STATE OF THE NORDIC REGION

2026

Nordregio

State of the Nordic Region 2026

Editors: Maria Bobrinskaya and Thomas Niedomysl

Nordregio report 2026:2
ISBN: 978-91-8001-189-1 (digital)
ISBN: 978-91-8001-190-7 (PDF)
ISBN: 978-91-8001-191-4 (print)
ISSN: 1403-2503
DOI: http://doi.org/10.6027/R2026:2.1403-2503

This report is also available online in a web-accessible version at:
pub.nordregio.org/r-2026-2-state-of-the-nordic-region-2026

STATE OF THE NORDIC REGION 2026

EDITORS: Maria Bobrinskaya and Thomas Niedomysl

AUTHORS: Karina Berbert Bruno, Debora Pricila Birgier, Ágúst Bogason, Maja Brynteson, Hjördis Gudmundsdottir, Timothy Heleniak, Anna Lundgren, Daniel Pils, Nora Sánchez Gassen, Elin Slätmo, Madelene Sonesson, Carlos Tapia, Hedda Thomson Ek and Patrik Tornberg

CONTENTS

IMAGE: JACOB LISBYGD/ VISIT.DK

Preface
STATE OF THE NORDIC REGION 2026

The 2026 edition of *State of the Nordic Region* is published at a time marked by overlapping transitions and heightened uncertainty. Nordic regions are navigating demographic shifts, economic restructuring, the green transition, and a changing geopolitical environment. The effects vary across regions and place new demands on policy, planning, and cooperation across all levels of governance. To design policies that respond to local needs while supporting broader Nordic objectives, comparative and regionally grounded knowledge is needed.

By combining a Nordic-wide perspective with detailed regional analysis, *State of the Nordic Region 2026* supports informed decision-making and comparative learning. The report does not seek to prescribe solutions, but provides a solid empirical basis for reflection, dialogue, and adaptation across countries and regions.

Whether you work at local, regional or national level, you can use this report to assess developments in your own area, compare them with others, and identify emering risks and opportunities. The data, maps and analyses are tools to support evidence-based policy design, strategic planning and cross-border learning. They also provide a basis for dialogue between sectors and different levels of government.

We hope this report will serve as a valuable reference for policymakers, researchers and practitioners engaged in regional development. By making active use of this shared knowledge base, we strengthen our collective capacity to shape a resilient, competitive, and socially sustainable Nordic Region in the years ahead.

Rolf Elmér
Director
Nordregio

Karen Ellemann
Secretary General
Nordic Council of Ministers

IMAGES: ISTOCK

INTRODUCTION

Chapter 1

INTRODUCTION

AUTHORS: Maria Bobrinskaya and Thomas Niedomysl
DATA AND MAPS: Madelene Sonesson

State of the Nordic Region – comparative perspective on regional development and territorial differences

Across the Nordic countries, demographic, economic, social and territorial trends play out differently from one region to another, shaping distinct development paths and policy challenges. This 21st edition of *State of the Nordic Region* examines how these trends unfold across regions, and how similar challenges are addressed in different national and regional contexts. By focusing on territorial variation alongside national and Nordic averages, the report seeks to deepen understanding of how geographically specific conditions shape development trajectories within broadly comparable welfare states. It does so in a context in which the similarities between the countries are as significant to the analysis as the differences, as they shape interpretations of the variation – a rare and unusual approach in international comparisons.

The Nordic countries are often described as sharing a common societal model, characterised by strong public institutions and extensive welfare systems. An additional factor, perhaps less visible to most readers but no less important for comparative analysis, is that the countries' statistical foundations are well developed and broadly compatible. At the same time, the Nordic Region encompasses considerable geographical diversity: sparsely populated rural and peripheral areas, dense metropolitan regions, coastal and inland economies, and regions with markedly different demographic profiles and labour market structures. Understanding how such diversity interacts with broader societal change is central to any discussion of regional development in the Nordic context.

Several transformations that are set to play out over the long term are currently shaping the Nordic regions. Many areas are affected by demographic ageing and population decline, while others are experiencing rapid growth driven by urbanisation and migration. Labour markets are being restructured, the green transition is altering production systems and spatial demand, and increasing geopolitical uncertainty has brought renewed attention to issues of resilience, preparedness and territorial cohesion. These processes do not affect all regions in the same way. Their consequences are mediated by geography, accessibility, economic specialisation and institutional arrangements, all of which make regional analysis indispensable.

Comparing apple varieties – not apples and oranges

The comparative perspective is a defining feature of this report. Much of the analysis presented in *State of the Nordic Region* is based on comparisons between the Nordic countries and their regions. This reflects a deliberate analytical choice grounded in the particular strengths inherent in Nordic comparison.

Comparing the Nordic countries is not a matter of comparing apples and oranges. Instead, it is more appropriately understood as a comparison of

apple varieties. The countries share broadly similar welfare state principles, governance traditions and institutional arrangements. This degree of similarity affects the interpretation of their differences, particularly when the aim is to learn from variation rather than explain it away. It implies that observed differences in outcomes are less likely to be driven by fundamentally different societal models, and more likely to reflect variation in geography, demography, economic structure, policy design or territorial organisation.

The comparability of the contexts means that the differences are analytically productive. They attract attention, rather than being set aside as incomparable, and invite explanation rather than dismissal. When regions or countries facing broadly similar challenges arrive at different outcomes or pursue different approaches, those differences become meaningful signals. They raise questions about why development takes one form rather than another, and about the conditions under which alternative trajectories may emerge.

For this reason, Nordic-level comparisons are especially relevant from a learning perspective. The aim is not to identify universal "best practices" or to promote straightforward policy transfer. Instead, the value lies in understanding how different solutions may emerge within similar overarching frameworks, and what this may reveal about potential policy choices, trade-offs and constraints. In this context, learning is analytical rather than prescriptive. It is intended to support reflection, adaptation and informed decision-making, rather than replication. In practical terms, this means providing a basis for questioning assumptions, reassessing available options and understanding the implications of different choices across comparable contexts. Where relevant, the report also situates Nordic developments in a broader European context.

A report shaped by its time

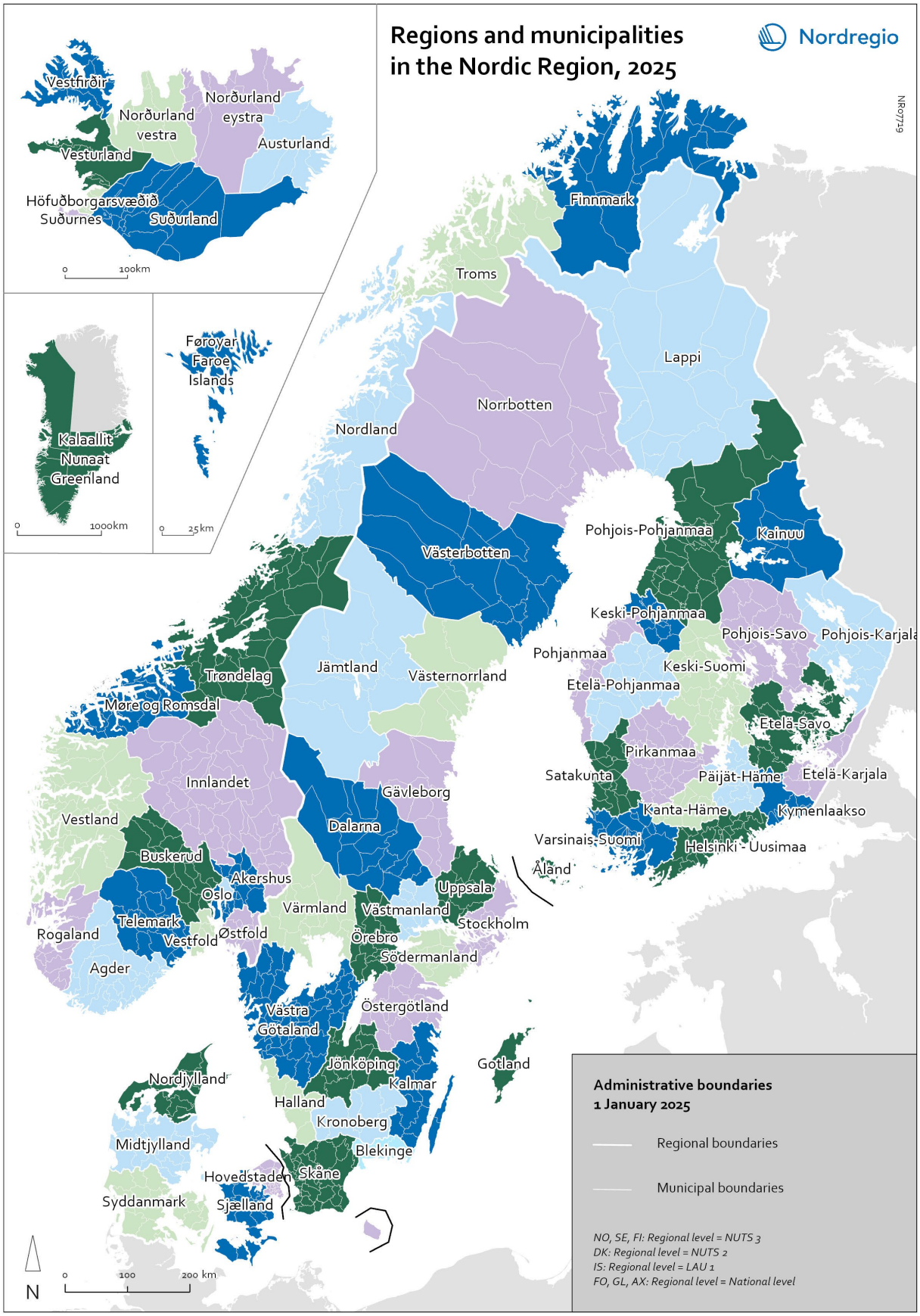
This edition of *State of the Nordic Region* follows the established thematic structure of previous reports. As in earlier editions, the analysis is organised around three broad areas of regional development: demography, labour markets and the economy. Together, these areas capture central dimensions of how the Nordic regions change over time and provide a stable analytical framework for comparison.

Within this structure, the substantive focus of the individual chapters emerged through an open and iterative process. Different thematic directions were discussed, some were refined, and others were set aside, in some cases with the intention of revisiting them in future editions. The content also mirrors the collective assessment of Nordregio's researchers regarding what they believe readers will find analytically interesting and useful. Rather than following a single guiding narrative, the chapters engage with different aspects of ongoing change, informed by empirical patterns, current debates and emerging concerns across the Nordic Region.

Even so, a careful reader may notice that certain issues recur across chapters. Themes related to demographic change, economic restructuring, labour market dynamics and, more broadly, questions of uncertainty and resilience appear throughout, and in different ways. This should not be interpreted as the result of a single guiding theme imposed from the outset, nor as evidence of a fully integrated analytical framework. Rather, it mirrors the questions to which many researchers find themselves returning at the moment, consciously or not, as they seek to understand regional development in a period characterised by overlapping transitions and heightened uncertainty. In such a context, there is an inherent risk of focusing too narrowly on short-term developments. As such, one of the central tasks of this edition has been to balance a focus on immediate events with an emphasis on longer-term structural trends.

Taken together, the chapters reflect a Nordic Region shaped by multiple, partly overlapping developments. Rather than advancing a single narrative or diagnosis, the report documents patterns and variations in regional development across different thematic domains. In doing so, it offers an empirically grounded account of how regional development currently unfolds across the Nordic countries.

MAP 1.1: REGIONS AND MUNICIPALITIES IN THE NORDIC REGION, 2025.



The regional approach

The analyses presented in this report draw on a range of geographical classifications and territorial delineations that are used to structure and compare developments across the Nordic countries. As in previous editions, the approach spans national, regional and local levels, with analyses primarily based on harmonised data from the national statistical offices.

Before turning to the individual chapters, this section outlines how the report applies different spatial units and typologies, and how these serve as points of reference for the maps and analyses.

The Nordic Region consists of Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland, and Åland. The regional analysis treats all of them as equal units, even though the statistical coverage varies. *State of the Nordic Region* analyses social and economic trends starting at the national level, and then breaks them down into regional and municipal comparisons. The data are primarily sourced from national statistical offices. Significant efforts have been made to harmonise the indicators in order to facilitate comparability between countries.

Table 1.1 summarises the administrative structure in each of the Nordic countries. These structures form the basis for the Nomenclature of Territorial Units for Statistics (NUTS) classification – a hierarchical system that divides the European states into statistical units for research purposes. In general, the NUTS and Local Administrative Units (LAU) classifications follow existing divisions, but these may differ from country to country. Light-grey cells represent the regional levels presented in most of the regional maps in the report. There are currently 66 regions at this level. Dark-grey cells indicate the local units represented on most municipal maps. There are currently 1,130 units at this level. In this edition, Nordregio has developed new grid-level maps and an urban-rural typology, which facilitates new ways of analysing the data. This typology has also been made available to other researchers.

TABLE 1.1: ADMINISTRATIVE STRUCTURE OF THE NORDIC REGION, 1 JANUARY 2025.

	NUTS 0	DA	FI	IS	NO	SE	FO	GL
REGIONAL	NUTS 1		Manner-Suomi Fasta Finland Åland Ahvenanmaa 2			Landsdel 3		
	NUTS 2	Region 5	Suuralue Storområde 5		Landsdel 7	Riksområde 8		
	NUTS 3	Landsdel 11	Maakunta Landskap 19	Hagskýrslu-svæði 2	Fylke 11	Region/Län 21		
LOCAL	LAU 1	Kommune 99	Seutukunta Ekonomisk region 70	Landsvaedi 8	Økonomisk region 89		Sýsla 6	
	LAU 2	Sogn 2133	Kunta Kommun 309	Sveitarfélög 64	Kommune 357	Kommun 290	Kommuna 29	Kommunia 5

NOTE: Åland makes up 16 of Finland's 309 municipalities and 1 of the 19 Maakunta/Landskap.

Administrative boundary changes in the Nordic Region

The administrative boundary reforms in the Nordic Region primarily occur at the municipal or regional level. The Nordic model emphasises strong local self-government, which makes municipal changes more common than regional ones, although frequent restructuring means that smaller communities run the risk of losing ownership and identity. Such boundary reforms are typically driven by population changes, financial pressures or efforts to enhance efficiency in service provision and governance.

The pace of reform varies considerably across the Region. Norway has seen the most active administrative restructuring since the previous edition of *State of the Nordic Region*, with formerly merged counties dissolved and historical boundaries restored. Specifically, Viken was separated into Akershus, Buskerud, and Østfold; Troms og Finnmark was divided back into Troms and Finnmark; and Vestfold og Telemark split into Vestfold and Telemark. Finland approved one municipal merger in 2024. Iceland, Åland, and the Faroe Islands remain in the discussion and planning phases. Denmark and Sweden are currently in stable phases, with no ongoing structural reforms.

Data for the Nordic Region

This report strives to present a comprehensive picture of the entire Nordic Region and to treat territories with equal analytical precision. However, disparities in reporting standards and the availability of statistical data pose challenges to fully comparable analyses. These differences exist not only between larger countries and smaller territories, but also between the bigger Nordic countries, which have their own classification systems, spatial granularities and reporting methodologies. Despite these constraints, this report endeavours to provide the best possible analysis and overview from existing data sources. Where necessary, it adapts methodologies to enable comparison between the Nordic countries and municipalities, while also ensuring that all territories are meaningfully represented.

The nature of the data challenges varies across both territories and analytical domains. Demographic vital statistics are relatively well-covered across all territories, and long-term municipal data is typically available. However, migration-related data reveal systematic differences: Greenland and Åland use reporting systems that categorise foreign-born populations, diverging from other Nordic approaches. Labour market data highlights more pronounced disparities. While Denmark, Finland, Norway and Sweden provide harmonisable, municipal-level employment and unemployment statistics, the analysis for Greenland, the Faroe Islands and Iceland often relies on national-level aggregates. The greatest variation is seen in economic indicators, with measures such as gross regional product entirely unavailable for Greenland, or available only at the national level for the Faroe Islands.

Throughout this report, we have employed careful methodological adaptations to maximise comparability while respecting these diverse data landscapes. Where detailed data exists, it has been harmonised across different classification systems to enable meaningful comparisons. Where only aggregated data is available, we present it transparently alongside more granular information and clearly indicate spatial scales and methodological adjustments. We analyse the Nordic Region as a single comparative entity, but also fully recognise the internal structural diversity – administrative, demographic, geographic and statistical – across all regions and municipalities. This reflects the long-standing approach that has been applied consistently in previous editions of this report.

Scope and structure

Taken together, the 21st edition of *State of the Nordic Region* combines a recurring thematic structure with attention to contemporary developments and changing data conditions. It approaches the Nordic Region as a common frame of reference for comparison while analysing the territorial differences that characterise it. The chapters that follow examine demographic change, labour market structures and economic transformation. In doing so, they provide analytical perspectives on the current state of regional development in the Nordic Region.

IMAGES
TOP LEFT: ISTOCK
TOP RIGHT: SHUTTERSTOCK
BOTTOM: MASCOT/IMAGEBANK.SWEDEN.SE

Theme 1

DEMOGRAPHY

DEMOGRAPHIC TRENDS • POPULATION PROJECTIONS • DIVERSITY

Demography is the most basic condition for regional development. Without residents, there can be no municipalities, no local institutions and no sustained economic activity. The size, spatial distribution and composition of the population shape the conditions under which development takes place across regions. In the Nordic context, where municipalities and regions have extensive responsibility for welfare services, the age structure is particularly important. The balance between children, working-age adults and older residents affects not only demand for public services, but also the tax base and labour supply that sustain them. Changes in population size and migration patterns influence municipal finances, planning capacity and the long-term viability of communities, making demographic trends a key driver of regional development.

CHAPTER 2: POPULATION CHANGE IN THE NORDIC REGION

Chapter 2 provides an overview of recent demographic developments in the Nordic Region, focusing on population size, population change, fertility and age structure. While the Nordic countries share structural similarities, demographic trends vary considerably across regions. Population growth continues at the Nordic level, but is concentrated in metropolitan areas and regional centres, whereas many rural and sparsely populated areas face stagnation or decline. Fertility has fallen to historically low levels, reducing natural population change and contributing to population ageing. Migration remains a key driver of population dynamics, particularly in urban regions.

CHAPTER 3: THE NORDIC POPULATION IN 2045: LARGER, OLDER AND MORE URBAN

Chapter 3 examines projected demographic developments in the Nordic Region between 2025 and 2045, based on population projections published by the National Statistical Institutes (NSIs). The overall population is expected to grow from approximately 28 to 30 million, primarily driven by positive net migration, as natural population change is projected to be negative. Population ageing will continue in all Nordic countries, with substantial increases in the number of people aged 80 and over, while in several countries it is projected that younger age groups will stagnate or decline. Growth is expected to concentrate in inner urban, outer urban and peri-urban municipalities, whereas rural and sparsely populated areas are more likely to experience population decline.

CHAPTER 4: NORDIC POPULATION DIVERSITY BY COUNTRY OF BIRTH

Chapter 4 analyses population diversity in the Nordic countries between 1990 and 2024, using country of birth as the key indicator. The share of foreign-born residents has increased substantially across the Region, albeit with differences in timing and composition between countries. Intra-Nordic migration has declined in relative importance, while migration from the EU27 and regions outside Europe has become more prominent. At the municipal level, diversity remains uneven and is generally concentrated in metropolitan areas. However, some rural municipalities, particularly in Norway and Iceland, display relatively high levels of diversity. A Diversity Index is used to illustrate spatial patterns and changes in diversity over time.

Chapter 2

POPULATION CHANGE IN THE NORDIC REGION

AUTHORS: Timothy Heleniak and Karina Berbert Bruno
DATA AND MAPS: Karina Berbert Bruno, Timothy Heleniak and Daniel Pils

Introduction

Demographic change is reshaping the Nordic Region in significant and territorially varied ways. Although the Nordic countries share many structural similarities, recent developments reveal clear differences in fertility, age structure and population change. These trends influence labour markets, welfare systems and long-term planning.

Throughout the region, fertility has fallen to historically low levels, and rates of natural population change have declined substantially. In Finland, natural change has even turned negative, while in several other Nordic countries the numbers of births and deaths are now close to equal. Overall, the Nordic population continues to grow, driven mainly by increases in metropolitan and regional centres, and by international migration (examined further in Chapter 4). The autonomous territories (the Faroe Islands, Greenland and Åland) display their own characteristic demographic patterns, which are shaped by small population size, mobility dynamics and specific regional conditions.

This chapter provides an overview of the current demographic situation in the Nordic Region, focusing on population size, recent population change, fertility and age structure. Together, these components offer a common basis for understanding the ways in which current demographic developments are shaping the region. Chapter 3 projects future demographic developments, including at the regional level, while Chapter 4 provides a detailed analysis of migration, an important component of population change.

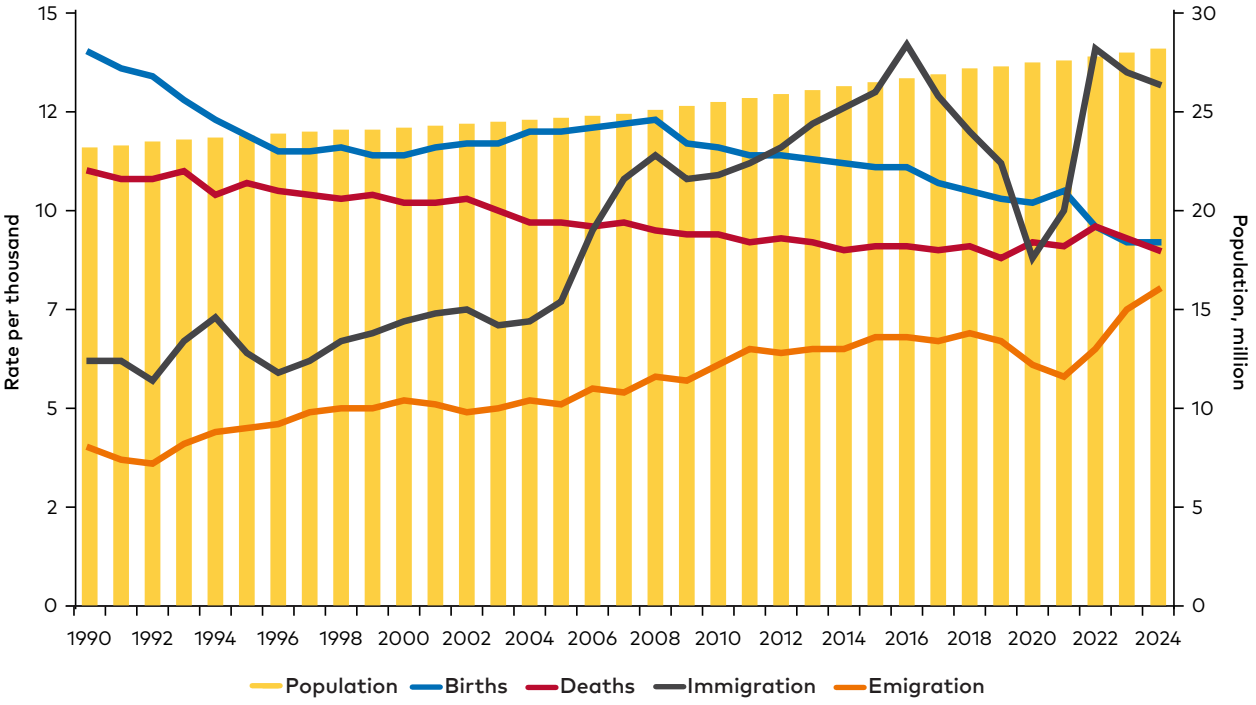
Population size and recent population change

At the beginning of 2025, the Nordic Region had a population of 28.3 million. While the Nordic countries collectively form a large and diverse region, they vary considerably in terms of population structure. Together, the western Nordic islands (the Faroe Islands, Iceland and Greenland) account for just over 2% of the total Nordic population. This means that demographic developments in these territories have only a limited impact on regional totals, even if the developments within them are important in their own right.

Figure 2.1 shows the population of the Nordic Region from 1990 to 2024, alongside the components of both natural increase (crude birth and death rates) and net migration (immigration and emigration). The crude birth rate (i.e., the number of births per 1,000 inhabitants) has declined steadily as fertility has fallen across all Nordic countries. The crude death rate has been more stable, although in many places an ageing population is contributing to a gradual increase in the number of deaths.

As births and deaths move closer together, natural population change has declined substantially. In recent years, births and deaths have been nearly

FIGURE 2.1: POPULATION SIZE AND CHANGE BY COMPONENT IN THE NORDIC REGION, 1990-2024.



NOTE: Population changes are crude rates per thousand persons. **SOURCE:** Nordic Statistics database (2025a).

equal at the Nordic level. Finland is now experiencing negative natural population change, with deaths exceeding births.

Net migration has fluctuated more visibly. Inflows increased after EU enlargement in the mid-2000s, and again during 2015–2016, followed by a temporary decline during the COVID-19 pandemic. Positive net migration accounts for most of the population increase in recent years, although the scale differs between countries.

Regional differences in migration also reflect labour markets, educational opportunities and demographic composition. Metropolitan regions tend to attract younger adults and international migrants, while many rural and sparsely populated areas have experienced an outmigration of younger cohorts.

While Figure 2.1 summarises developments at the Nordic level, the spatial patterns of population change become clearer when examining municipalities and regions. Map 2.1 shows population change between 1990 and 2024. Blue indicates a population increase, orange a decrease. The map reveals marked territorial differences both within and between countries.

In Sweden, population change is highly uneven. The Stockholm region registered an increase of 51%, the second-highest rate of growth in the country, after Uppsala at 54%. At the same time, Västernorrland recorded a decline of -7.3%. Norway has similar internal contrasts, with the Oslo region growing by 56.6%, compared with Finnmark, which had an increase of 1.2%.

Finland shows the same pattern of divergence: Uusimaa–Nyland increased by 46.5%, whereas Kainuu–Kajanaland saw a decline of -24.6%. In Denmark, the differences are less pronounced, though still visible, with Hovedstaden increasing by 24% and Nordjylland increasing by 4%. In Iceland, population growth has been particularly strong in Höfuðborgarsvæðið (48%). The population of the Faroe Islands grew by 15%, Åland by 24%, and Greenland by 2.7%.

MAP 2.1: POPULATION CHANGE BY REGION AND MUNICIPALITY, 1990-2024.

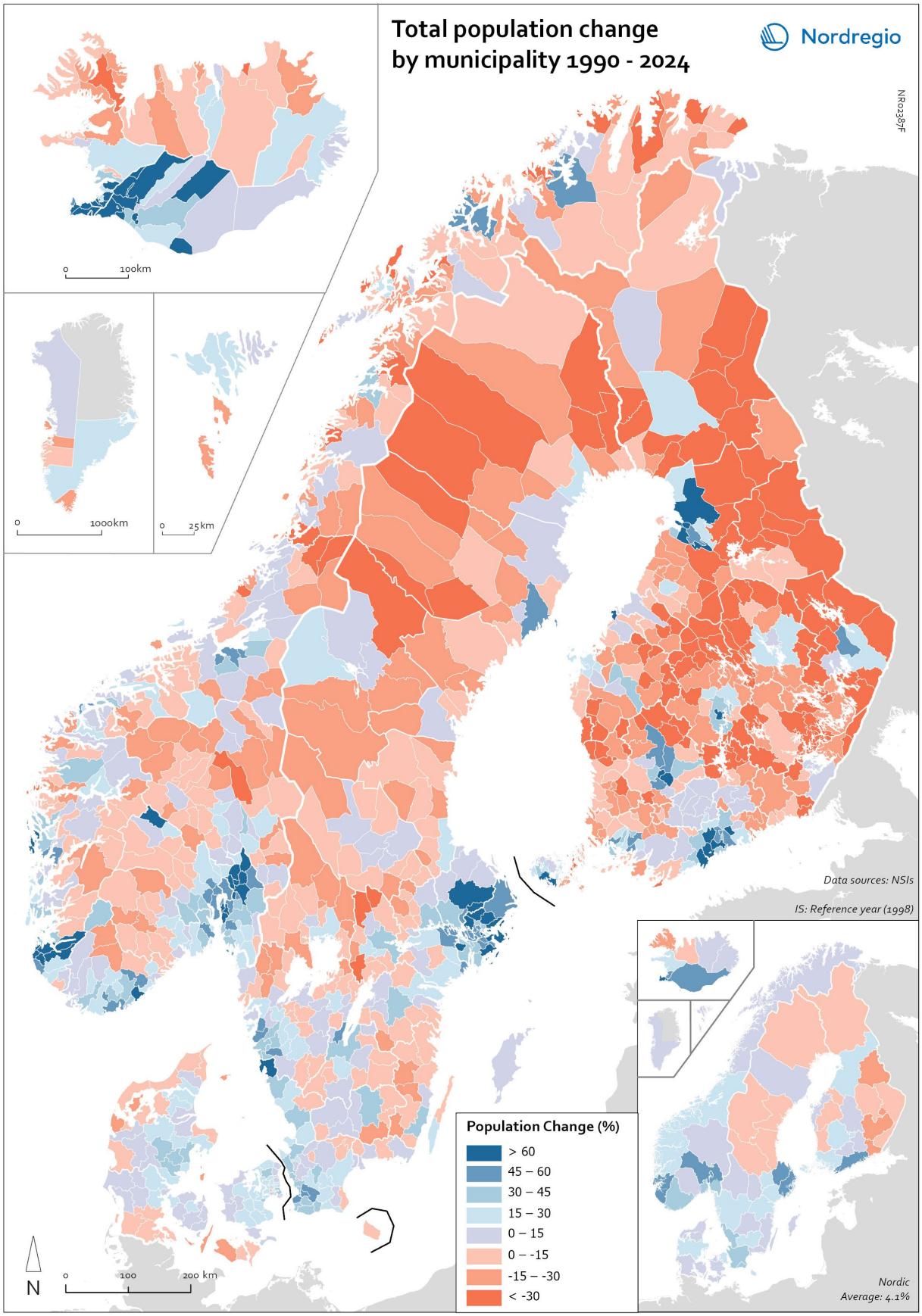
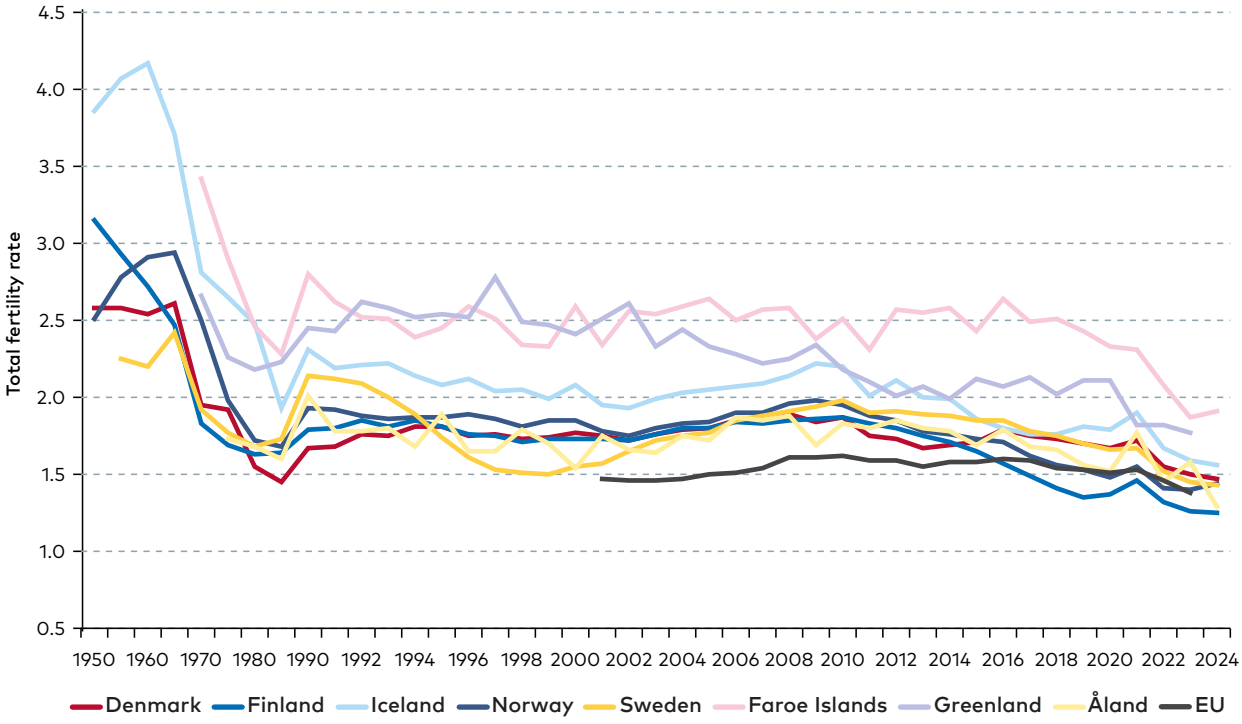


FIGURE 2.2: TOTAL FERTILITY RATE IN THE NORDIC COUNTRIES, 1950 TO 2024.



NOTE: The total fertility rate is the number of children a hypothetical cohort of women would give birth to if she passed through her childbearing years at the current age-specific rates. **SOURCE:** Nordic Statistics database (2025b).

Population development in the Nordic Region in recent decades is therefore characterised by continued overall growth, but with substantial geographical variation. The metropolitan regions and regional centres continue to expand, while many rural and sparsely populated areas experience stagnation or decline. These spatial dynamics form a central backdrop for understanding the fertility patterns and age dynamics examined in the following sections.

Fertility in the Nordic Region

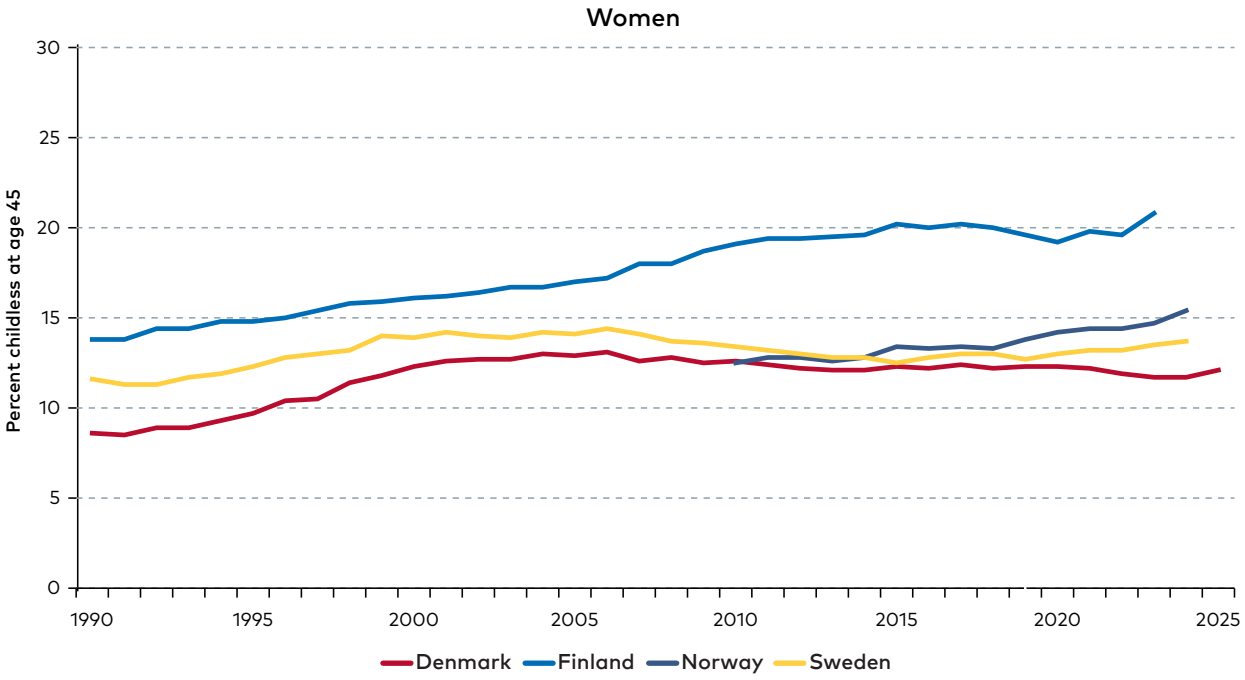
Fertility in the Nordic Region has declined to historically low levels. In all of the Nordic countries and autonomous territories, fertility rates are well below replacement level. Figure 2.2 shows the total fertility rate (TFR) from 1950 to 2024, illustrating both the long-term downward trend and the more recent decline since the mid-2000s.

In 2024, TFRs ranged from 1.25 in Finland to 1.91 in the Faroe Islands, making the Faroes the only Nordic territory close to replacement level fertility. Denmark, Norway and Sweden all fall within the mid-1.4 range, while Iceland and Greenland display somewhat higher rates than the larger Nordic countries.

In a European context, low levels of fertility are not unusual. With the exceptions of Finland and Åland, the Nordic countries remain above the EU average, but this gap has narrowed as fertility declines across the region. The Nordic countries continue to cluster within a relatively narrow range and have converged downward in recent years.

Several studies attribute the decline primarily to the postponement of first births (Jónsson, 2023; Ohlsson-Wijk & Andersson, 2022). Nordic women now enter parenthood later than in previous decades, and the average age at first birth has risen markedly. This trend is visible across all Nordic countries, despite differences in institutional settings, which overall remain among the most generous in the world (Neyer et al., 2024). The sharp rise in average age at first birth over the past few

FIGURE 2.3: CHILDLESSNESS AT AGE 45 WOMEN, 1990-2025.



SOURCE: Nordic Statistics database (2025c).

decades reduces the potential for later "recuperation", as fertility at older ages cannot fully offset earlier delays.

Childlessness and gender patterns

The decline in fertility is also reflected in rising levels of childlessness (see figures 2.3 and 2.4). For women born in 1978 who have now completed their childbearing years, the proportion that has never had a child ranges from 11% in Denmark to 20% in Finland (Max Planck Institute for Demographic Research and Vienna Institute of Demography, 2024). Cohort fertility is expected to stabilise or decline further in Denmark and Sweden, and to decline more sharply in Iceland, Norway and Finland (Hellstrand et al., 2021). Among men, the increase in childlessness is even more pronounced (Figure 2.4). In 1990, between 15 and 19% of men aged 45 had not had a biological child; by 2024, this share had risen to 20–30% across the Nordic countries. Research highlights that many men want to have children but delay parenthood until key life steps (education, stable employment, secure housing and partnership) are "in place". Social expectations and peer pressure also influence family formation (Rotkirch et al., 2011; Malling et al., 2020).

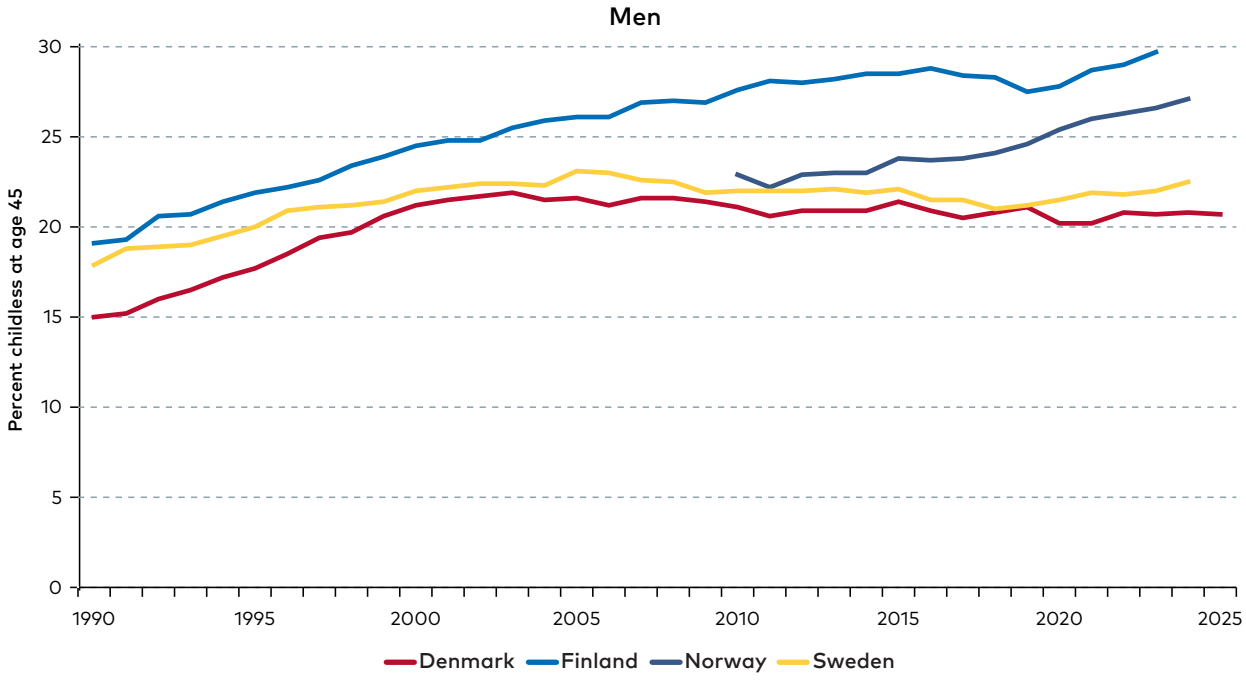
Recent birth trends

The number of births in the Nordic Region has declined steadily during the past decade. In 2024, there were 258,000 births (Nordic Statistics database, 2025a), a 17% decline from 2010, which represented a recent peak in fertility levels. These developments underscore a broader demographic shift – a combination of smaller cohorts entering childbearing ages and lower fertility levels is resulting in fewer births, and reducing natural population change.

Variation across countries, regions and municipalities

Despite the shared trend towards lower fertility, levels vary within the Nordic Region (see Map 2.2). Finland, Åland and Sweden have the lowest female TFRs (1.25–1.43), followed by Denmark and Norway (around 1.44–1.46). TFRs are higher in Iceland, Greenland and the Faroe Islands (1.56–1.90), with the Faroe Islands standing out as the only Nordic territory near long-term replacement thresholds. In Greenland, fertility remains above that of the larger Nordic countries, but is still below replacement level. Overall, the Nordic countries combined cluster around the mid-1.4 range.

FIGURE 2.4: CHILDLESSNESS AT AGE 45 MEN, 1990-2025.



SOURCE: Nordic Statistics database (2025c).

At the regional level, TFRs are relatively homogeneous across much of the Nordic Region, and generally fall within the 1.3–1.6 range. A few regions, including Norðurland eystra (Iceland), Varsinais-Suomi (Finland), Rogaland (Norway) and Halland (Sweden), show higher levels of fertility, in the 1.6–2.1 range.

At the local level, most municipalities in Sweden, Norway, Finland, Åland and Iceland fall within the 1.3–1.6 range, while Denmark has a larger share in the 1.6–2.1 category. Greenland and the Faroe Islands also predominantly fall within the 1.6–2.1 range.

Taken together, these patterns confirm persistently low fertility across the Nordic Region, with clear variation between countries, regions and municipalities.

