population in 2015): Reykjavik (121 822), Kópavogur (33 205), Seltjarnarnes (4 411), Garðabær (14 453), Hafnar örður (27 875), Mosfellsbær (9 300) and Kjósarhreppur (216) (Statistic Iceland, 2015, p 30).

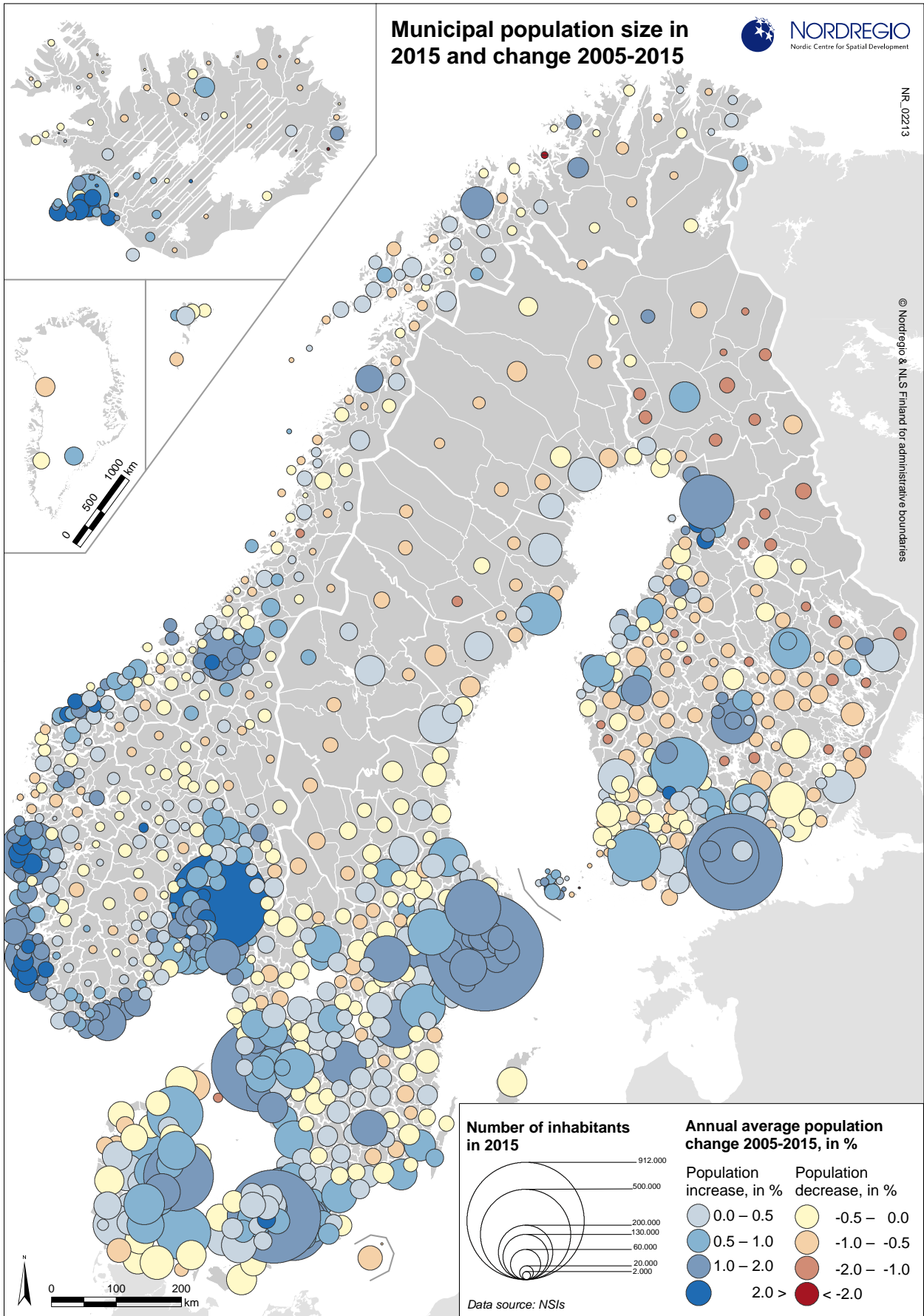


Figure 2.2: Municipal population in 2015 and change 2005-2015

Table 2.1 Population in the Nordic urban areas 1995-2015

	1995	2000	2005	2010	2015	1995-2015 (%)
Stockholm	1724552	1818571	1888246	2035303	2213757	28,4
Copenhagen	1872262	1931883	1968515	2029539	2128512	13,7
Helsinki	1247663	1335763	1396784	1476471	1563429	25,3
Oslo	996857	1057915	1110655	1215615	1332173	33,6
Goteborg	790730	818229	852962	898984	951784	20,4
Malmö	584493	604478	630610	680207	720823	23,3
Aarhus	422434	436749	454197	473349	496131	17,4
Tampere	346873	363047	383151	406293	426609	23,0
Bergen	313669	325990	342935	370091	400512	27,7
Odense	353723	357025	360951	367901	373810	5,7
Turku	286998	301036	310529	319467	333224	16,1
Aalborg	286604	291067	294903	300954	310738	8,4
Stavanger	211975	225960	238651	264243	290054	36,8
Trondheim	193925	202116	213137	232129	250994	29,4
Oulu	182080	197554	216198	233505	250381	37,5
Uppsala	191868	197820	203814	216142	228736	19,2
Reykjavík	156513	171792	184244	200907	211282	35,0
Linköping	179849	179946	184008	191769	199576	11,0
Örebro	172097	175632	179350	186921	196664	14,3
Västerås	172866	172650	177855	182542	191141	10,6
Helsingborg	163807	166029	171595	182319	190597	16,4
Jyväskylä	141294	148500	157790	166569	174353	23,4
Lahti	157127	158101	160730	164794	167302	6,5
Norrköping	144778	142650	144386	148563	154412	6,7
Jönköping	131723	133106	136786	144032	150359	14,1
Umeå	133486	136564	140893	144536	149872	12,3
Kristiansand	109556	115352	120300	128499	138096	26,1
Kuopio	116494	118699	120844	123620	132957	14,1
Borås	96123	96342	98886	102458	107022	11,3
Tromsö	68988	71631	74712	79286	84770	22,9
Total population in FUA	11951406	12452197	12918616	13667008	14520070	21,5
Total population in Norden	23737549	24112131	24551396	25505422	26478386	11,5

Note: The boundaries of the urban areas are in accordance with the OECD's definition (see OECD, 2012), and based in the municipal boards from around 2001, except for Reykjavík where the area of Greater Reykjavík includes the following municipalities: Reykjavík, Kópavogur, Seltjarnarnes, Garðabær, Hafnarörður, Mosfellsbær, Kjósarhreppur (see Statistic Iceland, 2015). The population data comes from Nordregio.

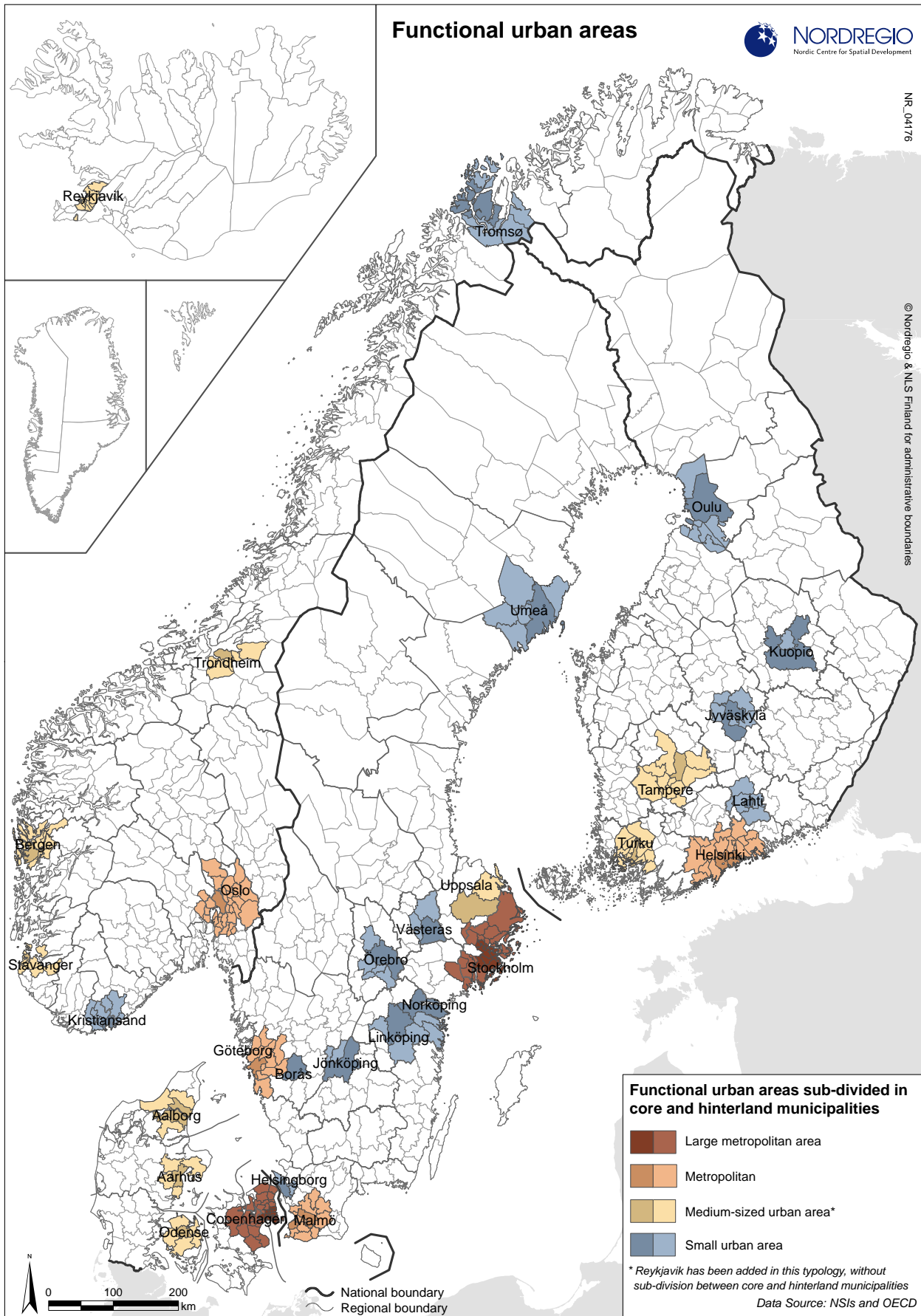


Figure 2.3: Nordic functional urban areas (FUAs). Note: typology based on the OECD definition that includes four types of functional urban areas: small urban areas (50 000 to 200 000 inhabitants), medium-sized urban areas (200 000 to 500 000 inhabitants), metropolitan areas (0.5 to 1.5 million inhabitants) and large metropolitan areas (above 1.5 million inhabitants). Iceland has been added into the OECD typology, where the Greater Reykjavik area is classified as medium-sized urban area (211 282 inhabitants in 2015; Statistics Iceland, 2015, p. 30)

palities, for example, the municipalities of Sundbyberg and Solna adjacent to Stockholm have seen an annual average increase beyond 2.5% while Ås, south of Oslo, has also seen a comparable increase.

Population decrease occurred primarily in municipalities with already small populations and in municipalities located in the inner and northern peripheral parts of the Nordic Region, especially in Finland, the northern parts of Iceland, Norway and Sweden, as well as in Greenland. In relative terms, the municipalities with the largest population decrease are to be found in eastern and northern Finland (Puumala and Hyrynsalmi) and eastern Iceland (Fljótsdalshreppur and Breiðdalshreppur) as well as in insular municipalities in Norway (Loppa), Finland (Sotunga) and Denmark (Læsø) with annual average decreases beyond -1.5%. In absolute terms, the most significant population decreases for the period 2005-2015 were in a number of Danish (i.e. Lolland, Bornholm and Frederikshavn) and Finnish municipalities (i.e. Kouvola, Savonlinna, Jämsä) each of which lost between 2 000 and 6 500 inhabitants. There was however a population increase in the largest municipalities in the sparsely populated areas in the northern part of the Nordic Region (i.e. Luleå in Sweden, Tromsø in Norway, Rovaniemi and Oulu in Finland). This indicates the attractiveness of urban municipalities of regional importance in the sparsely populated parts of the Nordic Region.

**Almost
55%**
**of the population live
in the 30 largest urban
functional areas.**

Urbanisation, urban growth and functional urban areas

Urbanisation is usually defined as the population growth of urban areas in relation to the total population of the country (or the world). It should not be conflated with urban growth which often refers to the physical extension of an urban area or to some general notion of economic growth. Implicit in the term urbanisation is the process of people moving from rural areas to urban areas. As a result conclusions drawn about the degree of urbanisation that is occurring are contingent upon how

Table 2.2. Population of Urban and Rural Areas at Mid-Year (thousands) and Percentage Urban, 2014

Major area, region, country or area	Urban	Rural	Total	Percentage urban
WORLD	3 880 128	3 363 656	7 243 784	53,6
EUROPE	545 382	197 431	742 813	73,4
Denmark	4 935	705	5 640	87,5
Finland	4 577	866	5 443	84,1
Iceland	313	20	333	94,0
Norway	4 084	1 008	5 092	80,2
Sweden	8 251	1 381	9 631	85,7

urban (or rural) areas are defined. In an attempt to re-define the notion of 'urban' the OECD uses grid data to identify 'urban cores', and commuting data to demarcate the 'hinterlands', but the geographical building block is municipalities. The OECD distinguished between four classes of functional urban areas (see box).

If the OECD's definition of functional urban areas is used in the Nordic Region (figure 2.3) almost 55% of the population live in the 30 largest urban functional areas. The population in these areas increased by around 2.5 million from 12 million in 1995 to about 14.5 million in 2015 (table 2.1). Growth varies significantly however between different functional urban areas, from Stockholm (almost 500 000) to Norrköping (10 000). The six metropolitan areas have grown by almost 1.7 million inhabitants. In relative terms, the Greater Reykjavik area and some of the Norwegian urban areas have grown the most, though Stockholm, Malmö and Gothenburg in Sweden and Helsinki and Jyväskylä in Finland have also grown significantly. This is a rather different definition than the one often normally used to show that more people are living in urban areas than in rural areas.

According to the UN more than 80% of the population in the Nordic countries live in urban areas compared with about 75% of the European population and about half of the world's population (see table 2.2.). It is estimated that the percentage of the population residing in urban areas in Sweden and Denmark will be above 90% in 2050 (UN, 2014). Moreover, drilling further down into these figures reveals that they are based on national statistics and that how urban areas are defined differs significantly between different countries (and that these definitions are generally not in accordance with those provided by the OECD). For example, in Sweden, Denmark and Iceland an urban area is a place with more than 200 inhabitants, in Norway however an urban area needs to have a population of at least 2000.

How urban a society is, cannot however be defined only in terms of numbers. Already in 1938, Louis Wirth noted that "the degree to which the contemporary world may be said to be urban is not fully or accurately measured by the proportion of the total population living in cities" (p. 2). In his classical essay with the telling title *Urbanism as a Way of Life* he argues that "the urban mode of life is not confined to cities". If urbanism is considered a social phenomenon and as a way of living perhaps the statement that about 80% of the Nordic population lives under urban conditions may not be so misleading after all. Is not the holiday resort and second home part of an urban way of life? For example, through new technology people living in more sparsely populated (urban) areas can be as connected and integrated into urban ways of living as others, while simultaneously people living in

more densely populated areas can be detached from so-called urban lifestyles though poor accessibility to infrastructure and services.

City-regions: policy potentials and challenges

There is an increased belief that the city-region (as a type of functional urban area) is the most appropriate scale for urban and regional policy and governance in a globalised world (e.g. Rodríguez-Pose, 2008). Various functional city-regions might reflect the everyday travel patterns, regional identities or business networks extending beyond administrative municipal and/or regional (or even national borders). This does however create political and policy dilemmas in a democratic system based on territorial mandates. Furthermore, the regional scale in the Nordic countries does not, historically, hold a strong position in terms of either administrative structures or political loyalties.

It is important to recognise that the size and shape of functional urban areas or functional regions in more general terms is dependent on which function is being considered. There is thus no 'one-size fits all' here, no perfect region utopias. Furthermore, most definitions of city-regions (such as the OECD's definition of functional urban areas) continue to be based on assumptions about core-periphery linkages in a continuous geographical space such as an economic unit, and do not recognise relational spatial networks, for example business networks, or other dimensions such as those in the cultural realm, such as regional identities. In an international perspective the Nordic Region as such might be considered a functional region with the capital cities as core nodes if business locations and networks are considered, but where the so-called 'hinterland' extends all over the world, and where there is also, perhaps, a shared Nordic Regional identity based on their shared history (e.g. Smas & Schmitt, 2015).

Each of the Nordic functional urban areas has grown continuously in population terms over the last 20 years. This has of course had many positive effects but it has also created challenges for these cities and regions particularly in terms of the need to accommodate these new citizens. Developments in Europe and in the world during the autumn of 2015 with refugees seeking asylum in Europe have put further pressure on the Nordic countries and their city-regions. It is however encouraging to note that the larger Nordic city-regions already recognise this challenge. A clear conclusion from joint meetings with municipal and regional authorities in different Nordic city-regions is that social cohesion is recognised simultaneously both as the most vital asset and the most prevalent challenge (Smas, 2015).

Chapter 3

MIGRATION:

An important source of population increase

Authors: Timothy Heleniak, Julien Grunfelder, Lisbeth Greve Harbo
Maps and data: Julien Grunfelder, Timothy Heleniak

The population in the Nordic Region is growing from a combination of both natural increase (more births than deaths) and positive net immigration (more immigrants than emigrants). From 1990 to 2015, the population has grown by 14% and now stands at 26.5 million. Over this period, net immigration has accounted for about two-thirds of total population increase with natural increase accounting for the other one-third.¹

Immigration numbers show a positive increase in population

The Nordic countries and regions can be placed into four groups based on their recent patterns of natural increase and net migration. The first group includes Norway, Sweden, Denmark and Åland, where net immigration has increased considerably and has become the major source of population increase, far exceeding that

Table 3.1: Population change in the Nordic Region, 1990-2015

	Total population		Population change, 1990-2015 (absolute)			Population change, 1990-2015 (percent)		
	1990	2015	Total	Natural increase	Net migration	Total	Natural increase	Net migration
Total	23 226 651	26 478 698	3 252 047	1 255 091	2 040 701	14,0	5,4	8,8
Iceland	253 785	329 100	75 315	63 625	11 536	29,7	25,1	4,5
Norway	4 233 116	5 165 802	932 686	401 573	533 705	22,0	9,5	12,6
Sweden	8 527 036	9 747 355	1 220 319	332 940	888 449	14,3	3,9	10,4
Finland*	4 974 383	5 471 753	497 370	260 348	226 776	10,0	5,2	4,6
Denmark	5 135 000	5 660 000	525 000	176 295	398 583	10,2	3,4	7,8
Greenland	55 558	55 984	426	12 722	-11 691	0,8	22,9	-21,0
Faroe Islands	47 773	48 704	931	7 588	-6 657	1,9	15,9	-13,9
Åland	24 231	28 916	4 685	918	3 548	19,3	3,8	14,6

¹The migration crisis was unfolding during the period in which the report was written: very little can be said definitively at this stage, particularly as the statistics have not yet been released.

of natural increase (Table 3.1). Here migration has accounted for the majority of population growth over the past twenty-five years. Indeed, all together net immigration makes up to three-quarters of the total population increase in Sweden, Denmark and Åland. Greenland and the Faroe Islands form a second group, where the populations have remained relatively constant over the past twenty-five years as natural population increase is levelled out by net emigration. Iceland is in a category by itself where unlike the other Nordic countries it has, since 1960, vacillated between being a country of net emigration and net immigration but has had its own unique pattern of net migration over the past decade (see box). Finland is also in a category by itself where

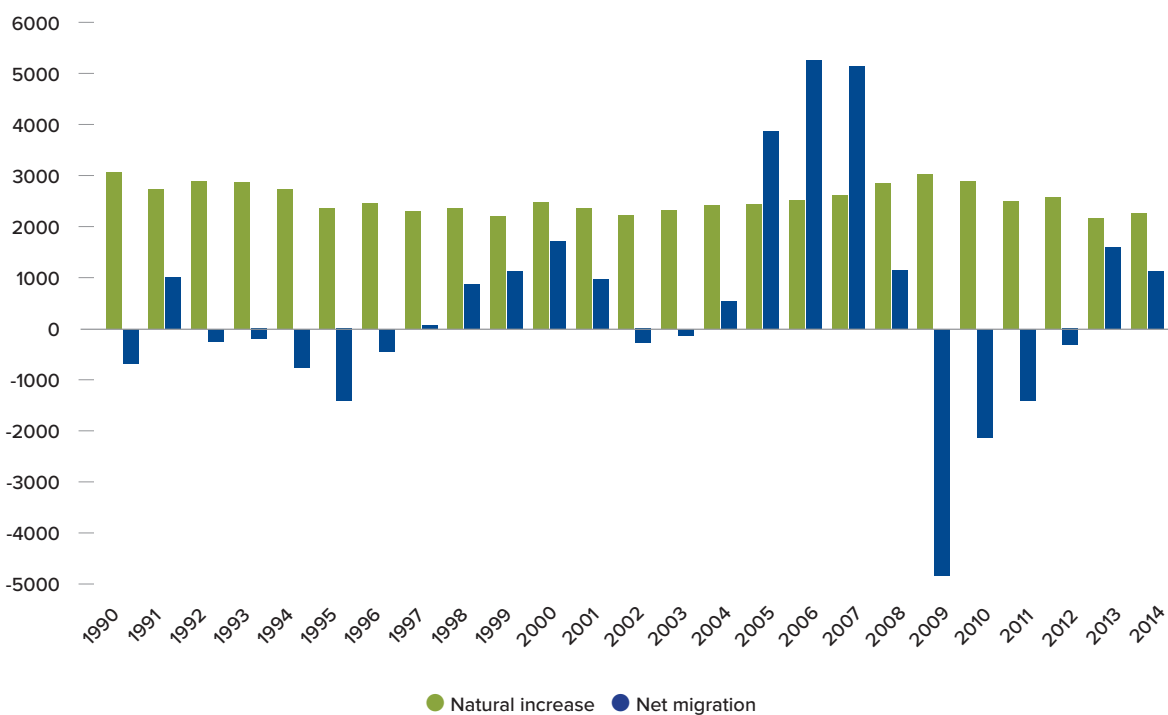
From 1990 to 2015, the population has grown by 14% and now stands at 26.5 million.