The demographic implications of fertility decline

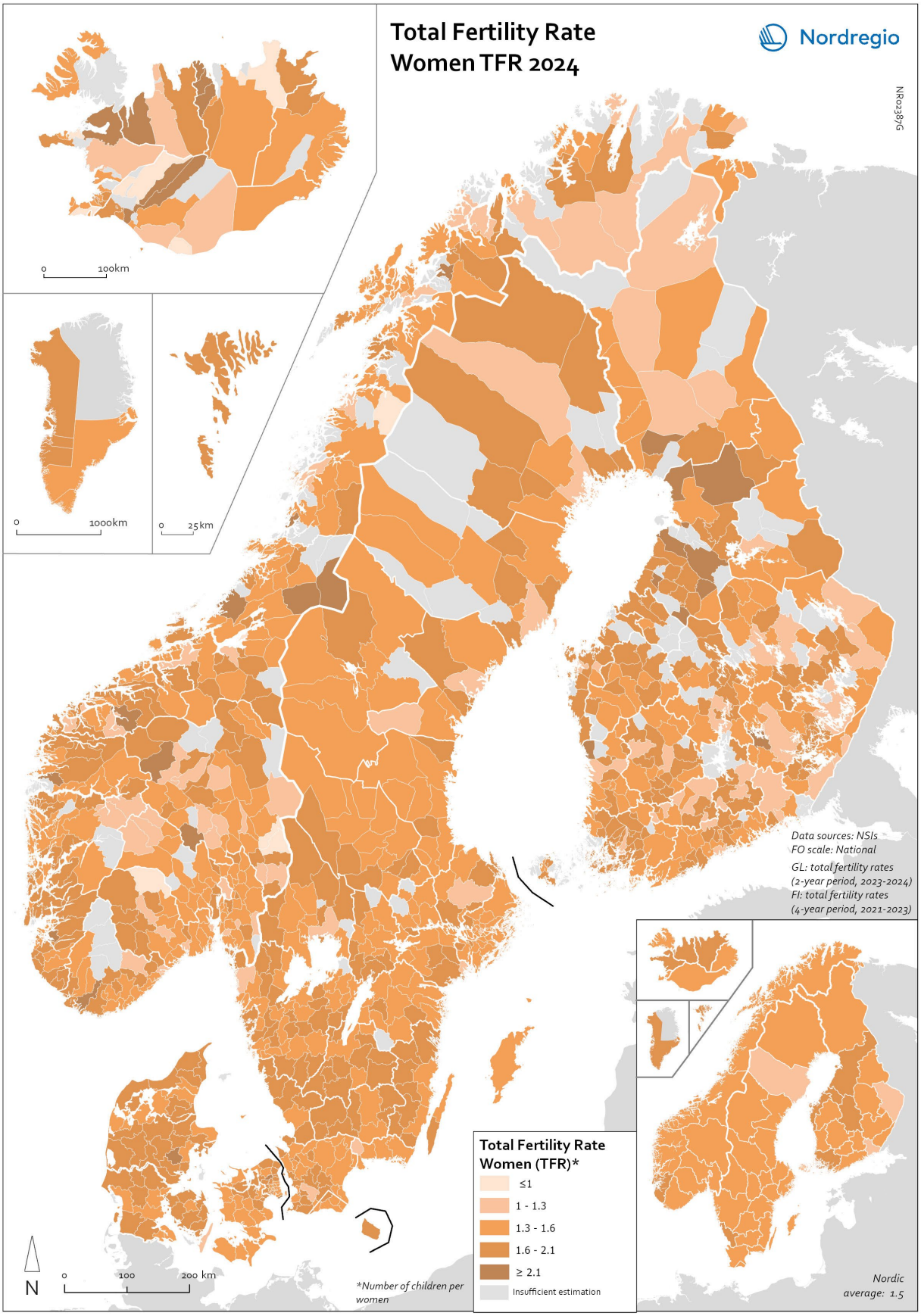
The sustained fall in fertility is already clearly visible in the age structure: the largest cohorts today are those born in the late 1980s and early 1990s, when fertility was considerably higher, while more recent cohorts are substantially smaller (around 55–65% of these peak cohorts).

This shift directly contributes to today's lower birth rates, and will continue to shape the age distribution in the decades to come.

These cohort shifts are also reflected in age-dependency ratios. Fewer children relative to the working-age population means there is a reduction in the young dependency ratio. In contrast, the ageing population has increased the old-age ratio (most notably in Finland, where the young dependency ratio has declined from 41 in 1990 to 36 today, and the old-age ratio has risen from 22 to 42). Similar, though differently paced developments are evident across the Nordic Region.

The demographic implications of low fertility levels have been a matter of increasing concern for policy-makers, with several Nordic governments recently initiating inquiries into declining birth rates (Government of Sweden, Socialdepartementet, 2025; Government of Norway, 2025; Finnish Government, 2025). However, research consistently finds that policy interventions tend to have limited or temporary effects, and that current fertility trends are closely linked to broader societal uncertainty (Jónsson, 2023; Ohlsson-Wijk & Andersson, 2022; Neyer et al., 2022).

MAP 2.2: TOTAL FERTILITY RATE (WOMEN) BY REGION 2024.



Age structure in the Nordic Region

The age structure of the Nordic population has shifted markedly in recent decades, driven by declining fertility and the ageing of large birth cohorts. Although the countries differ in size, they feature broadly similar age profiles, characterised by a shrinking share of children and younger adults and a growing proportion of older people. These long-term demographic shifts constitute the backdrop for understanding current and future population dynamics.

Figure 2.5 shows that the Nordic age structure is dominated by large cohorts born around 1990, while more recent cohorts are considerably smaller due to long-term fertility decline. The population share of older people continues to grow as earlier cohorts age and life expectancy increases.

Due to their small populations, the autonomous territories exhibit more irregular age structures. In Greenland, this results in visibly uneven age pyramid, with more recent cohorts being roughly two-thirds the size of the largest ones. In addition, there are marked fluctuations between adjacent age groups. The age structure is also shaped by a sharp decline in births after the mid-1960s, partly linked to a state-run birth-control programme involving forced IUD insertions – a policy for which the Danish government has issued a formal apology (Government of Greenland, 2024).

The Faroe Islands show distinctive patterns that are presumably shaped by education-related migration. Cohorts in their late teens and early twenties are noticeably smaller due to outmigration for educational reasons. Many individuals appear to return later in life, as reflected in distinctive "gaps" in the age pyramid.

Åland has a smoother age distribution than Greenland and the Faroe Islands, which reflects its slightly older and more stable population. Nevertheless, the main Nordic trends – smaller younger cohorts and increasing numbers of older adults – are evident here, too.

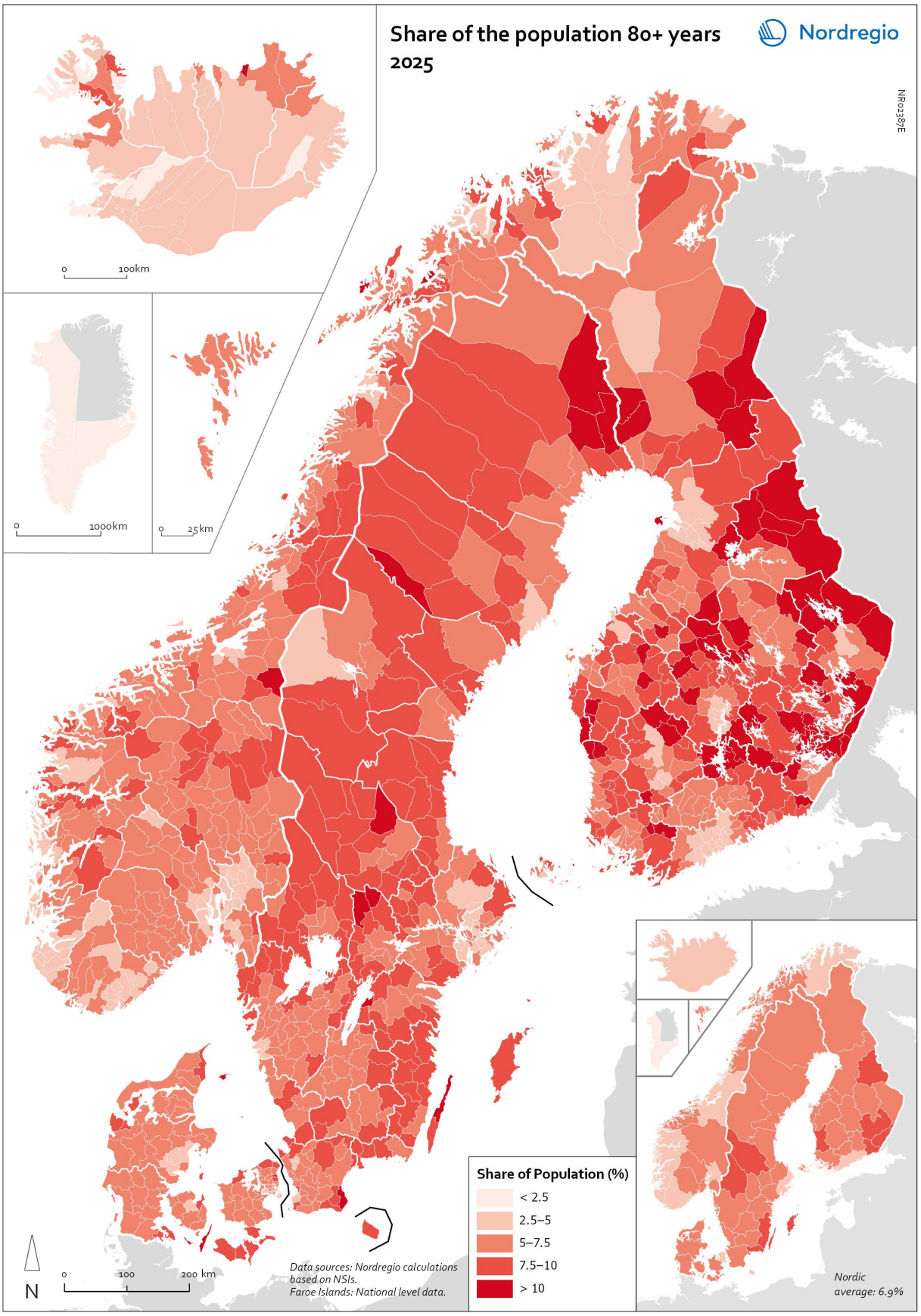
Map 2.3 provides a territorial overview of the share of the population aged 80 years and over. The map shows clear geographical differences: rural and sparsely populated areas tend to have higher proportions of older residents. In contrast, metropolitan regions and larger urban centres generally have younger age profiles. These spatial patterns reflect long-standing migration flows and underline the demographic challenges facing regions with ageing populations. These patterns of age distribution also constitute an essential baseline for the demographic projections presented in Chapter 3.

The decline in fertility is already reshaping the age structure. As smaller cohorts reach working and childbearing age, they replace larger cohorts born in the 1980s and early 1990s. This reduces the potential number of future births and contributes to rising average ages across the region. While Chapter 3 examines the projected implications for population development, the current age structure provides essential context for understanding the demographic trajectory of the Nordic Region.

FIGURE 2.5: AGE STRUCTURE OF THE NORDIC COUNTRIES AND REGIONS.

NOTE: Data are for 2025 for all countries listed except Sweden and Åland, for which the data are for 2024.
SOURCE: National Statistical Institutes (NSIs).

MAP 2.3: SHARE OF THE POPULATION 80 AND OLDER, 2025.



Conclusions

The demographic situation in the Nordic Region is characterised by continued overall population growth, alongside widening territorial differences. In recent decades, metropolitan regions and regional centres have expanded, while many rural and sparsely populated areas have experienced stagnation or decline. These spatial patterns provide the backdrop for understanding demographic change across the Nordic countries and autonomous territories.

Fertility has fallen to historically low levels in all of the Nordic countries and territories, leading to fewer births, despite comparatively large cohorts of women of childbearing age. Rising ages at first birth and increasing levels of childlessness among both women and men further contribute to the narrowing base of younger cohorts.

The age structure of the Nordic population also reflects these developments. The age distribution is now dominated by large cohorts born in the late 1980s and early 1990s, whereas more recent cohorts are considerably smaller. As these smaller cohorts reach working and childbearing age, they will shape demographic development in the coming decades. While Chapter 3 examines in detail future population trajectories, the patterns presented here provide essential context for interpreting these projections.

Together, the overview of population size, territorial population change, fertility and age structure presented in this chapter establishes a common foundation for subsequent demographic analyses. These patterns are central for understanding both the demographic projections in Chapter 3 and the migration and diversity dynamics analysed in Chapter 4.

References

Finnish Government. (2025). Working group on population policy submits its proposal for boosting birth rate. Ministry of Social Affairs and Health. Retrieved 3 31, 2025, from https://valtioneuvosto.fi/en/-/1271139/working-group-on-population-policy-submits-its-proposal-for-boosting-birth-rate

Government of Greenland. (2024). The Government of Greenland will begin to investigate the human rights aspects of the spiral case. Department of Health. Retrieved March 6, 2024, from https://naalakkersuisut.gl/Nyheder/2024/03/0603_spiralsagen?sc_lang=da

Government of Norway. (2025). Declining birth rates in Norway: Development and possible policy measures for young adults. Ministry of Children and Families, Birth rate committee. Retrieved 4 24, 2025, from https://www.regjeringen.no/en/documents/declining-birth-rates-in-norway-development-and-possible-policy-measures-for-young-adults/id3097987/

Government of Sweden, Socialdepartementet. (2025, July 1). Ny utredning för att förstå och vända ett minskat barnafödande. Retrieved from Government Office: https://www.regeringen.se/pressmeddelanden/2025/07/ny-utredning-for-att-forsta-och-vanda-ett-minskat-barnafodande/

Hellstrand, J., Nisén, J., Miranda, V., Fallesen, P., Dommermuth, L. & Myrskylä, M. (2021, July 12). Not Just Later, but Fewer: Novel Trends in Cohort Fertility in the Nordic Countries. Demography , 58(4), 1373–1399. doi:-DOI 10.1215/00703370-9373618.

Jónsson, A. (2023). Fertility Decline in Iceland, 2013–2022: Trends and Structures. Stockholm Research Reports in Demography(30). Retrieved January 15, 2024, from https://su.figshare.com/articles/preprint/Fertility_Decline_in_Iceland_2013_2022_Trends_and_Structures/24637389

Malling, G. M., Pitsillos, T., Tydén, T., Hammarberg, K., Ziebe, S., Friberg, B. & Schmidt, L. (2020). 'Doing it in the right order': Childless men's intentions regarding family formation. Human Fertility.

Max Planck Institute for Demographic Research and Vienna Institute of Demography. (2024, January 25). Short-Term Fertility Fluctuations. Retrieved from Human Fertility Database: www.humanfertility.org

Neyer, G., Andersson, G., Dahlberg, J., Ohlsson-Wijk, S., Andersson, L. & Billingsley, S. (2022). Fertility Decline, Fertility Reversal and Changing Childbearing Considerations in Sweden: A turn to subjective imaginations? Stockholm Research Reports in Demography(8).

Neyer, G., Lai, W. & Andersson, G. (2024). Not Only Births, But Also Intentions: The Decline of Fertility Intentions in Sweden in the 2010s. Stockholm: Stockholm University Demography Unit.

Nordic Statistics database. (2025a). POPU07: Population changes by reporting country, indicator and time. [Data set].

Nordic Statistics database. (2025b). CHIL02: Fertility rates by reporting country, age and time. [Data set].

Nordic Statistics database. (2025c). CHIL05: Childlessness by the age of 45 by reporting country, sex and time. [Data set].

Ohlsson-Wijk, S. & Andersson, G. (2022). Disentangling the Swedish fertility decline of the 2010s. Demographic Research, 47(12), 345-358. doi:DOI: 10.4054/DemRes.2022.47.12.

Rotkirch, A., Basten, S., Väisänen, H. & Jokela, M. (2011). Baby longing and men's reproductive motivation. Vienna Yearbook of Population Research, 283–306.

Statistics and Research Åland (ÅSUB). (2025, September 11). ÅSUB's statistical databases. Retrieved from Statistics and Research Åland (ÅSUB): https://pxweb.asub.ax/PXWeb/pxweb/en/Statistik/

Statistics Denmark. (2025, September 11). Statbank. Retrieved from Statistics Denmark: https://www.statbank.dk/statbank5a/default.asp?w=1536

Statistics Faroe Islands. (2025, September 11). Statbank. Retrieved from Statistics Faroe Islands: https://statbank.hagstova.fo/pxweb/en/H2/

Statistics Finland. (2025, September 10). StatFin. Retrieved from Statistics Finland: https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/

Statistics Greenland. (2025, September 11). Statbank Greenland. Retrieved from Statistics Greenland: https://bank.stat.gl/pxweb/en/Greenland/

Statistics Iceland. (2025, September 10). Statistical Database. Retrieved from Statistics Iceland: https://www.statice.is/stat-bank

Statistics Norway. (2025, September 10). Statbank Norway. Retrieved from Statistics Norway: https://www.ssb.no/en/statbank/

Statistics Sweden. (2025, September 10). Statistical database. Retrieved from Statistics Sweden: https://www.statistikdatabasen.scb.se/pxweb/en/ssd/

Chapter 3

THE NORDIC POPULATION IN 2045: LARGER, OLDER AND MORE URBAN

AUTHORS: Nora Sánchez Gassen
DATA AND MAPS: Daniel Pils and Nora Sánchez Gassen

Introduction

"Demography is destiny". This remark, often attributed to the French philosopher Auguste Comte (1789–1857), underlines the profound influence of population trends on societal development. Comte argued that demographic development has an essential influence on a country's social, economic and political future. Researchers have criticised this view as too deterministic – after all, a country's future is not solely determined by its evolving population size or composition (Dorling & Gietel-Basten, 2018; Uhlenberg, 2013). Nonetheless, demographic patterns are widely recognised as a key factor that influences long-term societal trajectories (Harper, 2018). In this context, spatial differences also matter – urban and rural, central and remote areas often face different, albeit connected, population trends and challenges. Given that demography plays a significant, if territorially nuanced role, then what lies ahead for the Nordic Region?

This chapter provides an overview of projected demographic trends in the Nordic Region at national, regional and local levels, with a focus on the period 2025–2045. It is based on the most recent projections published by the National Statistical Institutes (NSIs) and affiliated institutions.[1] The second and third section describe key projected trends of population growth and ageing from a national perspective. The third and fourth sections compare expected population trends at regional and local levels. The chapter also outlines and discusses some of the assumptions behind the projections. The final section summarises the findings.

The purpose of this chapter is to offer insights into the Nordic demographic outlook and enable meaningful comparisons between countries and between rural and urban areas. While demography may not be destiny, planning based on – and for – expected demographic trends is essential for seizing opportunities, addressing challenges and guiding policymaking.

1. Several of the NSIs have published more than one projection scenario. In those cases, the median or main scenario was used for the maps, figures and analyses of this chapter.

TABLE 3.1: POPULATION SIZE AND PROJECTED CHANGE BY COMPONENT IN THE NORDIC COUNTRIES, 2025-2045.

	TOTAL POPULATION SIZE (ROUNDED)		POPULATION CHANGE, 2025-2045 (IN %)		
	2025	2045	TOTAL CHANGE	NATURAL CHANGE	NET MIGRATION
Nordic Region	28,311,900	30,084,100	6.3%	-0.8%	7.1%
Denmark	5,992,700	6,198,600	3.4%	-0.0%	3.5%
Finland	5,605,300	6,042,200	7.8%	-6.6%	14.3%
Iceland	389,400	537,700	38.1%	10.6%	27.0%
Norway	5,594,300	6,058,800	8.3%	2.8%	5.8%
Sweden	10,587,700	11,108,500	4.9%	-0.4%	5.3%
Faroe Islands	54,500	58,300	5.7%	n.a.	n.a.
Greenland	56,500	48,200	-14.7%	2.6%	-17.5%
Åland	30,700	31,600	3.1%	-6.6%	9.6%

NOTES: Natural change is defined as the difference between the number of births and deaths. Net migration is the difference between the number of immigrants and the number of emigrants. Natural change and net migration components do not always add up to the total population change (in %) due to rounding.n.a. = not available. **SOURCE:** Nordregio calculations based on population projection data from the National Statistical Institutes (NSIs).

Population change in the Nordic countries

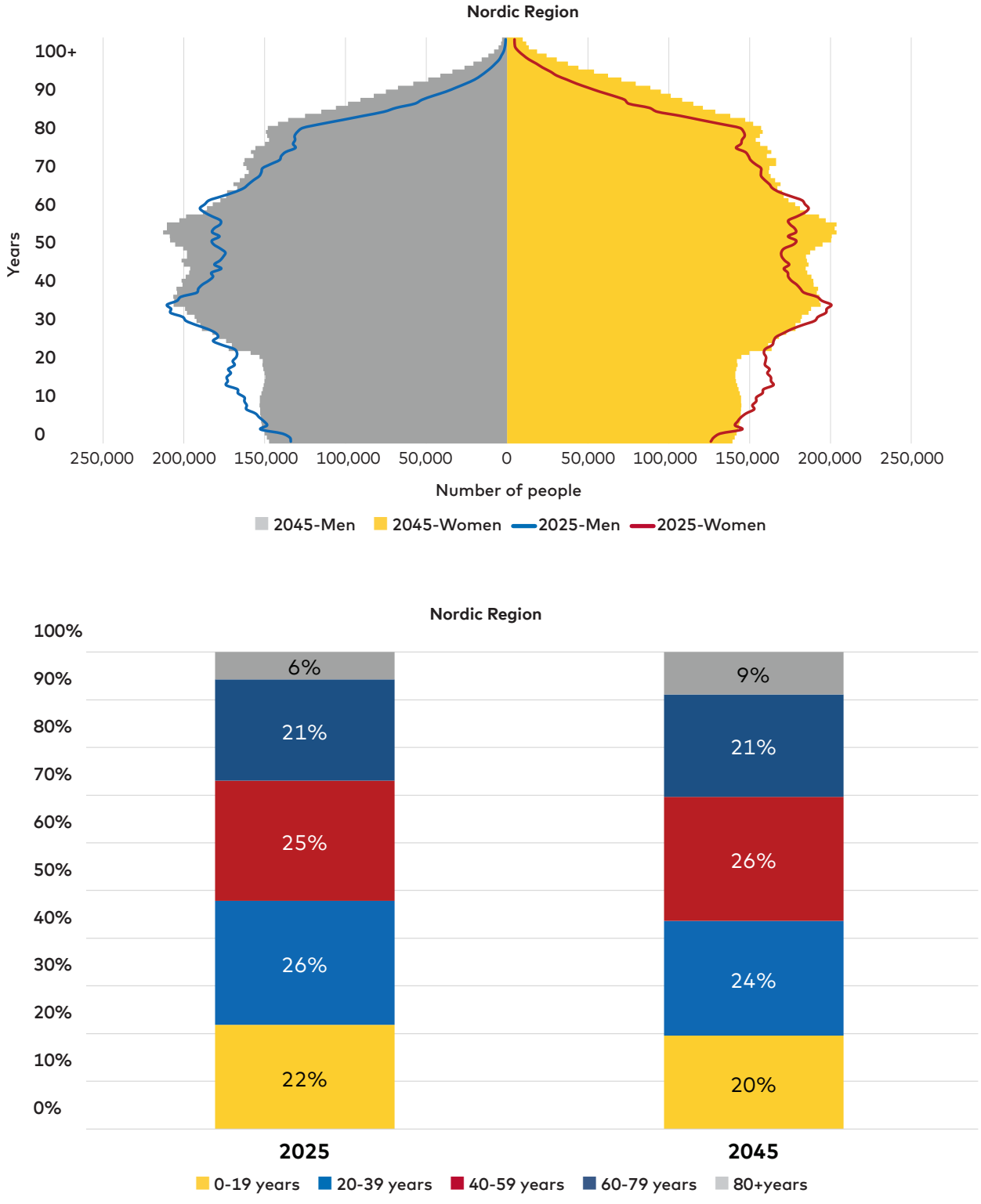
According to the most recent population projections,[2] the population of the Nordic Region is expected to increase from 28 million to 30 million between 2025 and 2045 (Table 3.1). This increase will be driven by positive net migration, since natural population change during this period will be negative – in other words, it is expected that there will be more deaths than births in the Nordic Region as a whole.

Across the Nordic countries, both similarities and distinct patterns emerge. Almost all of the Nordic countries are projected to have larger populations in 2045 than in 2025. The increase is particularly pronounced in Iceland, where the population is projected to grow by 38% from around 389,400 to 537,700. This growth is driven by positive natural change and sustained net migration, which reflects similar developments over the past 20 years linked to labour demand in expanding sectors such as construction and tourism.

In the other Nordic countries, population growth is projected to be more modest, ranging from 3.1% in Åland to 8.6% in Norway. Denmark, Finland, Norway, Sweden and Åland are all projected to experience positive net migration, contributing to population growth. Natural population change is expected to be positive in Norway and roughly balanced in Denmark, but negative in Finland, Sweden and Åland. In the latter three countries, negative natural population change is projected to be offset by positive net migration, resulting in continued population growth.

2. The following national and subnational population projections were used for this chapter: Statistics Denmark (2025a), Statistics Faroe Islands (2022), Statistics Finland (2024a), Statistics Greenland (2025), Statistics Iceland (2025a), Icelandic Regional Development Institute (2023), Statistics Norway (2024a), Statistics Sweden (2025a), Statistics Åland (2025). Projection updates after 1 October 2025 could not be taken into account. Note that Statistics Faroe Islands has discontinued its population projections and will not publish new updates. Instead, the Governmental Bank of the Faroe Islands is currently in the process of developing a new projection.

FIGURE 3.1A: NORDIC REGION: POPULATION PYRAMID AND AGE STRUCTURE, 2025 AND 2045.



SOURCE: Own illustrations based on population projection data from the National Statistical Institutes (NSIs).

FIGURE 3.1B: NORDIC REGION: POPULATION PYRAMID AND AGE STRUCTURE, 2025 AND 2045.

SOURCE: Own illustrations based on population projection data from the National Statistical Institutes (NSIs).

The exception to this general pattern is Greenland, where the population is projected to decrease from around 56,500 to 48,200 between 2025 and 2045. This decline is driven by outmigration, since natural population change is expected to remain positive.

Changing age composition in the Nordic countries

The population dynamics described above – births, deaths and migration – influence not only the size of the Nordic populations, but also their age structures. Figure 3.1 shows population pyramids for the Nordic Region and each Nordic country, comparing the age- and sex-structure in 2025 with projections for 2045. For the Nordic Region as a whole (Figure 3.1), most age groups under 35 are projected to be smaller in 2045 than in 2025, while most above 35 are expected to increase. This overall shift is also visible when comparing the relative size of broad age groups (Figure 3.1). Children, youth and young adults (0–19 and 20–39 years) made up 48% of the Nordic population in 2025; this share is expected to decline to 44% in 2045. The share of the 40–79 age group will remain relatively stable at around 46–47%, while the proportion of the oldest age group (80+ years) is projected to rise from 6% to 9%.

A comparison of the population pyramids of the eight Nordic countries reveals both shared developments and marked differences (Figure 3.1). In Iceland, all age groups are projected to grow, with the largest increase expected among those aged 30–55. In Greenland, by contrast, the expectation is that most age groups will shrink, except for the oldest cohorts (75+) and those aged 45–55. In the remaining Nordic countries, the patterns are more varied, with some age groups increasing and others declining. For example, the projections indicate that Denmark will see growth in the middle age groups (around 35-50 years), while Sweden and Norway will experience increases in the age range 45–60. Across all Nordic countries, the 80+ population is expected to rise during the next 20 years, while the number of young people under age 20 is projected to fall in all countries except Denmark, where it will remain stable, Iceland and the Faroe Islands.

Population change in Nordic regions and municipalities

While all of the Nordic countries except Greenland are projected to have larger populations in 2045 than today, this growth will be unevenly distributed across regions. As shown in Map 3.1, strong population growth is expected in many urban and coastal areas in southern Sweden, Finland and Norway, as well as in municipalities in the southern half of Iceland and around urban centres in Denmark. By contrast, declines of 10% or more are projected for many municipalities in northern Sweden, northern Iceland, Greenland and large parts of Finland.

Figure 3.2 confirms that population growth is concentrated in urban areas, whereas rural and remote areas are more likely to experience decline. The figure is based on Nordregio's urban-rural typology, which classifies each Nordic municipality into one of seven settlement types (Stjernberg et al., 2024). The chart shows the shares of projected growth or decline for each of these seven categories.

The results show that around 60% of inner urban, outer urban, and peri-urban municipalities are projected to grow by at least 5% by 2045. Around 25% of outer urban and peri-urban municipalities, and 32% of inner urban municipalities, are expected to remain relatively stable, with population changes ranging from -5% to +5%. A smaller share of municipalities – approximately 6% of urban and 16% of outer urban and peri-urban – are projected to see population decline of 5% or more. Examples include Kiruna in Sweden (-11%), Frederikshavn in Denmark (-10%) and Imatra in Finland (-19%).

At the other end of the spectrum, rural heartlands and sparsely populated municipalities are most likely to face population decline: around half of the municipalities in these categories are projected to shrink by 5% or more. Nonetheless, there are exceptions, with 22% of sparsely populated municipalities and 15% of rural heartland municipalities expected to see population growth of 5% or more. These include municipalities in Iceland, such as Rangárþing Ytra and Eystra, and Sveitarfelagid Ölfus, which have also grown in recent years.

BOX 3.1: ASSUMPTIONS ABOUT FUTURE DEMOGRAPHIC TRENDS AND THEIR IMPACT ON PROJECTION RESULT

The Nordic population projections are based on assumptions about future fertility, mortality and migration trends. These assumptions by the NSIs shape the projection results. A few aspects are particularly important to note:

First, several Nordic countries assume that fertility rates will increase in the future. For example, Statistics Denmark projects gradually rising fertility for ten different origin groups up to 2043, with the total fertility rate for women of Danish origin increasing from 1.5 in 2024 to 1.75 in 2043 (Statistics Denmark, 2025b). Statistics Norway expects an increase from 1.4 in 2024 to 1.66 in 2035 (Statistics Norway, 2024b), and Statistics Sweden projects a rise to around 1.65 in 2044 (Statistics Sweden, 2025b). While such developments are possible, they would represent a reversal of recent Nordic trends of declining fertility (see Chapter 2).

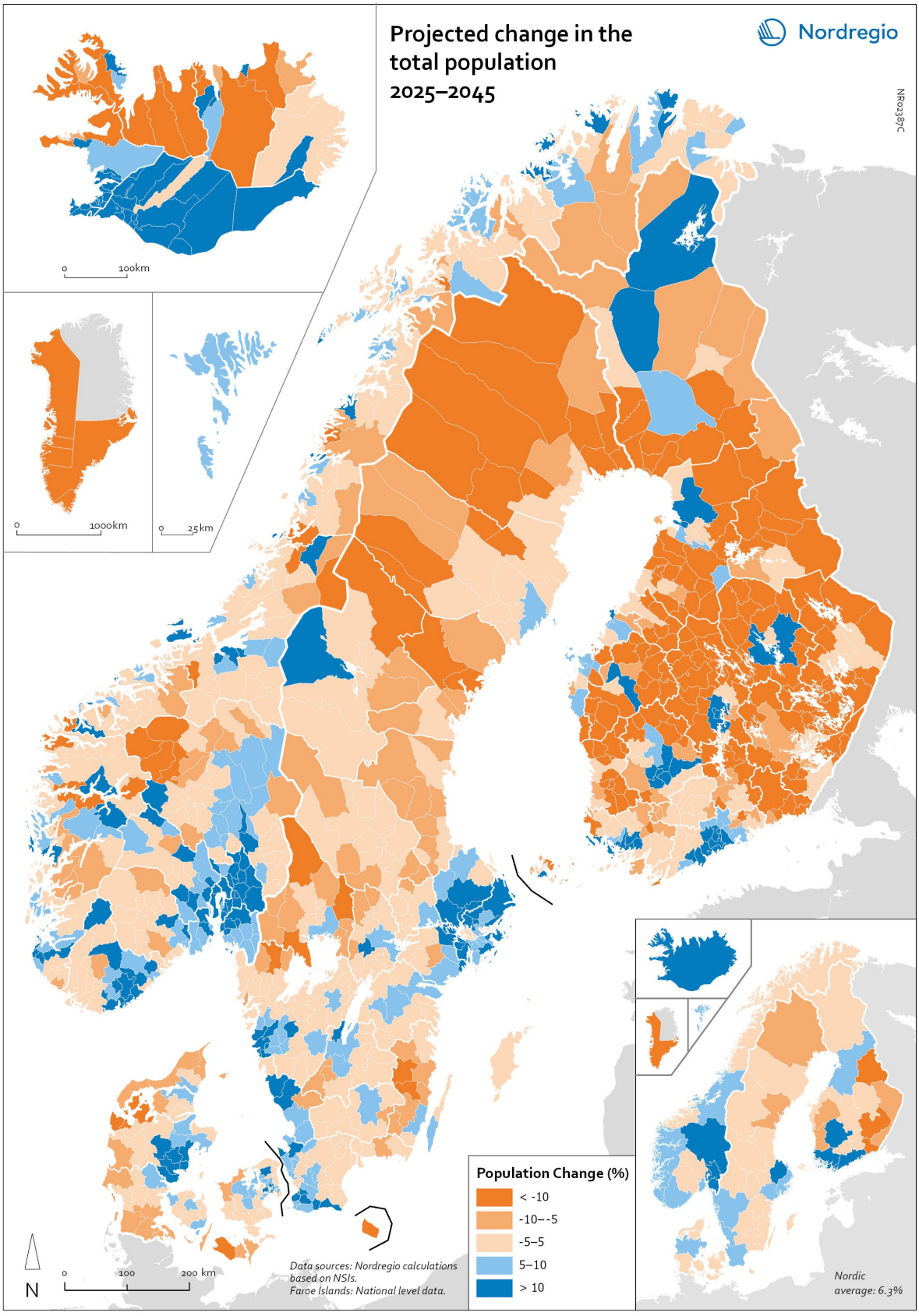
For regional and local planning, it is therefore advisable to consider not only projections based on assumptions of rising fertility, but also those that assume lower fertility, as these provide important insights into future needs for childcare and schooling. Sweden and Norway offer alternative scenarios based on varying fertility levels. Regularly updated data on actual births should also be consulted.

Second, migration assumptions play an important role for projection outcomes. However, they are among the most uncertain to forecast, as migration flows can change rapidly due to political developments, economic trends or crises. In Nordic projections, migration is typically expressed as assumed annual immigration and emigration flows or net migration levels. For example, Statistics Denmark (2025c) assumes between +10,000 and +13,000 net migrants per year, while Statistics Finland (2024b) assumes +40,000. Statistics Iceland (2025b) and Statistics Norway (2024c) both assume a steady decline in net migration until 2045 in their main scenarios. As with fertility, it is advisable to compare the results across different assumptions where possible.

Uncertainty increases further at the municipal level. This stems not only from the difficulty of predicting both international and internal migration, but also from the small population sizes of many municipalities, where even minor data inaccuracies have larger proportional effects (Smith and Rayer, 2015). Moreover, centrally produced projections cannot fully account for local conditions (Amcoff et al., 2025). For example, a projection may assume continued in-migration based on past trends, even if local housing or infrastructure constraints limit actual population growth. Conversely, new activities by a major employer may trigger sudden in-migration that demographic models cannot anticipate.

Taken together, these factors make municipal population projections particularly sensitive to error, and the longer the projection horizon, the less accurate the projection may become (Amcoff et al., 2025). For planning purposes, it is therefore important to examine alternative scenarios, consider margins of error where these are provided, and regularly consult updated projections that incorporate more recent demographic data.

MAP 3.1: PROJECTED CHANGE IN TOTAL POPULATION SIZE BETWEEN 2025 AND 2045, BY MUNICIPALITY AND REGION.



This growth is most likely attributable to good transport connections, strong tourism and – in the case of Sveitarfelagid Olfus – proximity to the capital. Similar patterns are seen in rural municipalities in Norway (e.g. Hemsedal), Sweden (e.g. Åre) and Finland (e.g. Kustavi), which benefit from tourism, outdoor recreation and attractive living conditions, as well as positive net migration in the past.

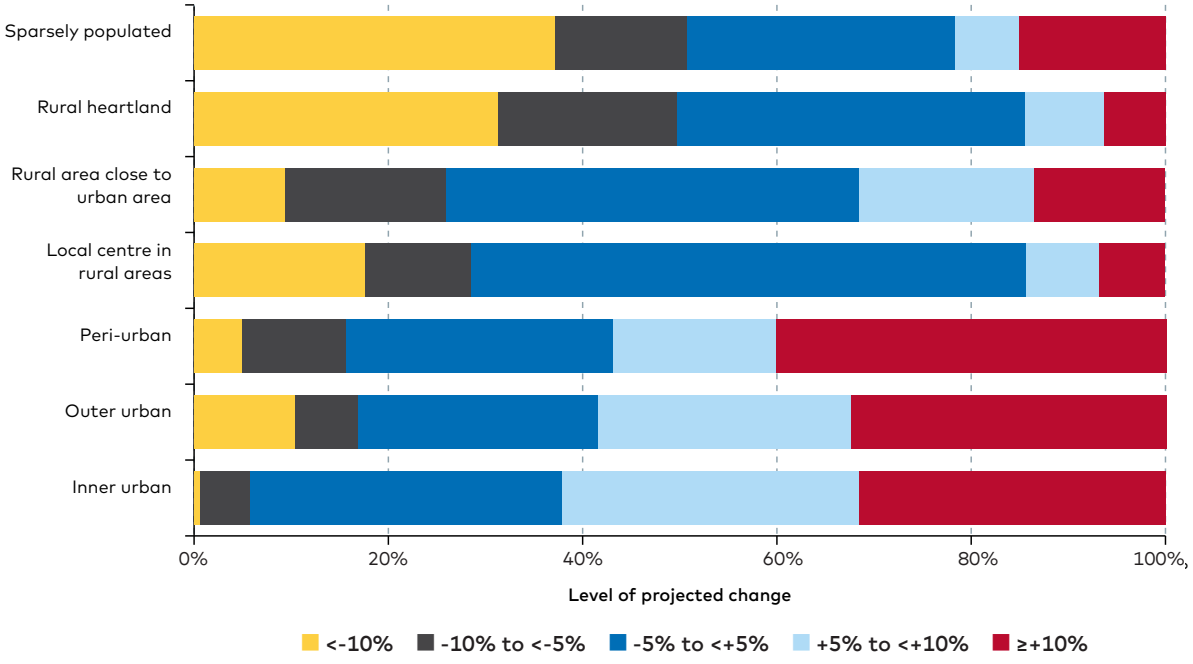
Despite these exceptions, the overall trend is one of continued urbanisation. 70% of the Nordic population lived in inner urban and outer urban areas in 2025, compared with 9% in rural heartlands and sparsely populated areas. By 2045, this difference will become more pronounced according to the NSIs' population projections, with 72% of the population expected to live in inner and outer urban areas, and less than 8% living in the two most rural municipality types.

Changing age composition in Nordic regions and municipalities

In most of the Nordic countries, the municipalities are responsible for providing daycare for children and care for older adults. The exception is Finland, where the responsibility for elder care was transferred to the so-called Wellbeing Services Counties (Finnish: hyvinvointialue) in 2023. Given this allocation of responsibilities, projections for the youngest and oldest age groups are important for local and regional planning.

Maps 3.2 and 3.3 show the projections for the number of young children aged 0 to 5 and older adults aged 80 and over. These age categories reflect typical childcare participation (0–5 years) and the age at which needs for home help, nursing or residential care tend to increase (80+), according to data from the Nordic Health & Welfare Statistics database (2024).

FIGURE 3.2: SHARE OF MUNICIPALITIES BY TYPE AND LEVEL OF PROJECTED POPULATION CHANGE, 2025–2045.



NOTE: Municipalities on the Faroe Islands and Greenland are not part of the Nordic rural-urban typology due to lack of data. They are therefore also not included in this Figure. **SOURCE:** National Statistical Institutes (NSIs) and the Nordic rural-urban typology (Stjernberg et al., 2024).

MAP 3.2: PROJECTED CHANGE IN THE NUMBER OF CHILDREN (0-5 YEARS) BETWEEN 2025 AND 2045, BY MUNICIPALITY AND REGION.

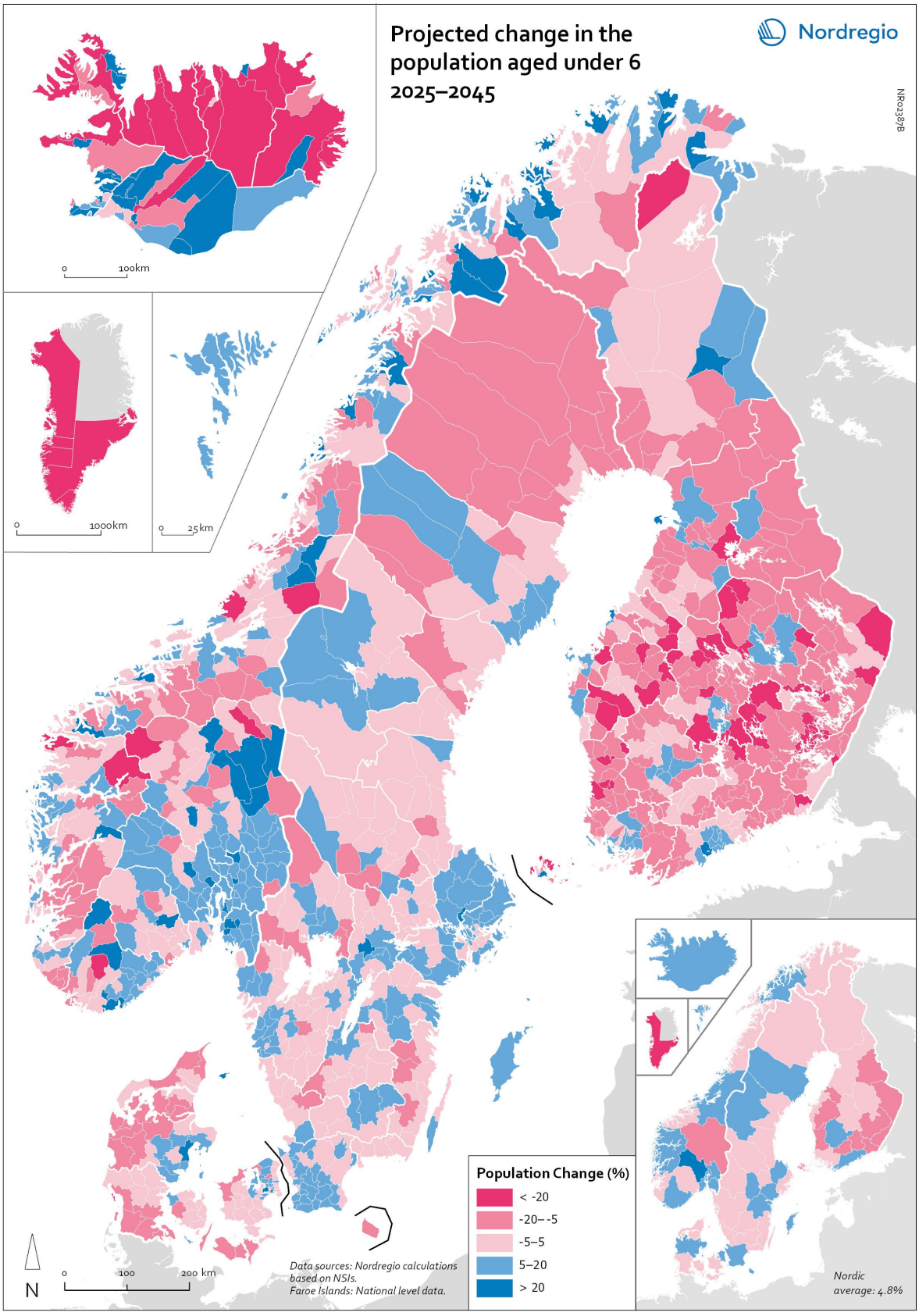
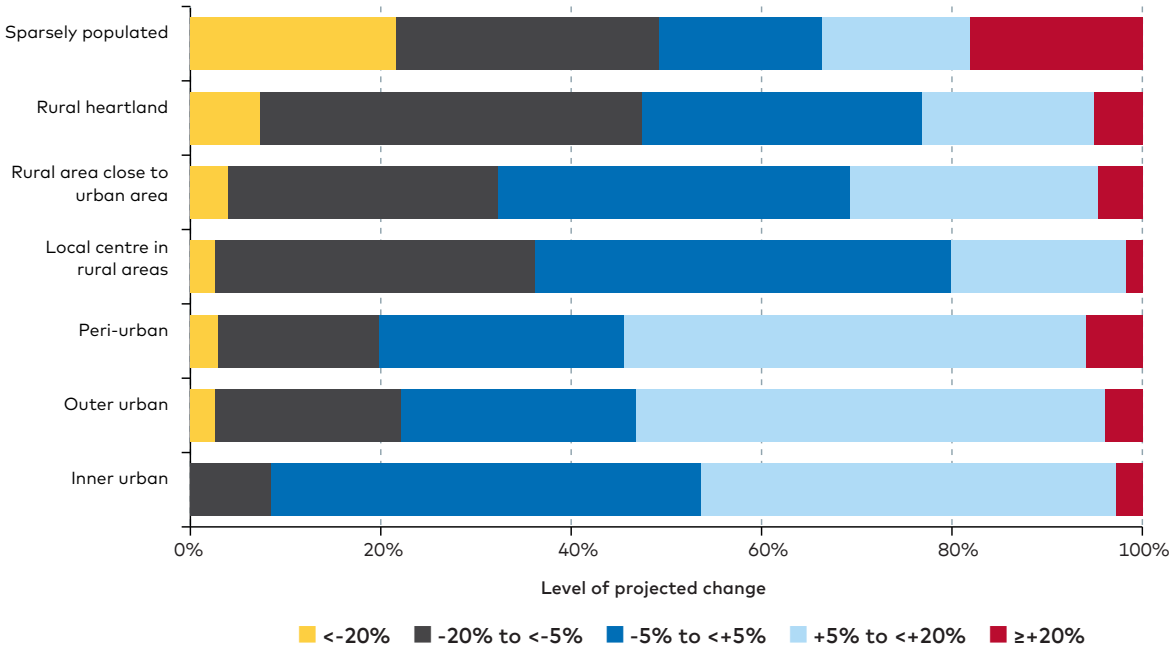
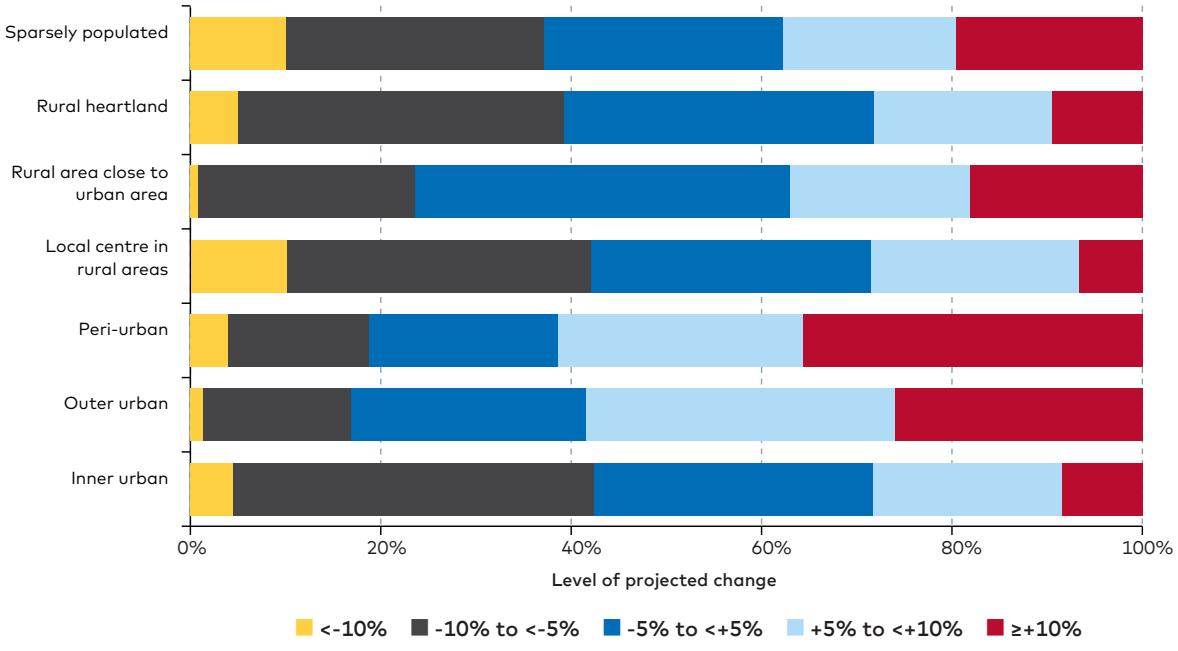


FIGURE 3.3: SHARE OF MUNICIPALITIES BY TYPE AND LEVEL OF PROJECTED CHANGE IN NUMBER OF CHILDREN AGED 0–5, 2025–2045.



NOTE: Municipalities on the Faroe Islands and Greenland are not part of the Nordic rural-urban typology due to lack of data. They are therefore also not included in this figure. **SOURCE:** Nordregio calculations based on data from National Statistical Institutes (NSIs) and the Nordic rural-urban typology (Stjernberg et al., 2024).

FIGURE 3.4: SHARE OF MUNICIPALITIES BY TYPE AND LEVEL OF PROJECTED CHANGE IN NUMBER OF OLDER ADULTS AGED 80+, 2025–2045.



NOTE: Municipalities on the Faroe Islands and Greenland are not part of the Nordic rural-urban typology due to lack of data. They are therefore also not included in this figure. **SOURCE:** Nordregio calculations based on data from National Statistical Institutes (NSIs) and the Nordic rural-urban typology (Stjernberg et al., 2024).

As Map 3.2 and Figure 3.3 show, it is expected that the number of young children in many inner urban, outer urban and peri-urban areas will continue to increase until 2045. Between 45% and 55% of the municipalities in these categories are projected to see an increase of more than 5%. These include municipalities in and around the capitals – Stockholm, Oslo, Reykjavik, Copenhagen and Helsinki – but also in other urban areas, such as Aarhus, Turku, Umeå and Kristiansand.

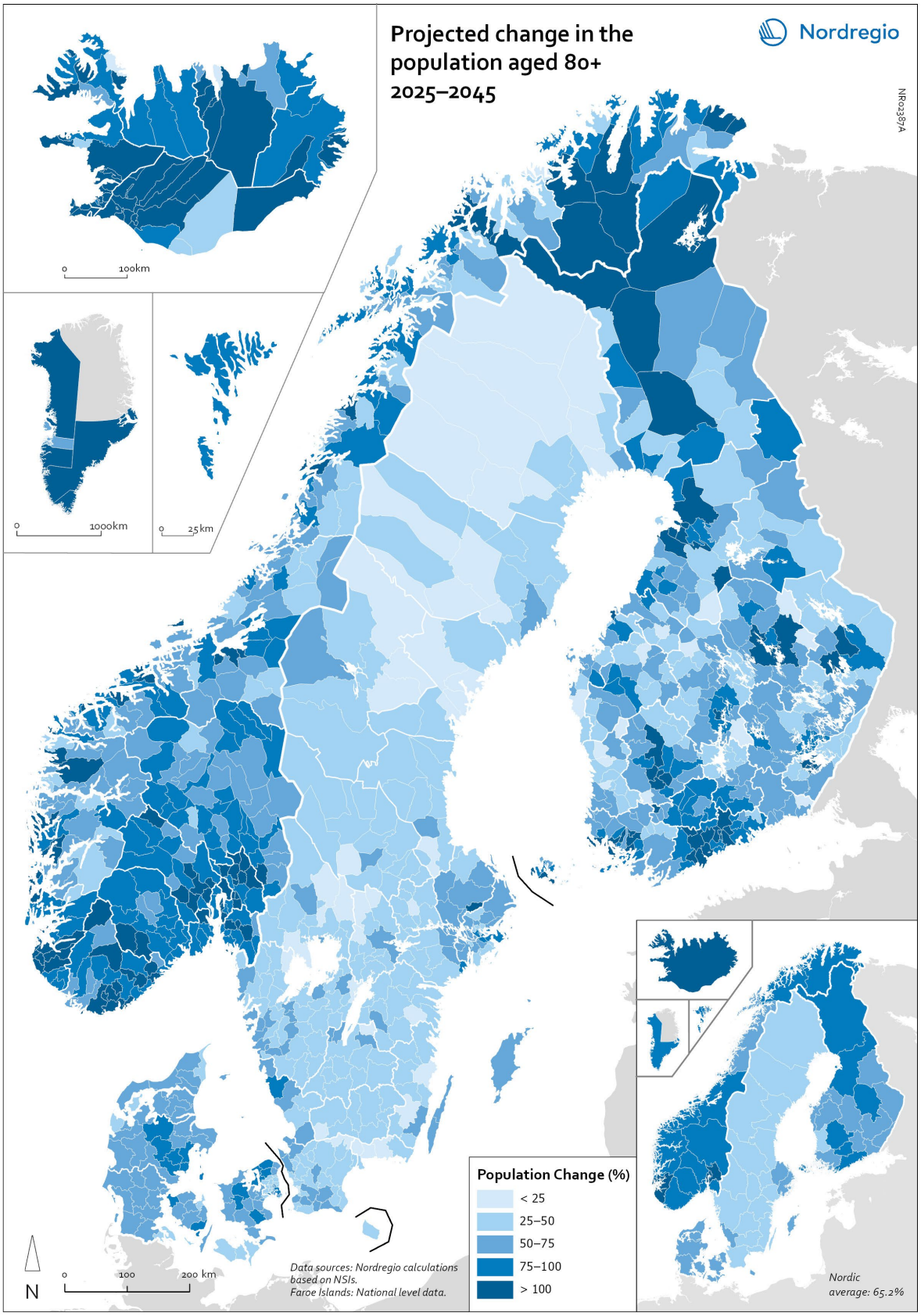
Outside of the urban areas, the number of small children is more likely to remain stable or decline. Around half of all rural heartland and sparsely populated municipalities are projected to see declines of 5% or more. Declines exceeding 20% are expected in roughly 20% of the sparsely populated municipalities. This includes municipalities in Finland, northern Iceland, Greenland and Åland.

Nonetheless, there are exceptions to this trend – 18% of sparsely populated municipalities are expected to see an increase of more than 20% in the number of small children. Examples include rural municipalities in southern Iceland, such as Myrdalshreppur and Asahreppur, which are projected to experience growth in both child cohorts and total population. In Norway, municipalities such as Utsira and Loppa are projected to have more small children in 2045, as do Pelkosenniemi in Finnish Lapland and the island municipality of Hailuoto. These examples illustrate that while growth in child populations is concentrated in urban centres, some rural municipalities will also have to plan for how to meet potentially increasing demands for childcare. Conversely, many other rural municipalities will also have to plan for the opposite development – how to reduce the number of childcare places without compromising the quality and availability of care for the families that need it.

It is important to note that projecting the size of child populations is complex (Amcoff et al., 2025). Projections for middle-aged and older cohorts in 2045 are more reliable because these individuals are alive already, whereas those who will be 0 and 19 years old in 2045 have not yet been born. The size of these younger age groups will depend not only on mortality and migration, but, crucially, on future fertility trends. When planning for childcare provision, policymakers should therefore closely monitor actual fertility trends and the number of pregnancies and births, and consult updated projections.

Map 3.3 and Figure 3.4 show expected changes in the number of people aged 80 and over – an age at which care needs tend to increase. Two points are notable. First, the number of older adults is expected to increase across the Nordic Region, which implies that every single municipality and region will need to plan for greater care demand. The only exception is Kökar on Åland, which is projected to see a minimal decline in the number of inhabitants aged 80+ in 2045 compared to today. Second, the largest increases are expected in outer urban and peri-urban areas, with around 60% of municipalities in these categories projected to see growth of 75% or more in their 80+ populations. Examples include Tuusula and Kirkonummi in Finland, Askøy and Tromsø in Norway, and Mosfellsbaer and Horgarsveit in Iceland. For these municipalities, adapting services and infrastructure to meet the needs of a rapidly expanding older population must be a central planning priority.

MAP 3.3: PROJECTED CHANGE IN THE NUMBER OF OLDER ADULTS (80+ YEARS) BETWEEN 2025 AND 2045, BY MUNICIPALITY AND REGION.



Conclusions

Demography may not be destiny, but effective regional and local development requires planning for expected population trends. As this chapter showed, recent projections from the Nordic statistical institutes indicate that in 2045 the Nordic population will be both larger and older than it is today.

However, these developments are not expected to unfold uniformly across the Nordic Region. Iceland is projected to see particularly strong growth, whereas Greenland will see a decline. All of the Nordic countries are projected to see increases in the number of people aged 80 and over, while only Denmark, Iceland and the Faroe Islands are expected to avoid declines in their youth cohorts.

Clear territorial differences also emerge within countries. Over the next 20 years, inner urban, outer urban and peri-urban municipalities are more likely to experience population growth than rural and sparsely populated areas. These municipalities are also more likely to see increases in the number of small children in need of daycare. In addition, outer urban and peri-urban municipalities are projected to experience particularly strong growth in the number of older adults. For these municipalities, the projections indicate that more investment will be required in both child and elder care.

Population projections, however, are not an exact science. Rather, they reflect expert judgement and the most recent demographic data. For policy and planning purposes, to consider uncertainty, it is therefore important to consult updated projections on a regular basis, as they will incorporate the most up-to-date demographic developments.

Taken together, these projections outline the demographic pressures and opportunities that are likely to shape Nordic regions in the decades ahead, and underscore the need for continuous monitoring and proactive planning.

References

Amcoff, J., Niedomysl, T. & Phylactou, S. (2025). Navigating demographic uncertainty: Evaluating the accuracy of population projections in Sweden's major municipalities, Population Research and Policy Review, 44(60). https://doi.org/10.1007/s11113-025-09983-x

Dorling, D. & Gietel-Basten, S. (2018). Why demography matters. Cambridge: Polity Press.

Harper, S. (2018). Demography is destiny … or not. In S. Harper (Ed.), Demography: A very short introduction. Oxford: Oxford Academic. https://doi.org/10.1093/actrade/9780198725732.003.0001

Icelandic Regional Development Institute. (2023). Mannfjöldaspá 2023-2074 [Population forecast 2023-2074]. Retrieved January 22, 2026. www.byggdastofnun.is/is/utgefid-efni/maelabord/mannfjoldaspa

Nordic Health & Welfare Statistics. (2024). Services to elderly people. Retrieved January 22, 2026,nhwstat.org/welfare/old-age/services-elderly-people/services-elderly-people

Smith, S. K. & Rayer, S. (2015). An evaluation of population forecast errors for Florida and its counties, 1980–2010. In: D. Swanson (Ed.), Emerging techniques in applied demography (11–24). Springer. https://doi.org/10.1007/978-94-017-8990-5_2

Statistics Denmark. (2025a). Population projections 2025 for the country by ancestry, sex and age (2025-2070), by region/province, age and ex (2025-2050) and by municipality, age and sex (2025-2050), FRDK125, FRLD125 and FRKM125. Retrieved January 22, 2026, from: www.statbank.dk/statbank5a/SelectTable/omrade0.asp?SubjectCode=1&PLanguage=1&ShowNews=OFF

Statistics Denmark. (2025b). FRDK325: Assumptions of fertility for the population projection 2025 by age and ancestry. Retrieved January 22, 2026, from: www.statbank.dk/statbank5a/default.asp?w=1280

Statistics Denmark. (2025c). Key figures 2025: Summary components of changes according to population projection by type of movement, ancestry and time. Retrieved January 22, 2026, from www.statbank.dk/statbank5a/default.asp?w=1280

Statistics Faroe Islands. (2022). IB09010 Population by sex and age, 1st July (1985-2022) – forecast (2023-2062). Retrieved January 22, 2026, from statbank.hagstova.fo/pxweb/en/H2/

Statistics Finland. (2024a). Population projection 2024: Population according to age and sex by area, 2024-2045, 14wx. Retrieved January 22, 2026, from pxdata.stat.fi/PxWeb/pxweb/en/StatFin/

Statistics Finland. (2024b). 139e -- Vital statistics by sex in population projections for different years, whole country. Retrieved January 22, 2026, from pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__vaenn/statfin_vaenn_pxt_139e.px/

Statistics Greenland. (2025). Population projections, 2025. Retrieved January 22, 2026, from bank.stat.gl/pxweb/en/Greenland/

Statistics Iceland. (2025a). Population projection by age and sex 2025-2074. Retrieved January 22, 2026, from px.hagstofa.is/pxen/pxweb/en/Ibuar/Ibuar__mannfjoldaspa/

Statistics Iceland. (2025b). Population projection by main indicators 2026-2075. January 22, 2026, from px.hagstofa.is/pxen/pxweb/en/Ibuar/Ibuar__mannfjoldaspa/MAN09012.px/table/tableViewLayout2/

Statistics Norway. (2024a). Population projections 1 January, by sex, age, immigration category and country background, in 15 alternatives 2024-2100, and Population projections 1 January, by sex and age, in 9 alternatives (M) 2024-2050, 14282 and 14288. Retrieved January 22, 2026, from www.ssb.no/en/statbank

Statistics Norway. (2024b). 14285: Projected fertility rate, by immigration category and country background, in 3 alternatives 2023-2100. Retrieved January 22, 2026, from www.ssb.no/en/statbank/table/14285/

Statistics Norway. (2024c). 14284: Projected population changes, by contents, immigration category / country background, alternative and year. Retrieved January 22, 2026, from www.ssb.no/en/statbank/table/14284/tableViewLayout1/

Statistics Sweden. (2025a). Population by born in Sweden/foreign born, age and sex, year 2025-2120 and Population by region, born in Sweden/foreign born, age and sex, year 2024-2070. Retrieved January 22, 2026, from www.statistikdatabasen.scb.se/pxweb/en/ssd/START__BE__BE0401__BE0401E/

Statistics Sweden. (2025b). Fertility rate, number by mother's region of birth, age and year. Retrieved January 22, 2026, from www.statistikdatabasen.scb.se/pxweb/en/ssd/START__BE__BE0401__BE0401D/BefProgFruktTotNb/table/tableViewLayout1/

Statistics Åland. (2025). Population projection 2025-2045 by municipality, sex, age and year. Retrieved on January 22, 2026, from pxweb.asub.ax/PXWeb/pxweb/en/Statistik/

Stjernberg, M., Vasilevskaya, A. & Penje, O. (2024). Towards a grid-based Nordic territorial typology. A new tool for analysis across the urban-rural continuum. Nordregio Report 2024:9. Stockholm: Nordregio. http://doi.org/10.6027/R2024:91403-2503

Uhlenberg, P. (2013). Demography is not destiny: The challenges and opportunities of global population ageing, Generations, 1, 12-18.

Chapter 4

NORDIC POPULATION DIVERSITY BY COUNTRY OF BIRTH

AUTHORS: Karina Berbert Bruno and Debora Pricila Birgier
DATA AND MAPS: Karina Berbert Bruno and Debora Pricila Birgier

Introduction

This chapter examines the evolving landscape of population diversity in the Nordic countries through the lens of place of birth. Drawing on data from National Statistical Institutes (NSIs) spanning three decades (1990–2024), it investigates how diversity varies across countries, within national territories, and over time. The chapter provides an empirical account of these patterns and how they have changed. The central question is how these patterns differ across regions and between the Nordic countries.

Historically, the Nordic countries were among the more ethnically homogeneous societies in Europe (de Haas, Castles & Miller, 2020). However, from the 1980s onward, the region has experienced significant shifts in migration, with substantial variation in both scale and type (Heleniak, 2018; Ho & Shirono, 2015). Increased labour migration, humanitarian resettlement, EU mobility and global displacement have contributed to a growing foreign-born population. Despite shared characteristics, the Nordic countries display distinct trajectories. Norway, Sweden, Finland and Denmark have all experienced rising immigration, albeit shaped by different migration policies and social contexts, while Greenland had a relatively stable migration pattern. Sweden emerged as an early destination for refugee resettlement and labour migration, while other Nordic countries followed similar patterns more gradually.

This chapter focuses on national migration trends from 1990 to 2024 and provides an overview of diversity by country of birth at the municipal level. The data presented refer to migrant stock at different time points – the number of migrants residing in a country, measured by place of birth. By contrast, flows refer to movement into or out of a country during a specific period. While flows capture migration dynamics, stock data give a longer-term perspective on the composition of resident migrant populations (United Nations, 2012).

Migration to the Nordic Region over the last 30 years

Figure 4.1 presents Sankey diagrams showing the distribution of migrants in the Nordic countries by broad regions of birth in 1994[3], 2004, 2014 and 2024. The width of each segment reflects the size of each origin group in the total foreign-born population. This allows readers to trace both the growth of migrant stocks and the changing relative importance of different regions of origin.

3. For Iceland, Sweden and Åland, data for 1994 were not available; therefore, we used the closest available year.

BOX 4.1: METHODOLOGY – CLASSIFYING FOREIGN-BORN STATUS AND ORIGIN GROUPS

In this chapter, 'foreign-born' refers to individuals born outside of the country under analysis, irrespective of parental origin or citizenship. This clarification ensures comparability across the Nordic countries, although the statistical offices employ slightly different categorisations. For instance, Statistics Norway's classification also incorporates generational birthplace (including parents and grandparents).

Country of birth information is grouped into 13 mutually exclusive origins, based on the United Nations (2020) region classification. The groups are the following: Native Population, Nordic Countries (Sweden, Norway, Denmark, Finland, Iceland, Greenland, Åland, and Faroe Islands), EU27 (Excluding Nordic countries), Rest of Europe, Northern Africa and Western Asia, Sub-Saharan Africa, Eastern and Southern Asia, Central and Southern Asia, Northern America, Latin America and Caribbean, Oceania, Stateless/Unknown, and Other Countries (see also Table 4.1).

The classification is based on the final year of observation (2024), such that countries are assigned to consistent categories across all time points. For example, Bulgaria, Romania, and Croatia were classified as EU27 members in 1994, despite not having acceded to the European Union at that time. There are minor differences across the countries due to variations in how NSIs report low-count populations or classify cases of "unknown" birthplace, which mainly affects municipal-level results. In Iceland, citizenship data were used at the municipal level for reasons of data availability.

Greenland and Åland use broader birthplace categories, which means that adapted classifications are required for these territories. As a result, their diversity values should not be directly compared with countries with detailed place-of-birth data. See Appendix 4.1 for the full list of countries included in each origin group.

TABLE 4.1. COUNTRY GROUP CLASSIFICATION.

REGION NAME	ACRONYM
Native population	NAT
Nordic countries	NORD
EU27 (excluding Nordic countries)	EU27
Rest of Europe (excluding EU and Nordic countries)	EUR
Northern Africa and Western Asia	NAWA
Sub-Saharan Africa	SSA
Eastern and South-Eastern Asia	ESEA
Central and Southern Asia	CSA
Northern America	NA
Latin America and the Caribbean	LAC
Oceania	OCE
Stateless/Unknown	UNK
Other countries	OTH

The diagrams rely on stock data, which provide consistent, long-term measures of the composition of migrant populations across countries and years. Although stock data do not directly measure flows, changes in the diagrams across the benchmark years implicitly reflect the growing inflow of specific migrant groups into the Nordic countries.

Shared trends in Nordic migration patterns

Figure 4.1 reveals both shared trajectories and important country-specific variations. Four salient trends characterise the Nordic Region's migration stocks as a whole between 1994 and 2024.

First, the number and share of foreign-born residents have increased across all Nordic countries since 1990.[4] In the early 1990s, the foreign-born share ranged from around 2.0% in Finland to 9.3% in Sweden. By 2024, these proportions had risen to 9.5% in Denmark, 10.4% in Finland, and 18.2% in Norway, and markedly higher in Sweden. Iceland also experienced rapid growth during this period, with the number of foreign-born residents rising from around 12,500, representing 4.6% of Iceland's population to nearly 81,800 (21.3%). These developments reflect the broader shift toward migration-driven population growth in the Nordic Region (Heleniak, 2018).

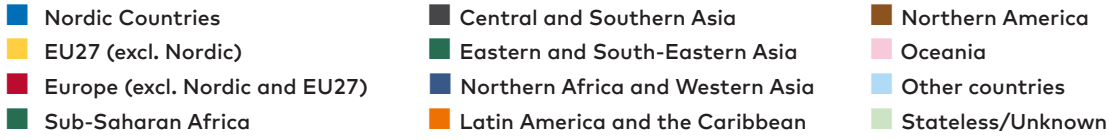
Second, the relative significance of intra-Nordic migration has declined markedly across all five Nordic countries. In the early 1990s, migrants from other Nordic countries constituted one of the largest migrant groups in every country except Denmark, reflecting long-standing traditions of labour mobility, bilateral agreements and cultural proximity (Lundgren et al., 2024). By 2024, the proportion of intra-Nordic migrants had diminished substantially, and they now account for less than 10% of the foreign-born population in all Nordic countries except the self-governing territories. This does not indicate a decline in absolute numbers. On the contrary, the absolute numbers have increased in all Nordic countries except Sweden. However, their relative share compared to other origin groups has declined. In the Faroe Islands, Greenland, and Åland, intra-Nordic migrants remain the predominant migrant group, illustrating how historical ties and regional mobility patterns continue to shape population composition.

Third, migrants from the EU27 have become a central – and, in some Nordic countries, dominant – origin group. This shift reflects greater European integration and expanded free movement rights within the European Economic Area, as part of the acceleration of labour market integration processes since the 2004 EU enlargement. By 2024, EU27 migrants made up one of the largest foreign-born groups in all Nordic countries, with particularly high shares in Iceland and Denmark. Migrants from the rest of Europe have also grown, accounting for around one quarter of the foreign-born population in Finland, and between 16 and 19% in Sweden, Norway, and Denmark. Together with EU27 migrants, European-born populations now represent roughly half of the foreign-born population in most Nordic countries, although the share is lower in Sweden. By contrast, the self-governing regions show much smaller rest of Europe shares, as intra-Nordic migration continues to dominate.

Fourth, all Nordic countries demonstrate increasing diversification beyond Europe, with rising shares of migrants from Central and Southern Asia, Eastern and South-Eastern Asia, Sub-Saharan Africa, and Northern Africa and Western Asia. This marks a gradual but steady shift from predominantly European migrant origins toward more globally diverse profiles. The pace and scale of diversification vary across countries, but by 2024 all exhibit a broader mix of non-European migrant groups than in previous decades.

4. It should be noted that the proportions presented here may not correspond precisely to the official migrant shares reported by the National Statistical Institutes (NSIs) of the Nordic countries. In several Nordic contexts, the term "foreign-born" encompasses multiple generations and is frequently cross-validated with citizenship status, resulting in figures that diverge from those presented in this analysis. Due to data availability constraints, the initial year of observation varies: Sweden (1990), other Nordic countries (1994), and Iceland (1998).

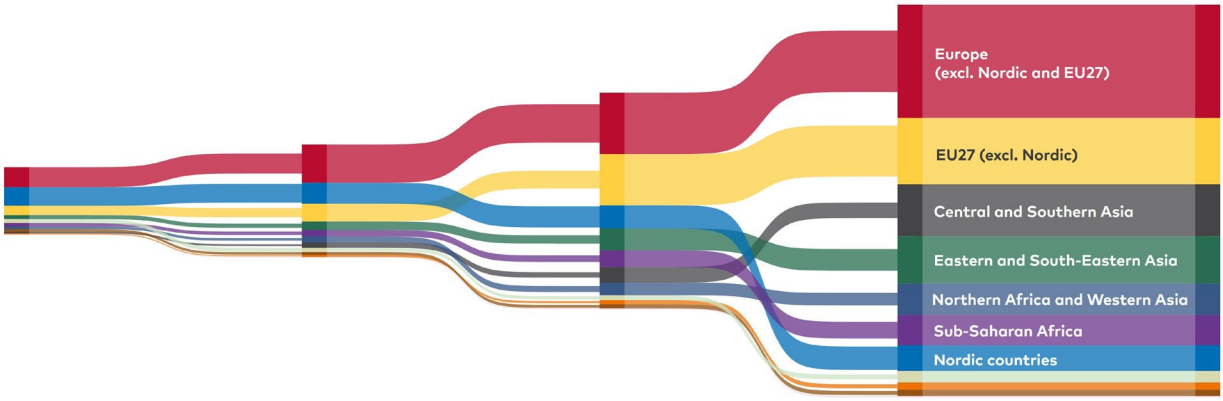
FIGURE 4.1: COMPOSITION OF MIGRANT STOCKS IN THE NORDIC COUNTRIES.



DENMARK

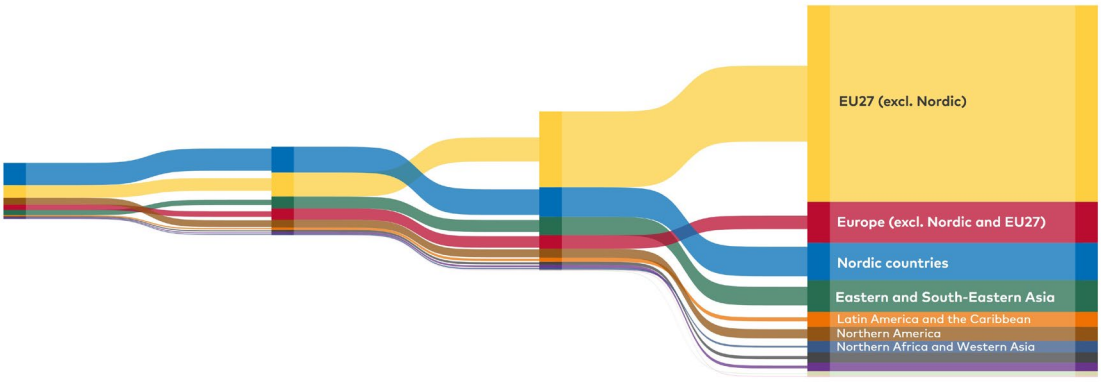
1994	2004	2014	2024
Foreign born: 150,201	Foreign born: 226,565	Foreign born: 342,773	Foreign born: 564,500
2.9% of population	4.2% of population	6.1% of population	9.5% of population

FINLAND



1994	2004	2014	2024
Foreign born: 100,415	Foreign born: 166,361	Foreign born: 321,977	Foreign born: 583,155
2.0% of population	3.2% of population	5.9% of population	10.4% of population

ICELAND



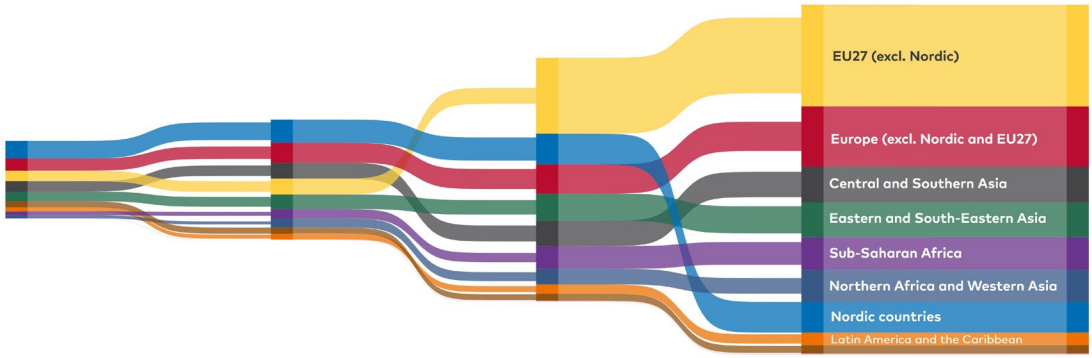
1998
Foreign born: 12,428
4.6% of population

2004
Foreign born: 19,530
6.7% of population

2014
Foreign born: 35,059
11.0% of population

2024
Foreign born: 81,795
21.3% of population

NORWAY



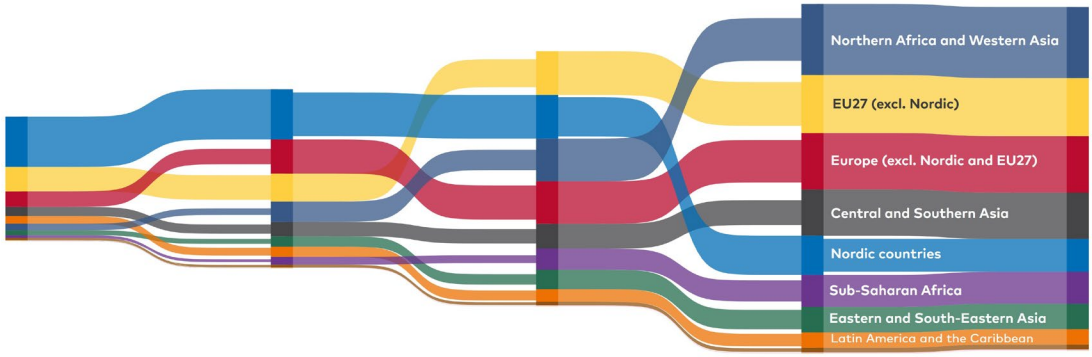
1994
Foreign born: 225,291
5.2% of population

2004
Foreign born: 347,279
7.6% of population

2014
Foreign born: 704,511
13.8% of population

2024
Foreign born: 1,011,212
18.2% of population

SWEDEN



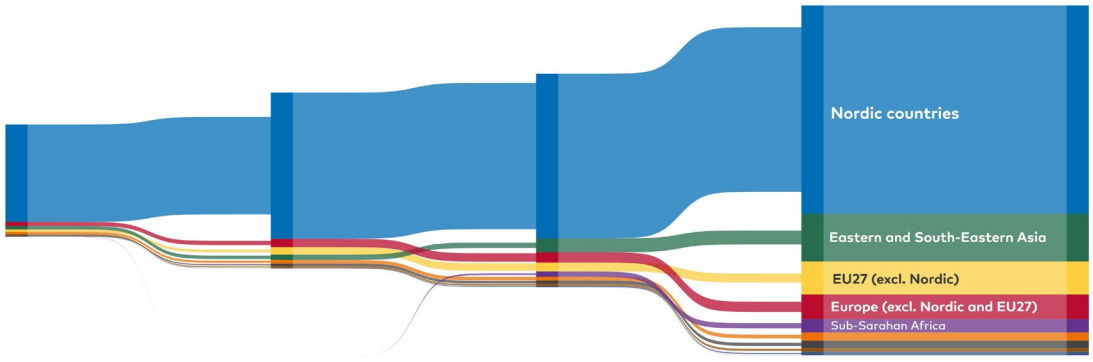
1990
Foreign born: 790,445
9.3% of population

2004
Foreign born: 1,100,262
12.3% of population

2014
Foreign born: 1,603,551
16.6% of population

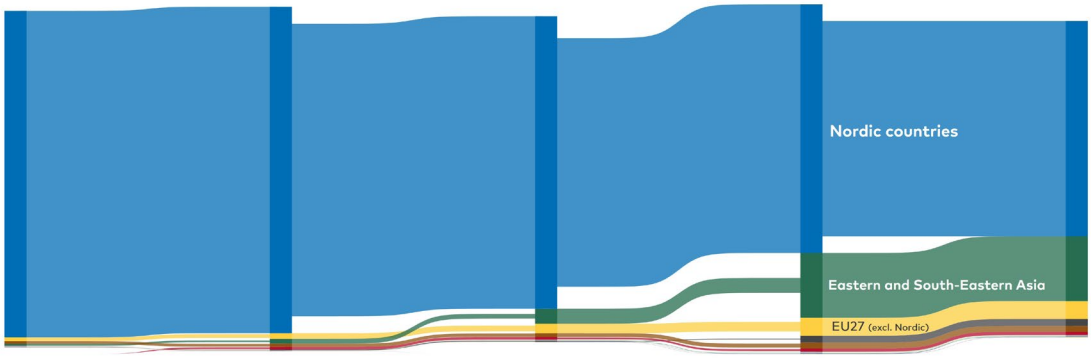
2024
Foreign born: 2,200,238
20.9% of population

FAROE ISLANDS



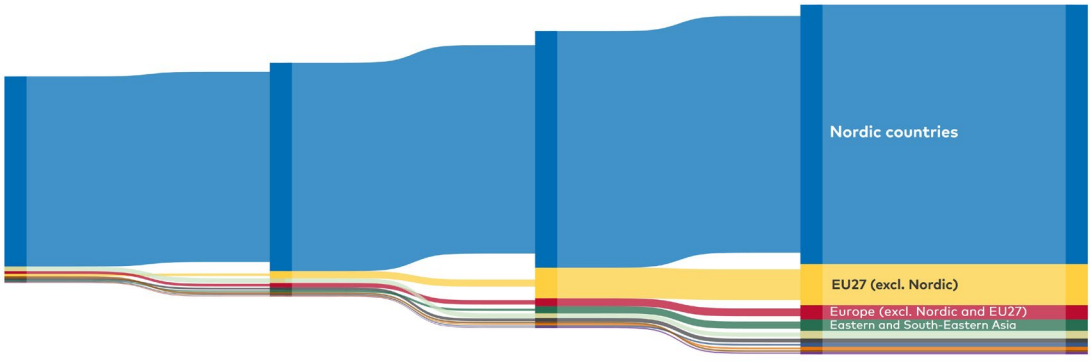
1994	2004	2014	2024
Foreign born: 2,877	Foreign born: 4,551	Foreign born: 5,473	Foreign born: 8,970
6.4% of population	9.5% of population	11.4% of population	16.5% of population

GREENLAND



1994	2004	2014	2024
Foreign born: 7,189	Foreign born: 6,606	Foreign born: 5,984	Foreign born: 6,736
13.0% of population	11.6% of population	10.6% of population	11.9% of population

ÅLAND



1999	2004	2014	2024
Foreign born: 7,023	Foreign born: 7,948	Foreign born: 10,102	Foreign born: 11,910
27.3% of population	30.0% of population	34.9% of population	38.9% of population

NOTE: Composition of migrant stocks, 1994-2024. The width of each category is proportional to the absolute size of the migrant group, representing the magnitude of each region within the total migrant population at each time point. Source data: list of specific tables for the NSI's are available in the references. **SOURCE:** Nordic Statistical Institutes (NSIs).

Country-specific migration trajectories

In **Denmark**, EU27-born migrants have moved from a secondary to a dominant position, accounting for 36% of the foreign-born population by 2024. Rest of Europe remains the second-largest group (19%), while migrants from Central and Southern Asia (11%), Northern Africa and Western Asia (10%), and Eastern and South-Eastern Asia (8%) represent substantial secondary groups. Nordic-born and Sub-Saharan African migrants account for smaller shares. Denmark's profile reflects continued European predominance alongside a gradual diversification toward Asian and African origins.

Finland exhibits a broadly diversified migrant composition. EU27 and rest of Europe together accounted for 43% in 1994 and 46% in 2024. Since 1994, Finland has experienced pronounced diversification, with migrants from Central and Southern Asia (13%), Eastern and South-Eastern Asia (12%), Sub-Saharan Africa (8%), and Northern Africa and Western Asia (8%) accounting for significant proportions, which demonstrates increasing extra-European representation. Over the same period, Nordic-born migrants declined substantially from 28% to 6.5%.

Iceland presents an overwhelmingly EU27-centric migration profile with limited diversification. The EU27 migrant stock expanded substantially, accounting for 53% of Iceland's foreign-born population by 2024. Rest of Europe and Nordic migrants each made up approximately 10–11%, while Eastern and South-Eastern Asia accounts for 9%. Other origin groups represent small shares. As such, Iceland's migration patterns remain more

BOX 4.2: DIVERSITY INDEX – METHOD AND INTERPRETATION

The Diversity Index used in this chapter is based on country-of-birth groups and calculated using the Blau Index, $DI = 1 - \sum p_i^2$, where p_i is the share of each group in the total resident population. In simple terms, the index reflects the probability that two randomly selected individuals in a municipality belong to different origin groups (Rushton, 2008). Higher values indicate higher diversity.

The index is calculated separately for each municipality and year, based on the distribution of the total resident population across origin groups. Group shares are squared and summed, the result of which is then subtracted from 1. When one group dominates, the index approaches zero, while a more even distribution yields higher values closer to 1. The measure is unitless and expressed here as a percentage.

To capture overall diversity, the native-born population must be included. In this chapter, all Nordic countries are grouped together, enabling the index to focus on non-Nordic diversity. This approach reflects shared cultural, economic and social characteristics across the Nordic countries.

The index is sensitive to the number of groups included – in other words, fewer categories produce lower scores. This affects comparability with findings from national statistical institutes that use different groupings, particularly in the self-governing regions, where broader categories mean that diversity values cannot be directly compared to those of Nordic countries. See Appendix 4.2 for more details.

concentrated among European origins than those of other Nordic countries.

Norway is characterised by sustained European predominance alongside substantial extra-European diversification. By 2024, EU27 and rest of Europe had increased to 29% and 17%, respectively, of the foreign-born population, while Nordic migrants declined from 22% to below 9%. However, Nordic migration in Norway has continued to increase in absolute terms, as the total number of Nordic-born population in Norway went from over 50,000 to almost 90,000 in the 1994 to 2024 period. Migrants from Central and Southern Asia, Eastern and South-Eastern Asia, Sub-Saharan Africa, and Northern Africa and Western Asia each make up around 10%. Norway's profile reflects a combination of strong European migration and broad-based diversification from Asia and Africa.

Sweden has experienced the most substantial shift in migrant composition among the Nordic countries. Between 1990 and 2024, the foreign-born population moved from Nordic predominance to broad diversification. By 2024, migrants from Northern Africa and Western Asia formed the largest group (20%), followed by EU27 (17%) and rest of Europe (16%). Migrants from Central and Southern Asia accounted for 13%. Nordic-born migrants declined from 40% to less than 10%. Despite growing shares of extra-European migrants, European origins remain an important component of Sweden's migration profile.

The self-governing territories are characterized by a predominance of intra-Nordic foreign-born populations, with some increase in the share of migrants from Eastern and South-Eastern Asia in the Faroe Islands and Greenland, alongside a growing share of EU27 migrants across all three territories. Overall, however, the degree of diversification remains limited relative to that observed in the Nordic countries.

Given the substantial increase in immigration to the Nordic Region over the past three decades and the diversification of migrant populations, the question arises of how this diversity manifests at the local level. The following section examines patterns of diversity by place of birth at the municipal level in 2014 and 2024.

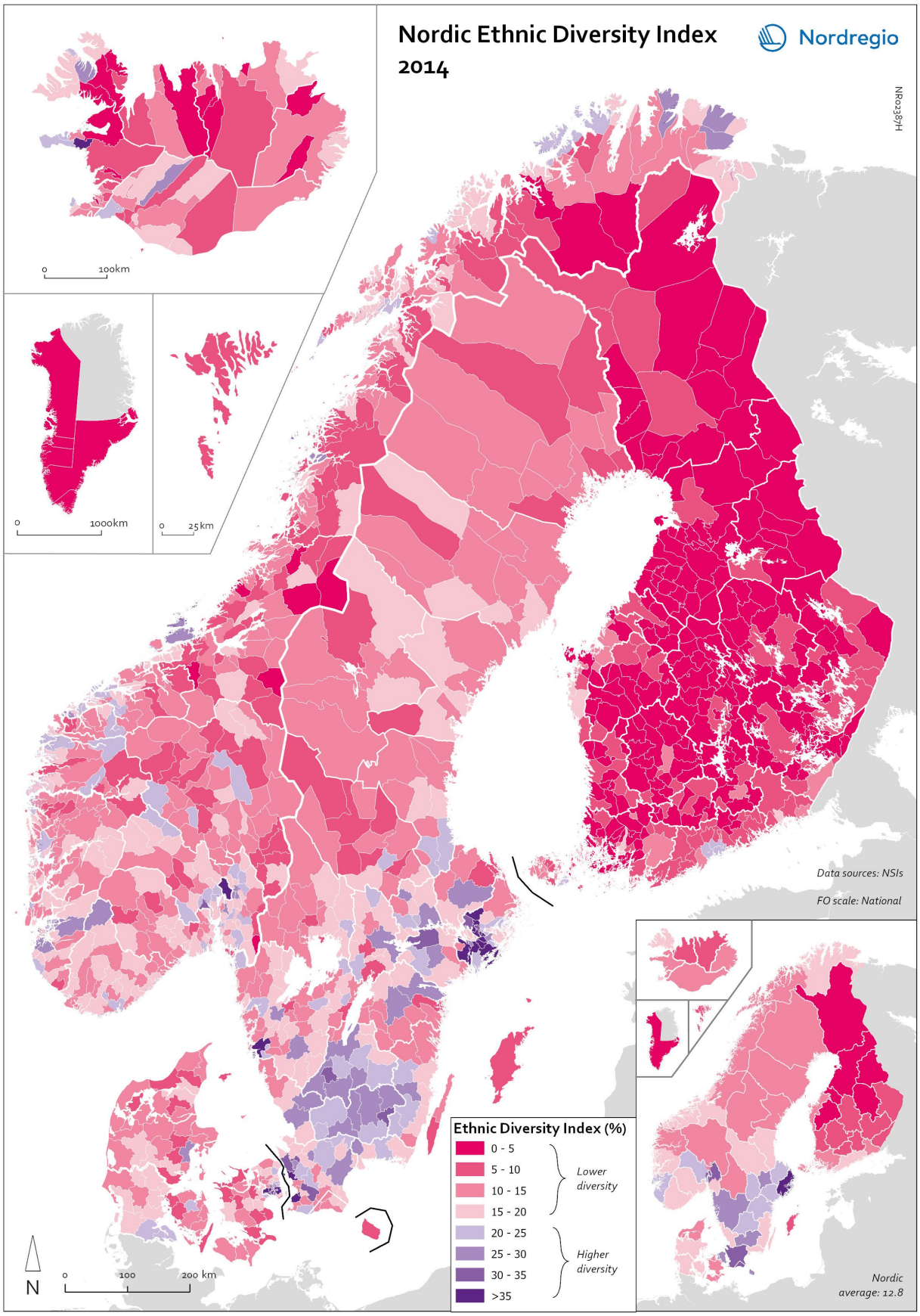
Spatial and temporal patterns of diversity

Maps 4.1 and 4.2 show the Diversity Index for 2014 and 2024 (for details see Box 4.2). Table 4.2 presents the ten most diverse municipalities in each Nordic country. Diversity remains unevenly distributed across the Nordic Region, with clear urban-rural disparities and marked differences between the countries. In 2014, diversity levels were generally modest, with a Nordic regional average of 12.8% and most municipalities below 20%. By 2024, the regional average had increased to 19.3%, reflecting broader diffusion of diversity beyond major urban areas, including parts of northern Sweden and Norway, and parts of Denmark.