Population change in Iceland

In Iceland, during the boom years of 1997-2008 when the economy was expanding rapidly, there was a huge net inflow of 20 266 people. The increase was followed by a net outflow of 5 981 people during the period 2009-2014 due to the banking crisis (figure 3.1). In the 1990s, the volume

of both immigration and emigration increased to nearly 4 000 a year and after 2000 increased even more, to over 6 000 a year. With these fluctuations in net migration, natural increase remains the primary component of population increase in Iceland.

Figure 3.1: Natural increase and net migration in Iceland, 1990 to 2015.



natural increase and net migration contributed to population change to a similar extent for the period 1990-2015.

Migration flows can be broken down into shares of national and foreign citizens. In 2014, the majority of immigrants in the Nordic countries were foreign citizens, averaging 81% of the total. The value varies from 62% in Iceland to 88% in Norway. However, among people migrating away from the Nordic Region, the percent of national citizens is smaller: the share of national citizens comprises the majority in Finland (65%) and Iceland (58%), whereas national citizens comprise a minority of total emigration in 2014 from Denmark (41%), Norway (27%) and Sweden (49%).

Intra-Nordic migration: People flow within the Nordic Region

Migration from one Nordic country or autonomous territory to another is termed 'intra-Nordic migration'. This phenomenon plays an important role in maintaining the coherence of the Nordic Region, and despite

In 2014, the majority of immigrants in the Nordic countries were foreign citizens, averaging 81% of the total.

increased migration from and to countries beyond the Nordic Region, intra-Nordic migration remains a significant part overall migration flows.

The diagram below shows intra-Nordic immigration and emigration for the period 2005-2014. In absolute

Figure 3.2: Intra-Nordic migration 2005-2014

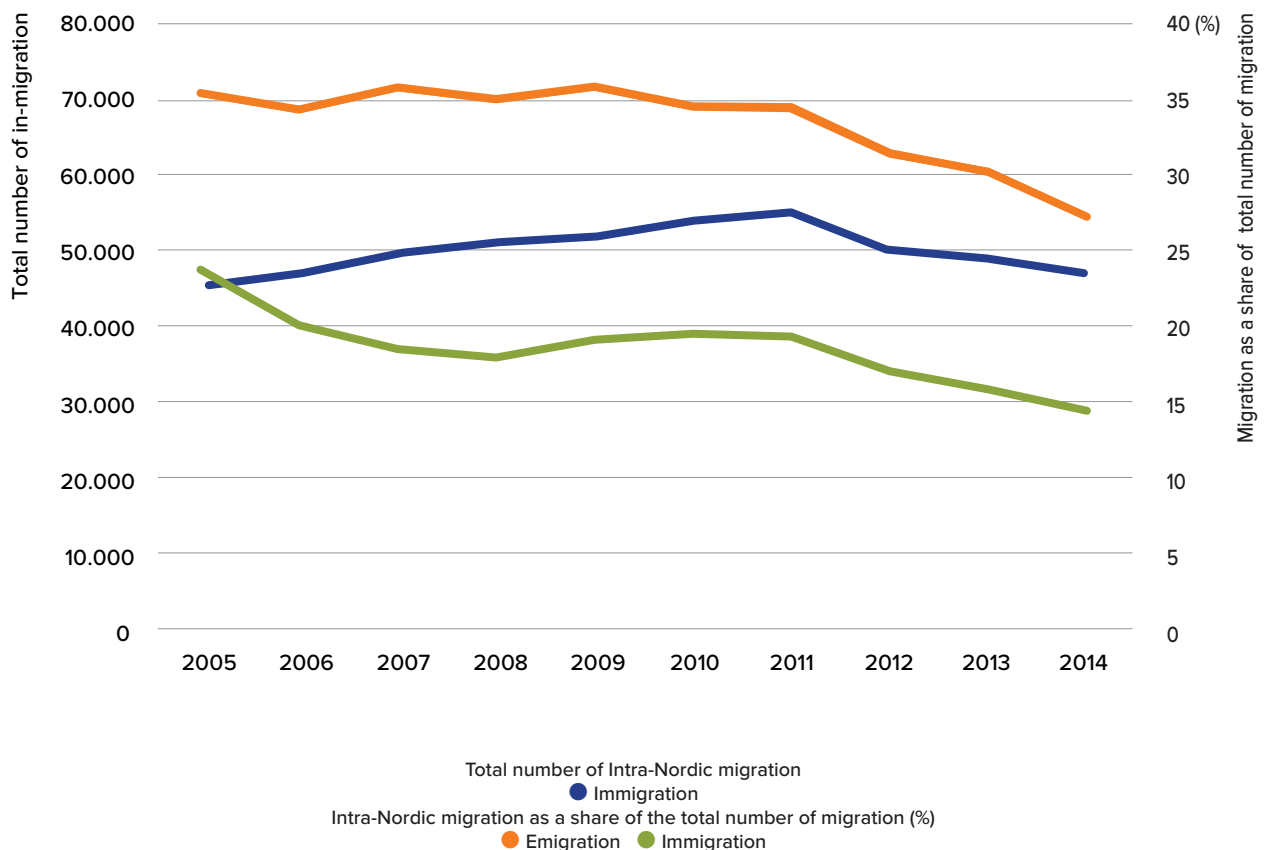
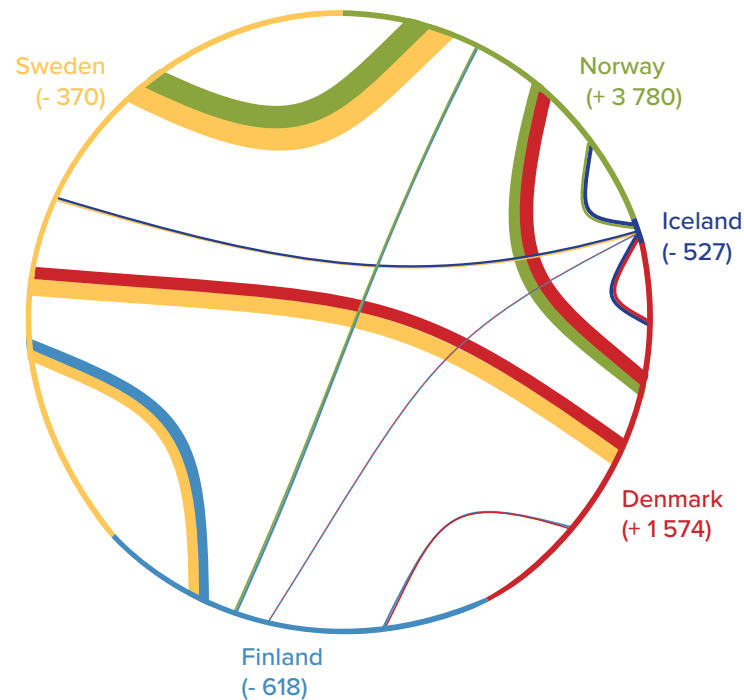


Figure 3.3: Intra-Nordic migration in 2014



Data source: NSI's

Note: each country has an assigned colour, for instance yellow for Sweden, and the colours used for the migration flows correspond to the country of origin of the flow. In other words, all the yellow lines correspond to migration from Sweden to another Nordic country. The length of the arc of the circle is relative to the total population of the country and the number in brackets indicates the net migration value for intra-Nordic migration in 2014.

numbers, intra-Nordic migration peaked in 2011 at 107 000 migration flows between the Nordic countries, or ca 56 000 immigration flows as shown on the diagram (considering that the total flow includes persons that are emigrants from one Nordic country and immigrants into another, the actual number of people moving between the Nordic countries can be approximated by analysing the immigrant group only). From 2012 and onwards, the number of intra-Nordic migrants has been steadily declining to pre-crisis levels (see blue line in the diagram), especially between Norway and Sweden.

In relative terms, the curves highlight the fact that intra-Nordic emigration constitutes a larger share of the total emigration than immigration during this period, reflecting the overall immigration surplus to the Nordic Region. The shares of intra-Nordic immigration and emigration were stable between 2006 and 2011. Again, a change occurred in 2012 when the share of intra-Nordic migration relative to total migration in the Nordic Region started to decline due to the increase in migrations flows from outside the Nordic Region, such as from USA, Syria and Poland, among others. In 2014, figures indicate that intra-Nordic migration had declined to 14% of total immigration and 26% of total emigration.

Denmark and Norway have net Nordic immigration, whereas Finland, Iceland and Sweden have net emigration.