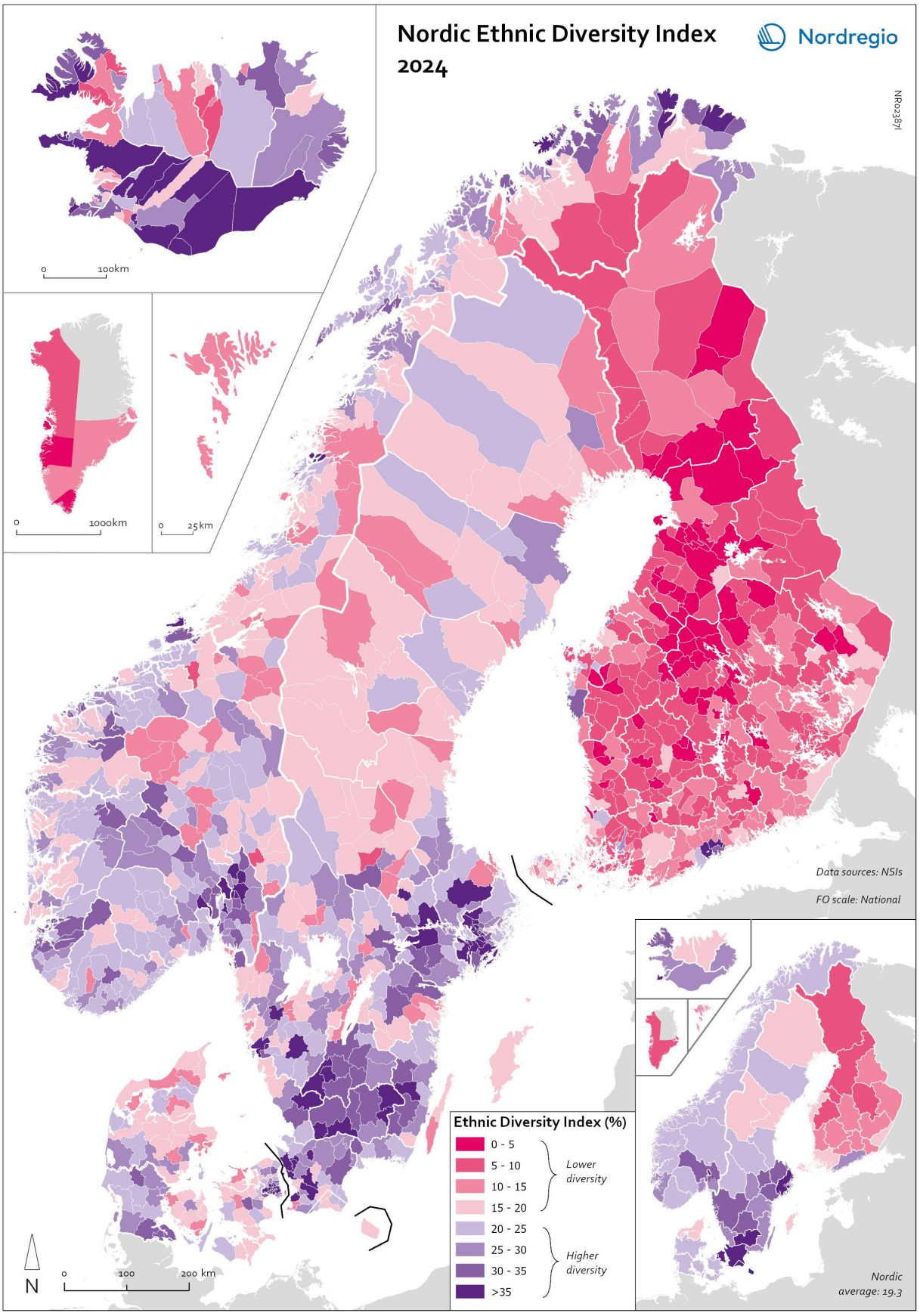
Sweden's regions and municipalities, particularly those in the south of the country, are the most socially diverse ones across the Nordics, considering the mix of countries of origin of their citizens. The municipal average is around 25%, with considerable variation across the country. By 2024, many municipalities in southern Sweden – including Skåne, Västra Götaland, and the Stockholm metropolitan area – registered index values above 30%, compared with 15–25% in 2014. The most diverse municipalities primarily consist of inner-urban areas in the surroundings of Stockholm, Malmö and Burlöv (see Table 4.2). Although both Malmö and Burlöv have high diversity levels (around 53%), their composition differs: Malmö exhibits overrepresentation across several non-European groups, while Burlöv's diversity is predominantly European in origin. This highlights how similar index values can reflect different underlying group distributions.

Denmark's mean diversity level (24%) is similar to that of Sweden, with the highest values concentrated in the Copenhagen metropolitan area. The ten most diverse municipalities in 2024 are all inner-urban areas around Copenhagen, each recording index values above 35% (see Table 4.2). In these municipalities, migrants from rest of Europe and Central and Southern Asia tend to be over-represented. Diversity remains considerably lower in rural North Jutland, where most municipalities fall below 20%. Denmark's pattern reflects Copenhagen's role as the country's primary migration hub, with more limited diversification in its rural regions.

MAP 4.1: NORDIC DIVERSITY INDEX BY PLACE OF BIRTH 2014.



MAP 4.2: NORDIC DIVERSITY INDEX BY PLACE OF BIRTH 2024.



NOTES FOR MAPS 4.1 AND 4.2: The maps show the diversity levels in Nordic countries at the municipal level (national level data for the Faroe Islands).

The native and Nordic populations are considered one group, and the remaining countries are grouped according to the methodology applied (see Methodology Box 4.2 and Appendix 4.1).

Norway's diversity increased between 2014 and 2024, reaching a municipal average of 22.6%. Compared with Sweden and Denmark, Norway shows notably lower variation between municipalities, reflecting a more even distribution of migrant groups across the country. Diversity is highest in Oslo and other urban centres along the southern and western coasts, but several rural outliers also stand out. Small northern municipalities such as Træna and Gamvik, as well as rural heartland areas like Frøya and Båtsfjord, register relatively high levels of diversity, driven mainly by EU27 labour migration (see Table 4.2). In contrast, northern inland regions continue to exhibit low diversity levels, typically below 15%. This north–south gradient reflects long-standing settlement patterns, with international migration concentrated in the economically dynamic southern regions, while high levels of diversity in the north are linked to labour demand in specific sectors. This combination of a fairly even national pattern, urban concentration, and distinctive rural outliers distinguishes Norway's spatial diversity profile from that of its Nordic neighbours.

Finland has a slower and more geographically concentrated diversification trajectory than the other Nordic countries, as reflected in a national Diversity Index of 9% in 2024. Diversity is highest in the Helsinki metropolitan area, where municipalities such as Helsinki, Espoo and Vantaa reach values of 30–40%. Several coastal municipalities, including Närpes and Kaskinen, also show notable levels of diversity due to long-standing labour-market links and sector-specific recruitment (see also Table 4.2). Outside of these areas, diversification has been more limited. Much of central and eastern Finland remains below 15%, illustrating how the later onset of large-scale immigration, together with linguistic and structural factors, has shaped settlement patterns. Overall, Finland exhibits a clear metropolitan–periphery gradient, with a strong concentration of diversity in southern and coastal regions, and comparatively slow diffusion into rural and inland municipalities.

Iceland has undergone one of the most rapid increases in diversity in the Nordic Region. While most municipalities registered Diversity Index values below 15% in 2014, many now fall between 25% and 35%, resulting in the highest national average (25.4%) among the Nordic countries in 2024. This rapid increase is driven primarily by EU27 labour migration. Several rural municipalities now stand out, including Mýrdalshreppur – where EU27-born residents form a majority – along with Bláskógabyggð and Skaftárhreppur. With the exception of Reykjanesbær, Iceland's most diverse municipalities are rural, reflecting labour shortages in the tourism, service, and resource-based sectors (see Table 4.2). Given the overall rurality of Iceland, it is unsurprising that most of the more diverse municipalities are classified as rural heartland and sparsely populated rural areas. As a result, Iceland's diversification pattern differs markedly from those of other Nordic countries, where high diversity is more strongly concentrated in metropolitan areas.

In sum, across the Nordic countries, urban areas generally exhibit higher levels of diversity than rural areas, albeit with notable exceptions in Norway and Iceland. Capital cities and major metropolitan areas demonstrate substantially higher diversity levels compared to sparsely populated inland and northern regions. This pattern likely reflects the

spatial concentration of the economic opportunities, social networks and institutional infrastructure that facilitate migrant settlement. However, the 2024 map indicate that diversity is no longer confined exclusively to large urban centres. Diversity levels are also increasing in smaller towns and peripheral municipalities, albeit at a slower pace. This spatial diffusion suggests that migration-related demographic change is gradually extending beyond traditional gateway cities, although clear regional disparities persist.

Discussion: Shared trajectories, distinct pathways

The Nordic countries show broadly similar migration trajectories over the last 30 years, characterised by declining intra-Nordic migration, increasing EU27 representation and growing shares of migrants from Asia and Africa. At the same time, each country displays distinct profiles shaped by national labour markets, migration histories, policy frameworks and institutional contexts. Spatial analysis highlights that national compositions mask substantial variation within each country, with migrant groups distributed unevenly across municipalities and regions.

The analysis reveals three key insights into how migration and diversity are reshaping the Nordic region. **First**, the Nordics have recently transitioned from a predominantly regional to a more global migration system. While the timing differs across countries – Sweden has transitioned the fastest, Finland more gradually – there is an overall shift from declining intra-Nordic migration, to increasing European origins and growing shares of migrants from Asia and Africa.

Second, diversity is subject to spatial diffusion. Metropolitan areas remain the primary destinations for migrants, but increasing levels of diversity in smaller towns and peripheral municipalities show that migration-driven change is no longer confined to urban centres. Norway's rural EU27 outliers and Iceland's widespread rural diversification illustrate how labour demand outside major cities can shape local diversity patterns.

Third, differentiated yet interconnected migration patterns create both shared challenges and opportunities. All of the Nordic countries face similar demographic pressures, including ageing populations and the need for labour force renewal, but their experiences differ in terms of migration composition and pace of diversification. This variation opens up space for mutual learning on integration, labour market inclusion and the design of services that meet the needs of increasingly diverse populations. While integration challenges may manifest differently across countries and between municipality types, they are no longer confined to urban centres.

Although intra-Nordic migration has declined, growing diversity across the whole region offers new grounds for co-operation. Due to their strong institutional frameworks, inclusive welfare systems and emphasis on intergovernmental collaboration, the Nordic countries are in a good position to manage demographic change while maintaining social cohesion across a widening range of local contexts.

TABLE 4.2: TOP 10 MOST DIVERSE MUNICIPALITIES BY COUNTRY, 2014 INCLUDING NORDIC URBAN-RURAL TYPOLOGY CLASSIFICATION (STJERNBERG ET AL. 2024) AND MINORITY GROUP DISTRIBUTION.

DENMARK

Municipality name	Nordic urban-rural typology classification	TOTAL POP	DI	NAT/ NORD	EU27	EUR	NAWA	SSA	ESEA	CSA	NA	LAC	OCE	UNK/ Other
Ishøj	Inner urban area	23,663	63.79	54.83	6.86	19.07	4.42	1.61	1.55	13.38	0.06	0.31	0.03	0.00
Brøndby	Inner urban area	39,067	58.54	61.27	6.27	13.16	5.97	1.79	1.89	11.69	0.16	0.60	0.04	0.02
Høje-Taastrup	Inner urban area	57,540	55.61	64.05	8.73	11.35	3.87	1.74	1.68	10.52	0.17	0.38	0.03	0.03
Vallensbæk	Inner urban area	17,800	52.53	66.67	5.94	10.83	2.96	1.10	2.01	11.64	0.17	0.63	0.03	0.01
Albertslund	Inner urban area	27,677	51.32	67.59	3.53	12.41	3.71	1.19	1.02	10.84	0.18	0.55	0.02	0.00
Rødovre	Inner urban area	44,328	43.74	74.10	4.53	6.27	3.85	1.75	2.00	7.30	0.16	0.71	0.03	0.02
København	Inner urban area	659,350	43.29	74.50	7.65	4.61	3.64	1.79	2.11	4.07	1.06	1.56	0.24	0.02
Gladsaxe	Inner urban area	70,600	42.61	74.90	4.78	4.94	3.07	1.90	1.83	8.09	0.25	0.79	0.06	0.03
Glostrup	Inner urban area	23,655	40.90	75.84	4.71	7.08	3.88	1.07	1.96	8.09	0.14	0.47	0.04	0.02
Herlev	Inner urban area	29,876	39.25	77.14	3.22	7.50	3.51	1.46	1.70	6.39	0.15	0.54	0.04	0.01
Mean across municipalities			**24.11**	**86.49**	**4.02**	**3.48**	**1.88**	**0.72**	**1.06**	**2.08**	**0.17**	**0.28**	**0.04**	**0.00**
Standard deviation across municipalities			**10.55**	**7.15**	**1.74**	**2.74**	**1.05**	**0.42**	**0.52**	**2.72**	**0.17**	**0.23**	**0.04**	**0.01**

FINLAND

Municipality name	Nordic urban-rural typology classification	TOTAL POP	DI	NAT/ NORD	EU27	EUR	NAWA	SSA	ESEA	CSA	NA	LAC	OCE	UNK/ Other
Vantaa	Inner urban area	251,269	41.31	75.94	4.84	6.70	2.51	0.89	2.54	3.79	0.15	0.29	0.04	2.24
Espoo	Inner urban area	320,931	37.60	78.51	3.56	5.14	2.04	0.67	3.19	4.24	0.36	0.45	0.06	1.74
Närpes	Rural heartland	9,554	33.80	80.48	1.27	5.71	0.00	0.42	10.41	0.00	0.23	0.18	0.00	0.10
Helsinki	Inner urban area	684,018	31.70	82.35	3.28	4.19	1.72	0.51	2.12	2.63	0.42	0.48	0.08	2.20
Kaskinen	Rural heartland	1,241	28.55	84.29	0.00	3.71	0.00	0.00	5.16	0.00	0.00	0.00	0.00	0.00
Kerava	Inner urban area	38,461	27.12	85.13	4.26	4.13	1.14	0.51	1.38	1.42	0.12	0.13	0.04	1.21
Jakobstad	Inner urban area	19,576	26.99	85.24	1.64	4.43	1.37	0.37	1.76	2.57	0.11	0.12	0.00	1.33
Turku	Inner urban area	206,073	26.42	85.58	2.41	3.90	1.94	0.59	1.40	2.40	0.17	0.27	0.03	1.22
Vaasa	Inner urban area	70,361	23.66	87.22	1.34	2.63	1.02	0.26	1.93	3.06	0.13	0.21	0.00	1.79
Mean across municipalities			**9.28**	**95.04**	**0.71**	**1.70**	**0.14**	**0.11**	**0.47**	**0.19**	**0.03**	**0.02**	**0.00**	**0.11**
Standard deviation across municipalities			**6.09**	**3.28**	**1.06**	**1.49**	**0.33**	**0.17**	**0.82**	**0.54**	**0.07**	**0.06**	**0.01**	**0.32**

ICELAND

Municipality name	Nordic urban-rural typology classification	TOTAL POP	DI	NAT/ NORD	EU27	EUR	NAWA	SSA	ESEA	CSA	NA	LAC	OCE	UNK/ Other
Mýrdalshreppur	Sparsely populated rural area	881	52.01	42.45	54.71	1.93	0.00	0.11	0.23	0.00	0.34	0.11	0.00	0.11
Skaftárhreppur	Sparsely populated rural area	620	47.52	63.06	35.65	0.32	0.00	0.00	0.32	0.16	0.00	0.48	0.00	0.00
Súðavíkurhreppur	Sparsely populated rural area	219	45.96	71.69	14.16	5.02	5.94	0.00	0.46	0.46	0.46	0.00	0.00	1.83
Bláskógabyggð	Sparsely populated rural area	1,322	45.24	67.17	31.01	1.29	0.15	0.00	0.08	0.00	0.15	0.15	0.00	0.00
Reykjanesbær	Local centre in rural area	21,957	44.51	70.61	23.56	2.22	1.01	0.03	0.77	0.21	0.21	0.90	0.03	0.44
Hrunamanna-hreppur	Rural heartland	865	42.22	70.98	27.17	1.16	0.00	0.00	0.58	0.12	0.00	0.00	0.00	0.00
Vesturbyggð	Sparsely populated rural area	1,356	40.42	73.53	23.45	1.11	0.07	0.00	0.66	0.07	0.29	0.59	0.00	0.22
Sveitarfélagið Hornafjörður	Sparsely populated rural area	2,487	40.03	73.90	23.08	1.21	0.12	0.04	0.88	0.20	0.08	0.24	0.04	0.20
Rangárþing eystra	Rural heartland	2,007	39.18	74.19	24.02	1.15	0.05	0.00	0.05	0.20	0.00	0.30	0.05	0.00
Grundar-fjarðarbær	Sparsely populated rural area	821	38.01	75.64	21.80	1.22	0.00	0.00	0.00	0.12	0.00	0.73	0.24	0.24
Mean across municipalities			**25.38**	**84.31**	**13.26**	**1.10**	**0.27**	**0.01**	**0.40**	**0.09**	**0.19**	**0.21**	**0.02**	**0.16**
Standard deviation across municipalities			**11.60**	**9.59**	**9.08**	**1.26**	**0.79**	**0.02**	**0.44**	**0.14**	**0.23**	**0.23**	**0.05**	**0.27**

NORWAY

Municipality name	Nordic urban-rural typology classification	TOTAL POP	DI	NAT/ NORD	EU27	EUR	NAWA	SSA	ESEA	CSA	NA	LAC	OCE	UNK/ Other
Træna	Sparsely populated rural area	442	44.01	72.17	18.78	5.20	0.00	0.00	3.17	0.68	0.00	0.00	0.00	0.00
Lørenskog	Inner urban area	48,188	43.67	74.21	6.54	4.86	2.00	2.50	2.70	6.50	0.15	0.51	0.03	0.00
Frøya	Rural heartland	5,453	42.59	72.80	20.76	2.13	0.68	1.17	1.78	0.17	0.07	0.44	0.00	0.00
Ullensaker	Periurban area	43,814	41.95	75.36	8.58	3.62	2.49	2.41	2.00	4.77	0.13	0.61	0.04	0.00
Båtsfjord	Rural heartland	2,113	41.70	74.40	16.47	4.35	0.99	0.71	1.37	1.28	0.00	0.43	0.00	0.00
Oslo municipality	Inner urban area	717,710	41.51	75.85	5.94	3.80	2.49	3.18	2.32	4.79	0.47	1.06	0.10	0.00
Gamvik	Sparsely populated rural area	1,070	39.71	75.98	14.86	5.51	0.93	0.56	1.87	0.00	0.28	0.00	0.00	0.00
Lillestrøm	Inner urban area	94,201	39.06	77.43	7.07	2.93	2.75	1.87	2.47	4.82	0.18	0.45	0.03	0.00
Drammen	Inner urban area	104,487	38.63	77.74	6.51	4.61	2.63	2.51	1.78	3.52	0.17	0.51	0.03	0.00
Rælingen	Inner urban area	20,099	37.47	78.50	6.91	2.97	2.28	2.01	2.10	4.49	0.14	0.58	0.02	0.00
Mean across municipalities			**22.64**	**87.57**	**4.91**	**3.30**	**1.06**	**0.94**	**1.13**	**0.65**	**0.14**	**0.27**	**0.03**	**0.00**
Standard deviation across municipalities			**6.40**	**3.96**	**2.83**	**1.54**	**0.68**	**0.65**	**0.58**	**0.80**	**0.13**	**0.22**	**0.06**	**0.00**

SWEDEN

Municipality name	Nordic urban-rural typology classification	TOTAL POP	DI	NAT/ NORD	EU27	EUR	NAWA	SSA	ESEA	CSA	NA	LAC	OCE	UNK/ Other
Botkyrka	Inner urban area	95,905	62.99	58.20	6.33	9.89	9.78	3.81	1.57	7.59	0.16	2.46	0.04	0.16
Södertälje	Inner urban area	102,911	60.95	58.75	6.37	5.85	18.62	2.71	1.07	4.57	0.16	1.73	0.02	0.16
Sigtuna	Inner urban area	52,767	57.39	63.57	6.14	4.32	7.27	5.57	2.29	8.40	0.31	1.78	0.06	0.28
Järfälla	Inner urban area	88,950	54.94	65.60	4.67	4.56	8.38	4.11	2.18	7.98	0.29	2.02	0.04	0.17
Burlöv	Inner urban area	20,101	53.28	66.70	7.29	9.56	7.60	1.14	1.75	3.75	0.22	0.71	0.00	1.27
Malmö	Inner urban area	365,644	53.27	66.86	6.13	7.59	8.59	1.94	1.90	4.97	0.49	1.37	0.10	0.06
Upplands Väsby	Inner urban area	50,323	52.12	67.91	5.23	4.46	6.03	2.85	2.28	8.71	0.24	1.93	0.02	0.33
Solna	Inner urban area	85,789	52.06	67.97	6.89	4.67	2.81	1.74	4.77	8.19	0.59	2.05	0.11	0.22
Sundbyberg	Inner urban area	56,274	51.88	68.26	5.47	4.41	5.58	4.74	2.31	6.38	0.45	2.02	0.09	0.29
Upplands-Bro	Periurban area	32,868	50.87	68.96	5.31	3.72	6.44	4.81	1.34	6.69	0.18	1.80	0.04	0.71
Mean across municipalities			**24.97**	**86.13**	**3.06**	**2.19**	**2.97**	**1.18**	**1.04**	**1.42**	**0.15**	**0.36**	**0.02**	**1.46**
Standard deviation across municipalities			**9.71**	**6.26**	**1.70**	**1.58**	**2.31**	**1.05**	**0.61**	**1.44**	**0.13**	**0.48**	**0.03**	**0.99**

References

Abel, G. J. & Sander, N. (2014). Quantifying global international migration flows. Science, 343, 1520–1522. https://www.science.org/doi/abs/10.1126/science.1248676

de Haas, H., Castles, S. & Miller, M. J. (2020). The Age of Migration: International Population Movements in the Modern World (6th ed.). London: Red Globe Press. ISBN: 978-1-352-00731-0.

Heleniak, T. (2018). From migrants to workers: International migration trends in the Nordic countries (Nordregio Working Paper 2018:1). Stockholm, Sweden: Nordregio. https://doi.org/10.30689/WP2018:1.1403-2511

Ho, G. & Shirono, K. (2015). The Nordic Labor Market and Migration (IMF Working Paper No. WP/15/254). Washington, DC: International Monetary Fund.

Lundgren, A., Birgier, D. P., Sánchez Gassen, N. & Norlén, G. (2024). The common Nordic labour market 70 years and beyond (Nordregio Report 2024:14). Nordregio. https://doi.org/10.6027/R2024:14.1403-2503

OECD (2023). Immigration in Iceland: Addressing challenges and unleashing the benefits. OECD Economics Department Working Papers, No. 1772. OECD Publishing. https://doi.org/10.1787/b9b8aef7-en

Rushton, M. (2008). A note on the use and misuse of the racial diversity index. Policy Studies Journal, 36, 445–459. https://doi.org/10.1111/j.1541-0072.2008.00276.x

Statistics Denmark. (2025). Population at the first day of the quarter by region, sex, age (5-year groups), ancestry and country of origin [Table: FOLK1C]. Copenhagen: Statistics Denmark. Retrieved January 22, 2026, from: https://www.statbank.dk/statbank5a/SelectVarVal/Define.asp?Maintable=FOLK1C&PLanguage=1

Statistics Denmark. (2025). Population 1. January by sex, age, ancestry, country of origin and citizenship Copenhagen: Statistics Denmark [Table: FOLK2]. Retrieved January 22, 2026, from: https://www.statbank.dk/statbank5a/SelectVarVal/Define.asp?MainTable=-FOLK2&PLanguage=1&PXSId=0&wsid%E2%80%A6

Statistics Faroe Islands (Hagstova Føroya). (2025). Population by birth country, sex, age and month, 1985–2025 [Table: IB01040]. Tórshavn: Statistics Faroe Islands. Retrieved January 22, 2026, from: https://statbank.hagstova.fo/pxweb/en/H2/H2__IB__IB01/fo_fodland.px/

Statistics Greenland. (2025). Population by place of birth in municipalities, 1977–2025. Nuuk: Statistics Greenland [Table: BEEST8G]. Retrieved January 22, 2026, from: https://bank.stat.gl/pxweb/en/Greenland/Greenland__BE__BE01__BE0125/BEXST8G.px/

Statistics Iceland. (2025). Population by sex, municipality and citizenship, 1 January 1998–2024. Reykjavík: Statistics Iceland. Retrieved January 22, 2026, from: https://px.hagstofa.is/pxen/pxweb/en/Ibuar/Ibuar__mannfjoldi__3_bakgrunnur__Rikisfang/MAN04203.px/

Statistics Iceland. (2025). Population by country of birth, sex and age 1 January 1998-2025. Reykjavík: Statistics Iceland. Retrieved January 22, 2026, from: https://px.hagstofa.is/pxen/pxweb/en/Ibuar/Ibuar__mannfjoldi__3_bakgrunnur__Rikisfang/MAN04203.px/

Statistics Sweden (SCB). (2003). Befolkningsstatistik 2003:3: Folkmängden efter kön, ålder och medborgarskap m.m. Sveriges officiella statistik. Statistiska centralbyrån [table: 1.3]. Retrieved January 22, 2026, from: https://share.scb.se/OV9993/Data/Historisk%20statistik/SOS%201911-/Befolkningsstatistik/Befolknings%E2%80%A6

Statistics Sweden (SCB). (2025). Population by region, country of birth and sex, year 2000–2024 [Table number: BE0101E]. Retrieved January 22, 2026, from: https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__BE__BE0101__BE0101E/FolkmRegFlandK/

Statistics Finland. (2025). Country of birth according to sex by municipality, 1990–2024. Helsinki: Statistics Finland [Table: 11rq]. Retrieved January 22, 2026, from: https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__vaerak/statfin_vaerak_pxt_11rq.px/

Statistics Norway (SSB). (2023). Classification of grouping of countries and citizenship. Oslo: Statistics Norway. Retrieved January 22, 2026, from: https://www.ssb.no/en/klass/klassifikasjoner/546/koder

Statistics Norway (SSB). (2025). Foreign-born, by country background, contents, year and sex [table: 05185]. Oslo: Statistics Norway. Retrieved January 22, 2026, from: 05185: Foreign-born, by sex and country background 1970-2025

Statistics Norway (SSB). (2025). Immigrants and Norwegian-born to immigrant parents, by region, contents, year and country background [table: 09817:]. Oslo: Statistics Norway. Retrieved January 22, 2026, from: https://www.ssb.no/en/statbank/table/09817/

Statistics and Research Åland (ÅSUB). (2025). Population 31.12.2000–2024 by year, municipality and country of birth. Mariehamn: Statistics and Research Åland. Retrieved January 22, 2026, from: https://pxweb.asub.ax/PXWeb/pxweb/en/Statistik/Statistik__BE__Befolkningens%20storlek%20och%20struktur/BE010.px/

Statistics and Research Åland (ÅSUB). (2025). Population 1999-2025 by country of birth, year and sex. Mariehamn: Statistics and Research Åland. Retrieved January 22, 2026, from: https://pxweb.asub.ax/PXWeb/pxweb/en/Statistik/Statistik__BE__Befolkningens%20storlek%20och%20struk%E2%80%A6

Stjernberg, M., Vasilevskaya, A. & Penje, O. (2024). Towards a grid-based Nordic territorial typology: A new tool for analysis across the urban-rural continuum. Nordregio Report 2024:9. Nordregio. https://doi.org/10.6027/R2024:9

United Nations Department of Economic and Social Affairs (UN DESA), Population Division. (2020). International Migration 2020 Highlights. United Nations (ST/ESA/SER.A/452). https://www.un.org/en/desa/international-migration-2020-highlights

United Nations, Department of Economic and Social Affairs, Population Division. (2012). Strengthening national capacities to deal with international migration: Maximizing development benefits and minimizing negative impact. New York: United Nations.

Appendix 4.1. Country groups classification adopted in the minority calculations[5]

NORDIC COUNTRIES
Denmark
Faroe Islands
Finland
Greenland
Iceland
Norway
Sweden

EU27
Austria
Belgium
Bulgaria
Croatia
Cyprus
Czech Republic
Estonia
France
Germany
Greece
Hungary
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Poland
Portugal
Romania
Slovakia
Slovenia
Spain

EUROPE
Albania
Andorra
Belarus
Bosnia-Herzegovina
Gibraltar
Guernsey
Isle of Man
Jersey
Kosovo
Liechtenstein
Moldova
Monaco
Montenegro
North Macedonia
Russia
San Marino
Serbia
Serbia and Montenegro
Switzerland
Türkiye
Ukraine
United Kingdom
Vatican City State

CENTRAL AND SOUTHERN ASIA
Afghanistan
Armenia
Azerbaijan
Bangladesh
Bhutan
Georgia
India
Iran
Kazakhstan
Kyrgyzstan
Maldives
Nepal
Pakistan
Sri Lanka
Tajikistan
Turkmenistan
Uzbekistan

EASTERN AND SOUTH-EASTERN ASIA
Brunei
Cambodia
China
Hong Kong
Indonesia
Japan
Laos
Macao
Malaysia
Mongolia
Myanmar
North Korea
Philippines
Singapore
South Korea
Taiwan
Thailand
Timor-Leste
Vietnam

LATIN AMERICA AND THE CARIBBEAN
Anguilla
Antigua and Barbuda
Argentina
Aruba
Bahamas
Barbados
Belize
Bolivia
Bonaire, Sint Eustatius and Saba
Brazil
British Virgin Islands
Cayman Islands
Chile
Colombia
Costa Rica
Cuba
Curaçao
Dominica
Dominican Republic
Ecuador
El Salvador
Falkland Islands
Franske Antiller
French Guiana
Grenada
Guadeloupe
Guatemala
Guyana
Haiti
Honduras
Jamaica
Martinique
Mexico
Montserrat
Netherlands Antilles
Nicaragua
Panama
Paraguay
Peru
Puerto Rico
Saint Barthélemy
Saint Martin
Saint Kitts and Nevis
Saint Lucia
Saint Pierre and Miquelon
Saint Vincent and the Grenadines
Sint Maarten
Suriname
Trinidad and Tobago

5. The classification is based on the final year of observation (2024), such that countries are assigned to consistent categories across all time points. For example, Bulgaria, Romania, and Croatia were classified as EU27 members in 1994, despite not having acceded to the European Union at that time.

Turks and Caicos Islands
United States Virgin Islands
Uruguay
Venezuela

NORTHERN AFRICA AND WESTERN ASIA
Algeria
Bahrain
Egypt
Iraq
Israel
Jordan
Kuwait
Lebanon
Libya
Morocco
Oman
Palestine
Qatar
Saudi Arabia
Sudan
Syria
Tunisia
United Arab Emirates
Western Sahara
Yemen
Northern America
Bermuda
Canada
United States

OCEANIA
American Samoa
Australia
Christmas Island
Cocos (Keeling) Islands
Cook Islands
Fiji
French Polynesia
Guam
Kiribati
Marshall Islands
Micronesia, Federated States
Nauru
New Caledonia
New Zealand
Niue
Norfolk Island
Northern Mariana Islands
Palau
Papua New Guinea
Pitcairn
Samoa
Solomon Islands
Tokelau
Tonga
Tuvalu
United States Minor Outlying Islands
Vanuatu
Wallis and Futuna Islands

SUB-SAHARAN AFRICA
Angola
Benin
Botswana
British Indian Ocean Territory
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Congo-Brazzaville
Côte d'Ivore
Djibouti
Equatorial Guinea
Eritrea
Eswatini
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mayotte
MozambiqueNamibia
Niger
Nigeria
Réunion
Rwanda
Saint Helena
Sao Tome and Principe
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
South Sudan
Tanzania
Togo
Uganda
Zambia
Zimbabwe

Appendix 4.2. Greenland and Åland country group classification at subnational level, as adopted for the population diversity.

GREENLAND

Native population

Nordic countries
Faroe Islands
Denmark
Nordics

Europe
Rest of Europe

Africa
America
Asia
Oceania

ÅLAND

Native population

Nordic countries
Finland
Sweden

Other countries
Other including 'unknown'

IMAGES
TOP LEFT: ISTOCK
TOP RIGHT: ISTOCK
BOTTOM: MASCOT/JOHNÉR

Theme 2

LABOUR MARKET

EMPLOYMENT • SECTORAL DYNAMICS • VULNERABILITY & RESILIENCE

While demography shapes the size and composition of the population, labour markets structure how work is organised and how income is generated across regions. Employment levels, unemployment, and labour force participation and non-participation influence both household livelihoods and the fiscal foundations of the Nordic welfare model. Although the Nordic countries have long had high levels of employment, labour-market outcomes vary across regions and municipalities. At the same time, the labour markets are marked by ongoing structural change. Differences in sectoral composition, productivity and skills profiles interact with national institutions and regional economic structures. These variations are associated with differences in regional adjustment to structural change, which means that analysing labour-market patterns provides a central perspective on regional development in the Nordic Region.

CHAPTER 5: THE NORDIC LABOUR MARKET FROM A LABOUR FORCE PERSPECTIVE

Chapter 5 provides an overview of labour-market outcomes in the Nordic Region, focusing on employment, unemployment and labour force participation. Although the Nordic countries often have high levels of employment, differences persist between countries and across regions. Employment rates vary by age, gender and country of birth, and labour-market participation differs across metropolitan, intermediate and rural areas. While overall employment levels remain comparatively high in a European context, disparities in participation and unemployment highlight continuing territorial differences. The chapter establishes a baseline for understanding how labour-market outcomes vary across the Nordic Region.

CHAPTER 6: LABOUR MARKET DYNAMICS FROM A SECTORAL PERSPECTIVE

Chapter 6 examines changes in sectoral composition in the Nordic labour markets, with a focus on shifts in employment across industries over time. Employment has continued to move towards services, while manufacturing and primary sectors have declined in relative importance, albeit with variation between countries and regions. These patterns reflect long-term changes in the structure of employment. Regional differences remain pronounced, with metropolitan areas typically experiencing higher shares of business services and knowledge-intensive activities, whereas many non-metropolitan regions retain stronger industrial or resource-based profiles. The chapter illustrates how differences in sectoral structure are associated with varying labour-market patterns across the Nordic Region.

CHAPTER 7: EXPLORING LABOUR MARKET VULNERABILITY AND RESILIENCE

Chapter 7 analyses regional differences in productivity, skills composition and sectoral concentration throughout the Nordic Region. Examining these dimensions together highlights how labour-market structures vary between metropolitan, intermediate and rural areas. Productivity levels, educational attainment and industrial specialisation differ substantially across regions, and are associated with varying labour-market patterns. The chapter compares these patterns in the Nordic countries and illustrates territorial differences in the degree of specialisation and diversification. Together, these indicators provide a multidimensional perspective on regional labour-market structures in the Nordic Region.

Chapter 5

THE NORDIC LABOUR MARKET FROM A LABOUR FORCE PERSPECTIVE

AUTHORS: Anna Lundgren and Hjördis Gudmundsdottir
DATA AND MAPS: Daniel Pils, Hjördis Gudmundsdottir and Patrik Tornberg

Introduction

Seen from an international perspective, the Nordic labour market has several distinctive features. One of the most prominent is high employment, both as a central policy objective and as a core element of the Nordic welfare model (Alsos & Dølvik, 2021). Although the financial crisis of 2008 and the COVID-19 pandemic in 2021 left clear marks on the Nordic economies, the labour markets proved resilient and recovered through active policy measures (Jokinen & Norlén, 2022; Flam & Nordström Skans, 2022).

Other key features include an innovative and dynamic business sector, high levels of education, a large public sector providing welfare services, and generally high standards of living. The Nordic labour market model is also characterised by comparatively high levels of trade union membership (ranging from 52 to 84 % depending on the country) and by the strong commitment of the social partners (trade unions, employers and governments) in the labour market (Lundgren et al., 2024). The model has been widely recognised for its ability to facilitate structural change through a combination of stability and flexibility (Alsos & Dølvik, 2021; Rolandsson & Ilsöe, 2023).

However, the Nordic labour market also faces challenges related to demographic and technological change. While historically increasing the number of women in work has been a key driver of rising rates of employment, working at higher ages has recently become more important as retirement ages have been postponed in several Nordic countries. Technological change affects labour markets overall, but its impacts vary across regions and municipalities – a pattern that is also reflected in labour market outcomes at regional and local levels.

Good labour market conditions are crucial for local and regional development. This chapter examines the Nordic labour force, which consists of individuals who are either employed or unemployed. Those of working age who are neither employed nor unemployed are classified as outside the labour force (see Box 5.1).

The chapter uses a spatial perspective to analyse how employment, unemployment and the share of people outside the labour force vary across regions and municipalities in the Nordic Region. Together, these dimensions provide a baseline overview of labour-market outcomes, on which subsequent chapters build.

BOX 5.1: LABOUR MARKET STATISTICS: DEFINITIONS AND CALCULATIONS

Employment data in the Nordic countries are available from two main sources: the Labour Force Survey (LFS) and register-based data.

Register-based data are available at the municipal level for all Nordic countries. These data are subject to delays of up to two years and are not fully comparable between countries.

LFS data are based on monthly surveys conducted by the National Statistical Institutes (NSIs). The surveys follow guidelines set by the International Labour Organization (ILO), which ensures cross-country comparability. In the official statistics, LFS covers the working-age population aged 15–74. In this chapter, the data have been harmonised to the 20–64 age group, to focus on the core working-age population.

Definitions of employed, unemployed and outside of labour force: An employed person is someone who worked for at least one hour during the reference week, or who was temporarily absent from a job they hold. An unemployed person is someone who was not employed during the reference week but is currently available for work (within two weeks), is actively seeking work (within four weeks), or has a job that will start within three months. A person outside of labour force is neither employed nor unemployed according to these definitions (Eurostat, n.d.). Employment and outside-of-labour-force rates are calculated as shares of the population aged 20–64, whereas unemployment rates are calculated as shares of the labour force (employed + unemployed) within the same age group.

The analysis uses register-based data to calculate the distribution of employment and unemployment within each municipality. These distributions have been harmonised to align the national totals with internationally comparable LFS figures. As a result, some margin of error may occur, particularly in very small municipalities (for example in Iceland).

Unless otherwise stated, the Nordic average is based on aggregated figures for the Nordic region as a whole. The EU average is based on data from Eurostat.

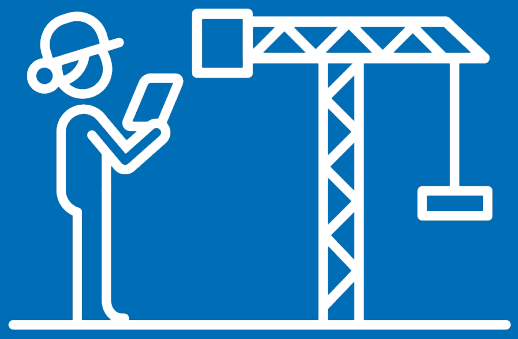
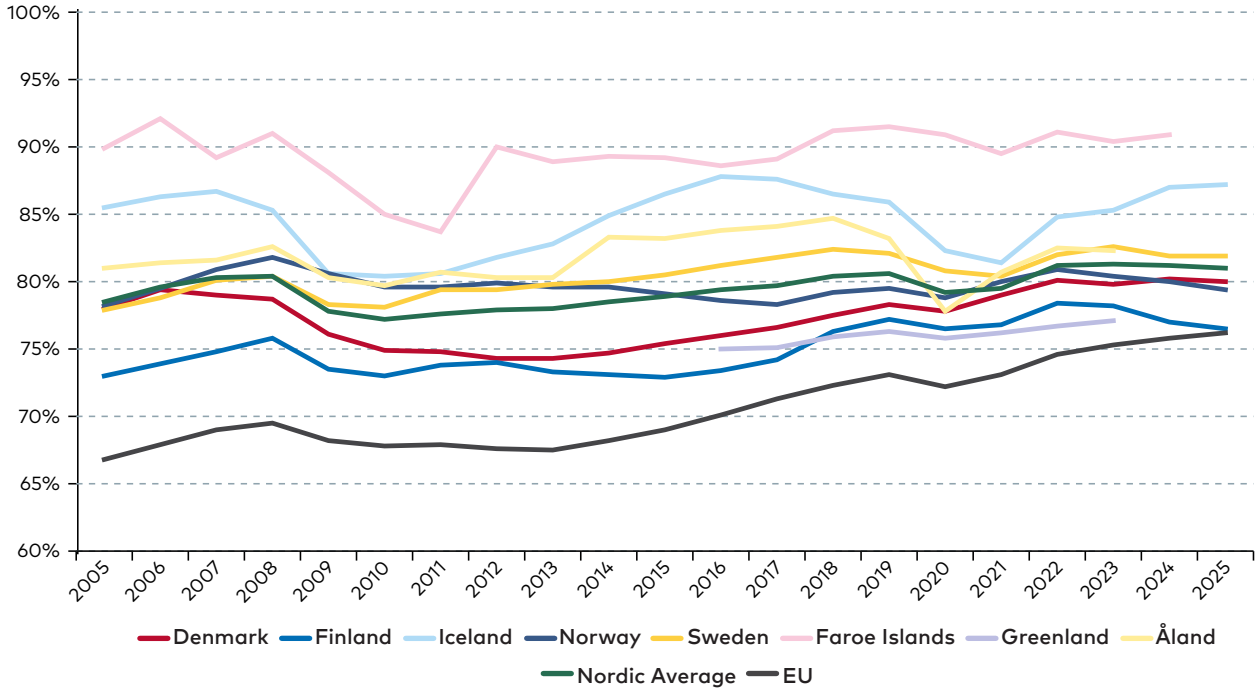


FIGURE 5.1: EMPLOYMENT RATE IN THE NORDIC COUNTRIES, 2005-2025 (Q2).



NOTE: The Nordic average is calculated as the average of national employment rates in Denmark, Finland, Iceland, Norway and Sweden. Lack of data for the Faroe Islands 2025, and Greenland and Åland in 2024 and 2025. The definition of employment changed in Greenland between 2015 and 2016. Consequently, values pre-2016 cannot be compared to later values (for Greenland). **SOURCE:** Nordregio calculations based on data from Nordic Statistics database and Eurostat (LFS).

Employment

Over the last two decades, the employment rate (ages 20–64) has increased in all of the Nordic countries. On average, employment in the Nordic Region rose from 78.5% in 2005 to 81% in 2025.[6] The EU27 saw a larger increase over the same period, rising from 66.8% to 76.2%. This reflects a degree of convergence in employment levels between the Nordic countries and the EU, although the Nordic countries continue to record substantially higher overall employment rates.

Figure 5.1 shows that the downturn following the 2008 financial crisis was broadly similar across the Nordic Region. While employment levels recovered across all countries, the pace of recovery varied, reflecting differences in economic structures and labour-market institutions.

The downturn caused by the COVID-19 pandemic was sharper in some countries than others, with Åland and Iceland particularly strongly affected by the collapse in travel and transport-related activities. The subsequent recovery of employment levels illustrates that the furlough schemes and other temporary labour-market measures were effective in mitigating negative impacts (Jokinen & Norlén 2022; Flam & Nordström Skans, 2022). Overall, these developments indicate that the Nordic labour market is both stable and resilient, with consistently high levels of employment.

However, a closer look at the municipalities and regions reveals substantial spatial variation (2024 data). The highest employment rates are found in the Faroe Islands, Iceland and Åland, as well as in the northern parts of Sweden, where employment growth can partly be linked to investments asso-

6. Due to lack of data, the Nordic average includes Denmark, Finland, Iceland, Norway and Sweden.

MAP 5.1: EMPLOYMENT RATE, 2024.