Looking in detail at intra-Nordic migration in 2014 for the five Nordic countries, figures show that Denmark and Norway have net Nordic immigration, whereas Finland, Iceland and Sweden have net emigration. The figure below (figure 3.3) aims to illustrate the migration flows between the five Nordic countries. The largest flows are between Norway and Sweden (about 7.5% of total intra-Nordic migration, in each direction). Norway is the only country with net immigration from all four other Nordic countries. On the other hand, Fin-

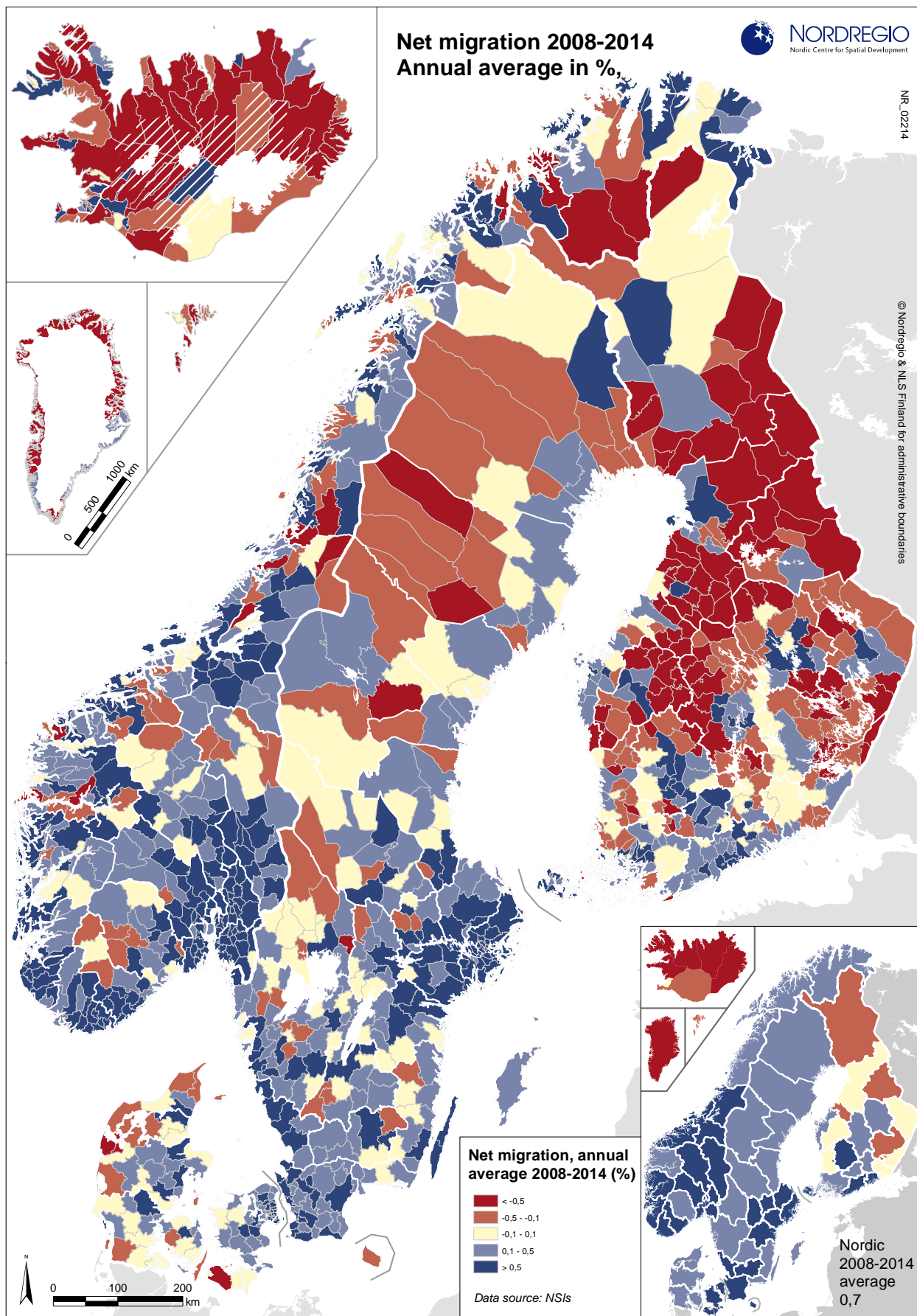


Figure 3.4: Net migration 2008-2014

land is the only country with only net emigration. Furthermore, the figure highlights that the intensity and direction of intra-Nordic migration flows vary from one Nordic country to another. For instance, all Nordic countries have relatively significant migration flows to and from Sweden. On the other hand, migration from and to Finland (including Åland) is relatively low from and to Denmark, Iceland and Norway, but high to and from Sweden. The latter can be explained by a long history of migration between the two countries, mostly linked to integration of Finnish nationals into the Swedish labour market. A very significant share of migration flows can be found between Sweden and Finland: 72% of the emigration from Finland to the Nordic countries ends in Sweden. A similar proportion can be found between Sweden and Norway, where 72% of Nordic immigrants in Norway originate in Sweden.

As already noted, the data on immigration and emigration can be broken into the percentage of national and foreign citizens, although there is a clear majority of foreign citizens in the intra-Nordic migration data, averaging 58%. The individual situations pertaining in each country are however rather different. For instance, figures on intra-Nordic immigration indicates that Denmark, Norway and Sweden have higher shares of foreign-born in-migration flows than the Nordic average (respectively 62%, 73% and 58%), whereas both Iceland with 14% and Finland with 25% are significantly below the Nordic average. These figures may reflect the changing attractiveness of the different labour markets but also the education possibilities in other parts of the Nordic Region thus resulting in the increased migration of nationals from Iceland and Finland.

The Faroe Islands and Greenland are not included in the illustration above due to their very small absolute figures of intra-Nordic migration. It is however worth mentioning that the share of intra-Nordic migration is significantly higher in these two territories than in the five Nordic countries at around 90%. This is primarily explained by their strong linkages to Denmark, representing more than 80% of the intra-Nordic flows and by the phenomena of re-migration. To a much lesser extent there was also a rather stable migration pattern between the Faroe Islands and Greenland during the period 2005-2014.

Migration at the regional and municipal levels

The map on net-migration (figure 3.4) illustrates the annual average changes from 2008, when the financial crisis started, to 2014. The Nordic Region had an annual average net migration rate of 0.7% during the period 2008-2014, but there is significant geographic variation between regions and between municipalities.

A very significant share of migration flows can be found between Sweden and Finland: 72% of the emigration from Finland to the Nordic countries ends in Sweden. A similar proportion can be found between Sweden and Norway, where 72% of Nordic immigrants in Norway originate in Sweden.

The map at the regional level indicates that all regions in Denmark, Norway and Sweden have net in-migration, highlighting that even the most remote regions in these countries succeed in attracting more inhabitants than they lose. The situation at the regional level in the Faroe Islands, Greenland and Iceland highlights that net in-migration to the largest settlements does not outweigh the prominence of the net out-migration in these parts of the Nordic Region. The situation in Finland is somewhere between these two since most regions located in the South-Western part of the country have net in-migration, whereas the regions in the remaining parts of Finland suffer from net out-migration.

The map at the municipal level clearly highlights different trends within each country where the municipalities with the largest settlements attract most of the migrants thus maintaining their population, whereas the most rural and sparsely populated parts of the Nordic Region suffer from population decline. This observation applies in particular to municipalities in Denmark, Finland, Iceland and Sweden. In Norway, net in-migration not only occurs in the most urban municipalities

but also in the majority of its rural municipalities. In the Faroe Islands and Greenland, where there is overall (national/regional) net out-migration, the municipal scale showcases their internal differences. For instance, the municipality containing Greenland's largest settlement (Nuuk) shows a net in-migration flow.

The map below (figure 3.5) highlights a clear divide between large urban areas and the rest of the Nordic Region for figures on domestic net migration in 2014. The majority of the municipalities (61%) are located primarily in rural or remote parts of the Nordic Region and suffer from net out-migration in terms of their domestic flows. The remaining municipalities experience net in-migration for domestic flows and are mostly located in the capital and metropolitan areas of Denmark, Finland, Norway and Sweden.

The map also highlights that a vast majority of municipalities (93%) have net in-migration for international migration flows. Only 86 out of 1 219 municipalities, mostly located in Greenland, Iceland, Finland and Norway have net out-migration.

Domestic net migration is the result of the difference between the in-migration and out-migration that takes place from one administrative unit to another one (municipality or region) within the same country. International net migration is the result of the difference between the immigration and emigration that takes place from one administrative unit to another (municipality or region) between two countries. The map below indicates domestic (left half of the circle) and international net migration (right half of the circle) in 2014 for municipalities of the Nordic Region (figure 3.5). The size of the circle indicates the absolute value of migration turnover (the sum of in-migration and out-migration) while the colour indicates the trend (blue for net in-migration and red for net out-migration).

The consequences of both net in-migration and net out-migration can pose significant challenges at the municipal level. In the case of significant net in-migration, municipalities often have to deal with issues relating to housing shortages and the inadequate provision of public services as well as the specific challenges that come with social integration. In the case of net out-migration, municipalities often need to find solutions to the rapidly changing nature of their demographic structure, i.e. reductions in their tax base as well as potential reductions in the active labour workforce and/or increases in the share of the 'dependent' elderly population requiring a significant level of public service support, including extensive health care.

The strategies developed to address both these types of challenges are diverse across the Nordic Regions and municipalities, ranging from strategies and actions to attract new inhabitants to those designed to help the

The Faroe Islands have launched an ambitious national strategy to reverse their emigration rates and hopefully increase the re-immigration rates.

municipality to adapt its local structures to the new situation. A number of remote municipalities have developed policies aimed at attracting and integrating migrants into their labour markets, thus providing a counterweight to the out-migration flows particularly of young people. One example of the level of awareness on this issue is a policy developed in Åland where policy makers have calculated the required volume of in-migration necessary to maintain an acceptable dependency ratio and thus have actively promoted immigration and integration (Hörnström et al 2015).

National policies have also been developed with the aim of maintaining populations in areas with high out-migration rates. The Faroe Islands have launched an ambitious national strategy to reverse their emigration rates and hopefully increase the re-immigration rates in the hope of attracting returnees who have completed their tertiary education and training programmes. At the regional level, there is also the recent Danish plan to relocate government jobs from the capital to other regions. A further example is the investment and development support for small grocery stores in rural areas in Norway (Hörnström et al 2015). The merging of small municipalities is also sometimes seen as a response to net out-migration trends with the expectation that larger municipalities may be better able to provide the necessary level of services to their inhabitants more efficiently. A number of recommendations designed to deal with net out-migration can be found in a working paper on local and regional approaches to demographic change (Johnsen et al 2014). Among the recommendations here are the better utilisation of private actors, coordination and cooperation between administrative levels and citizen engagement.