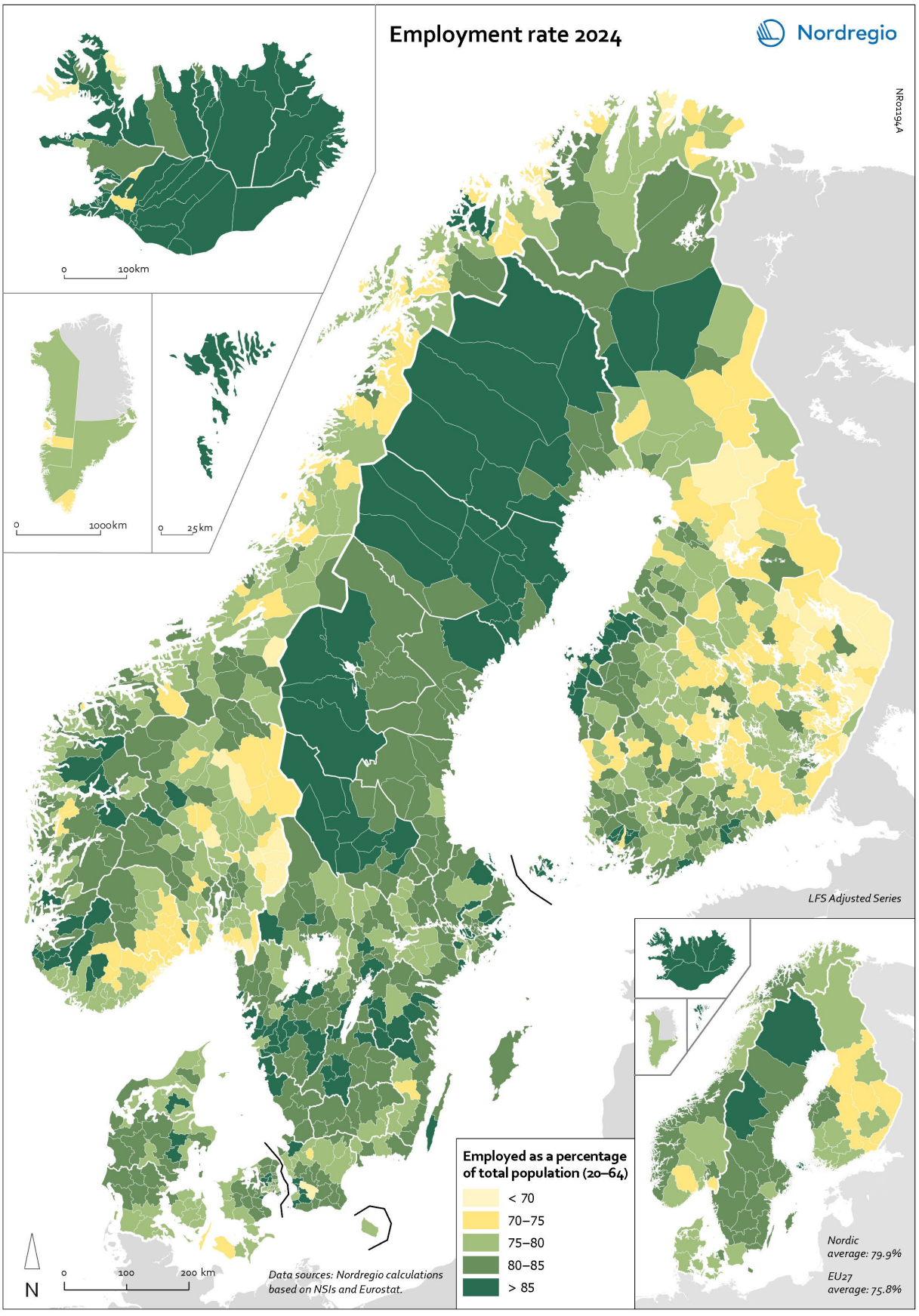


TABLE 5.1: NATIONAL EMPLOYMENT RATES 2024: MEN AND WOMEN 20-64 YEARS.

COUNTRY	MEN	WOMEN	EMPLOYMENT GAP (PP)
Denmark	83.4	76.9	-6.5
Finland	77.3	76.6	-0.7
Iceland	90.2	83.4	-6.8
Norway	82.5	77.4	-5.1
Sweden	83.9	79.9	-4.0
Faroe Islands*	91.5	90.7	-0.8
Greenland**	76.9	77.3	0.4
Åland***	81.7	82.9	1.2
Nordic Region****	84.4	81.1	-3.3
EU	80.8	70.8	-10.0

NOTE: * The Faroe Islands: Displays values for the 15–64 age group. ** Greenland: 2023 data due to lack of 2024 data. Displays values for the 20–65 age group. *** Åland: 2023 data due to lack of 2024 data. **** Nordic Region: Average of all Nordic countries/territories, except Greenland. **SOURCE:** Nordic Statistics database.

ciated with the green transition. By contrast, the lowest employment rates (below the EU average of 75,8%) are primarly concentrated in eastern and central Finland. One defining feature of the Nordic labour market is the high employment rate among women. As shown in Table 5.1, female employment rates range from 76.6% in Finland to 90.7% in the Faroe Islands, well above the EU average of 70.8% in 2024.

The high levels of female employment reflect strong social protection policies, including generous parental leave and subsidised childcare. At the same time, Nordic labour markets remain highly gender-segregated. Many female-dominated occupations are undervalued relative to male-dominated occupations with similar educational requirements. Despite equality being a core Nordic value and the existence of legislation aimed at addressing pay inequality, the gender pay gap[7] ranged from 9.8% in Iceland to 16.8% in Finland. It remained above the EU average of 12% in both Norway and Denmark (Eurostat, 2025).

While unemployment rates among immigrants are often higher than for the native-born population, employment rates among migrants increased during the period 2014–2024, particularly among migrants from non-EU countries. This trend is most pronounced in Denmark, Finland and Sweden, while the highest employment rate among non-EU migrants was recorded in Iceland (83.2%) (Nordic Statistics database, 2025b). In an international comparison, internal migration is relatively high in the Nordic countries, although there is substantial variation across countries and regions (Sánchez Gassen & Stjernberg, 2024).

Beyond the core working-age population, several additional features of the Nordic employment stand out. One is the early integration of young people (ages 15–19) into the labour market, with employment rates ranging from 25.7% in Sweden to 69.8% in the Faroe Islands, compared to 16% in the EU (Nordic Statistics database, 2025c). Another, more recent characteristic is the tendency for people in the Nordic Region to stay in work until they are older (see Box 5.2), which also contributes to high overall employment levels.

Taken together, high employment rates are indicative of the Nordic economies' strong labour demand

7. Measured as the difference between average gross hourly earnings of male and female employees as a percentage of male gross earnings.

BOX 5.2: EMPLOYMENT AT OLDER AGES

The pension system is a central element of the Nordic welfare model. However, the Nordic countries vary in terms of statutory retirement ages, effective labour market exit ages and pension system designs, and these differences shape labour market participation rates at older ages in distinct ways. Pension system design also influences how countries address challenges related to ageing populations, rising dependency ratios and long-term labour supply.

In recent years, most Nordic countries have undertaken pension reforms aimed at extending working lives. One key measure has been to link the statutory retirement age to life expectancy – a reform that has already been implemented in Sweden, Denmark and Finland, and is scheduled for introduction in Norway in 2026 (Andersen, 2023; Diermeier et al., 2024).

In parallel with this development, employment rates among older age groups have increased across the Nordic Region.

Over the past two decades, employment rates among people aged 55–64 have risen by almost 20 percentage points in Finland, 15 percentage points in Denmark, and approximately 10 percentage points in Greenland, Åland, Norway and Sweden. In 2024, employment rates in this age group ranged from 72% in Finland to 90% in the Faroe Islands, compared to an EU average of 65%. The increased labour participation of older people has therefore made a substantial contribution to the overall high employment levels observed in the Nordic economies.

Beyond the core working-age population (20–64), all of the Nordic countries except Iceland have also seen a marked increase in employment among those aged 65–69. Since 2005, employment rates in this age group have more than doubled for both men and women. In 2024, female employment rates exceeded 20% in all Nordic countries except Finland. Among men, employment rates were above 40% in Denmark and Norway and reached 34% in Sweden. This compares with the EU averages of 20% for men and 13% for women in the same age group (Nordic Statistics database, 2025c).

In addition to pension reforms, favourable labour-market conditions and sustained economic growth have supported longer working lives. In addition, recent research suggests that digitalisation, along with the expansion of remote and flexible working arrangements following the COVID-19 pandemic, may have contributed to retirement being postponed in certain occupations (Komp-Leukkunen, 2024).

Despite common trends, differences remain in retirement behaviour across the Nordic countries. The statutory retirement age for accessing minimum pension benefits in the age-group currently retiring is 67 in Denmark, Iceland and Norway, 66 in Sweden, and 65 in Finland. However, early retirement schemes exist in all five countries. In Norway and Iceland, the gap between the effective retirement age and the labour-market exit age exceeds two years, which indicates that many individuals continue to work after drawing a pension. In Denmark, Finland and Sweden, this gap is closer to six months, which reflects a more abrupt transition from the labour market (Diermeier et al., 2024).

and broad capacity to absorb labour. However, high employment at the national level coexists with persistent pockets of unemployment at the regional and local levels, which points to continued mismatches within Nordic labour markets.

Unemployment

While employment rates provide a broad picture of labour-market inclusion, unemployment rates capture frictions between labour supply and demand across the Nordic Region. Unemployment not only reflects the absence of employment, but also highlights mismatches between skills and jobs, job-search dynamics, and the role of institutional settings and labour-market policies. In high-employment labour markets such as the Nordic ones, unemployment therefore provides complementary insight into how efficiently labour markets function.

Among the Nordic countries, Finland and Sweden stand out due to relatively high unemployment levels in the 20–64 age group. In both countries, most of the regions exceed the Nordic unemployment average of 4.5%, while the Faroe Islands records by far the lowest unemployment rate (1.5%). This contrast underscores the importance of national labour-market contexts in shaping unemployment outcomes.

In terms of the gender perspective, unemployment rates are generally higher among men than women in most of the Nordic countries and territories. In 2024, male unemployment rates exceeded female unemployment in all the Nordic countries except Denmark and Sweden, with the largest gender gap observed in Finland (8.7% for men compared to 6.7% for women). This pattern contrasts with the EU average and reflects differences in sectoral employment structures and gender segregation in the labour market.

Unemployment is particularly pronounced among young people. In all of the Nordic countries except the Faroe Islands, the unemployment rate among those aged 20–24 is about twice as high as the national unemployment rate for the 20–64 age group. In 2024, the highest levels of youth unemployment were seen in Sweden (16.3%) and Finland (14.5%), both of which exceeded the EU average of 13%. In all of the Nordic countries except Iceland, unemployment rates among young men were higher than among young women, which indicates gendered entry barriers into the labour market.

The territorial perspective (Map 5.2) reveals substantial regional and local variation within the Nordic Region. Similar to the Faroe Islands, most Norwegian regions exhibit very low unemployment rates, in particular Troms (2.0%), Nordland (2.4%), Trøndelag (2.5%) and Møre og Romsdal (2.5%). The figure for Iceland and Greenland is 3% and 3.1% respectively. By contrast, the highest unemployment rates are concentrated in Finland, such as North Karelia (10.7%), Kymenlaakso (9.9%), Päijät-Häme (9.8%) and South Karelia (9.7%), and in Sweden, including Sörmland (9.7%), Skåne (9.6%), Västmanland (8.9%) and Gävleborg (8.9%).

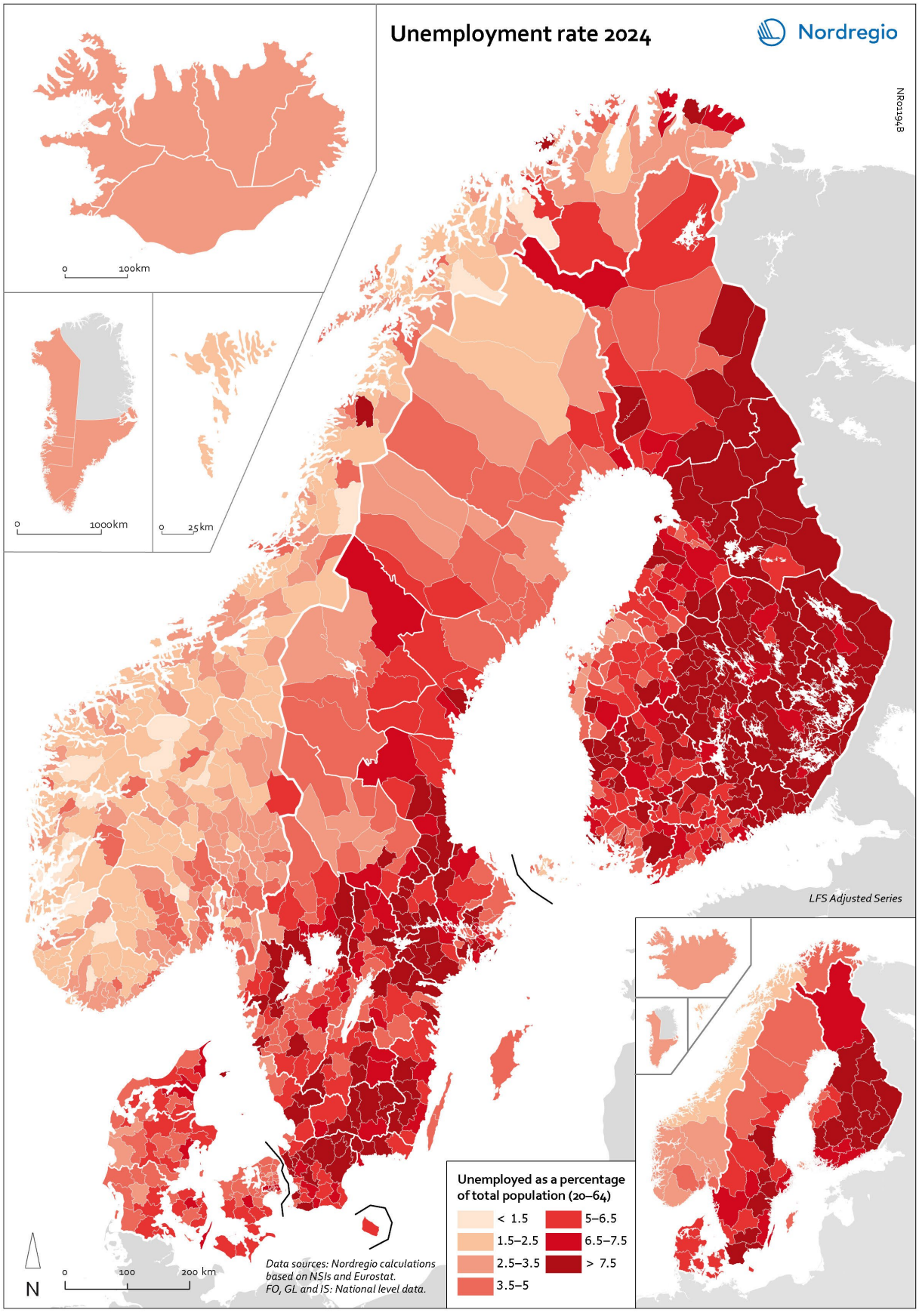
Despite these regional and local differences, national patterns remain the most salient feature of unemployment across the Nordic Region. This suggests that institutional factors at the national level play a key role. While all countries operate dual labour-market systems that combine income support with active labour-market measures (e.g., training, reskilling and upskilling), these systems vary considerably in terms of their design, generosity and targeting. As such, differences in labour-market institutions, activation policies and measurement practices may contribute to the observed cross-country variation in unemployment rates (Forslund, 2025).

Outside the labour force

Beyond employment and unemployment, labour force participation is also shaped by the proportion of the population outside the labour force, which consists of persons neither employed nor actively seeking work and therefore not captured in unemployment statistics.

People may be outside the labour force for a variety of reasons. Figure 5.2 presents the main categories in the five Nordic countries for which data is available, alongside the EU. Across the Nordic

MAP 5.2: UNEMPLOYMENT RATE (20-64), 2024.



countries, the two most common reasons are own *illness or disability,* and *education or training*.

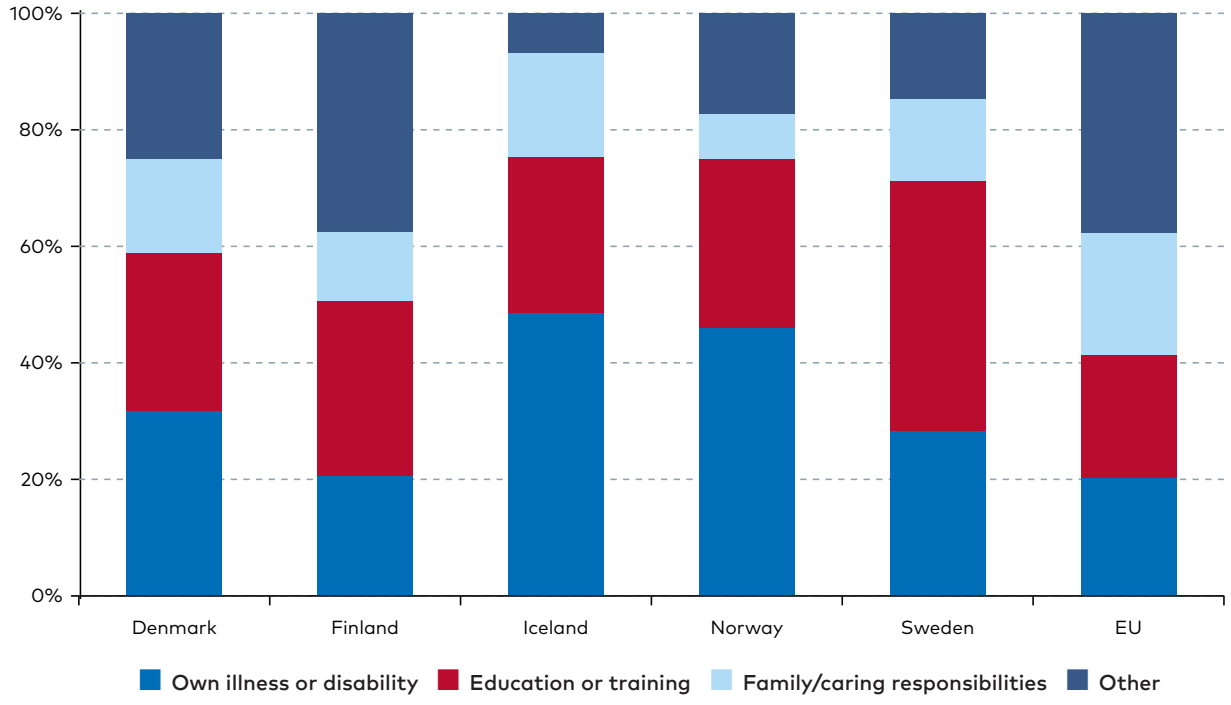
The share of people outside the labour force due to own illness or disability is higher in the Nordic countries than the EU average, particularly in Iceland (48.6%) and Norway (46%). By contrast, the share of people outside the labour force due to *family/ caring responsibilities* is lower than in the EU, which reflects strong social protection policies and high gender equality.

While Figure 5.2 highlights the reasons for being outside the labour force, Map 5.3 illustrates how the overall share of people outside it varies across countries and regions. Clear national differences emerge at the territorial level. Norway, Finland, and Greenland have higher shares of the population aged 20–64 outside the labour force than the Faroe Islands, Iceland, Sweden. Overall, the Faroe Islands have the lowest share (7.5%), followed by Iceland (9%) and the Swedish regions of Jämtland (10.2%) and Halland (10.4%). By contrast, nine Nordic regions in Norway and Finland, as well as Greenland, exceed the EU average of 19.6%.

One factor that contributes to these differences is the relatively high share of people engaged in education. Compared to the EU, the Nordic countries have higher levels of tertiary education enrolment among those aged 20–64. In 2024, Finland recorded the highest share (10.4%), followed by Norway (9.3%), Iceland (8.6%) and Denmark (8.3%), compared to an EU average of 5.9%. Enrolment is particularly concentrated in the youngest age-group (20–24 years), which indicates that a substantial share of those outside the labour force are temporarily outside it for educational or training reasons.

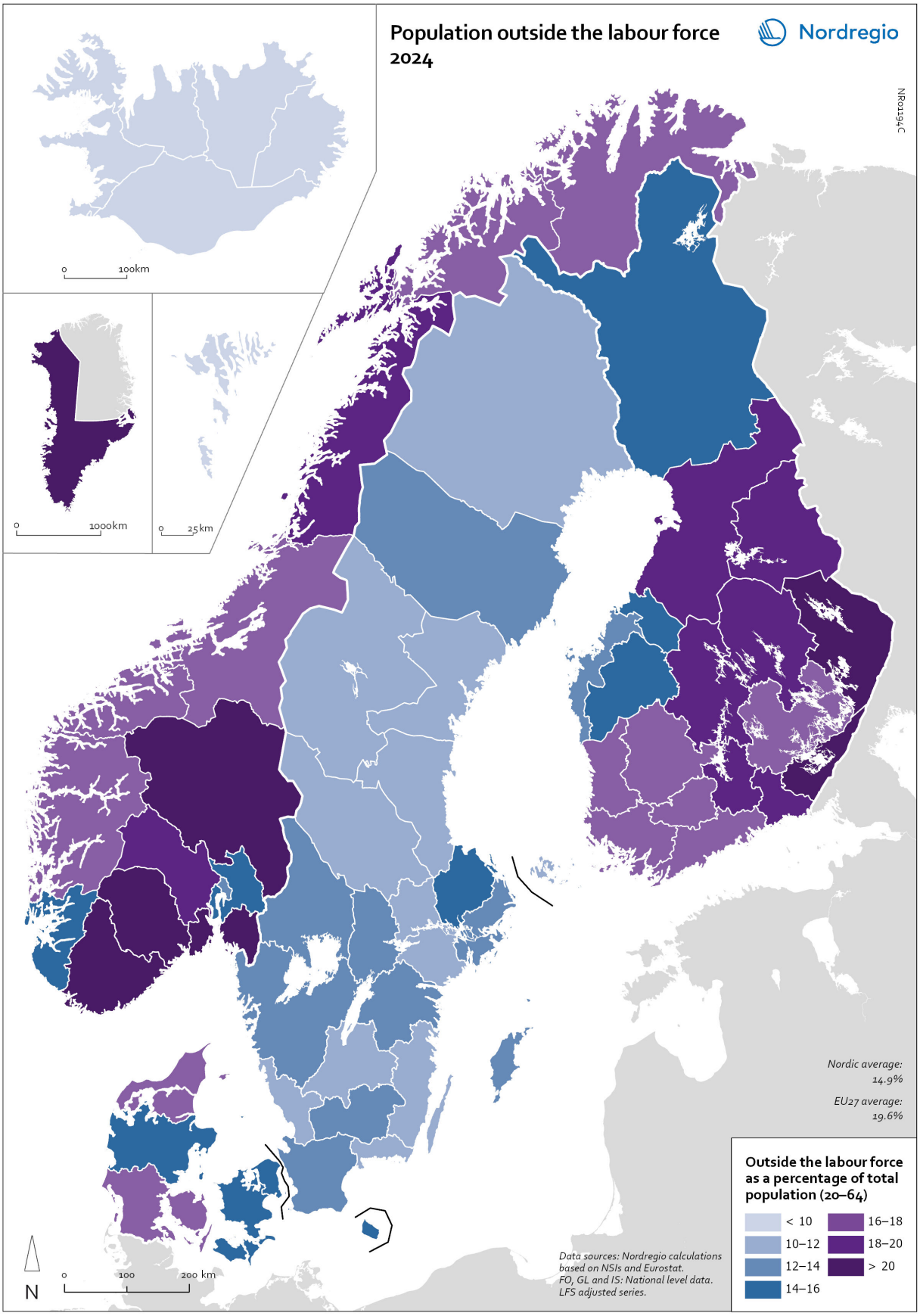
At the same time, being outside the labour force also reflects labour-market exclusion. A recent report commissioned by the Nordic Council of Ministers shows that approximately 75% of individuals aged 18–64 who are outside the labour force in the Nordic Region belong to groups facing multiple

FIGURE 5.2: POPULATION AGED 15-64 OUTSIDE THE LABOUR MARKET BY COUNTRY AND REASON, 2023.



NOTES: No data was available for Greenland and the Faroe Islands. Finland includes Åland. **SOURCE:** Nordic Statistics database, 2025a.

MAP 5.3: PERCENTAGE OF POPULATION (20–64) CLASSIFIED AS OUTSIDE THE LABOUR FORCE, 2024.



employment barriers. These include persons with disabilities, immigrants from non-EU countries, young people aged 15–29 not in employment, education or training (NEET), and older workers aged 55–64 (Højbjerre et al., 2023; 2025). Taken together, these findings indicate that the population outside the labour force comprises both individuals in temporary life-course positions, most notably students, and groups who face structural barriers to employment. As a result, reducing the share of people outside the labour force requires targeted and flexible labour-market measures, including employment-focused programmes and stronger engagement with employers, with a view to making Nordic labour markets more inclusive (Højbjerre et al., 2023; 2025).

TABLE 5.2: HIGHEST SHARE OF POPULATION OUTSIDE THE LABOUR FORCE (TOTAL), 20-64 YEARS, 2024.

REGION	COUNTRY	OUTSIDE THE LABOUR FORCE (RATE)
Østfold	Norway	23.3%
Telemark	Norway	22.4%
Agder	Norway	21.6%
Innlandet	Norway	21.3%
Vestfold	Norway	21.2%
North Karelia	Finland	21.0%
South Karelia	Finland	21.0%
Greenland*	Greenland (Denmark)	21.0%
Central Finland	Finland	19.9%
Nordland	Norway	19.9%

NOTES: EU average: 19.6%.
Nordic average: 14.9%.
*National level data for Greenland.

SOURCE: Nordregio calculations based on data from National Statistical Institutes (NSIs).

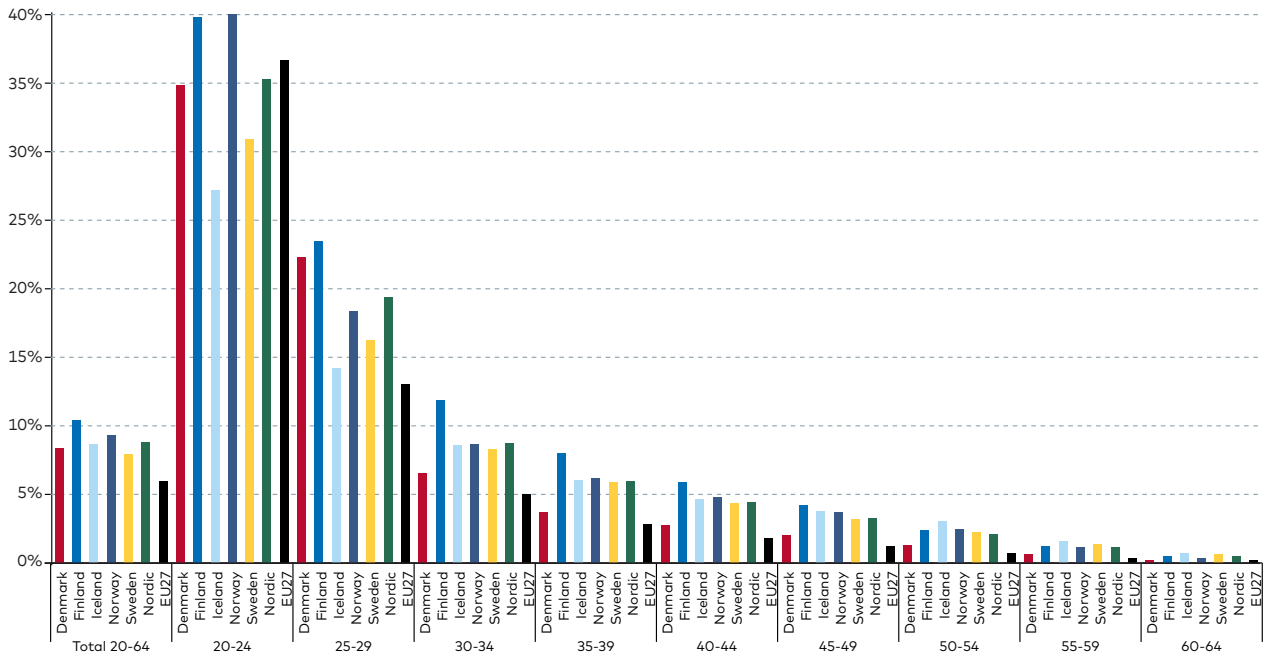
TABLE 5.3: LOWEST SHARE OF POPULATION OUTSIDE THE LABOUR FORCE (TOTAL), 20-64 YEARS, 2024.

REGION	COUNTRY	OUTSIDE THE LABOUR FORCE (RATE)
Faroe Islands*	Faroe Islands (Denmark)	7.5%
Iceland*	Iceland	9.0%
Halland	Sweden	10.2%
Jämtland	Sweden	10.4%
Gävleborg	Sweden	10.5%
Åland*	Åland (Finland)	10.7%
Jönköping	Sweden	10.9%
Västernorrland	Sweden	11.0%
Dalarna	Sweden	11.1%
Västmanland	Sweden	11.1%

NOTE: *National level data for the Faroe Islands, Iceland and Åland.

SOURCE: Nordregio calculations based on data from National Statistical Institutes (NSIs).

FIGURE 5.3: SHARE OF POPULATION ENROLLED IN TERTIARY EDUCATION (ISCED 5-8), 2024.



NOTE: Iceland and EU: 2023 data. **SOURCES:** Nordregio calculations based on data from Eurostat and Nordic Statistics database.

Conclusions

The analysis shows that, overall, the Nordic labour market is performing fairly well, characterised by high employment levels and a strong capacity to recover from economic downturns. At the same time, labour shortages constitute a growing challenge across all of the Nordic countries, particularly in health and social care, as well as parts of industry (Norlén & Maersk, 2024). While new technology and digitalisation can be assumed to compensate for some of the exits and replacements, the trend of extended working lives and further progress towards gender equality in employment, are also likely to play an important role.

Looking beyond employment data, the analysis of unemployment and of those outside the labour force reveals substantial national differences, indicating that national policies and institutional arrangements play a decisive role in shaping labour-market outcomes. Although regional and local variations exist, unemployment remains particularly high in Finland and Sweden, while Greenland, Norway and Finland record relatively high shares of the working-age population outside the labour force. Across the Nordic countries, the two most common reasons for being outside the labour force are education or training, and own illness or disability.

At the same time, the patterns differ markedly across countries, reflecting variation in educational and social policy systems, despite the shared foundations of the Nordic welfare model. Taken together, the findings underscore the continued importance of national-level institutions and policy choices in shaping labour-market participation across the Nordic Region.

The following chapters examine how underlying factors contribute to national, regional and local differences by examining how skills, productivity, and industry and business structures interact with labour-market outcomes, and in doing so, provide a deeper understanding of regional differences in the Nordic labour markets.

References

Andersen, T. M. (2023). Pensions and the Nordic Welfare Model. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4394846

Diermeier, M., Drees, M., Ilmakunnas, I., Kannisto, J., Nivalainen, S., Schüler, R. M. & Vidlund, M. (2024). Pension reforms in the Nordic countries and Germany: Conference proceedings of the 2024 Annual Meeting of the German Society for Demography (DGD) by the Working Group on Demographic and Social Developments (C. B. Wilke, Ed.). Deutsche Gesellschaft für Demographie, Essen. MA Akademie Verlags- und Druck-Gesellschaft mbH.

Eurostat. (n.d.). EU Labour Force Survey—New methodology from 2021 onwards. Retrieved 8 December 2025, from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_labour_force_survey

Eurostat. (2025). Gender pay gap statistics. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender_pay_gap_statistics

Flam, H. & Nordström Skans, O. (Eds). (2022). Nordic Economic Policy Review 2022: COVID-19 Effects on the Economy in the Nordics. Nordic Council of Ministers. https://doi.org/10.6027/nord2022-001

Forslund, A. (2025). Mismatch, long-term unemployment and post-COVID labour market programmes in the Nordic countries. Working Paper, No. 2025:5, Institute for Evaluation of Labour Market and Education Policy (IFAU).

Højbjerre, A., Jakobsen, V., Thuesen, F., Witt Rosenberg, A., Lang Thomsen, R., Stubkjær, L., Celine Hardonk, S., Einarsdóttir, M., Korpi, T., Saikku, P. & Mesiäislehto, M. (2025). Increasing employment among vulnerable groups. Nordic Council of Ministers. https://doi.org/10.6027/temanord2025-533

Højbjerre, A., Kildahl Nielsen, S., Jakobsen, V., Thuesen, F., Lang Thomsen, R., Saikku, P., Mesiäislehto, M., Korpi, T., Lorentzen, T. & Celine Hardonk, S. (2023). Barriers to employment for vulnerable groups in the Nordic countries. Nordic Council of Ministers. https://doi.org/10.6027/temanord2023-513

Jokinen, J. C. & Norlén, G. (2022). Labour market impacts of Covid-19. In Norlén, Gustaf, L. Randall, N. Sánchez Gassen, & C. Tapia (Eds.), State of the Nordic Region 2022. Nordregio. https://doi.org/10.6027/R2022:2.1403-2503

Komp-Leukkunen, K. (2024). Extended Working Lives in Denmark and Finland: Influences of Computerization. Nordic Journal of Working Life Studies. https://doi.org/10.18291/njwls.143480

Lundgren, A., Birgier, D. P., Sánchez Gassen, N. & Norlén, G. (2024). The Common Nordic Labour Market 70 Years and Beyond. Nordregio. https://doi.org/10.6027/R2024:14.1403-2503

Nordic Statistics database. (2025a). LABO05: Inactive population by reason, sex, reporting country and time [Data set].

Nordic Statistics database. (2025b). LABO11: Employment rate by reporting country, educational attainment level, citizenship, age, sex and time. PxWeb [Data set].

Nordic Statistics database. (2025c). WORK02: Employment and unemployment by reporting country and time. 65-69 years, Employment rate, %, Total. PxWeb [Data set].

Norlén, G. & Maersk, E. (2024). Challenges of Labour Shortages and Skills Provision. In G. Norlén, T. Heleniak & K. Refsgaard (Eds), State of the Nordic Region 2024. Nordregio. https://doi.org/10.6027/R2024:13.1403-2503

Sánchez Gassen, N. & Stjernberg, M. (2024). Population change beyond the pandemic. In G. Norlén, T. Heleniak & K. Refsgaard (Eds), State of the Nordic Region 2024. Nordregio. https://doi.org/10.6027/R2024:13.1403-2503

Chapter 6

LABOUR MARKET DYNAMICS FROM A SECTORAL PERSPECTIVE

AUTHORS: Patrik Tornberg, Anna Lundgren and Daniel Pils
DATA AND MAPS: Patrik Tornberg and Daniel Pils

Introduction

The Nordic labour markets are undergoing long-term structural changes, marked by declining employment in agriculture, forestry and fisheries, and in industry, alongside growing employment in the service sectors. As shown in Figure 6.1, this shift reflects what has often been described as a transition toward post-industrial economies (Pedersen et al., 2008), a development shared with many other countries (Hurley et al., 2025). In Sweden, for example, manufacturing employment halved between the mid-1980s and early 2020s, while employment in the financial sector tripled (Fredriksson et al., 2023).

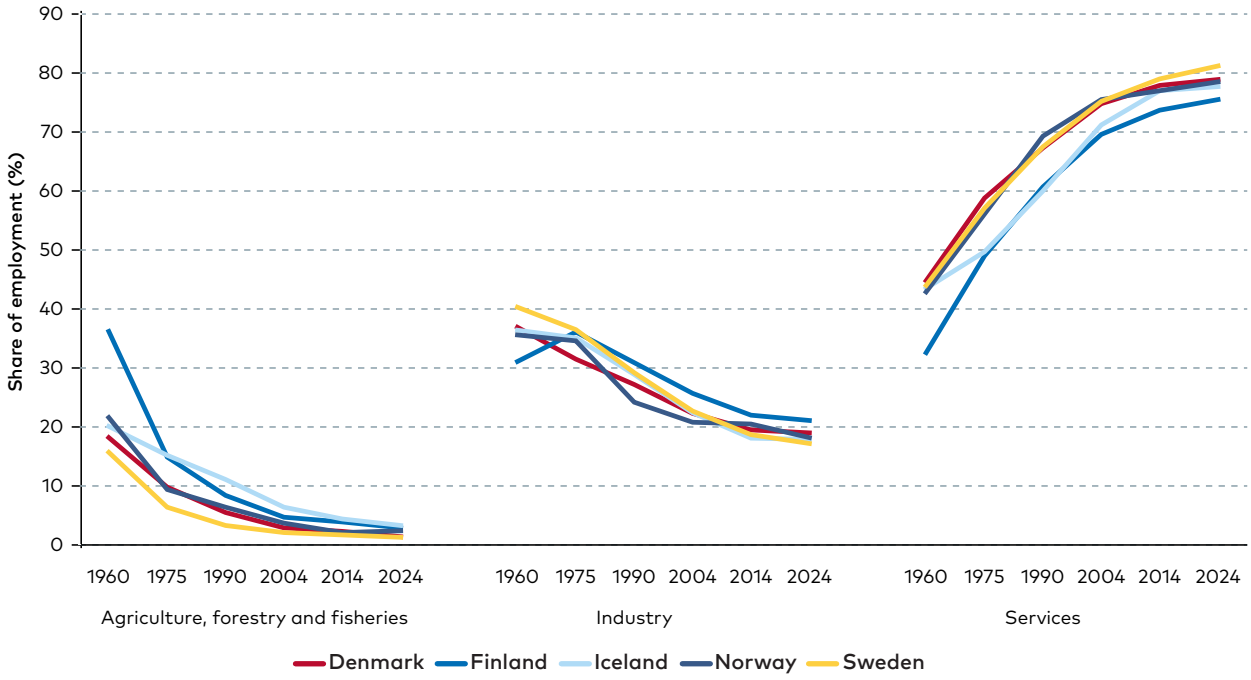
These sectoral changes directly influence both job creation and displacement. Occupations that are easy to automate are declining, and approximately one-third of Nordic jobs have been considered at high risk of automation in the coming decades, although the risk exposure varies considerably between regions (Norlén & Randall, 2020). The introduction of AI further complicates this transformation, and is expected to affect a substantial share of work tasks across occupational groups (Eloundou et al., 2023). Studies show that a majority of employees in Sweden are in occupations that have at least medium AI exposure, while around 25% are in occupations with very high exposure, most of which are knowledge-intensive service jobs (Almega, 2025).

At the same time, rising energy prices, inflation and geopolitical tensions (see Chapter 8) have raised awareness of vulnerabilities linked to dependence on external suppliers of key resources. Recent analyses suggest that Western manufacturers are shifting away from cost-based offshoring of production, in favour of a greater emphasis on local and regional resilience, often described as 'reindustrialisation' (Capgemini, 2025). Draghi (2025) advocates a renewed European industrial strategy to reduce dependence on external suppliers of critical raw materials and digital technologies.

The long-term consequences of these developments remain uncertain. However, they point to drivers of both the continued expansion of service employment, now partly reshaped by AI, and a renewed emphasis on industrial development. These forces may influence the long-standing shift from industrial to service-based labour markets, although not uniformly across regions.

Against this backdrop, this chapter examines sectoral[8] changes in the Nordic labour market over the past decade, with a particular focus on industry and business services. Is the post-war structural transformation of the Nordic labour market still underway, or have reindustrialisation begun to shape recent developments?[9]

FIGURE 6.1: CHANGE OF EMPLOYMENT IN THREE MAIN GROUPS OF INDUSTRY SECTORS, 1960-2024.



NOTES: Sectoral categorisation: Agriculture, forestry, fisheries corresponds to NACE category A. Industry includes mining, manufacturing, electricity and water, construction (NACE B-F). Services includes trade, logistics, accommodation, business services, public sector, recreation and other service activities (NACE G-S). The three groups are sometimes referred to as primary, secondary and tertiary industries (see e.g. Pedersen et al., 2008). In other similar classifications, mining is often included in primary rather than secondary industries. For the sake of consistency with the historical data from 1960 onwards, we have chosen to include mining in Industry.
SOURCE: 1960, 1975, 1990, 2004: Pedersen et al. (2008); 2014, 2024: Nordic Statistics database (2025).

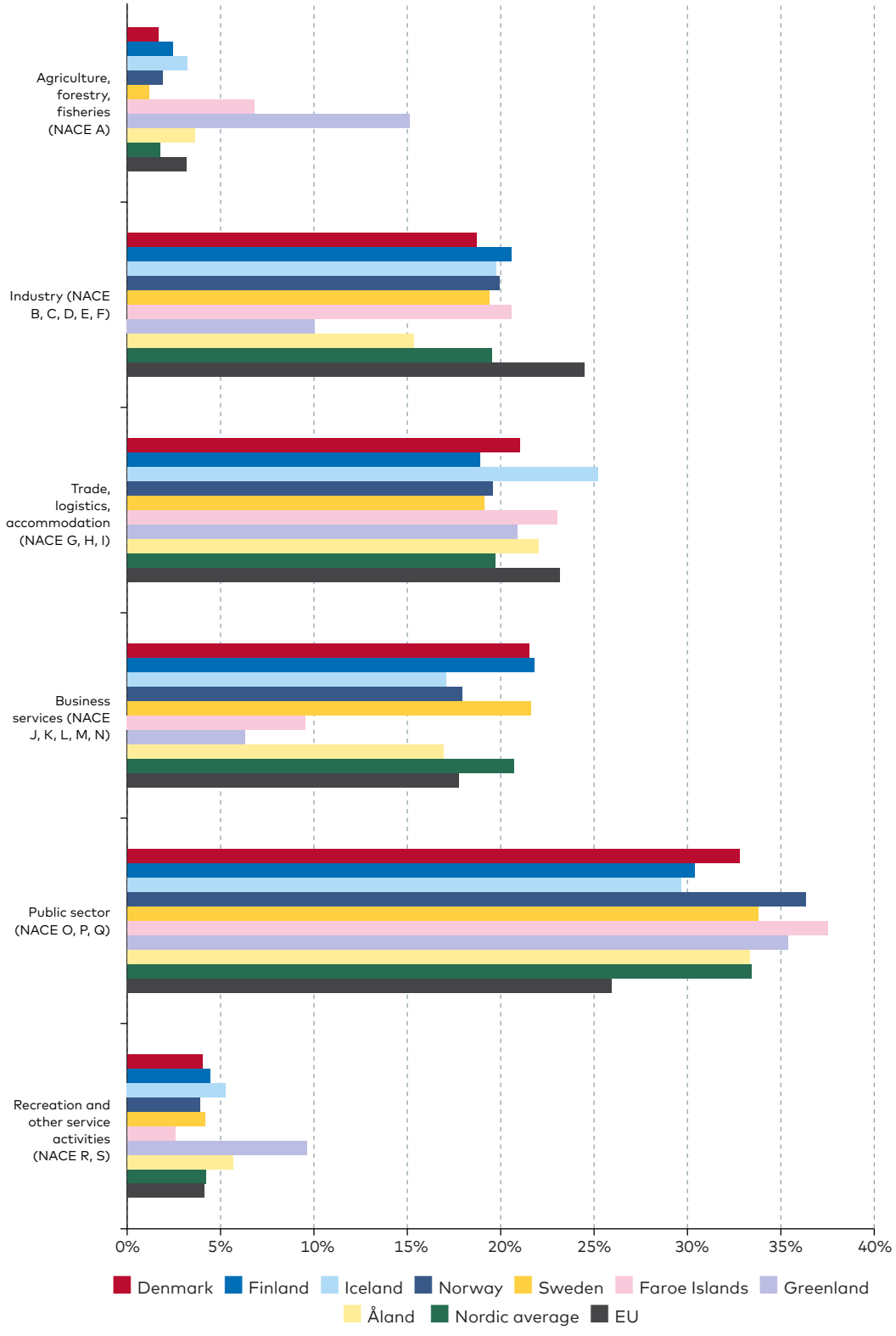
In which sectors does the Nordic population work?

The sectoral structure of the Nordic labour markets differs from the EU average in several important ways. The Nordic labour market is characterised by a larger share of employment in the service sectors (both business services and public services), and a smaller share in agriculture, forestry and fisheries, and in industry (Figure 6.2). A common feature across all Nordic countries and territories is a high share of employment in the public sector, especially in education, health and welfare services, where the Nordic countries rank among the highest in the EU. All of the Nordic regions have public-sector employment shares above the EU average of 26% (Eurostat, 2025a).