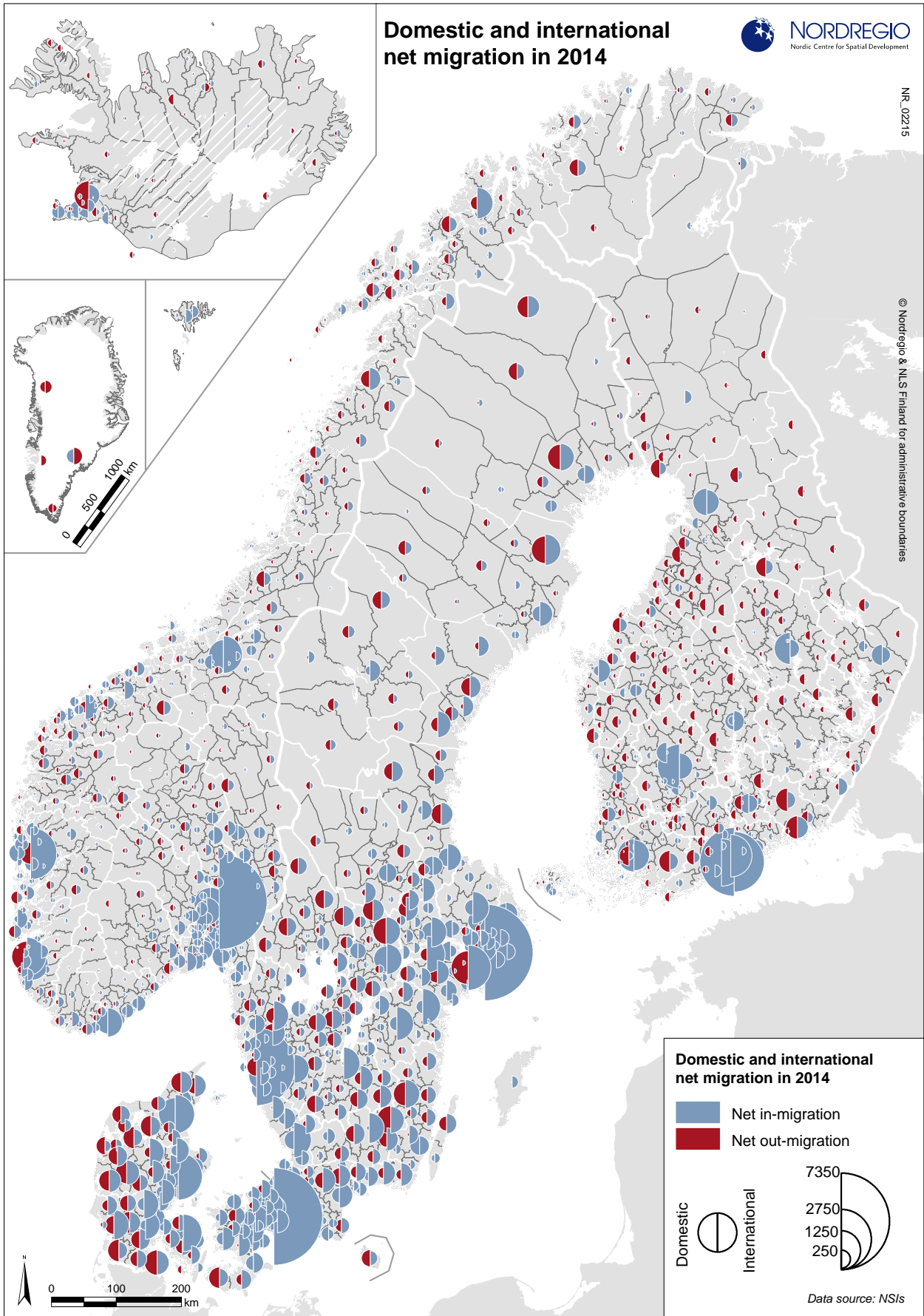


Figure 3.5: Domestic and international net migration in 2014

Chapter 4

AGE AND GENDER:

Growing challenges for rural and remote areas

Authors: **Julien Grunfelder, Andrew Copus and Michael Kull**
 Maps and data: **Julien Grunfelder**

It is well known that rural areas tend to suffer more from demographic challenges than their urban counterparts. The Nordic Region contains many sparsely populated municipalities that are affected by these demography challenges due to their remote location. This chapter provides an overview of the status and recent trends in population change, demographic dependency, youth age dependency and old age dependency, paying particularly attention to rural municipalities. It reveals that there are some interesting subtleties behind these notions of sparsity and demographic challenge.

The need to study and react to these socio-economic trends, structural transformations and demographic changes in European rural areas resulted in the development of a number of regional typologies. Typologies constructed at the regional level (NUTS3) tend however to obscure important details of the demographic redistribution; hence an analysis at the municipal level would be more pertinent.

The first section of this chapter introduces a classification of Nordic municipalities, based upon access to urban areas, which is subsequently used for analysing demographic trends. Section two describes the ongoing process of demographic redistribution while section three focuses on how this affects the composition of population in different kinds of locations, in terms of both age and gender.

Towards a typology of rural municipalities

A number of urban-rural typologies already exist at the NUTS3 level. These include, for example, the OECD Regional Typology of 2010, the EUROSTAT Urban-rural typology (2010) and the updated version of the ESPON Urban-Rural typology 2010. These typologies

Rural areas tend to suffer more from demographic challenges than their urban counterparts.

cannot effectively capture the more nuanced pattern at the municipal level and are therefore less useful as a framework for illustrating recent adjustments in demographic geography. The benefits of a higher resolution approach are illustrated by the typology by Malinen et al (2006) developed as a tool to support the implementation of rural policy in Finland. The Malinen typology was developed using a large number of indicators, including labour market and economic indicators.

Although the typology presented below is much simpler and less demanding in terms of data, it is encouraging to see that the results for Finland are similar to those of the Malinen typology. The typology distinguishes between municipalities which are dominated by an urban centre, those which are “urban adjacent”, and those which are rural. The rural group is further subdivided into those which are relatively accessible, and those which are more remote.

The drift towards urban and urban adjacent municipalities

The graph (figure 4.2) on population change during the period 2005-2015 provides a clear picture of the overall trend in rural-urban population redistribution in the

Classification of rural municipalities

Any attempt to better understand rural trends in the Nordic Region leading to the development of a classification of rural municipalities to serve as a basis for the analysis of demographic change needs to include elements related to their demographic size and the location vis-à-vis urban areas. This is because the vast majority of rural areas are reliant on towns and cities in their near or far proximity. Hence, this classification was developed for this chapter by including both population size (total municipal population in 2015) and accessibility measures to urban areas (an index summing up the share of the municipal population that can reach urban settlements of different sizes within 45 minutes by car; the index was developed by Tillväxtanalys for NordMap.se). The size of municipalities in the Nordic Region varies considerably in terms of population (and area), ranging from 53 to 911 989 inhabitants. A threshold of 20 000 is used in this typology (the average population size of a municipality being 21 703 in 2015, and the median 7 977). This threshold may be too high in some countries with very small municipalities in terms of both population and area sizes, while it is slightly too low in the Danish and Swedish contexts. It does however seem to provide a rather appropriate measure for the Nordic Region as a whole.

The four types of municipalities are:

- **Urban:** municipalities with 20 000 inhabitants and more where at least 90% of the population

can reach an urban settlement of 30 000 inhabitants and more within 45 minutes by car (240 municipalities, 17 802 963 inhabitants).

- **Urban adjacent:** rural municipalities with less than 20 000 inhabitants where at least 75% of the population can reach an urban settlement of 30 000 inhabitants and more within 45 minutes by car (238 municipalities, 2 311 744 inhabitants).

The remaining rural municipalities are divided in two groups:

- **Accessible rural:** indexed accessibility of 200 and more (286 municipalities, 4 852 633 inhabitants).
- **Remote rural:** indexed accessibility of less than 200 (455 municipalities, 1 511 073 inhabitants).

A fifth of the municipalities in the Nordic Region would accordingly be classified as urban, and these account for 67% of the total population. A further 20% (and 9% of the population) are classified as urban adjacent. Of the remaining 60% classified as rural, the majority (37% of all Nordic municipalities) are classified as remote rural, and 23% as accessible rural. These two types of rural municipality account for less than 25% of the population of the Nordic area. Most of this population (18% of the Nordic total) is in the more accessible rural municipalities. This means that although they account for well over one third of all municipalities, the remote rural group has less than 6% of the Nordic population.

Figure 4.1: Share of population in 2015, by type of municipality

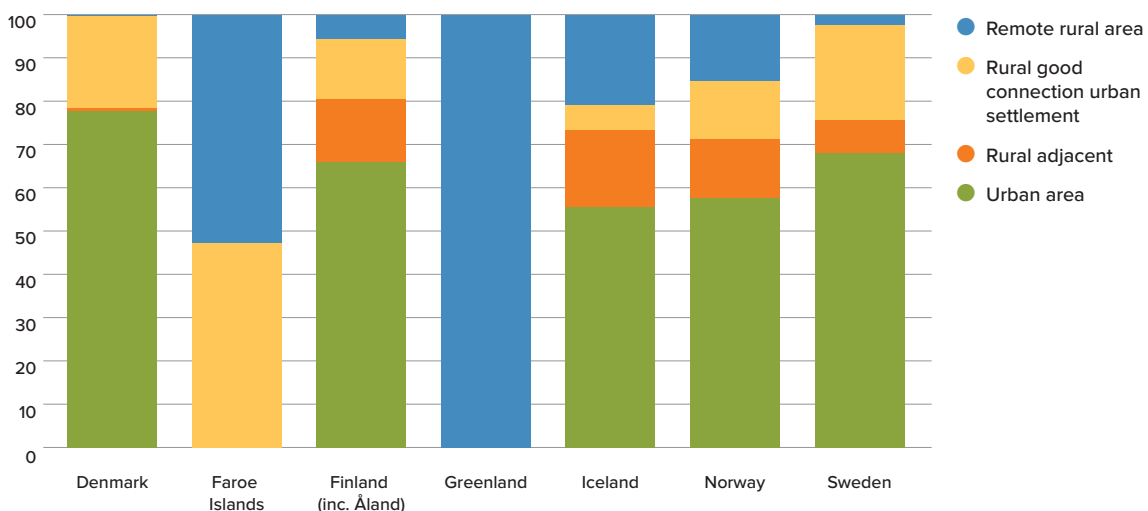
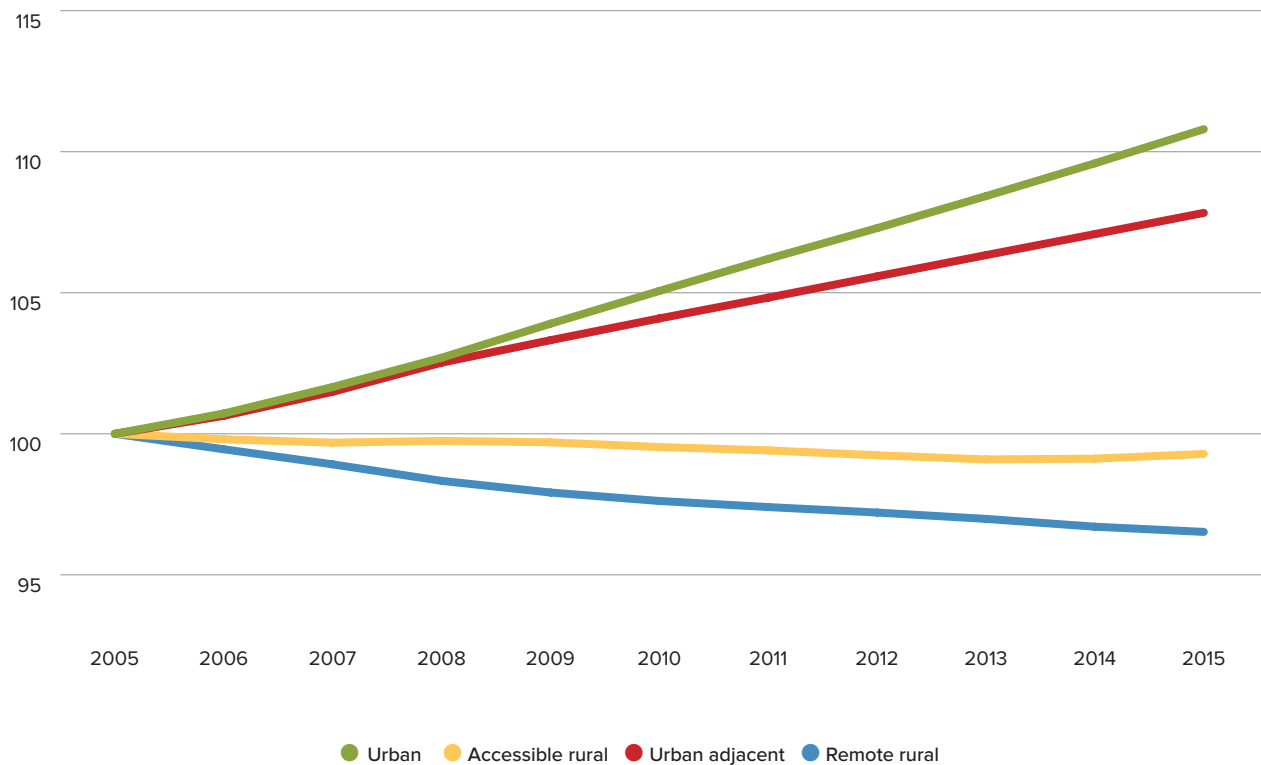


Figure 4.2: Total population by class of the rural classification of the Nordic Region, 2005-2015

Population change, year 2006=100



Data source: NSI's

Nordic countries. It highlights the fact that increases have been associated with urban (+11%) and urban-adjacent municipalities (+8%), whilst population decline has continued in the majority of rural municipalities, and especially in the remote areas (-3.5%). This pattern is common across Northern Europe. It implies obvious challenges for rural municipalities in terms of sustaining economic activity and adapting to new modes of service provision.

It is interesting to note that in the accessible rural municipalities the decline levelled off from 2013 onwards, and that these municipalities actually saw an increase in population between 2014 and 2015. It is tempting to speculate that this could be evidence of the beginnings of an outward 'ripple' of 'counter urbanisation', as observed in other parts of Northern Europe. This could imply a more positive socio-economic outlook in accessible rural municipalities. However only time will tell, and Nordic analysis has already shown that the configuration of administrative boundaries can mean that processes of sub-urbanisation around the urban fringe can "masquerade" as true counter-urbanisation (Amcoff 2006).

It is interesting to note that in the accessible rural municipalities the decline levelled off from 2013 onwards, and that these municipalities actually saw an increase in population between 2014 and 2015.

Men out-number women outside urban areas

The overall population shift described in the previous section hides some interesting nuances in relation to population composition, both in terms of gender and age. It has long been observed that employment push factors in rural and remote areas and educational pull factors in the cities are particularly strong in relation to younger women. One consequence of this is that gender ratios tend to show a deficit of women in the countryside and a ratio of more than 1:1 in urban and accessible areas (Figure 4.3 and figure 4.4). Indeed Figure 4.4 shows that in remote rural municipalities there are now only 96 women for every 100 men. Even in more accessible rural and urban adjacent municipalities the ratio is less than 1:1. Only in the cities are there more women than men.

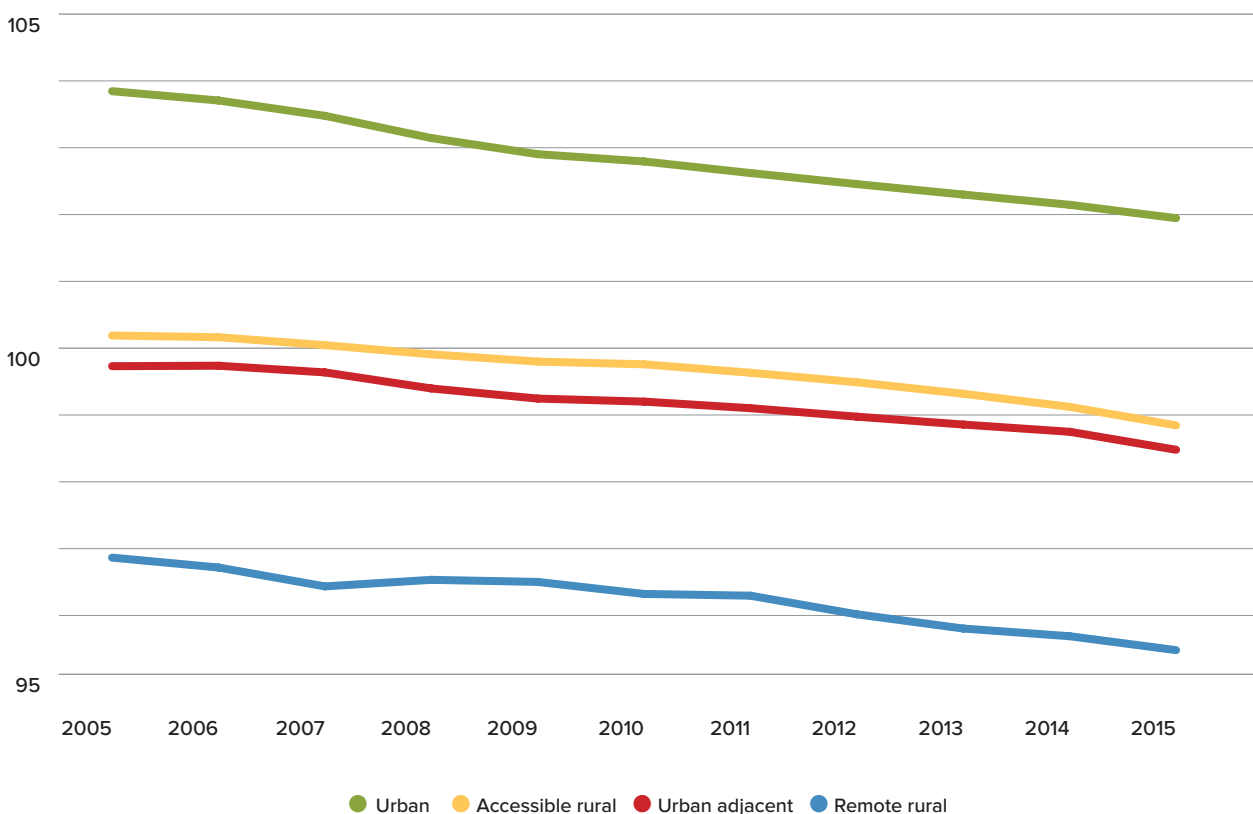
The map (figure 4.4) highlights differences between the countries and territories. For instance, gender imbalance is a more common situation in the rural and peripheral parts of Finland, the Faroe Islands, Greenland and Sweden than it is in Denmark and Norway. These

In remote rural municipalities there are now only **96** women for every **100** men.

differences can result from the presence or absence of policies on gender. For instance the Finnish ERDF programme aims at diversifying the rural labour market by making it more attractive to women, whereas Norwegian policies do not directly include this issue (Hörnström et al., 2015).

Figure 4.3: Female ratio by class of the rural classification of the Nordic Region, 2005-2015