In contrast, the Nordic countries and territories have lower shares of industrial employment compared to the EU average, especially in manufacturing. However, there are notable differences at the national and regional levels. Agriculture, forestry and fisheries account for a significantly larger share of employment in the Faroe Islands, Green-

8. The categorisation of sectors is based on the standardised classification of economic activities in the European Community, abbreviated as NACE. For the analysis in this chapter, six aggregate groups of industry sectors are used: Agriculture, forestry, fisheries (NACE category A); Industry (B, C, D, E, F), including manufacturing, construction, mining and quarrying, and other industry; Trade, logistics, accommodation (G, H, I), including wholesale, retail, transport and accommodation services; Business services (J, K, L, M, N), including ICT, finance and insurance, real estate, professional, scientific, technical, administration and support service activities; Public sector (O, P, Q), including public administration and defence, education, human health and social work activities; Recreation and other service activities (R, S), including arts, entertainment, recreation and other service activities.
9. To enable analyses of sectors at the regional level, and for the sake of consistency between national and regional data, in this chapter we use register-based regional and national data, unless otherwise noted. For the EU level, only Labour Force Survey (LFS) data is available. For more on register-based and LFS data, see Box 5.1 in chapter 5. Regional sectoral data is not available for the Faroe Islands, Greenland and Iceland. Due to a break in time series of register-based labour market data in Sweden 2020, older values for Sweden have been adjusted to reduce the impact on comparability over time.

FIGURE 6.2: SHARE OF EMPLOYMENT PER SECTOR, 2024.



NOTES: Reference year: 2024, except Finland and Åland: 2023. Age: 20-64 years, except the Faroe Islands, Greenland and Iceland: all ages. Classification of sectors: NACE Rev. 2.NR bar chart. **SOURCE:** Nordregio calculations based on data from National Statistical Institutes (NSIs) and Eurostat.

land, and northern Norway, as well as in a belt of Finnish regions stretching from Ostrobothnia to Kainuu.

With the exception of Åland and Greenland, the share of industry jobs is fairly similar across the Nordic countries, but there are substantial differences at the regional level. Manufacturing is the largest industrial subsector, with the highest employment shares along the Finnish Baltic coast and the inland parts of southern Sweden, while the lowest shares are found in Greenland and, more generally, in the capital regions.

As shown in Figure 6.2, business services account for a relatively large share of total employment in the Nordic Region compared to the EU. However, business services encompass several subsectors with different characteristics, and there is considerable regional variation within the Nordics. The highest levels of employment in business services are found in Denmark, Finland and Sweden, where these jobs are primarily concentrated in the capital regions, followed by other urban regions or regions close to major cities. This concentration in the capital regions is particularly pronounced in high-skill subsectors such as information and communication, financial and insurance activities, and professional, scientific and technical activities.[10] At the regional level, there is a clear negative relationship between employment in industry and in business services, especially with regard to high-skilled business services. In other words, regions with a higher share of industrial jobs tend to have lower shares of business-service employment, and vice versa.

How has employment in the different sectors changed in the last decade?

Over the ten-year period 2014–2024, total employment in the Nordic countries increased by an average of around 1% per year, a rate close to the EU average (Figure 6.3). At the regional level,[11] only regions in Finland, including Åland, recorded a decline. Employment growth occurred primarily in service-oriented sectors, especially business services, while employment in agriculture, forestry and fisheries continued to decline across most regions, with the Faroe Islands and parts of Norway being the main exceptions. Public-sector employment increased by about 1% annually – slightly faster than population growth, and marginally above the growth of total employment. Åland diverges from the overall Nordic pattern, with a small decline in public-sector jobs.

Industry

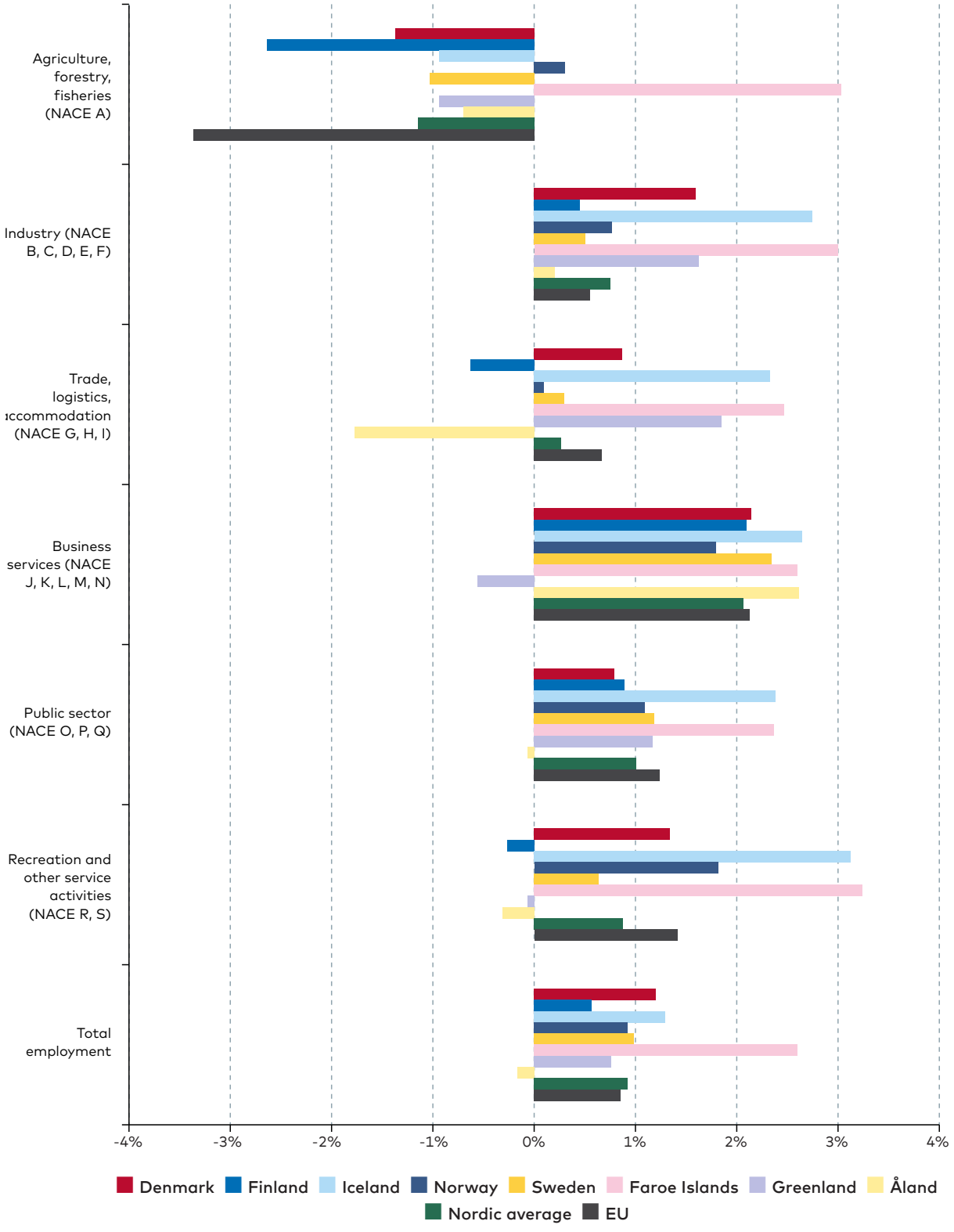
Industry, which comprises manufacturing, construction, utilities and mining, is characterised by a more mixed regional pattern. As shown in Map 6.1, the Faroe Islands, Iceland and Greenland recorded strong industrial employment growth (2–3% annually), and other individual Nordic regions recorded similarly high increases. One example is Västerbotten in Sweden, which saw growth of several thousand jobs in connection with the expansion of the Northvolt battery plant in Skellefteå, prior to the company filing for bankruptcy in 2025. Industrial employment also grew at a pace significantly above national and Nordic averages in the capital regions and surrounding areas, especially in the Copenhagen/Sjælland region and the Oslo/Akershus area.

Overall, industrial employment increased or remained stable in all Danish and Norwegian regions. In contrast, many Swedish and Finnish regions, including Åland, saw slower growth or declines, which reflects the ongoing restructuring of traditional industrial jobs in these areas. In Finland, almost half of all regions experienced declining industrial employment, although a few recorded growth rates slightly above the Nordic average. While most Swedish regions saw moderate annual increases close to the national average (around 0.5–1%), several regions with relatively large numbers of industrial jobs recorded declines during the same period.

It should be noted that the industries described here refer to an aggregate of subsectors that represent the core of industrial and production-related activities in the economy. Although the majority of these jobs are in manufacturing (54% in the Nordic Region as a whole), construction also constitutes

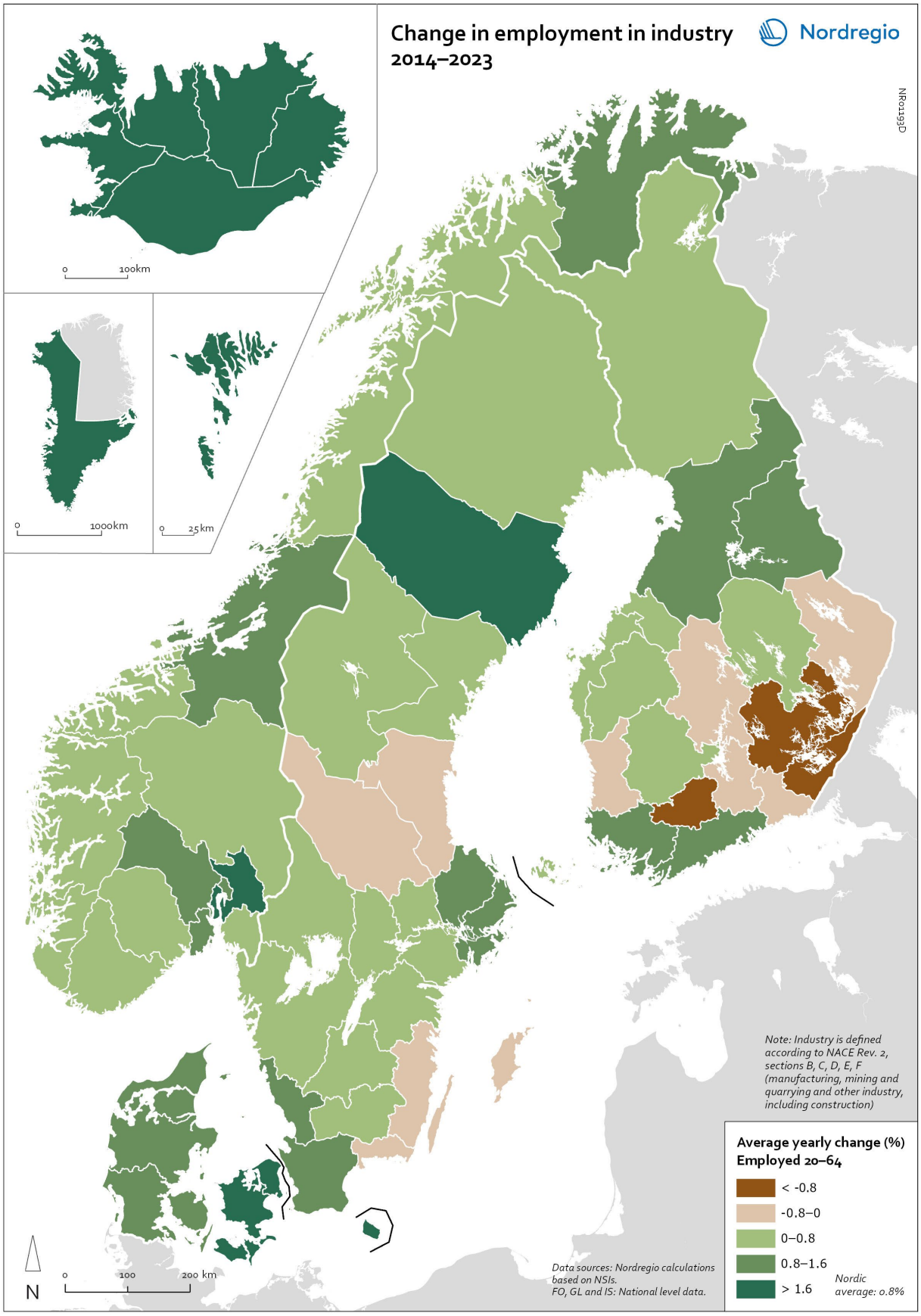
10. Labour market skill levels are defined and categorised in Chapter 7.
11. Regional data for 2024 was not available at the time of writing. While the national data covers a ten-year period, in most cases the regional data cover a nine-year period (2014–2023). For that reason, change over time is shown as annual average change, which minimises the implications of one missing year.

FIGURE 6.3: YEARLY AVERAGE CHANGE OF EMPLOYMENT PER SECTOR, 2014-2024 (%).



NOTES: Period: 2014-2024 except Finland and Åland: 2014-2023; Greenland: 2016-2024; Norway 2015-2024. Data for Sweden 2014 has been adjusted to account for the transition in labour market statistics from RAMS to BAS in 2020. Age: 20-64 years, except the Faroe Islands, Greenland and Iceland: all ages. Classification of sectors: NACE Rev. 2. **SOURCE:** Nordregio calculations based on data from National Statistical Institutes (NSIs).

MAP 6.1: YEARLY AVERAGE CHANGE IN EMPLOYMENT IN INDUSTRY, 2014-2023 (%).



NOTES FOR MAP 6.1: Data for the Faroe Islands and Iceland: 2014-2024; Greenland: 2016-2023. Data for Sweden 2014 has been adjusted to account for the transition in labour market statistics from RAMS to BAS. Age: 20-64 years, except the Faroe Islands, Greenland and Iceland: all ages.

a significant share (an average of 37% across the Nordic countries). In some regions, other subsectors dominate, such as the oil industry in Rogaland in Norway, and mining in Swedish Norrbotten and Finnish Lapland. These different subsectoral structures help explain the regional patterns described above.

In general, the total increase in industrial employment across the Nordic countries and territories has been largely driven by construction rather than manufacturing. This pattern holds in all countries and territories except Åland. In fact, manufacturing employment declined in Norway and Sweden over the ten-year period. These changes have affected women and men differently. Overall, employment change in the industrial aggregate was more positive for women than for men, resulting in a rising share of women in an otherwise male-dominated sector.

Business services

Employment in the business services sector has developed more consistently than in the industry sector. It has been the principal driver of employment growth across the Nordic Region during the period. Although 2014–2024 saw rising employment in many economic sectors, business services was the only sector to noticeably increase its share of total employment, rising from 19% in 2014 to 21% in 2024 (public-sector employment has also increased, albeit only marginally, by 0.3 percentage points).

Annual growth rates of 2–3% at the country or territory level were common, with particularly strong expansion in regions close to capitals or in larger cities (Map 6.2). Iceland, Åland and the Faroe Islands also recorded solid growth, as did Västerbotten and several regions in the southern parts of the Nordics, including the capital regions.

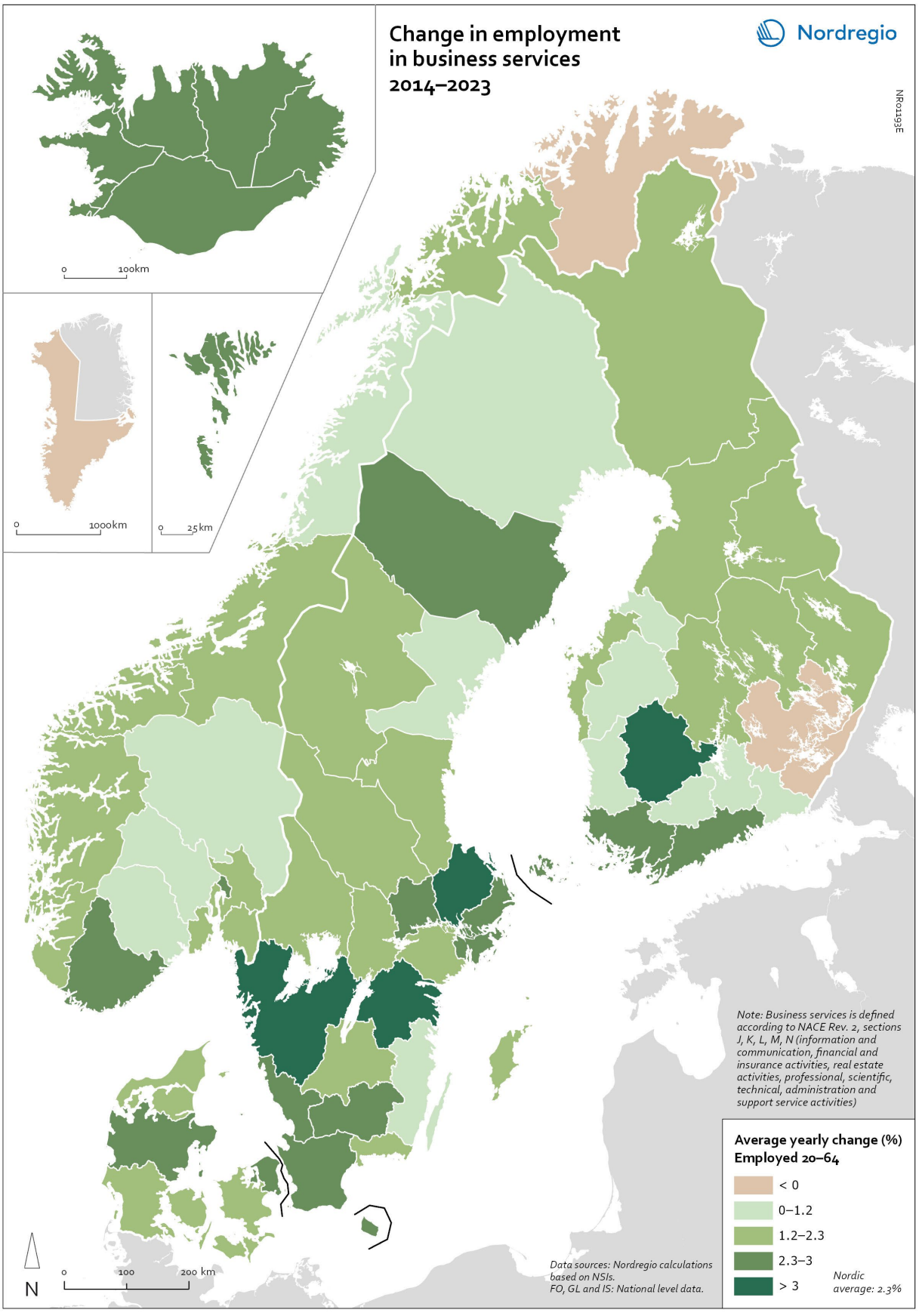
Peripheral and rural regions, however, experienced more modest increases – and in some cases, declines. Generally, regions with high business-service employment shares in 2014 tended to increase these shares faster than regions with lower starting points. This reinforced existing patterns and led to further divergence between the regions.

Unlike the industry sector, which saw considerable variation in developments across subsectors, the expansion in business services was relatively consistent across subsectors. From a labour-market perspective, the occupational structures of these subsectors differ significantly. Two-thirds of the total growth in business services occurred in information and communication, and in professional, scientific and technical activities – subsectors characterised by high shares of high-skill occupations (Eurostat, 2025b).

Discussion

From the sections above, it is clear that the overall development of business services differs from that of industry. However, growth in one sector does not necessarily imply decline in the other. On the contrary, many regions with relatively strong increases in industrial employment also recorded substantial growth in business services, e.g., the capital regions, the Faroe Islands and Västerbotten. As such, while industry and business services follow different trajectories, they do not evolve in isolation. The 'servicification' of manufacturing is making industry increasingly dependent on services (National Board of Trade Sweden, 2016). Business services enable industrial modernisation by supporting digitalisation, automation and organisational change, which partly explains the relatively slower growth or decline of manufacturing jobs up to this point (Fredriksson et al., 2023). At the same time, industry generates demand for financial, ICT, legal and other business services (Arnarson & Gullstrand, 2022). The relationship between business services and industries is therefore highly symbiotic.

MAP 6.2: YEARLY AVERAGE CHANGE OF EMPLOYMENT IN BUSINESS SERVICES, 2014-2023 (%).



NOTES FOR MAP 6.2: Data for the Faroe Islands and Iceland: 2014-2024; Greenland: 2016-2023. Data for Sweden 2014 has been adjusted to account for the transition in labour market statistics from RAMS to BAS. Age: 20-64 years, except the Faroe Islands, Greenland and Iceland: all ages.

These interdependencies are likely to remain central to the competitiveness of the Nordic regions, particularly in the context of the digital transition and the rapid introduction of AI. A 2024 survey indicates that the share of employees using AI at work increased from 12% to 65% in a single year (EY, 2024). Although the overall use of generative AI in the Nordic Region remains below the global average of 75%, according to the same survey, these developments indicate an ongoing transformation of the Nordic labour markets.

Technological change is not just a Nordic concern, but has been highlighted as a major challenge across Europe. Draghi (2025) argues that Europe is experiencing structural rigidity, with low productivity growth explained by factors such as specialisation in mature technologies and weak returns from the first digital revolution (the rise of the internet). However, the increased use of AI does not necessarily imply job loss. AI may also generate new jobs, which suggests that reinstatement rather than displacement of labour may better describe current labour-market adjustments (Lanamäki et al., 2024). Similarly, historical evidence indicates that technological change has created more new jobs than it has displaced (Hurley et al., 2025).

Conclusions

At the Nordic level, employment data suggest that the long-term structural transformation of the labour market, which has been underway since at least the 1960s, is set to continue. Service-oriented activities continue to define the employment landscape, as in the rest of Europe (Hurley et al., 2025). Although the pace of structural change has slowed, employment growth between 2014 and 2024 was driven mainly by the service sector – and by business services in particular. Employment in agriculture, forestry and fisheries continues to decline, with the Faroe Islands being a notable exception. While the number of people employed in industry grew slightly, indicating a degree of reindustrialisation, only business services – and, to a lesser extent, the public sector – increased their shares of total employment in the Nordic Region.

These trends are also visible at the regional level. On the whole, business services grew faster than industry in more than 80% of the Nordic regions, although it is important to nuance this finding. The Faroe Islands and Iceland recorded strong growth in both business services and industry, as did the capital regions and parts of their hinterlands. As part of this restructuring, the share of women in the otherwise male-dominated industry sector has slowly increased. Regions with already high business-service employment tended to grow fastest in this sector, whereas industry showed no corresponding pattern. Growth in industrial employment has been driven mainly by construction rather than manufacturing, while the strongest growth in business services occurred in subsectors with high shares of high-skill occupations.

Given current geoeconomic turbulence and the rapid pace of technological change, the future sectoral composition of the Nordic labour market may change in new ways, and the longer-term implications of those factors remain uncertain. Nevertheless, their regional consequences warrant close monitoring, as employment in industry and business services often responds to different economic and locational drivers. Understanding these dynamics and supporting the conditions that allow regions to adapt to ongoing restructuring will remain essential for policymakers seeking to navigate future labour-market challenges and their regional impacts.

References

Almega. (2025). Jobb som ersätts av AI och jobb som kompletteras.

Arnarson, B. T. & Gullstrand, J. (2022). Linking local services to global manufactures. The Scandinavian Journal of Economics, 124(1), 3–34. https://doi.org/10.1111/sjoe.12459

Capgemini. (2025). The resurgence of manufacturing: Reindustrialization strategies in Europe and the US – 2025 (p. 92). https://www.capgemini.com/wp-content/uploads/2025/03/Final-Web-Version-Report-Reindustrialization-Edition-2.pdf

Draghi, M. (Ed.). (2025). The future of European competitiveness: Part A: A competitiveness strategy for Europe. European Commission Publications Office. https://doi.org/10.2872/1823372

Eloundou, T., Manning, S., Mishkin, P. & Rock, D. (2023). Gpts are gpts: An early look at the labor market impact potential of large language models. arXiv Preprint arXiv:2303.10130, 10.

Eurostat. (2025a). Employed persons by economic activity (NACE Rev. 2) (2008-2026) [lfsa_egan2]. https://ec.europa.eu/eurostat/databrowser/view/LFSA_EGAN2__custom_1124423/default/table?lang=en

Eurostat. (2025b). Employed persons by occupation and economic activity (NACE Rev. 2) (2008-2026) [lfsa_eisn2]. https://ec.europa.eu/eurostat/databrowser/view/lfsa_eisn2/default/table?lang=en

EY. (2024). Kraftigt ökad användning av generativ AI, men nordiska arbetsplatser ligger efter resten av världen. https://www.ey.com/sv_se/newsroom/2024/11/nordiska-arbetsplatser-ligger-efter-med-anvandning-av-ai

Fredriksson, P., Graetz, G., Hensvik, L. & Seim, D. (2023). Strukturomvandling på svensk arbetsmarknad: Konsekvenser och policyåtgärder. SNS förlag. https://snsse.cdn.triggerfish.cloud/uploads/2023/01/sns-konjunkturradsrapport-2023.pdf

Hurley, J., Adăscăliței, D., Litardi, C. & Sostero, M. (2025). Structural change in EU labour markets: A generation of employment shifts. Eurofound. https://doi.org/10.2806/2582210

Lanamäki, A., Väyrynen, K., Hietala, H., Parmiggiani, E. & Vasilakopoulou, P. (2024). Not Inevitable: Navigating Labor Displacement and Reinstatement in the Pursuit of AI for Social Good. Communications of the Association for Information Systems, 55, 831–845. https://doi.org/10.17705/1CAIS.05531

National Board of Trade Sweden. (2016). The Servicification of EU Manufacturing: Building Competitiveness in the Internal Market. https://www.kommerskollegium.se/globalassets/publikationer/rapporter/2016/publ-the-servicification-of-eu-manufacturing_webb.pdf

Nordic Statistics database. (2025). Employed aged 15-64 (1000 persons) by reporting country, activity, sex and time [LABO01]. https://pxweb.nordicstatistics.org/pxweb/en/Nordic%20Statistics/Nordic%20Statistics__Labour%20market__Employment/LABO01.px/

Norlén, G. & Randall, L. (2020). The Nordic Labour Markets in 2040. In J. Grunfelder, G. Norlén, L. Randall, & N. Sánchez Gassen (Eds.), State of the Nordic Region 2020. Nordregio.

Pedersen, P. J., Røed, M. & Wadensjö, E. (2008). The common Nordic labour market at 50. Nordic Council of Ministers.

Chapter 7

EXPLORING LABOUR MARKET VULNERABILITY AND RESILIENCE

AUTHORS: Anna Lundgren, Hjördis Gudmundsdottir, Daniel Pils and Patrik Tornberg
DATA AND MAPS: Daniel Pils, Patrik Tornberg and Hjördis Gudmundsdottir

Introduction

Although the Nordic labour market performs fairly well overall, there are substantial differences between municipalities and between regions across the Nordic countries. Chapter 5 illustrated this through developments in employment and unemployment, while Chapter 6 highlighted the strong role played by the public sector in the Nordic welfare model as well as the expansion of business services. These territorial differences provide an important backdrop for understanding how well different parts of the Nordic Region are positioned to manage the future impacts of economic change on the labour market.

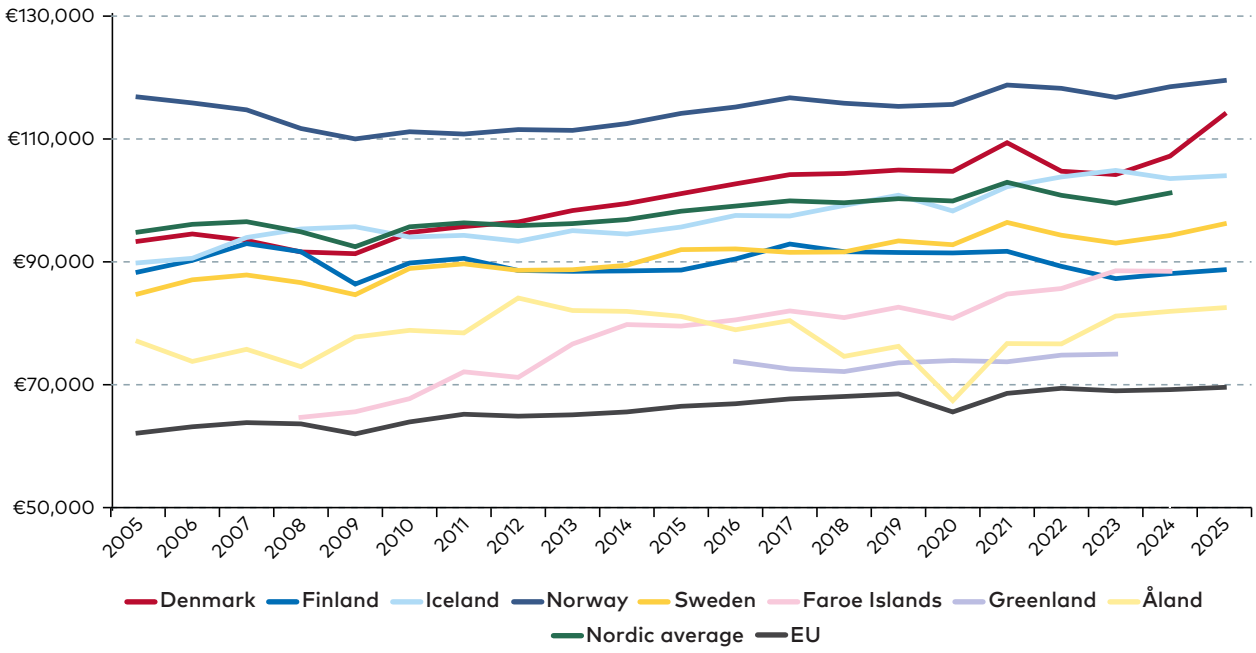
This chapter examines local and regional labour-market vulnerability and resilience. Previous research shows that the Nordic labour markets usually span over several municipal borders (Borges, 2020), and shaped by regional history, culture, institutions, economic structure and the composition of labour. Efficient and flexible labour markets can strengthen regional competitiveness and support economic and social resilience (Borsekova & Korony, 2023). While 'vulnerability' and 'resilience' are complex concepts, utilised in a range of fields, in this context, vulnerability refers to a regional labour market's robustness. In contrast, resilience describes its capacity to respond to changing circumstances, including external shocks and economic disturbances.

Borsekova and Korony (2023) identify three indicators as particularly important for labour-market vulnerability and resilience: high employment, a small gender gap and high productivity. While the first two indicators were examined in Chapter 6, this chapter analyses labour-market productivity, alongside two other lenses: occupational skills and sectoral employment concentration. These lenses reflect key dimensions of regional labour-market structure, which are particularly relevant for understanding vulnerability and resilience in the Nordic context. Together, they provide insight into the capacity of the Nordic labour markets to adapt to changing economic conditions and emerging challenges.

Labour market productivity

Labour productivity is an important indicator of economic growth and competitiveness. Figure 7.1 shows labour productivity in the Nordic Region and the EU between 2005 and 2025, measured as GDP per employed. There is a clear upward trend over the past two decades, with the exception of the years following the 2009 financial crisis and the COVID-19 pandemic. It is notable that, despite being more susceptible to fluctuations, the smaller economies perform relatively well.

FIGURE 7.1: REAL LABOUR PRODUCTIVITY PER PERSON EMPLOYED 2005-2025 IN EUROS IN CONSTANT (2020) PRICES.



SOURCE: The Annual Regional Database of the European Commission (ARDECO, 2025c, 2025a, 2025b), Statistics Faroe Islands (2025a, 2025b), Statistics Greenland (2025a, 2025b).

Figure 7.2 shows the average annual change in real labour productivity at both the national and regional (NUTS 2) levels. The capital region of Denmark records the most notable increase, largely driven by strong growth in the pharmaceutical sector, followed by Mellersta Norrland, benefitting from large industrial investments and a relatively large defence-industry presence. Over the past five years, Finland has been the only Nordic country to experience a negative average annual productivity change (-0.8%). Although nearly all Norwegian regions experienced declines, Norway's national labour productivity still increased due to offshore activities such as oil and gas extraction. Without these offshore industries, Norway's average productivity change would have been -1.7%.

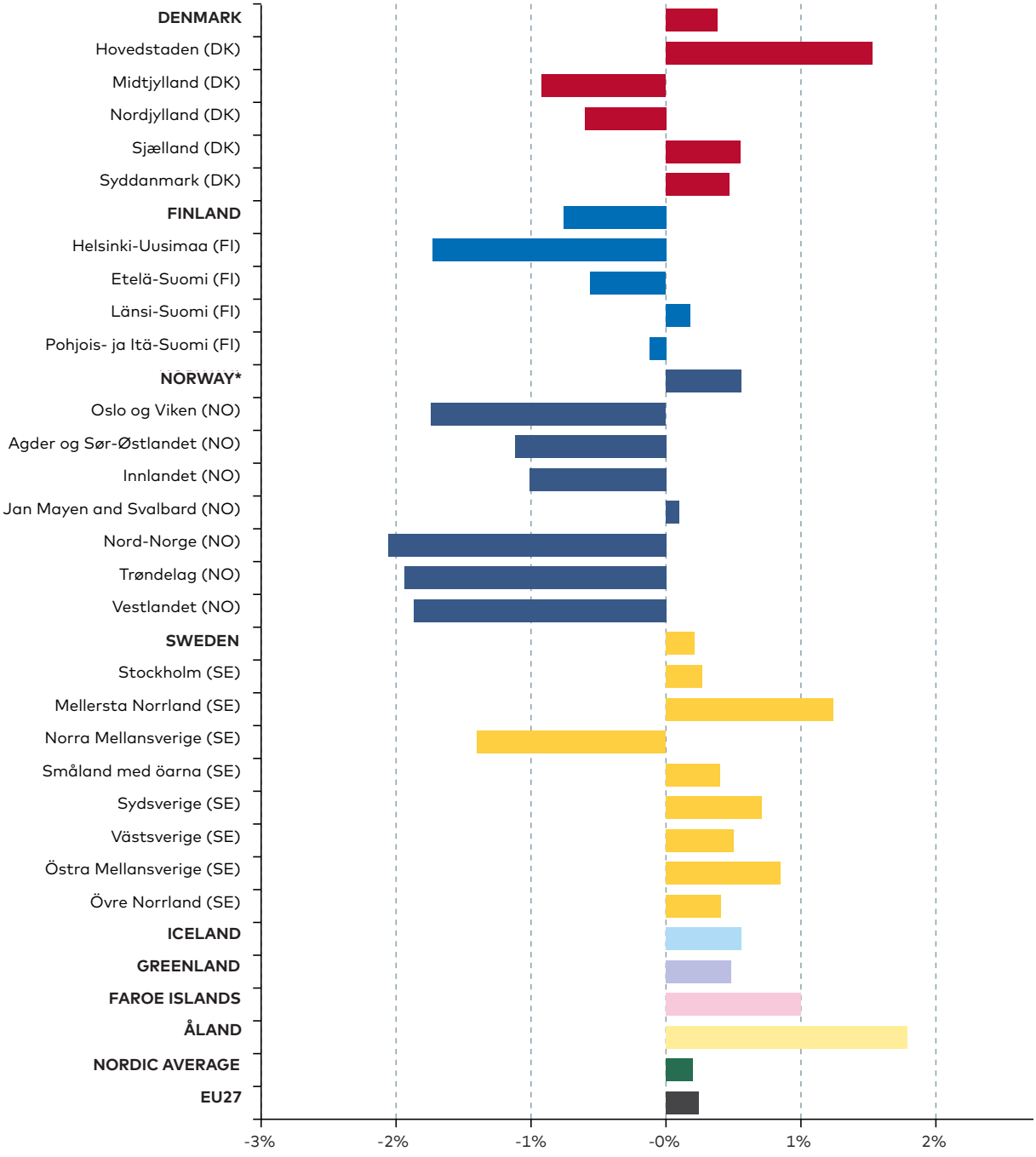
Figure 7.2 also shows that average productivity growth in the Nordic Region has lagged behind the European average. Weak productivity growth is a concern across Europe, where missed opportunities in digital innovation have widened the productivity gap with the United States. This has significant implications for European competitiveness (Draghi, 2025). Because productivity influences a region's long-term capacity for adaptation, investment and innovation, differences in productivity growth also signal differences in labour-market vulnerability and resilience.

Occupational skills

Ensuring a good match between supply and demand for skills is a key element in reducing regional vulnerability and increasing labour market resilience. Although the notion of supply and demand of skills has been criticised as an over-simplification (Buchanan et al., 2017; Lundgren & Meijer, 2025), it remains a useful starting point for understanding labour market performance.

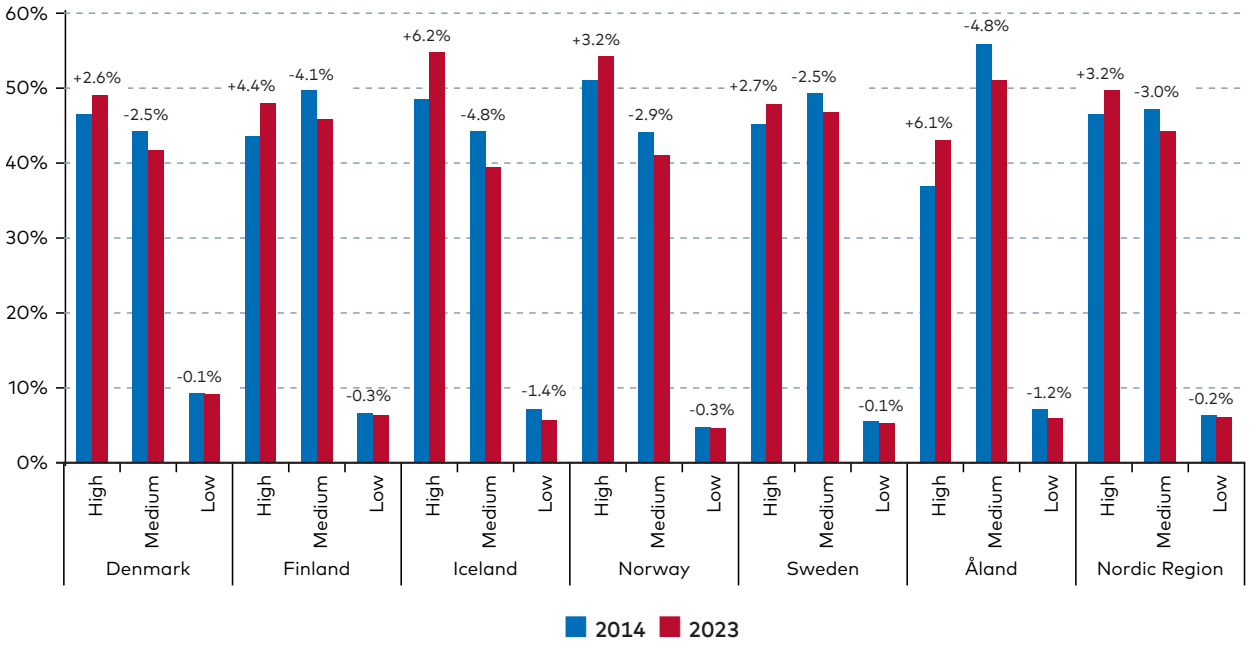
In this section, the focus is on occupational skills. While the definition of skills depends on perspective and context (Bryson, 2017; Toner, 2011), it is common to distinguish between general (generic) skills, job-related skills, and company-related skills (Gambin et al., 2016). With a definition used by the International Labour Organisation (ILO), 'Occupational skills' (ISCO) refers to the nature and complexity of tasks and duties performed in an occupation, as well as the level of formal

FIGURE 7.2: AVERAGE YEARLY CHANGE 2019-2024 IN REAL LABOUR PRODUCTIVITY PER PERSON EMPLOYED AT THE NATIONAL LEVEL AND NUTS2 LEVEL.



NOTE: *Norway: Including extra-territorial activities. **SOURCE:** The Annual Regional Database of the European Commission (ARDECO, 2025c, 2025a, 2025b), Statistics Faroe Islands (2025a, 2025b), Statistics Greenland (2025a, 2025b).

FIGURE 7.3: SHARES OF HIGH-, MEDIUM- AND LOW-SKILL OCCUPATIONS, 2014-2023.



NOTES: Data for Denmark, Finland, Iceland, Norway, Sweden and Åland: 2014 and 2023; Norway: 2015 and 2024, and the percentage changes between these years. No data is available for the Faroe Islands or Greenland. Data for Sweden 2014 has been adjusted to account for the transition in labour market statistics from RAMS to BAS.'Nordic Region' is calculated based on data for Denmark, Finland, Iceland, Norway, Sweden and Åland. **SOURCE:** Nordregio calculations based on data from National Statistical Institutes (NSIs) and Nordic Statistics database.

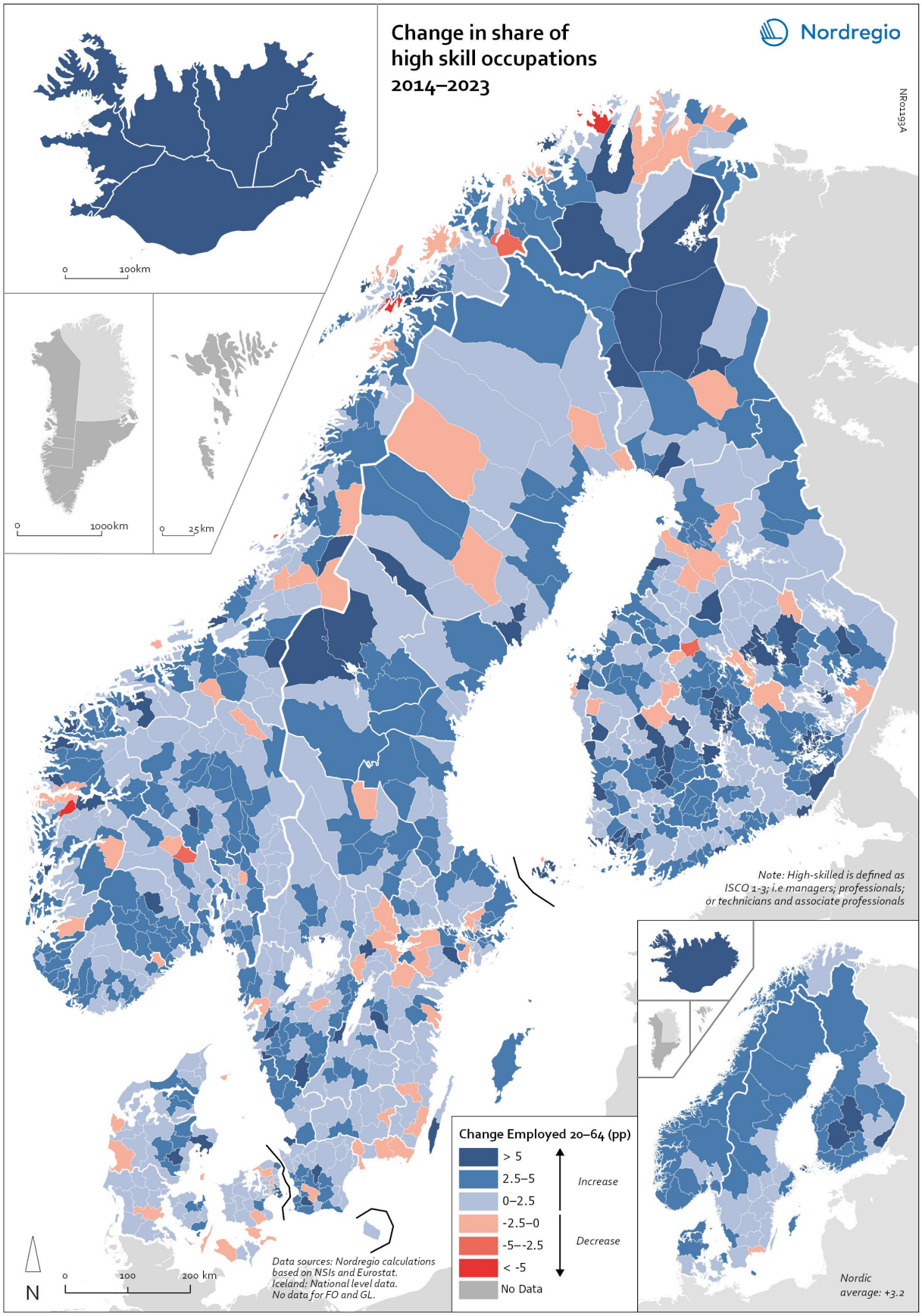
education, informal on-the-job training and/or previous work experience required (ILOSTAT, n.d.). In this chapter, occupational skills are grouped into three different categories: high-, medium- and low-skill occupations.[12]

Across all of the Nordic countries, the composition of occupational skills has shifted notably over the past decade. The share of employment in high-skill occupations has increased, while the share of medium-skill occupations has declined. In 2014, the majority of the workforce in Denmark, Iceland and Norway were already in high-skill occupations (46.5%, 48.5% and 51.1% respectively), whereas the largest shares in Finland, Sweden and Åland were in the medium-skill category (49.8%, 49.3% and 55.9% respectively). This trend is consistent across the Nordic countries, although the magnitude varies. The most pronounced increases in high-skill shares are seen in Iceland and Åland (+6.2% and +6.1%, respectively), both of which also show the steepest declines in medium-skill shares (both at -4.8). The share of low-skill occupations has remained relatively stable across all of the countries, which may indicate that these jobs are less susceptible to automation (Borges, 2020).