Total number of females per 100 males



Data source: NSI's

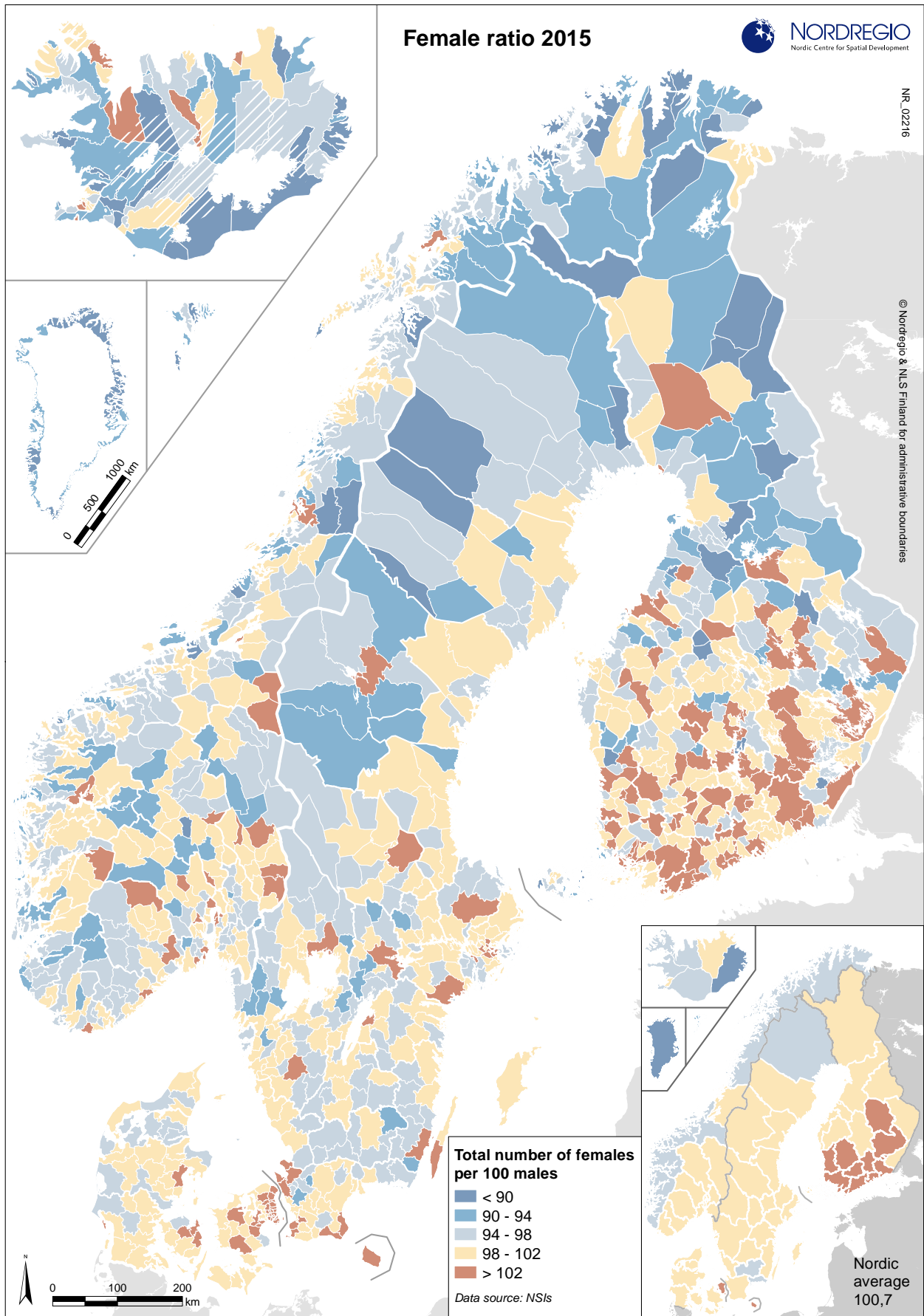


Figure 4.4: Female ratio in 2015

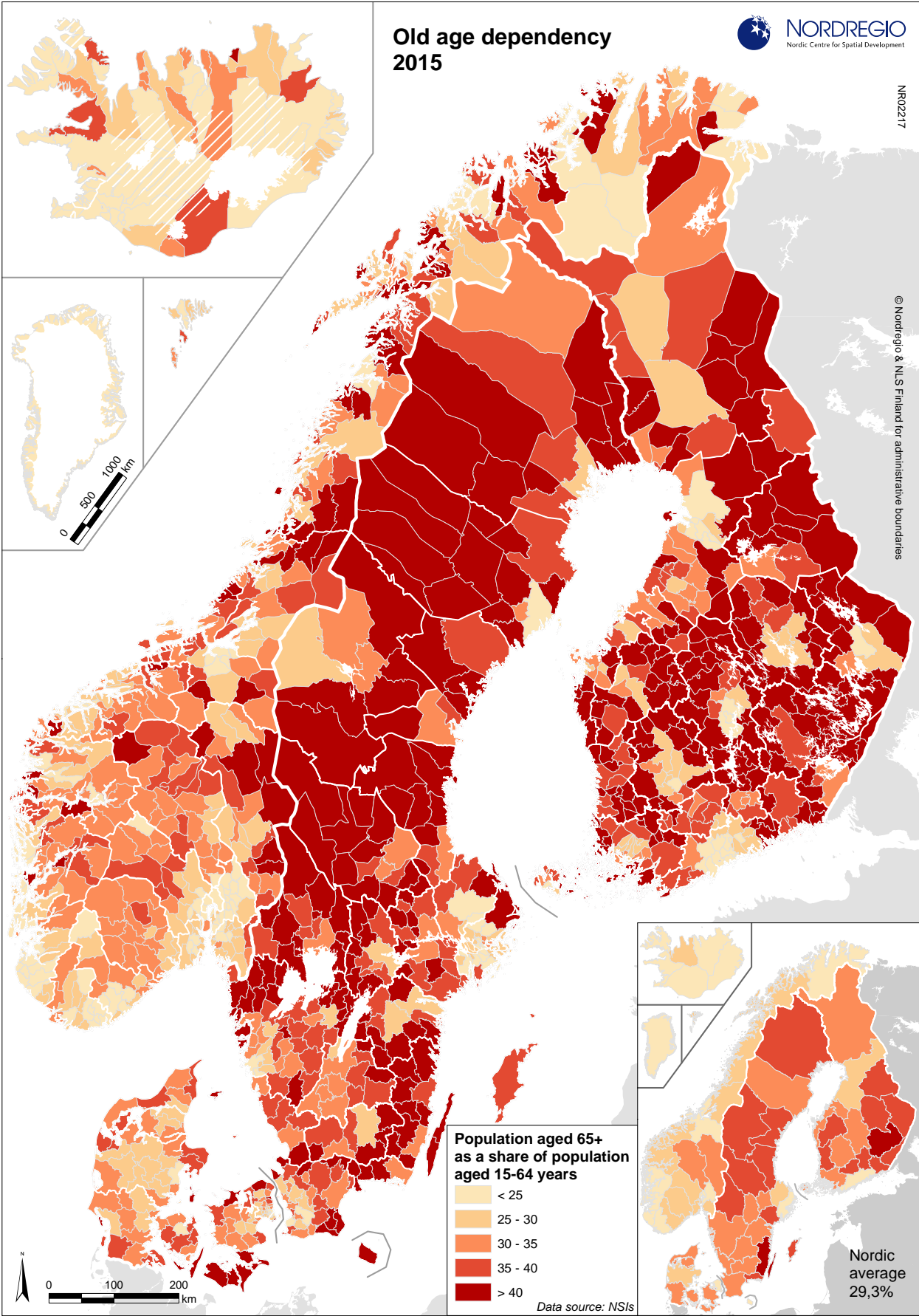
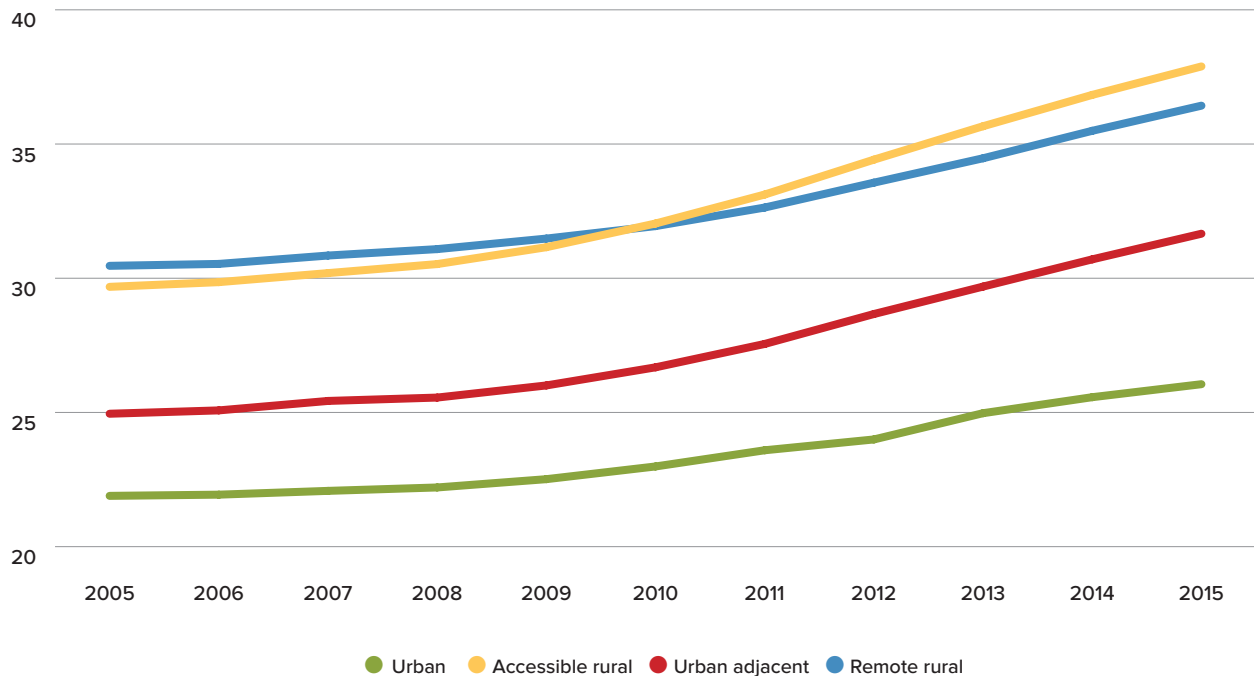


Figure 4.5: Old age dependency in 2015

Figure 4.6: Old age dependency ratio by class of the rural classification in the Nordic Region, 2005-2015

Population aged 65+ as a share of population aged 15-64 years



Data source: NSI's

Old age dependency puts pressure on Nordic healthcare systems

Dependency ratios show the proportion of the population which is outside the normal working age and is therefore dependent upon the economic activity and taxpaying capacity of others. For young people this is of course normally in the context of families and schools, but for older people this involves pensions and the provision of various social and health care services.

Old age dependency rates are rising across the Nordic countries (as they are across much of the Western World), but due to the selective outmigration of younger people towards the cities and adjacent areas, dependency rates are particularly high in rural municipalities (Figure 4.5). The highest rates can be found predominantly in insular municipalities of Finland (e.g. Kustavi) and Denmark (e.g. Læsø) and in a rather large number of rural municipalities in Finland (e.g. Luhanka) and along the Finnish-Swedish border (e.g. Pajala). The lowest rates can be found in both Greenland and most of Iceland as well as in the largest urban areas in Denmark, Finland, Norway and Sweden. What is particularly interesting in Figure 4.6 is the fact that since 2010 old age dependency rates in more accessible rural areas have outstripped those of the

Old age dependency rates are rising across the Nordic countries, but due to the selective outmigration of younger people towards the cities and adjacent areas, dependency rates are particularly high in rural municipalities.