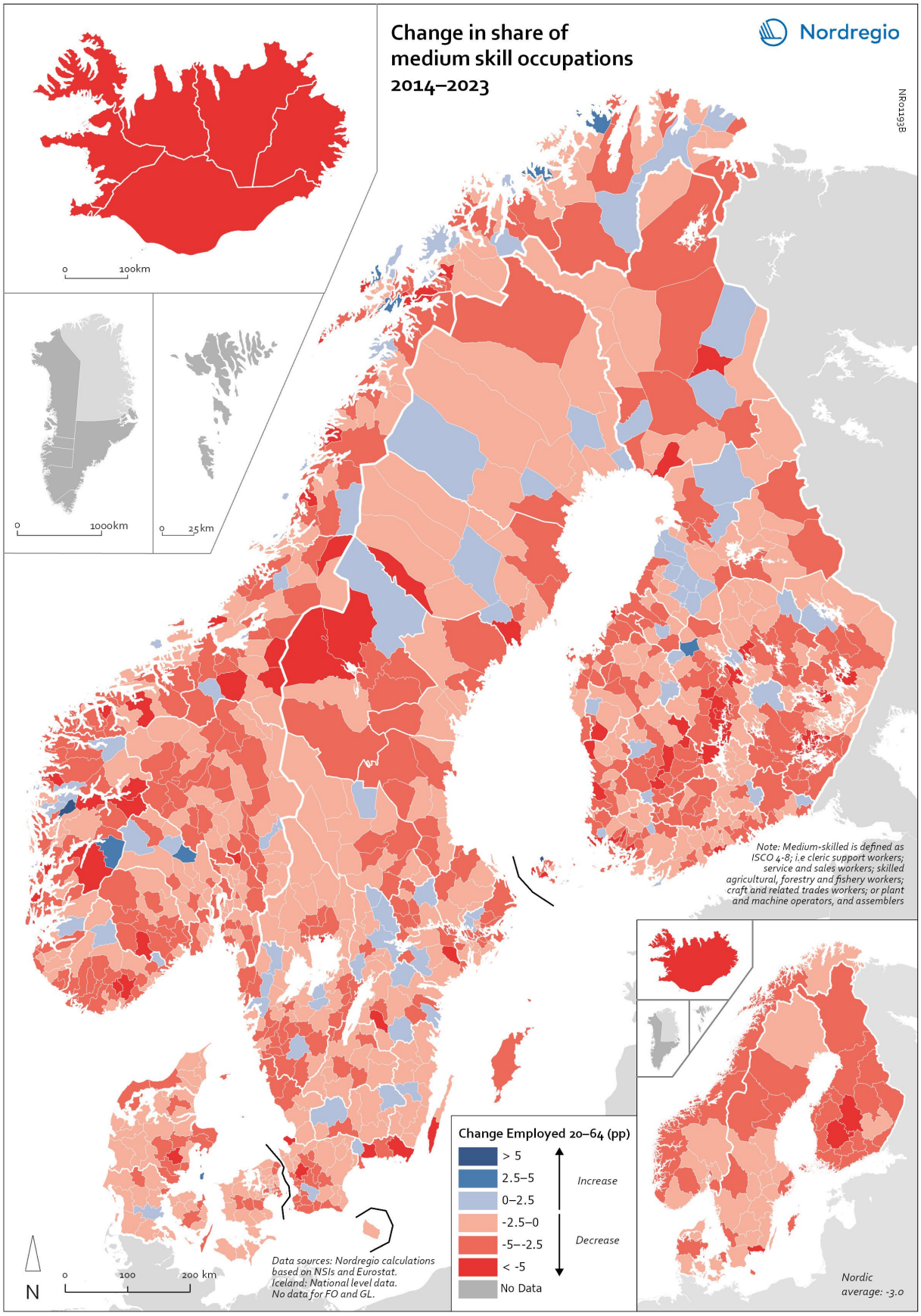
These trends suggest two mutually reinforcing processes. First, demand for high-skilled labour is increasing, particularly in business services and in professional, financial and technical occupations. Second, a larger share of the population now has a tertiary education, which both enables and accelerates this shift towards high-skill employment.

12. In the analysis, we use the Major Occupational Groups (ISCO 1-digit level), ranging from groups 1 to 9. Group 0 (Armed Forces Occupations) is excluded due to lack of data. High-skill occupations include managers, professionals, technicians and associate professors. Medium-skill occupations consist of clerical support workers; service and sales workers; skilled agricultural, forestry and fishery workers; craft and related trades workers; and plant and machine operators and assemblers. Finally, low-skill occupations correspond to elementary occupations (ILOSTAT, n.d.).

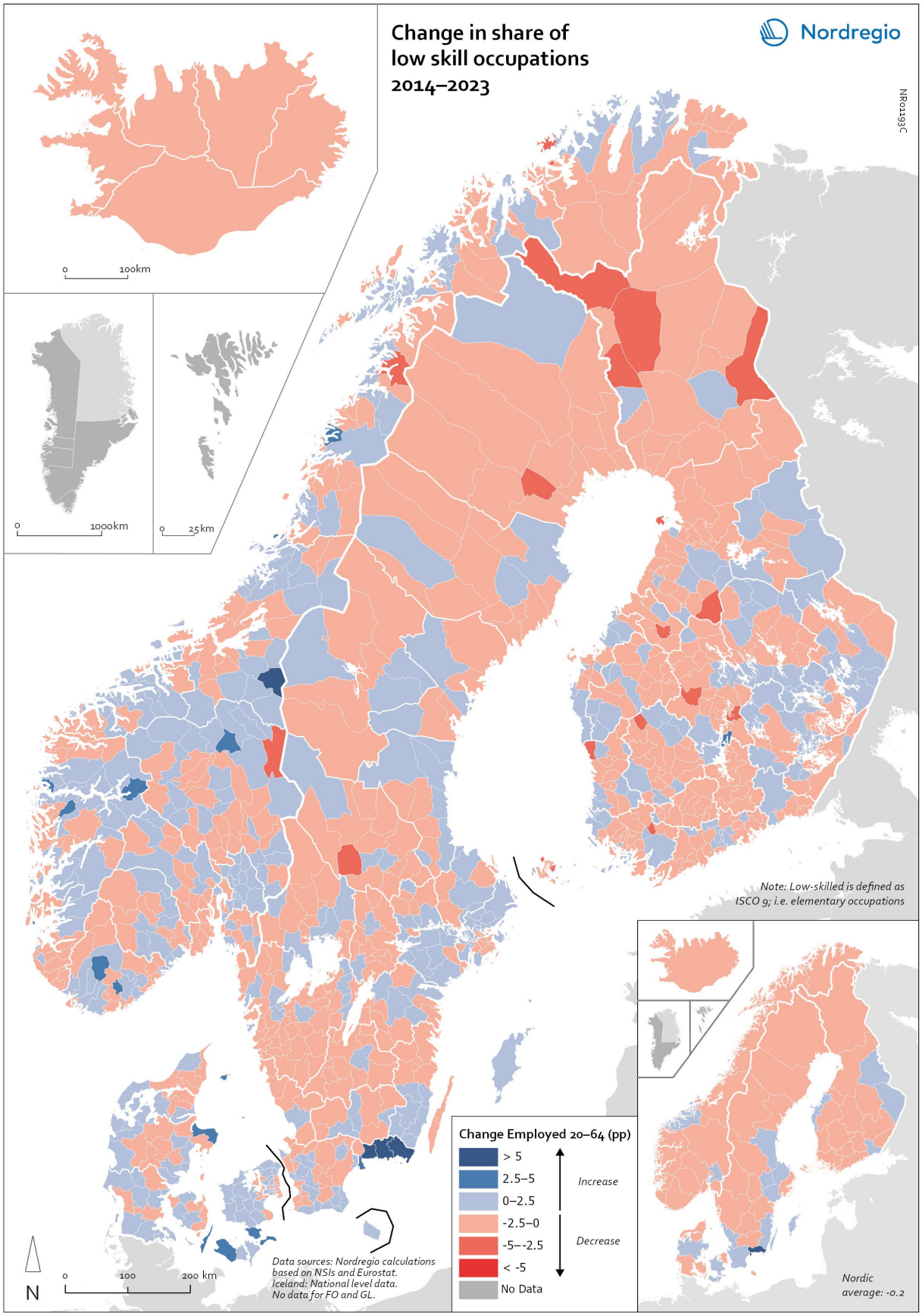
MAP 7.1: CHANGE IN SHARE OF POPULATION (20-64) IN HIGH SKILL OCCUPATIONS, 2014-2023.



MAP 7.2: CHANGE IN SHARE OF POPULATION (20-64) IN MEDIUM SKILL OCCUPATIONS, 2014-2023.



MAP 7.3: CHANGE IN SHARE OF POPULATION (20-64) IN LOW SKILL OCCUPATIONS CHANGE, 2014-2023.



As global competition intensifies and the economy becomes more knowledge-intensive, this development suggests that the Nordic labour markets overall are reducing their vulnerability and strengthening their robustness and resilience to economic change.

Patterns at the municipal and regional levels mirror national developments. Most municipalities have seen increases in the share of high-skill occupations, while very few record declines. At the regional level, the largest increases were in Pirkanmaa, Central Finland, South Karelia, Åland and Iceland.

Conversely, there has been an overall decline in medium-skill occupations across the Nordic Region. The vast majority have experienced decreases, with just a few, very small municipalities recording increases above 5 percentage points (Geta, in Åland, Modalen and Utsira in Norway). At the regional scale, all Nordic regions show shrinking medium-skill shares, although in some areas the declines are somewhat weaker.

The changes in low-skill occupations are less pronounced, partly because this is a small category in ISCO terms. Nevertheless, clear spatial differences exist. Notable increases (over 5 percentage points) are observed in Tydal (Norway) and the Blekinge region (Sweden), where all municipalities except Olofström increased their shares of low-skill occupations. The declines in low-skilled occupations are concentrated in northern Finland, northern Sweden and Åland, often in areas that simultaneously display strong growth in high-skill occupations, which is indicative of ongoing structural shifts toward more knowledge-intensive labour markets. However, despite technological change and increased demand for higher skills, not all jobs require high or medium skills, which may help explain the relative stability of low-skill occupations in the Nordic Region. As discussed by Borsekova and Korony (2023), as well as in Chapter 6, gender segregation constitutes an important source of vulnerability in the Nordic labour markets. Research shows that gender segregation results in distinct occupational outcomes for men and women: women are increasingly moving into higher-skilled roles, especially in the public sector, and expanding their presence in the top wage quintile; while men are facing losses in mid-tier jobs, alongside growth in the lower quintile (Berglund et al., 2025; Ulfsdotter Eriksson et al., 2022). These patterns underline the need to integrate gender perspectives when assessing and analysing vulnerability and resilience in Nordic labour markets.

Sectoral employment concentration

A third lens for analysing labour-market vulnerability and resilience is the degree to which employment is concentrated in a small number of industry sectors. Research shows that industrial specialisation can contribute to productivity and economic growth. However, when employment is concentrated in a small number of sectors, it may also increase vulnerability to economic disruption. A sectoral employment concentration index has therefore been developed to evaluate this metric in Nordic municipalities.

Municipalities with high shares of total employment concentrated in a small number of industry sectors score high on the index (shown in dark purple on Map 7.4), while municipalities with more evenly distributed employment across several sectors score low (light purple on Map 7.4). Since the index is based on the residential (night-time) population, it also reflects the functionality of wider labour-market regions, as many individuals commute across municipal and regional borders.

Sparsely populated areas characterised by long distances tend to have higher levels of employment concentration than larger urban regions. This is illustrated in Map 7.4, where municipalities in predominantly rural areas with low accessibility show less diversified employment structures. Conversely, metropolitan and more densely populated areas, such as southwestern Finland and most of Denmark, are more diversified.

However, Map 7.4 also indicates that even within regions characterised by relatively high sectoral diversity, individual municipalities may exhibit strong concentration in a few sectors, which can increase vulnerability unless they are integrated into larger labour-market regions.

BOX 7.1:
SECTORAL EMPLOYMENT CONCENTRATION INDEX

The sectoral concentration index is applied to the Nordic municipalities where sufficiently detailed data has been available (i.e., Denmark, Finland, Norway, Sweden). The map and the box plot graphs present this data in visual form.

The concentration index is calculated as the standard deviation of the percentage distribution of employment across industry sectors on NACE 3-digit level, where each sector has a share of total employment. Standard deviation, which is the average deviation from the variable's mean, is a commonly used measure of statistical dispersion.

Other measurements of concentration and diversity – such as the Herfindahl Hirschman Index, GINI coefficient and number of industry sectors – are strongly correlated to our use of standard deviation in the Nordic municipalities. Due to the National Statistical Institutes' confidentiality policies, industry sectors that employ three or fewer people have been excluded from the calculations.

A comparison between the Nordic countries shows that municipalities in Denmark have the lowest level of sectoral employment concentration (i.e., more diversified structures) and relatively small differences between municipalities. Sweden displays a slightly broader and higher range than Denmark, while Finland and Norway show wider spreads of values, indicating higher concentration and greater variation in specialisation. Norway has both the broadest range and the largest number of outliers, which reflects the substantial differences between municipalities – some of which have diversified labour markets, while others are highly specialised, with only a few industry sectors.

A closer examination shows that the outlier municipalities differ markedly in character. Examples include rural municipalities such as Vaerøy and Røyrvik (Norway) and Lestijärvi and Luhanka (Finland), as well as Kalundborg (Denmark), which hosts the large Novo Nordisk facility, and Strömstad (Sweden), where employment is strongly tied to cross-border trade. As shown both in Map 7.4 and Figure 7.5, which classifies municipalities by Nordic urban-rural typology (Stjernberg et al., 2024), sectoral employment concentration is highest in rural municipalities and lowest in urban ones. This indicates a clear relationship between diversity of industrial employment and population density.

Urban areas display the greatest sectoral diversity, with a narrow statistical range and 8 outliers, compared to 9 and 12 in intermediate and rural areas respectively. This reflects the fact that larger, more accessible and interconnected labour-market regions are less dependent on individual industry sectors. They also benefit from a wider range of economic functions and institutions, as well as greater accessibility, which further increases labour mobility and can help mitigate the effects of concentration and enhance regional resilience (Onsager & Tønnessen 2012; Koster et al. 2020).

MAP 7.4: SECTORAL EMPLOYMENT CONCENTRATION, 2023.

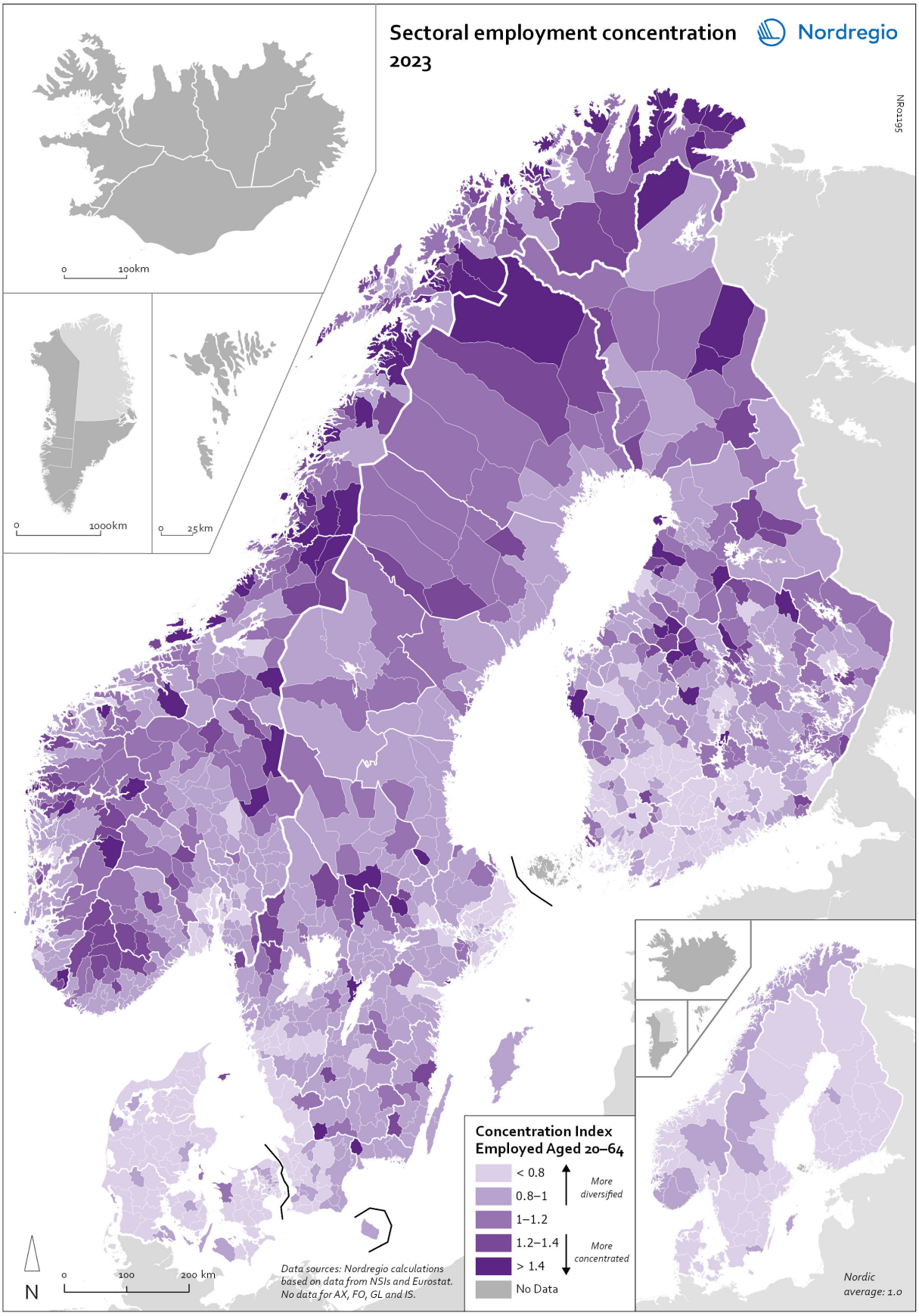
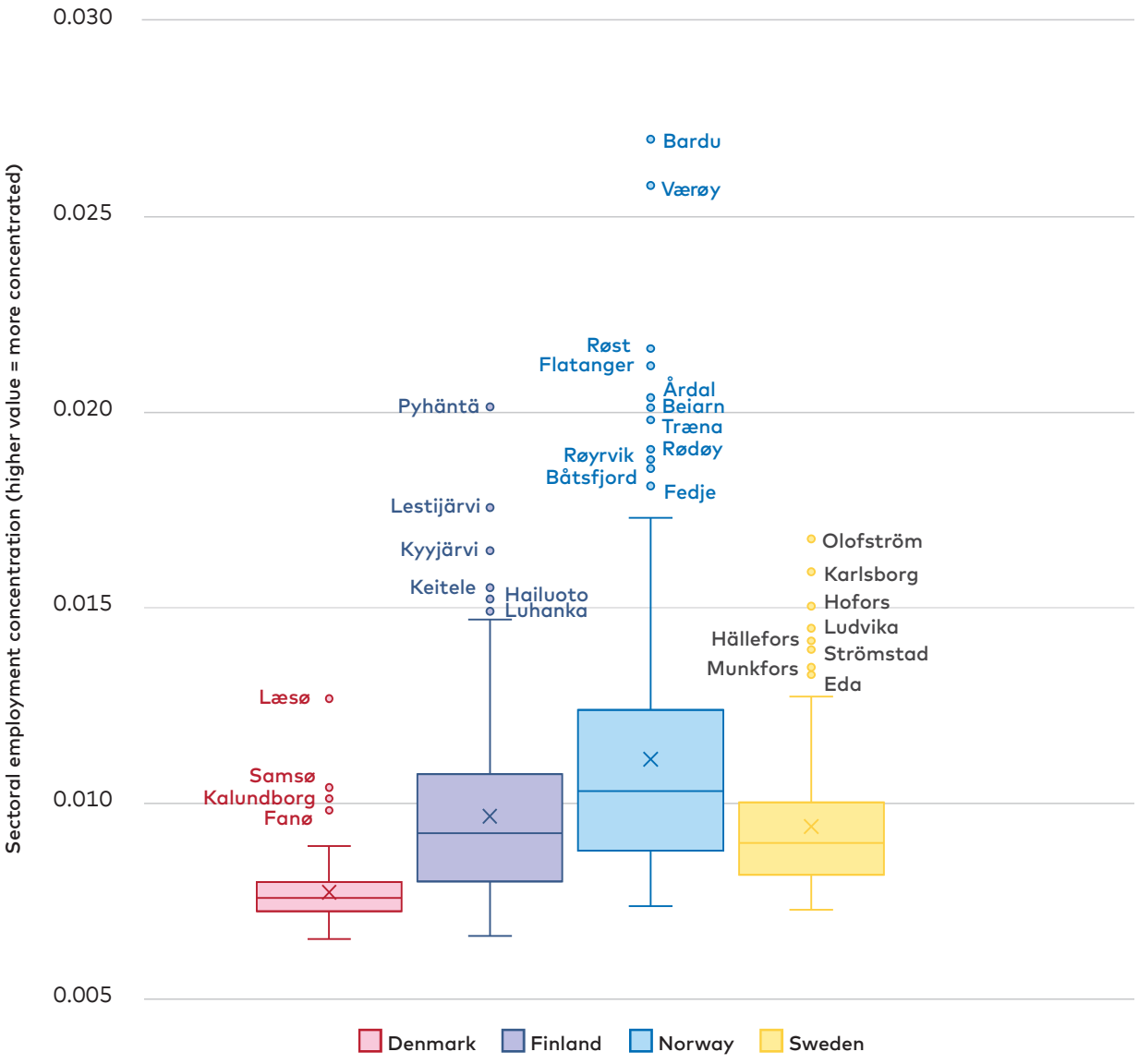


FIGURE 7.4: BOX PLOT SHOWING THE SECTORAL EMPLOYMENT CONCENTRATION BY COUNTRY.

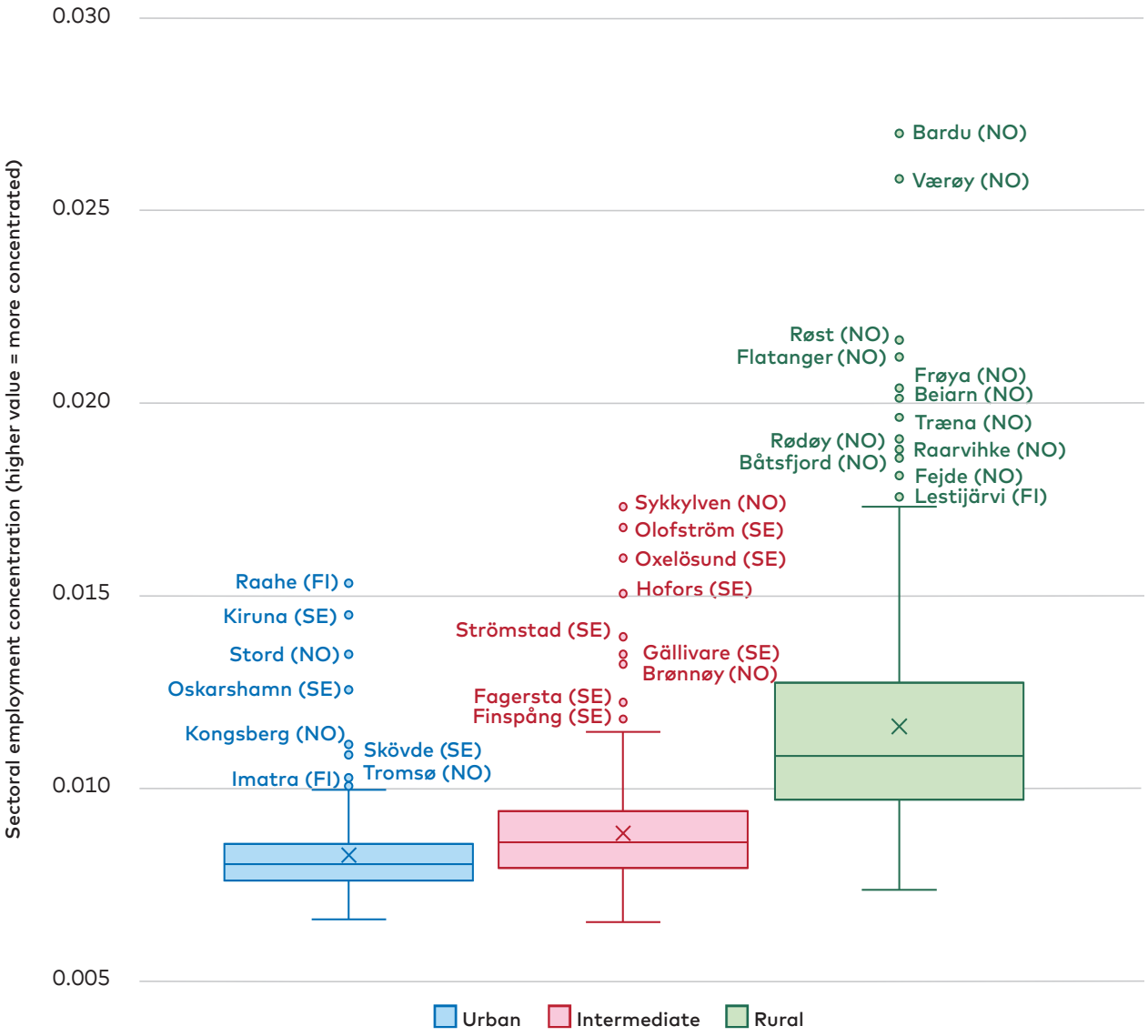


SOURCE: Nordregio calculations based on data from National Statistical Institutes (NSIs).

NOTES FOR FIGURE 7.4: The box plot illustrates industrial **employment concentration in Denmark, Finland, Norway and Sweden**.

A box plot displays the minimum and maximum non-outlier values (the "whiskers"), the median (the line inside the box), the lower and upper quartiles (the edges of the box), and any outliers (points beyond the whiskers). In this graph, "X" also marks the mean value.

FIGURE 7.5: BOX PLOT SHOWING THE SECTORAL EMPLOYMENT CONCENTRATION BY NORDIC URBAN-RURAL TYPOLOGY.



SOURCE: Nordregio calculations based on data from National Statistical Institutes (NSIs).

At the other end of the spectrum, rural municipalities show the highest sectoral concentration, expressed in both the highest median and mean values and the widest overall spread. These labour markets are smaller, and often shaped by primary industries or geographically specific activities. Demographic challenges, such as population decline and ageing, further restrict labour availability and reduce opportunities for diversification.

Intermediate municipalities show a broader range than urban areas, and include several outliers. However, their median and mean concentration values are close to those of urban municipalities, which indicates that they are comparatively diversified. Many intermediate municipalities are geographically located near urban centres and, as such, are integrated into the same local labour markets.

Overall, the index shows that the concentration of employment in a few industry sectors is more common in rural areas than in urban areas. In many cases, this reflects the area's industrial history and access to natural resources, as well as the economic and institutional capacity to build on these assets. While industrial specialisation can support productivity and economic growth, it may also increase vulnerability to economic disturbances. As Map 7.4 shows, municipalities with greater access to larger labour-market regions can compensate for high concentration levels, and may thereby reduce their vulnerability.

Conclusions

In their analysis of labour-market vulnerability and resilience, Borsekova and Korony (2023) highlight three indicators: employment, gender balance and productivity. As discussed in Chapter 5, while employment levels in the Nordic Region are generally high, gender segregation remains a persistent feature of the Nordic labour markets. This chapter analysed productivity alongside two additional lenses: occupational skills and sectoral employment concentration.

The productivity analysis shows that, in terms of productivity, the Nordic countries and regions performed well compared to the EU during 2005–2024. However, when it comes to productivity growth during the same period, some countries outperformed the EU while others showed weaker growth. The pattern is similarly varied in the most recent five-year period (2019–2024), with considerable disparities between regions. However, according to classical economic theory, the increase in high-skill occupations observed across the Nordic Region, as well as the growth of knowledge-intensive industries and business services (as described in Chapter 6), could be expected to have a positive impact on productivity. There are several potential explanations for why that is not the case, including the strong dominance of the public sector, intensified global competition and rapid technological change, all of which have significant implications for the labour market. The findings therefore underline the importance of monitoring productivity and its role in shaping the robustness of the Nordic municipalities and regions.

The two other lenses, occupational skills and sectoral employment concentration, reveal spatial patterns with implications for local and regional vulnerability and resilience. First, the increase in high-skill occupations during 2014–2023 occurs largely at the expense of medium-skill occupations, and this pattern is not confined to urban or university regions. This indicates a broader shift toward more knowledge-intensive labour markets and rising education levels across the Nordic Region. Second, the sectoral employment concentration index shows that urban municipalities typically offer employment opportunities across a wider range of industry sectors, whereas in rural municipalities, employment tends to be concentrated in fewer sectors. While specialisation can be a source of competitiveness, it may also increase vulnerability to economic disruptions, particularly in rural areas or municipalities that are not integrated into larger labour-market regions.

Taken together, these findings illustrate how different dimensions of labour-market structure intersect to shape vulnerability and resilience. They highlight the value of using complementary indicators, tracking developments over time and examining patterns across multiple spatial scales in order to understand local and regional labour-market dynamics better.

References

ARDECO. (2025a). GDP at constant prices. SOVGD [Data set]. https://territorial.ec.europa.eu/ardeco/viewer/SOVGD?jdvfys=asc&jdvfc=all&jdvfnl=9%2C1%2C0

ARDECO. (2025b). Real labour productivity per person employed. SOVGDE [Data set]. https://territorial.ec.europa.eu/ardeco/viewer/SOVGDE?jdvfys=asc&jdvfc=all&jdvfnl=0%2C1%2C2%2C3%2C9&jdvfs=se

ARDECO. (2025c). Workplace-based employment (employed persons). SNETD [Data set]. https://territorial.ec.europa.eu/ardeco/viewer/SNETD?jdvfys=asc&jdvfc=all&jdvfnl=0%2C1%2C2%2C3%2C9&jdvfs=no

Berglund, T., Svalund, J., Alasoini, T., Ólafsdóttir, K., Rasmussen, S., Steen, J. R. & Varje, P. (2025). Gendered Labor Markets and Occupational Change in the Nordics. Nordic Journal of Working Life Studies. https://doi.org/10.18291/njwls.160118

Borges, L. A. (2020). Geographies of Labour. In Grunfelder, J., Norlén, G., Randall, L. & Sánchez Gassen, N. (Eds), State of the Nordic Region 2020, Nordic Council of Ministers. https://doi.org/10.6027/NO2020-001

Bryson, J. (2017). Disciplinary Perspectives on Skill. In J. Buchanan, D. Finegold, K. Mayhew, & C. Warhurst (Eds), The Oxford Handbook of Skills and Training (Vol. 1). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199655366.013.1

Buchanan, J., Finegold, D., Mayhew, K., & Warhurst, C. (2017). Introduction. In J. Buchanan, D. Finegold, K. Mayhew & C. Warhurst (Eds), The Oxford Handbook of Skills and Training (Vol. 1). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199655366.013.33

Draghi, M. (Ed.). (2025). The future of European competitiveness: Part A: A competitiveness strategy for Europe. European Commission Publications Office. https://doi.org/10.2872/1823372

Gambin, L., Hogarth, T., Murphy, L., Spreadbury, K., Warhurst, C. & Winterbotham, M. (2016). Research to understand the extent, nature and impact of skills mismatches in the economy (BIS Research Paper No. 265). Department for Business Innovation and Skills.

ILOSTAT. (n.d.). International Standard Classification of Occupations (ISCO). ILOSTAT - International Labour Organisation Department of Statistics. Retrieved 16 November 2025. https://ilostat.ilo.org/methods/concepts-and-definitions/classification-occupation/

Lundgren, A. & Meijer, M. W. (2025). Skills Ecosystems – a Solution to the Skills Problem? Experiences from the Nordics. Nordic Journal of Working Life Studies. https://doi.org/10.18291/njwls.156990

Statistics Faroe Islands. (2025a). AM01025 Labour force and employed 16-66 years by sex and age (2005-2024) [Data set]. https://statbank.hagstova.fo:443/pxweb/en/H2/H2__AM__AMK/amk_afava66.px/

Statistics Faroe Islands. (2025b). TB02003 Gross domestic product and economic growth by different measures (2008-2024) (Nos 2010-prices, chained values) [Data set]. https://statbank.hagstova.fo:443/pxweb/en/H2/H2__TB__TB02/tb_btu_fp.px

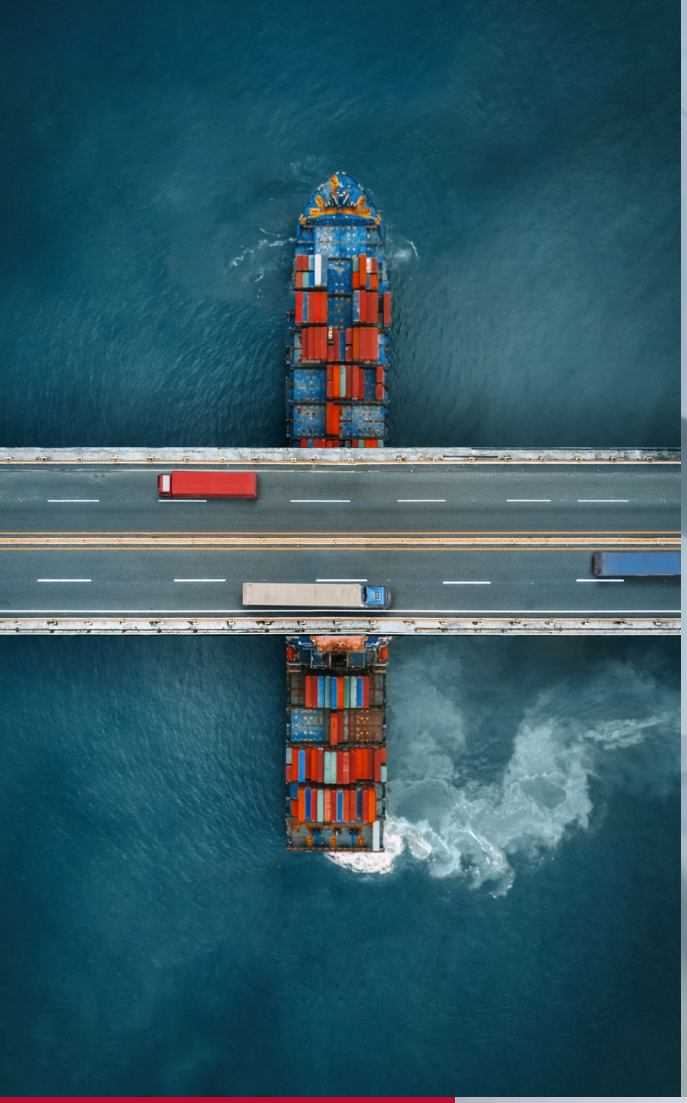
Statistics Greenland. (2025a). The labour force among permanent residents 18 to retirement age by place of residence, gender, district, age, time and inventory variable. ARESTK1 [Data set]. https://bank.stat.gl:443/pxweb/en/Greenland/Greenland__AR__AR10/ARXSTK1.px/

Statistics Greenland. (2025b). Trends in GDP (2003-2023). NRE10 [Data set]. https://bank.stat.gl:443/pxweb/en/Greenland/Greenland__NR/NRX10.px/

Stjernberg, M., Vasilevskaya, A. & Penje, O. (2024). Towards a grid-based Nordic territorial typology—A new tool for analysis across the urban-rural continuum. Nordregio. https://doi.org/10.6027/R2024:91403-2503

Toner, P. (2011). Workforce Skills and Innovation: An Overview of Major Themes in the Literature (OECD Education Working Papers No. 55). https://doi.org/10.1787/5kgk6hpnhxzq-en

Ulfsdotter Eriksson, Y., Berglund, T. & Nordlander, E. (2022). Upgrading or Polarizing? Gendered Patterns of Change in the Occupational Prestige Hierarchy Between 1997 and 2015. -Frontiers in Sociology, 7. https://doi.org/10.3389/fsoc.2022.834514



IMAGES
TOP LEFT: ISTOCK
TOP RIGHT: ISTOCK
BOTTOM: STILFOLD/IMAGEBANK.SWEDEN.SE

Theme 3

ECONOMY

ECONOMIC RESILIENCE • CRITICAL INFRASTRUCTURE • INNOVATION

Economic conditions influence how regions respond to uncertainty, structural transformation and external shocks. Patterns of trade, value creation and investment shape exposure to global volatility, while regional economic structures affect the scope for adjustment. For the small, open Nordic economies, developments in international markets and geopolitical stability play a key role in regional economic performance. At the same time, local differences in economic specialisation, infrastructure assets and innovation capacity also contribute to the variation in regional economic outcomes. Analysing these dimensions provides insight into how the Nordic regions respond to uncertainty and structural change.

CHAPTER 8: REGIONAL ECONOMIC RESILIENCE AMID UNCERTAINTY

Chapter 8 examines regional economic developments in the Nordic Region in the context of geopolitical uncertainty and economic volatility. It analyses recent trends in international trade, regional GDP and business demography to assess the Nordic economies' exposure to external economic shocks. While the overall impact of recent trade policy changes has been moderate at the aggregate level, regional differences are evident in export intensity, sectoral composition and growth patterns. The chapter shows that economic performance has varied across regions in the post-pandemic period, with differing trajectories in urban, intermediate and rural areas. Comparing trade exposure, macroeconomic developments and enterprise dynamics highlights how regional economic structures relate to adjustment under uncertainty.

CHAPTER 9: ECONOMIC PERSPECTIVES ON CRITICAL INFRASTRUCTURE IN THE NORDIC REGION

Chapter 9 analyses the economic value and spatial distribution of critical infrastructure across the Nordic Region. It draws on modelled estimates of infrastructure assets and use to compare sectoral composition, per capita values and their relationship to population patterns. Roads and railways account for the largest share of infrastructure value in most countries. Energy and oil and gas infrastructure also play a key role in certain contexts. By examining infrastructure value and settlement patterns, the chapter identifies areas where economic vulnerability is concentrated. It also emphasises that economic value represents only one dimension of criticality and illustrates the uneven distribution of infrastructure assets and infrastructure use across the Nordic Region.

CHAPTER 10: THE ROLE OF INNOVATION IN THE NORDIC GREEN RUSH

Chapter 10 examines the role of innovation in the green transition across the Nordic Region. It uses the European Innovation Scoreboard and the Regional Innovation Scoreboard to analyse innovation performance and to explore the spatial distribution of green patenting activity. The Nordic countries rank among Europe's strongest innovation performers, with relatively high and broadly distributed regional capacity. The analysis highlights the concentration of green patenting activity in metropolitan and industrial hubs and identifies regions with high levels of innovation intensity relative to population size. By distinguishing between invention and broader innovation processes, the chapter discusses how such dynamics reflect the spatial patterns of the green transition.

Chapter 8

REGIONAL ECONOMIC RESILIENCE AMID UNCERTAINTY

AUTHORS: Carlos Tapia and Patrik Tornberg
DATA AND MAPS: Madelene Sonesson

Introduction

Less than four years after the COVID-19 pandemic, the global landscape of international trade and economic policy is undergoing a period of heightened instability. The international economic order, which for decades has been characterised by predictable, rules-based principles is increasingly under strain, as geopolitical tensions and uncertainty weigh on market sentiment and economic prospects worldwide. For small, open economies such as those of the Nordic countries, given their high dependence on international trade and stable external economic relations, these shifts are particularly significant.

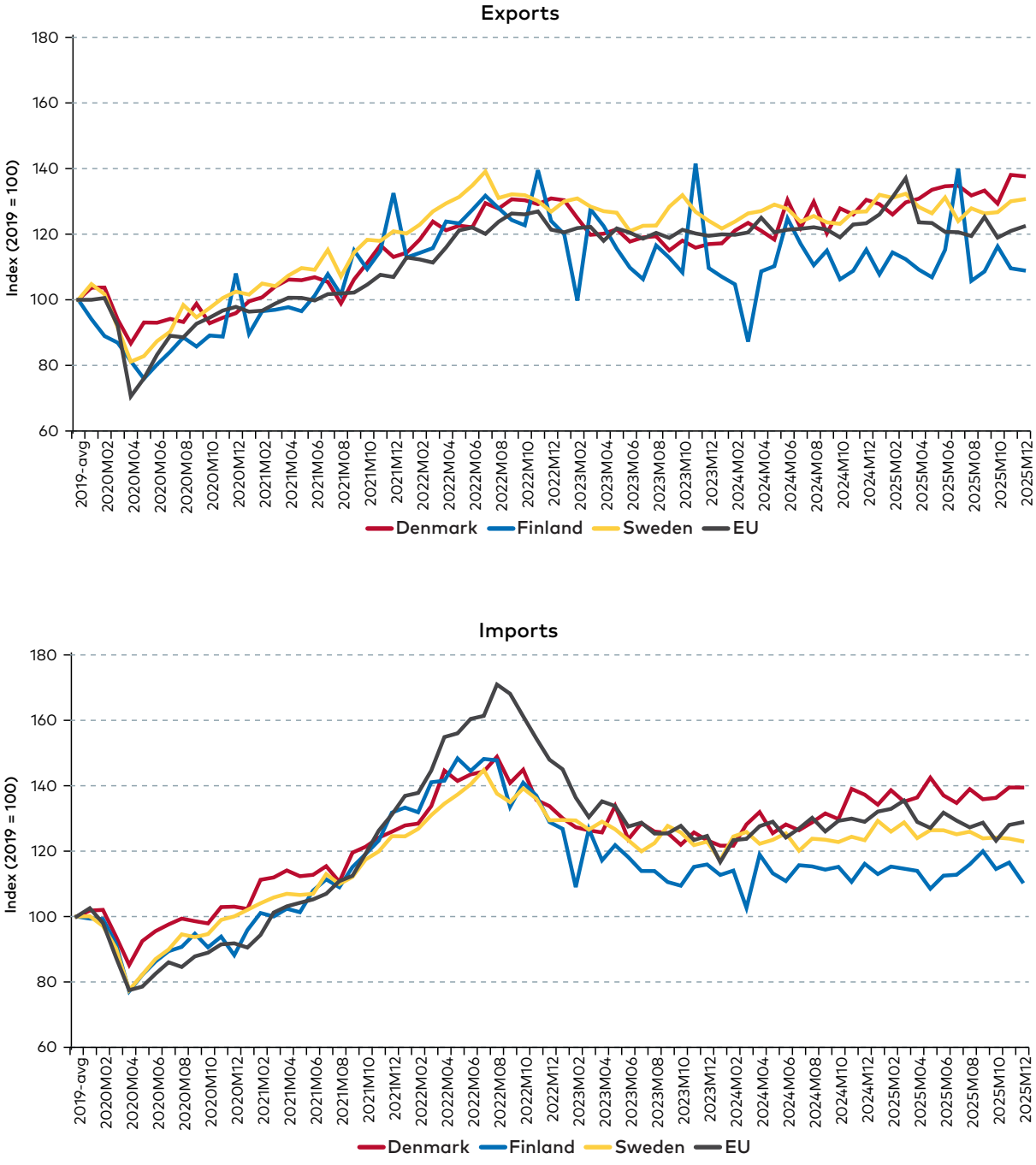
Since 2022, the Nordic Region has felt the ripple effects of escalating geopolitical tensions and breaches of international law, most notably Russia's violation of Ukraine's sovereignty and territorial integrity. These developments contributed to a sharp increase in the cost of living across the Region, and prompted central banks to adopt restrictive monetary policies (Calmfors & Sánchez Gassen, 2024). From 2025 onwards, Nordic economies have also been affected by heightened trade-policy uncertainty, following the US administration's shift under President Trump's second term. This has increased uncertainty for both businesses and financial markets, particularly in export-oriented sectors with high levels of exposure to the US market (Abdulnour, 2025).