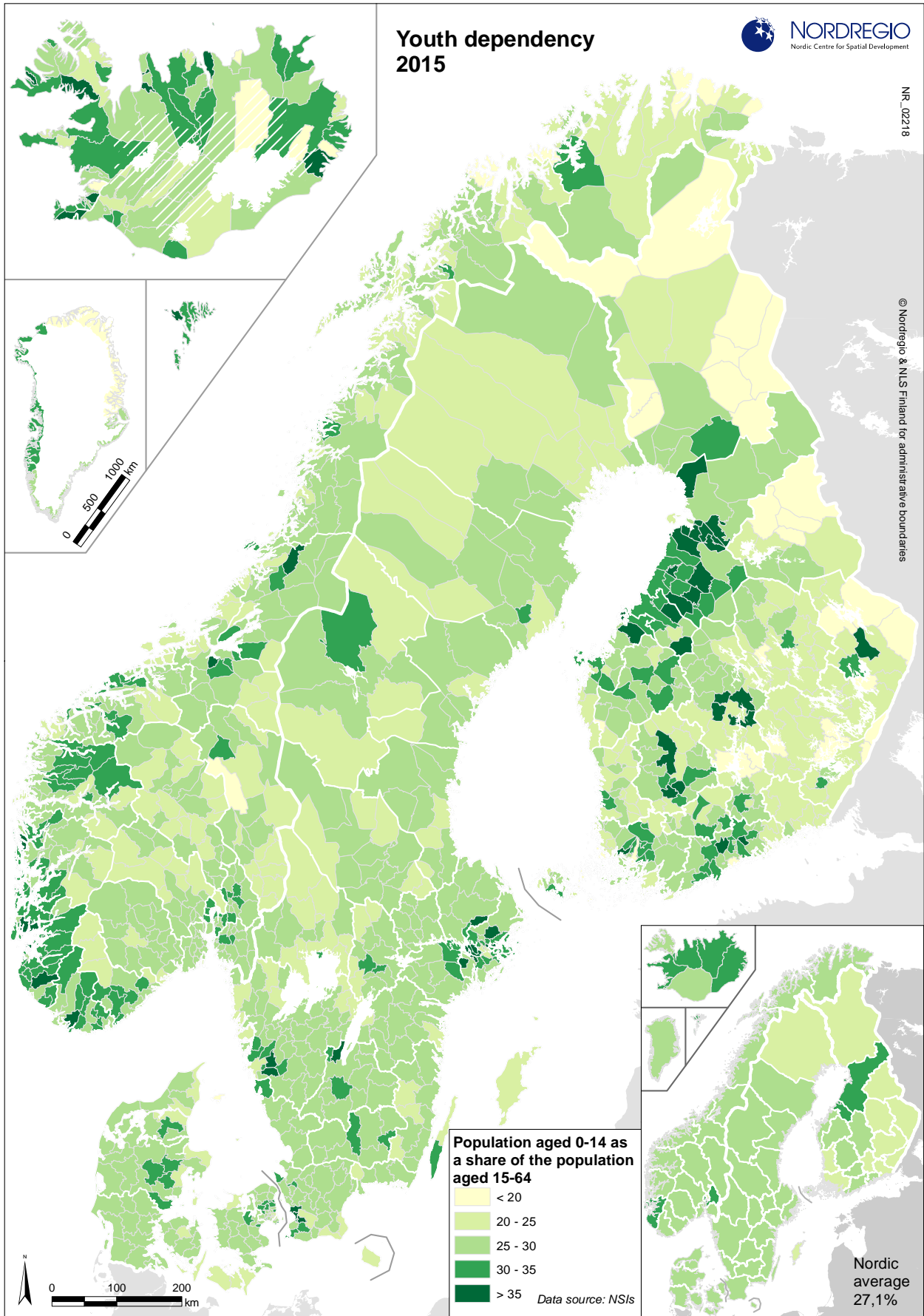
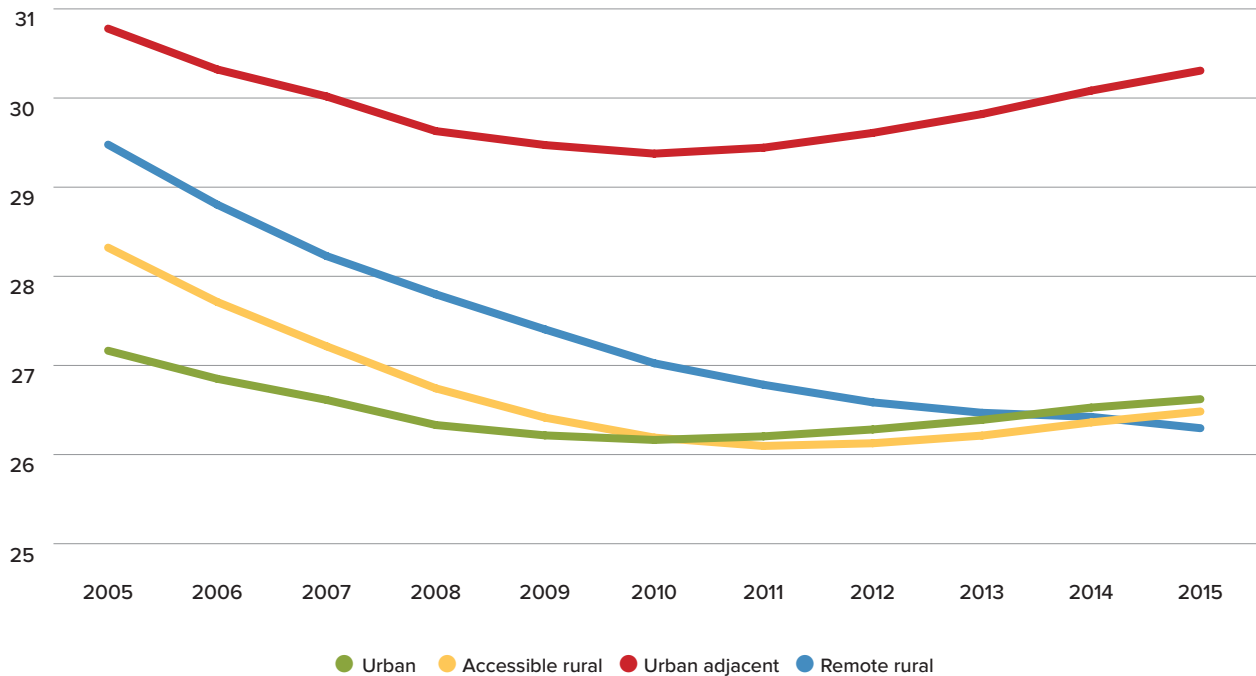


Figure 4.7: Youth dependency in 2015

Figure 4.8: Youth dependency ratio by class of the rural classification in the Nordic Region, 2005-2015

Population aged 0-14 as a share of the population aged 15-64 (in %)



Data source: NSI's

remote rural municipalities. One may speculate that this reflects the tendency for frailer elderly people to move to slightly larger settlements where specialist care and health services are easier to access.

Access to health and care services is one of the major issues in areas with high old age dependency ratios. A number of innovative solutions have been put in place in several parts of the Nordic Region. The region being the main authority responsible for providing health services, these solutions often emerge as the result of cooperation between regions, both within a single country and between adjacent regions in different countries. For instance cross-border solutions have been developed between Sweden and Finland and between Norway and Sweden with some success, even though some challenges remain (Johnsen & Perjo, 2014). National authorities are also key players in the struggle to tackle the basket of issues associated with having a high share of elderly population. For instance, digital solutions for access to health care services constitute part of a national strategy in Denmark with a focus, among other things, on telemedicine and telehealth (Hörnström et al., 2015).

A number of innovative activities designed to address the consequences of old age dependency have therefore been developed throughout the Nordic Region. In Finland, as in other peripheral parts of the Nordic Region, centralised care systems for the elderly based in munic-

Since 2010 old age dependency rates in more accessible rural areas have outstripped those of the remote rural municipalities.

ipal centres with the aim of 'reaching out' to customers in remote and distant places, are expensive to organise (Vihinen & Moilanen, 2013). Furthermore, profitability levels for private sector service providers under these conditions are likely to be limited, further threatening the supply of social and health services. Under their service obligation agreements, municipalities might arrange home care services not by themselves but through other service providers in the countryside - small organisations or companies whose main objective is not profit

maximization but rather the safeguarding of services addressing local needs (Kettunen et al. 2015). These services are viewed as Services of General Interest or as Services of General Economic Interest (e.g. Kull 2013).

Drastic decline as youth move to urban areas

The pattern of youth dependency rates (Figure 4.7) is rather different, and, again raises interesting questions for policy, particularly as it relates to education and training provision. Over the previous decade, the highest youth dependency rates have been in urban adjacent municipalities (e.g. Liminka and Ii in Finland, Rennesøy in Norway, Knivsta and Vaxholm in Sweden). Some have seen a net increase in the under 15 age group, as young families move (for well-being reasons) to municipalities which are close to the countryside but still within commuting distance of major employment centres (figure 4.8). In fact, prior to 2010, dependency rates in such areas showed a gentle decline. Since 2011 they have however displayed a consistently positive trend. In 2005 Urban municipalities had the lowest youth dependency rates, with rural (both accessible and remote), occupying intermediate positions. By 2015 these three types of municipality had converged, all having youth dependency rates about 4 percentage points below those of the urban adjacent municipalities. In other words the rural municipalities (especially the remote ones) had seen a significant fall in the proportion of their population in the under 15 age group.

A manifestation and illustration of youth dependency trends can be seen in Finland, where in the 2000-2009 period one-fifth of all primary schools were closed, mainly in sparsely populated areas (40%) and rural heartland areas (25%) (see Vihinen & Moilanen 2013, Ponnikas et al. 2011). The majority of sparsely populated rural municipalities are located in the northern and eastern parts of Finland, such as in the regions of Lappi, Kainuu, Pohjois-Karjala and Etelä-Savo. The majority of municipalities located in rural heartland areas are in the regions of western and southern Finland, such as in Etelä-Pohjanmaa and Varsinais-Suomi. From a local perspective, schools, and village schools in particular, are often seen as central to keeping rural areas populated (e.g. Kettunen 2013). The reduction in public transport provision represents a further threat in terms of curtailing the ability of some to access centrally located schools - private arrangements on behalf of the parents to organise joint transportation are used. Remote schooling is conditioned by an available and functioning broadband internet service (Vihinen & Moilanen 2013).

Concluding comments

The key point which may be derived from the above brief analysis of gender and age profiles across the four types

In Finland in the 2000-2009 period one-fifth of all primary schools were closed, mainly in sparsely populated areas (40%) and rural heartland areas (25%).

of municipality is that the pattern of change is more complex than the crude generalisations about patterns of demographic ageing would suggest. It shows that the simple binary distinction between urban and rural is not as helpful as is often assumed to be. Urban adjacent, accessible and remote rural municipalities are each experiencing different combinations of change in terms of gender, old-age and youth dependency.

One way to secure services in rural areas that cater to the needs of a range of residents is to introduce multi-service points. Multi-service points are, for instance, arranged in village schools or village shops. Services provided include municipal catering for the elderly, collection of groceries, transport as part of home care, internet points to access electronic public services or afternoon care for pupils (Kettunen et al. 2015). A number of other noteworthy examples exist throughout the country, where activities are arranged to tackle the different dimensions of demographic challenges in a concerted manner. The non-profit association Velkuan Kummeli in the archipelago municipality of Velkua in south western Finland for instance combines day care, afternoon activities for pupils, accommodation for the elderly / homecare for elderly people and health services etc., "under one roof".

Various policy recommendations for youth involvement have been listed as a result of workshops with young people in a number of case studies throughout the arctic part of the Nordic Region (Karlsdottir & Jungsborg, 2015). One of the listed recommendations is to include the local youth population by creating a youth council facilitated by an adult and a contact person from the municipality. Similar experiences can be found in other parts of the Nordic Region as in the region of Kalmar in Sweden (Johnsen & Perjo, 2014). At the regional level, the authorities are also working on increasing their attractiveness as a method of addressing the demographic challenges they face.