Against this backdrop, this chapter explores the resilience of Nordic regional economies in the face of global economic turbulence. It begins by analysing recent international trade flows at both aggregate and regional levels. The chapter then turns to regional accounts, before concluding with an analysis of how economic instability is reflected in business demographics. Together, these analytical building blocks address two related research questions: What is the level of exposure to geopolitical instability and trade volatility among the Nordic economies, and how are they responding to external economic pressures?

Evolution of international trade

The general increase in trade tariffs adopted by the second Trump administration introduced a pronounced level of uncertainty in the global economy, leading to diminished global economic dynamism in 2025 and worsening prospects for 2026. Expectations of rising trade tariffs – reaching an estimated 19.5% by August 2025 – fuelled a surge in goods shipments to the US during the first quarter of 2025, which temporarily bolstered industrial production and retail inventory levels. This trend began to reverse as the tariffs were introduced during the second half of the year, signaling a cooling in global trade activity (OECD, 2025).

FIGURE 8.1: MONTHLY EXPORT (ABOVE) AND IMPORT (BELOW) ACTIVITY IN NORDIC ECONOMIES INTEGRATED INTO THE EU.



NOTES: Data are expressed as percentage change in value compared with the previous month, indexed to the average level in 2019. Data are seasonally and calendar-adjusted. **SOURCE:** Eurostat.

So far, the impact on Nordic trade has been moderate. Aggregated import and export trends were broadly flat, with marginal average monthly shifts of -0.1 and 0.3 percentage points, respectively, in 2025 (Figure 8.1). Nevertheless, notable differences exist between individual Nordic economies: absolute changes in total import values ranged from 0.6% in Finland to 6.4% in Denmark, while exports shifted from 2.7% in Finland to 6.8% in Denmark in 2025 relative to 2024. EU import and export trends during the same period were more mixed. While a substantial month-on-month increase in exports during the first quarter (3.6%) was offset by subsequent monthly declines (-1.2% on average from Q2 to Q4), EU imports decreased more steadily, with an absolute increase of 2.4% in the value of total imports in 2025 compared to 2024.

The National Statistical Institutes' (NSIs) annual import and export figures show that Norway, Denmark and Sweden recorded positive trade balances in 2024, while Finland had a slightly negative balance. Figure 8.2 provides an overview of trade balances in the largest Nordic economies in 2024. Each bar represents one country and is divided into seven colours representing the major product categories. The bars are split above or below the equilibrium line, which marks the point at which the total value of imports equals total exports. Each product category appears only on one side of the equilibrium line, depending on whether the country is a net exporter or importer of that category.

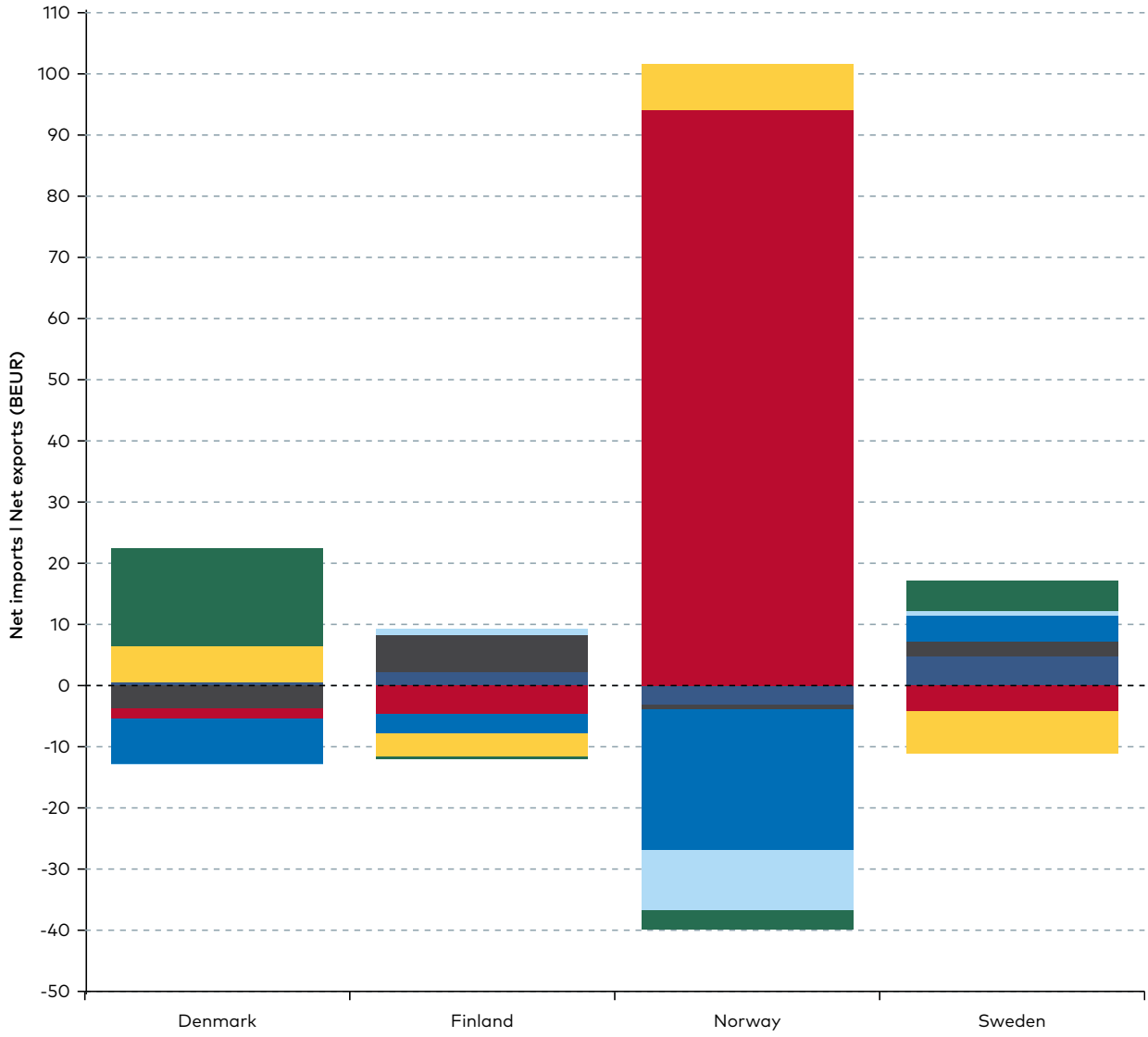
Norway's substantial trade surplus in *Mineral fuels* reflects its strong specialisation in the oil and gas sector. The country also has a positive trade balance in *Food, drinks and tobacco*, which highlights the importance of fisheries and aquaculture. At the same time, Norway's trade structure reveals significant import needs in machinery, transport equipment and other commodities, largely linked to extractive activities. Similarly, Denmark's trade balance illustrates the central role of pharmaceuticals and agriculture, with large surpluses in *Chemicals and related products*, as well as *Food, drinks and tobacco*.

Against these import-export profiles, absolute exposure to US tariffs is moderate in Iceland, Sweden and Finland, and lower in the remaining Nordic countries. According to the UN Comtrade Database (United Nations, 2025), in 2024 the United States absorbed 11.5% of Iceland's total exports, 9.6% of Finland's, 8.7% of Sweden's, 5.4% of Denmark's and 3.4% of Norway's exports by value. Exposure becomes more pronounced when examining specific product categories. For example, Iceland's largest export to the United States consists of fish products, accounting for 12.7% of its total exports of that commodity. Finland's largest export to the US is machinery, representing 11.5% of total exports in that category, while Sweden's main exports to the US are machinery and mechanical appliances (11.3%). Denmark's key export to the US is pharmaceutical products, although this represents only 1.6% of the total market size. Norway primarily exports oil products to the US, with a market share slightly above 1%.

However, exposure to US tariffs can be very high for specific product categories with lower overall export values but potentially high economic significance in particular regions. The US market absorbs more than 75% of Iceland's exports in four product categories (vegetable saps and extracts, knitted fabrics, pigments and cement). In Finland, over one third of the total export value in seven product categories (including vegetable saps and extracts, pharmaceutical products, knitted fabrics, aircraft and parts thereof, and musical instruments) is shipped to the US. Similarly, more than a quarter of total exports of four product categories in Norway (slag and ash ores, paper fibres, textile fabrics and cement), two categories in Denmark (aircraft and parts thereof, and arms and ammunition) and two in Sweden (aircrafts and parts thereof, and works of art and antiques) are destined for the US market.

The marked differences in the export orientation of Nordic regional economies become evident when examining trade intensity by region, measured as export value per capita (Map 8.1, left). Relative to population size, Central Ostrobothnia in Finland is the most export-oriented Nordic region, with exports exceeding 36 thousand euros per capita in 2024. The majority of these exports originate in the Kokkola Industrial Area, the largest inorganic chemical industry ecosystem in Northern Europe, which specialises in battery components and circular economy solutions (KIP-Kokkola Industrial Park, 2025). At the other end of the spectrum, Gotland in Sweden is the least export-oriented Nordic region, with just 705 euros of exports per capita in 2024.

FIGURE 8.2:TRADE BALANCE BY PRODUCT, IN VALUE, 2024.

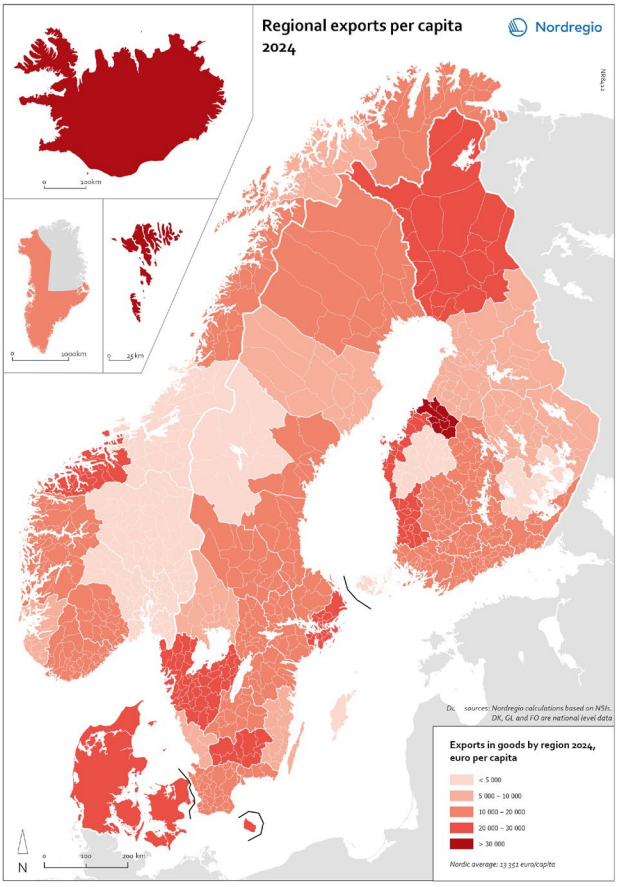


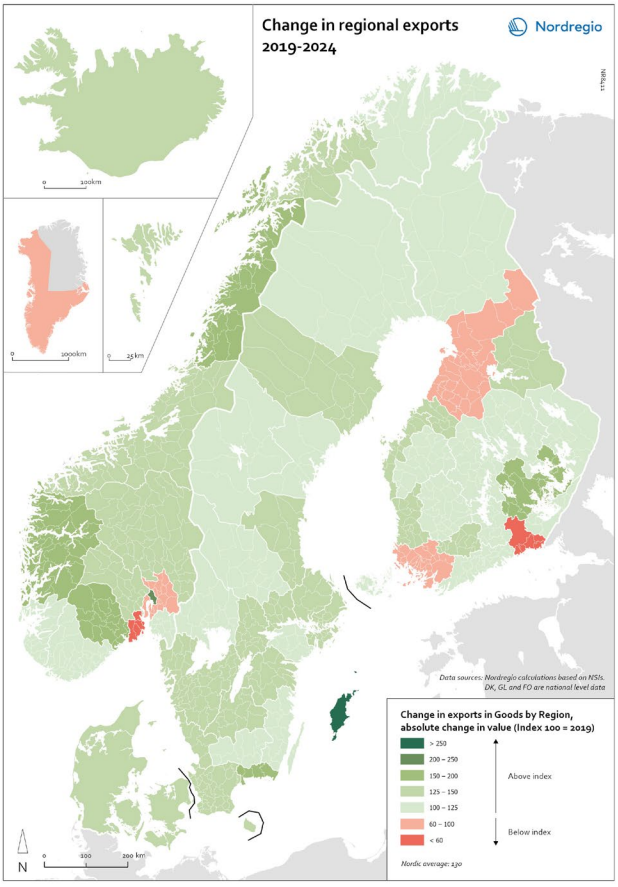
SIT06

- Raw materials
- Other manufactured goods
- Mineral fuels, lubricants and related materials
- Machinery and transport equipment
- Food, drinks and tobacco
- Commodities and tranactions not classified elsewhere in the SITC
- Chemicals and related products, n.e.s

SOURCE: NSB.

MAP 8.1: EXPORT-INTENSITY OF NORDIC REGIONS (LEFT) AND RECENT EVOLUTION OF REGIONAL EXPORTS (RIGHT) IN THE NORDIC REGION.





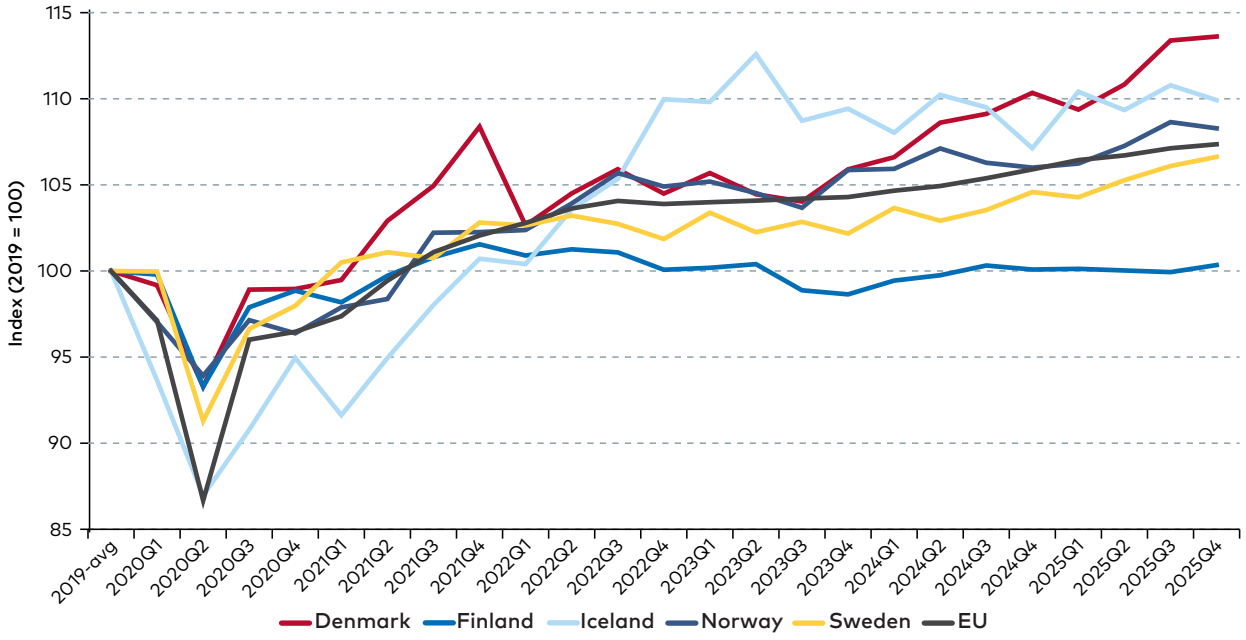
Most regions experienced growth in goods exported between 2019 and 2024 (Map 8.1, right). The largest increase in exports was seen in Gotland County – which, despite having the lowest export intensity, has seen many firms reorient their production towards international markets.

Today, more than 120 enterprises in Gotland report their export activities to Statistics Sweden (SCB). Nevertheless, some Finnish and Norwegian regions have experienced declining exports, including Southwest Finland, Kymenlaakso – Kymmenedalen and North Ostrobothnia, as well as Akershus and Vestfold in Norway. These regions may have been particularly affected by geopolitical instability and the discontinuation of trade with Russia (in the case of Finland) or by volatility of exports in oil-related goods and services, including offshore logistics and maritime services (in the case of Norway). Despite these declines, these regions remain among the less export-intensive areas in the Nordic Region, with exports ranging from slightly over 1,200 euros per capita in Akershus to 17,245 euros per capita in Kymenlaakso – Kymmenedalen.

Resilient regional economies

Between 2019 and 2025, the Nordic economy underwent significant changes due to the COVID-19 pandemic, global trade shocks and growing geopolitical volatility. This context triggered adjustments in EU, national and regional economic development policies, including measures aimed at stimulating growth. During this period, economic performance was characterised by marked fluctuations. Following a sharp contraction in 2020 due to the pandemic, the Nordic economies rebounded strongly, and achieved a growth rate of 5.6% in 2021. This recovery was driven by a resurgence in consumer spending, increased exports and accelerated digitalisation, as firms adapted to their new operating conditions (Tapia & Tragotsis, 2022).

FIGURE 8.3: EVOLUTION OF ECONOMIC ACTIVITY IN THE NORDIC REGION.



SOURCE: Eurostat.

In 2022, Russia's invasion of Ukraine disrupted these recovery trajectories. Nordic GDP growth continued at an average rate of around 1.3%, inflationary pressures intensified, and supply chain disruptions emerged. In 2023, growth slowed further, to approximately 0.4% at the Nordic level, as high inflation and high energy prices constrained household consumption. By 2024, the Nordic economy had entered a gradual recovery phase, with an average growth rate of 1.2% across the countries and regions. However, during the first half of 2025, economic conditions again became volatile due to renewed uncertainty surrounding global economic prospects following the US Administration's imposition of trade tariffs. Despite these challenges, most Nordic economies exhibited high levels of resilience, with average annualised economic growth reaching 2.0% during the first three quarters of 2025. This growth was largely driven by the significant expansion of Denmark's and Sweden's economies during that period, which recorded annualised growth rates of 3.4% and 2.4%, respectively (Figure 8.3).

The evolution of regional GDP per capita across the Nordic Region between 2019 and 2024 reveals a heterogeneous and dynamic pattern of economic adjustment. Map 8.2 presents some data provided by the Annual Regional Database of the European Commission (ARDECO), which provides modelled estimates for NUTS 3 regions using upper-level data and identified proxies (Auteri et al., 2024). Certain regions display particularly strong economic resilience or moderate expansion, characterised by burgeoning economic activity and investment. Greater Copenhagen stands out, with an annualised GDP per capita increase of 4.4% during the period (1.4% in City of Copenhagen). This strength is largely attributed to the rapid expansion of the pharmaceutical industry (EC, 2025). Other regions benefiting from proximity to the Copenhagen agglomeration - including North Zealand and West & South Zealand - also recorded strong growth (2.5% and 2%, respectively).

Notably, two predominantly rural and intermediate Swedish counties with a strong industrial base - Blekinge and Västernorrland - also rank among the Nordic regions with the strongest economic expansion between 2019 and 2024. Blekinge, a dynamic export-oriented region in southern Sweden, recorded an annualised GDP per capita growth rate of 2.3%. Västernorrland County followed with 2% growth, as major investments in the green industry boosted the county's economy during that period.

In Finland, Satakunta experienced the highest average annual GDP per capita growth over the period (1.7%), supported by large-scale industrial facilities in metal production, mineral processing, and energy, alongside established competence clusters (Työ- ja elinkeinoministeriö, 2022). Ostrobothnia recorded the second-fastest GDP per capita growth in Finland (1.3%), also driven by a dynamic industrial base combined with a strong innovation culture and strategic positioning in key sectors of the green transition and transport electrification (see Chapter 10).

The Icelandic economy grew at an average annual rate of 0.7%, driven by the recovery of tourism following the pandemic and by comparatively lower exposure to rising energy prices for households and industries. Similarly, Åland recovered from a severe pandemic-induced contraction (-14.2% in 2020), returning to pre-pandemic levels by 2022. In Greenland, the GDP per capita increased by 3.7% between 2019 and 2023,[14] which signals an expansionary cycle in a remote, resource-dependent economy.

Conversely, several Nordic regions saw GDP per capita decline over the period, reflecting differences in economic structures and exposure to external shocks. In Norway, regional figures are significantly conditioned by the devaluation of the Norwegian krone against the US dollar and euro during the 2019–2024 period. This, together with fluctuating oil prices, may explain the negative GDP per capita trend observed in most Norwegian regions during that time. Based on the available data, Buskerud and Akershus were among the regions with the largest declines in GDP per capita (-2.3%), followed by Østfold (-2.1%), Troms (-2%), and Møre og Romsdal (-1.9%). Beyond the factors mentioned above, regional dynamics are often linked to downturns in specific market segments. For example, in 2020, Møre og Romsdal suffered a sharp contraction linked to restructuring in aquaculture, followed by reduced investment in construction during 2022-2023 (Zahirovic and Blytt, 2022; Hungnes et al., 2025).

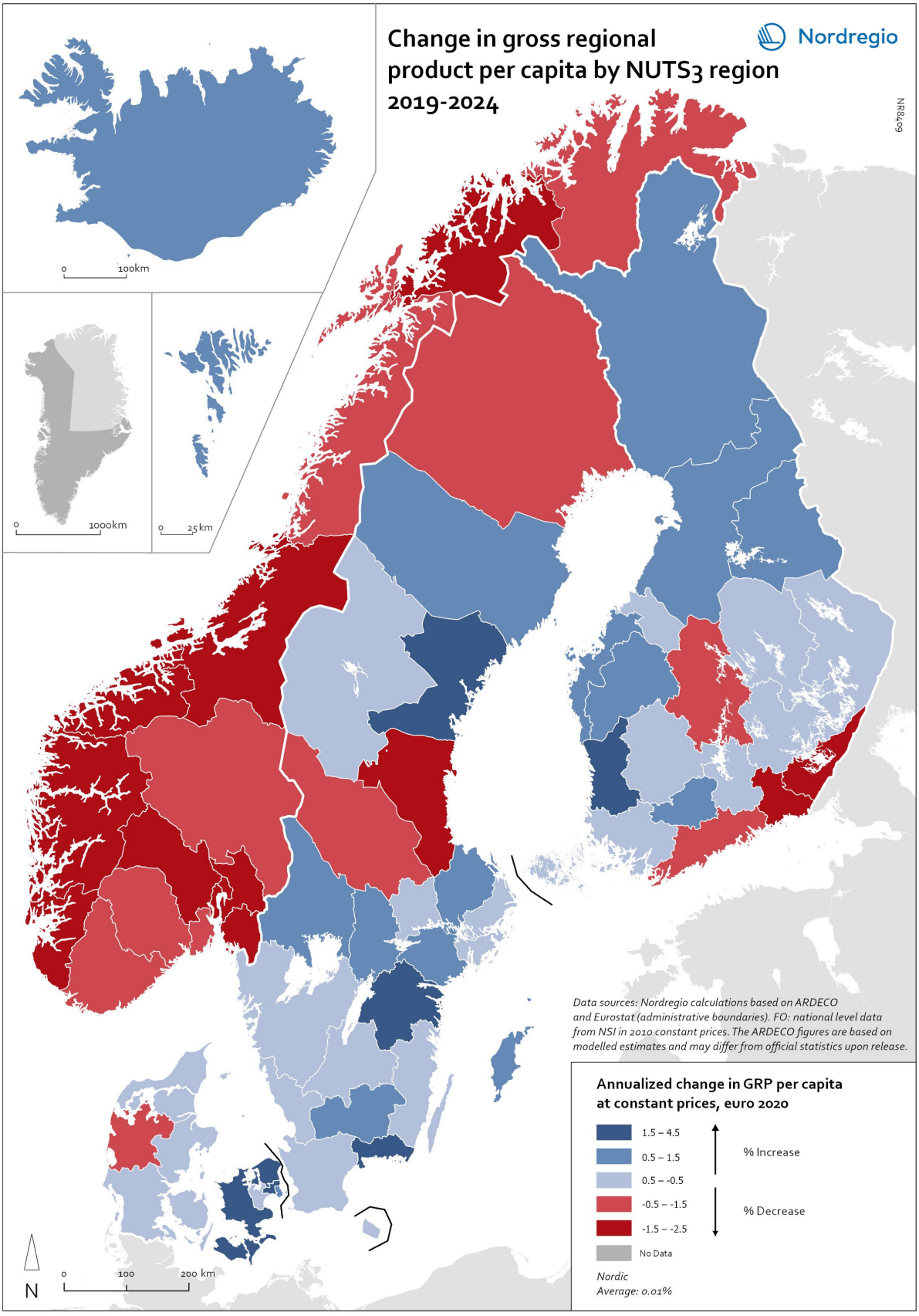
In Finland, South Karelia saw a 2.2% decline in GDP per capita, followed by Kymenlaakso (-1.9%), likely reflecting geopolitical tensions along the Russian border since 2022, including the interruption of trade with that country. Helsinki-Uusimaa also recorded negative growth (-1.4%), with service-oriented activities performing below the national average since 2022. In Denmark, West Jutland (-0.8%) and Bornholm (-0.4%) showed the weakest economic performance, reflecting strong dependence on seasonal tourism, commuting patterns, and external demand. In Sweden, Gävleborg County recorded a contraction of 1.5% in 2019–2024, associated with a weakening productive base and population decline (Stockholm Business Alliance, 2024).

Overall, the Nordic regional economies demonstrated moderate resilience to external shocks in the post-pandemic period, despite a volatile geopolitical and economic environment. Most regions experienced positive growth between 2019 and 2024, particularly in Iceland and Denmark, while the picture in Sweden and Finland was more mixed. In Norway, exchange-rate movements and cost-of-living pressures had an effect on GDP per capita trends. Across the Nordic Region, rural regions (DGURBA classification; EC, 2021) recorded the highest median annualised GDP per capita growth (0.43%), outperforming both urban (0.42%) and intermediate regions (0.16%). These patterns suggest that exposure and vulnerability to external shocks vary systematically according to territorial characteristics.

While capital regions and major urban centres continue to display higher GDP per capita, the post-pandemic period has seen several rural and intermediate regions, particularly in Sweden and Finland, outperform urban areas in terms of growth. In an environment marked by uncertainty and structural change, this may create opportunities for new industries and actors to emerge. At the same time, persistent spatial disparities underline the need for targeted, place-based regional policies to address both long-standing and emerging territorial divides.

14. At the time of writing (mid-November 2025), Greenland's Statistical Office has not released GDP figures for 2024.

MAP 8.2: ANNUALISED PERCENT CHANGE ON REGIONAL GDP PER-CAPITA DURING THE 2019–2024 PERIOD (CONSTANT PRICES, EUROS 2020).



Business demographics

While the impacts of increasingly higher trade tariffs are expected to become more visible in the regional economies in the next few years (OECD, 2025), Nordic businesses have already faced a sequence of major shocks following the COVID-19 pandemic and the surge in inflation triggered by Russia's invasion of Ukraine in 2022. An analysis of business demographics in recent years, specifically enterprise births and deaths,[15] provides insight into how the Nordic economies have managed turbulence and economic instability.

Like much of Europe and the global economy, the Nordic countries were negatively affected by the pandemic (Tapia & Tragotsis, 2022). However, somewhat counterintuitively, the number of enterprise births increased during the pandemic, while enterprise deaths declined. From 2022 onwards, enterprise births returned to levels closer to those observed before the pandemic in Denmark, Norway and Sweden, and continued to increase slightly in Finland up to 2024. At the same time, enterprise deaths rose beyond pre-pandemic levels in Sweden, Finland and Denmark. Norway, too, experienced an increase in enterprise deaths, albeit a more modest one. For Iceland, data are not available from 2021 onwards.

Map 8.3 (left), which illustrates the change in enterprise births from the pandemic years to the post-pandemic years, shows that the decline in enterprise births after the pandemic is broadly consistent across all regions in Denmark, Norway and Sweden, with Norrbotten being the only region close to stability. Finland stands out as a counter-trend, with increasing enterprise births in several regions, most notably Lapland, North Ostrobothnia and Pirkanmaa. However, almost all Nordic regions have seen higher levels of enterprise births than in the pre-pandemic years.

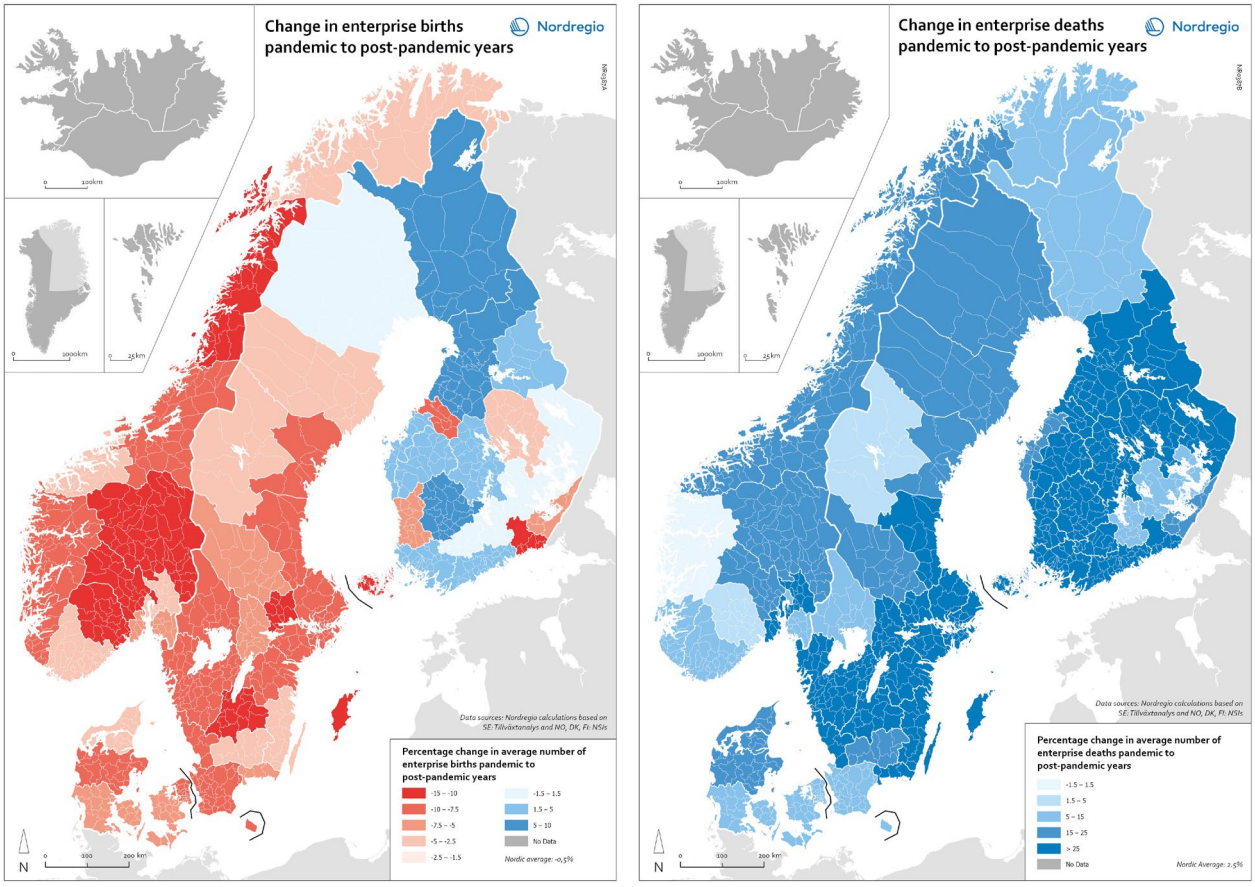
Map 8.3 (right) shows a consistent increase in enterprise deaths from the pandemic to the post-pandemic years across the Nordic Region. Particularly high increases are observed in a contiguous group of Finnish regions stretching from Uusimaa via South Ostrobothnia to North Karelia, and in Sweden from Uppsala through the Stockholm area and further south towards Östergötland and Kalmar. Vestland in Norway is the only region where enterprise deaths decreased or remained almost unchanged after the pandemic. In most Nordic regions, enterprise deaths now exceed pre-pandemic levels, i.e., prior to the time period shown in Map 8.3. Again, Norway stands out as an exception – in most regions, post-pandemic levels remain below pre-pandemic levels.

Several factors help explain the decline in enterprise births and the rise in enterprise deaths after the pandemic. Schito et al. (2023) argue that many companies that went bankrupt in 2023 were already financially vulnerable before the inflationary period, but were kept afloat during the pandemic by extensive government support measures. The subsequent increase in enterprise deaths should therefore be understood partly as a delayed adjustment following the withdrawal of temporary government support measures. Since these schemes were unevenly distributed across sectors (Statistics Denmark et al., n.d.), their regional distribution, and the effects of their termination also varied geographically.

In addition, Russia's invasion of Ukraine led to a rapid increase in inflation, which directly affected household demand, particularly through rising food and energy prices (OECD, 2025). Although the impact of inflation on bankruptcy rates may initially have been limited, partly because firms were able to pass on higher costs to consumers, this effect varied across sectors and regions, depending on demand. Inflation was also accompanied by higher interest rates, indirectly raising the risk of business failure by reducing firms' cash flow and increasing financial pressure (Schito et al., 2023).

15. In business demography, enterprise births denote the creation of genuinely new active enterprises during the reference year. They capture new market entrants rather than administrative changes, and therefore exclude cases linked to mergers, splits, restructurings, or changes in ownership or legal form. Reactivations are only counted as births if the enterprise had been inactive for at least two consecutive years. Enterprise deaths represent enterprises that cease all market activity and disappear from the business register. Deaths exclude cases where activity continues under another unit through mergers or takeovers, and are cancelled if the enterprise resumes activity within two years.

MAP 8.3: CHANGE IN ENTERPRISE BIRTHS (LEFT) AND DEATHS (RIGHT) FROM THE PANDEMIC TO THE POST-PANDEMIC PERIOD (COMPARISON BETWEEN THE YEARLY AVERAGE OF 2020-2021 AND 2022-2024).



Overall, recent business demographic trends point to continued challenges for Nordic economies in the post-pandemic period. Enterprise births have declined from pandemic highs, while enterprise deaths have increased, which reflects both the withdrawal of temporary support measures and rising cost pressures associated with geopolitical instability. These developments also affect companies' willingness to invest. A recent survey among small business owners in Sweden indicates that investment plans are being postponed or cancelled due to uncertainty about future demand, as well as the broader economic outlook (Företagarna et al., 2025). Although enterprise births have not yet fallen back to pre-pandemic levels, the rise in enterprise deaths, combined with renewed geopolitical uncertainty and the risk of escalating trade conflicts, suggests a cautious environment for entrepreneurship across the Nordic Region.

Conclusions

This chapter has traced how the long-standing, rules-based architecture of the international economic order is being reshaped by tariff wars, geopolitical conflicts and pervasive uncertainty. The impact of US tariffs remains uneven across the Nordic Region: regions with a larger manufacturing base face higher direct costs and potential supply-chain disruptions, while the repositioning of Nordic economies within global value chains introduces new competitive dynamics. At the same time, geopolitical instability in the wider European context continues to loom large. Russia's invasion of Ukraine has exposed the fragility of an international order grounded in the rule of law. Together, these developments reverberate through the Nordic economies, labour markets and policy frameworks.

Against this backdrop, the Nordic Region offers a compelling case study of resilience combined with selective dynamism – understood here as the capacity of regions to adapt to prolonged economic uncertainty. While the urban cores of Finland, Denmark, Sweden, Norway and Iceland continue to lead in terms of GDP per capita, the most notable post-pandemic economic recoveries have occurred in rural and' intermediate regions. Many of these areas, historically shaped by heavy industry, forestry, and agrarian economies, are now repositioning themselves through digitalisation and green technology, often in ways that build on existing industrial capabilities. The ongoing reconfiguration of global value chains may create opportunities for traditionally peripheral regions to access new export markets, strengthen supply-chain resilience and attract investment linked to circular economies and sustainable manufacturing.

The recent Nordic experience illustrates that although external shocks have significantly disrupted the traditional international economic order, economic turbulence can also open alternative pathways to growth. The evidence presented in this chapter suggests that urban-centric growth models might no longer be the sole route to prosperity. Instead, a nuanced understanding of regional heterogeneity and place-specific potential is increasingly central to the Nordic economic narrative. In particular, the relatively strong performance of several rural and intermediate regions highlights the importance of adaptive regional economic policies. Such policies need to translate local diversity into coherent, forward-looking strategies that balance the advantages of urban dynamism with the untapped potential of less-urbanised regions, thereby strengthening long-term economic resilience across the Nordic Region.

References

Abdulnour, M. (2025). Impact of US tariff on Scandinavian countries. Umeå University. https://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-245778

Auteri, D., Attardo, C., Berzi, M., Dorati, C., Albinola, F., Baggio, L., et al. (2024). The Annual Regional Database of the European Commission (ARDECO) - Methodological note. Ispra, Italy: European Commission. JRC138212.

Calmfors, L., & Sánchez Gassen, N. (Eds.) (2024). Economic Policy beyond the Pandemic in the Nordic Countries. Stockholm, Sweden: Nordregio. doi: 10.6027/R2024:121403-2503

EC. (2021). Applying the Degree of Urbanisation: A Methodological Manual to Define Cities, Towns and Rural Areas for International Comparisons: 2021 Edition. European Union/FAO/UN-Habitat/OECD/The World Bank. Luxembourg, Publications Office of the European Union. ISBN 978-92-76-20306-3.

EC. (2025). SWD(2025) 204 Final: Denmark Country Report.

Företagarna, Sparbankernas Riksförbund & Swedbank (2025). Småföretagsbarometern 2025. https://www.foretagarna.se/politik-paverkan/rapporter/smaforetagsbarometern2/smaforetagsbarometern-2025/

Hungnes, H., Sigbjørn, L. & Skretting, J. (2025). Konjunkturtendenser for Møre og Romsdal. Prognoser basert på konjunkturtendensene fra desember 2024. Oslo, Norway: Statistisk sentralbyrå. ISBN 978-82-587-2992-8

KIP-Kokkola Industrial Park. (2025). The Largest Inorganic Chemical Industry Ecosystem in Northern Europe KIP – Kokkola Industrial Park KIP - Kokkola Industrial Park. https://www.kip.fi/en/frontpage.html

OECD. (2025). OECD Economic Outlook, Interim Report. Finding the Right Balance in Uncertain Times. September 2025. Paris, France: OECD Publishing. doi: 10.1787/67b10c01-en.

Schito, M., Klimavičiūtė, L., Giffoni, F., Sirtori, E. & Skardžiūtė, G. (2023). SMEs and High Inflation. Final report. Brussels, Belgium: Directorate-General for Internal market, Industry, Entrepreneurship and SMEs, European Commission.

Statistics Denmark, Statistics Finland, Statistics Iceland, Statistics Norway & Statistics Sweden (n.d.): The Nordics during the first phases of COVID-19. https://www.dst.dk/Site/Dst/Udgivelser/nyt/GetAnalyse.aspx?cid=48383

Stockholm Business Alliance. (2024). Konjunkturen i Gävleborg 2024. https://stockholmbusinessalliance.se/material/konjunkturen-i-gavleborg-2024/

Tapia, C. & Tragotsis, N. (2022). The impact of Covid-19 on the Nordic economies: shock and recovery. In Norlén, G., Randall, L.; Sánchez Gassen, N. and Tapia, C. (Eds.), State of the Nordic Region 2022. Stockholm, Sweden: Nordregio. doi: 10.6027/R2022:2.1403-2503

Työ- ja elinkeinoministeriö. (2022). Priorities for development – Satakunta. https://rakennerahastot.fi/en/western-finland/satakunta

United Nations (2025). COMTRADE: Commodity Trade Statistics Database. United Nations Statistics Division. https://comtradeplus.un.org

Zahirovic, E. & Paulsen Blytt, J. (2022). Ujevnt Koronafall i Fylkene i 2020. SSB. https://www.ssb.no/nasjonalregnskap-og-konjunkturer/nasjonalregnskap/statistikk/fylkesfordelt-nasjonalregnskap/artikler/ujevnt-koronafall-i-fylkene-i-2020

Chapter 9

ECONOMIC PERSPECTIVES ON CRITICAL INFRASTRUCTURE IN THE NORDIC REGION

AUTHORS: Hedda Thomson Ek, Elin Slätmo and Madelene Sonesson
DATA AND MAPS: Madelene Sonesson, Hedda Thomson Ek and Elin Slätmo

Introduction

Infrastructure refers to the general assets and systems that support daily life, from the electricity that powers homes to the transportation networks that enable mobility. Within these systems, critical infrastructure makes out the most essential assets and networks that provide vital societal services the disruption of which would significantly affect societal security, economic stability and public health (Forzieri et al., 2018; Pursiainen & Kytömaa, 2023; UNDRR, 2017). Growing geopolitical tensions and climate-related risks have increased concerns about the safety and reliability of these systems across the Nordic Region and Europe, promoting calls for a strengthened, all-hazards approach to critical infrastructure resilience (European Commission, 2025; Nordic Council, 2023).

Across the Nordic countries, as in much of Europe, the focus of critical infrastructure policy has shifted from protecting individual assets to ensuring the resilience of the services they provide (Larsson & Rhinard, 2020; Pursiainen, 2018). This transition is reflected in the EU Critical Entities Resilience (CER) Directive, which came into effect in 2023, and which emphasises not only the protection of infrastructure but also the continuity of the essential services it provides in sectors such as energy, water, transport and communications. The directive also highlights the role of critical entities (i.e., the organisations responsible for operating these systems) and their capacity to prevent, withstand and recover from disruptions caused by both natural risks and antagonistic threats, including natural hazards, terrorism, hybrid threats or pandemics (European Union, 2022).

What counts as 'critical' infrastructure is context-dependent, shaped by local needs, interdependencies, vulnerabilities and spatial conditions. One way to assess the value of critical infrastructure is through economic measures, which can indicate the value of either the physical infrastructure assets or the economic value generated through infrastructure use and services. It can be difficult to measure these aspects and compare them directly across regions, so analyses often rely on indicators or indices that combine multiple variables into a single measure, enabling comparisons across places and sectors.

It is worth noting that economic measures alone cannot fully capture the strategic significance of infrastructure in situations of disruption or crisis. Some assets may appear limited in economic value, yet remain essential for ensuring continuity of societal functions, emergency response or national preparedness. For example, electricity transmission lines or transport links in sparsely populated areas may have a modest economic value tied to them but are nonetheless important for maintaining system functionality under strained conditions. Nonetheless, insights into the economic value associated

with infrastructure and its outputs contributes to a clearer picture of how different assets support societal functions and where disruptions may have particularly wide-ranging effects.

This chapter uses two proxy measures to assess the economic value of infrastructure across sectors and Nordic countries and territories (see Table 9.1). The first examines the economic value of physical infrastructure assets, i.e., the economic value embedded in infrastructure (CDRI, 2023). This measure can be understood as the cost of replacing the infrastructure assets if they were to be destroyed.

The second measure examines the economic value of infrastructure use, i.e., the value of outcomes generated by its use (Batista e Silva et al., 2019). This includes four metrics: energy production, industrial turnover, freight transport and annual expenditure for social infrastructure. In this chapter, this measurement is analysed in relation to population size, to explore how infrastructure use and economic activity intersect with settlement patterns across the Nordic Region.

Although these two economic measures do not capture all functional, operational, or economic dimensions of criticality, and should not be used as direct measures of criticality or for ranking countries, they enable comparative analysis across the Nordic Region. They help to identify the infrastructure sectors and locations that carry the greatest relative economic weight. An understanding of the relative value of infrastructure assets and their use also provides an important basis for discussing vulnerability and resilience across Nordic regions.

Economic value of infrastructure assets

The EU-level CER Directive identifies 11 critical sectors,[16] including energy, transport, water, and digital infrastructure (European Union, 2022). While all infrastructure within these sectors provides important services, the degree of economic value varies across sectors and individual assets in terms of their distribution, scale, and economic value.

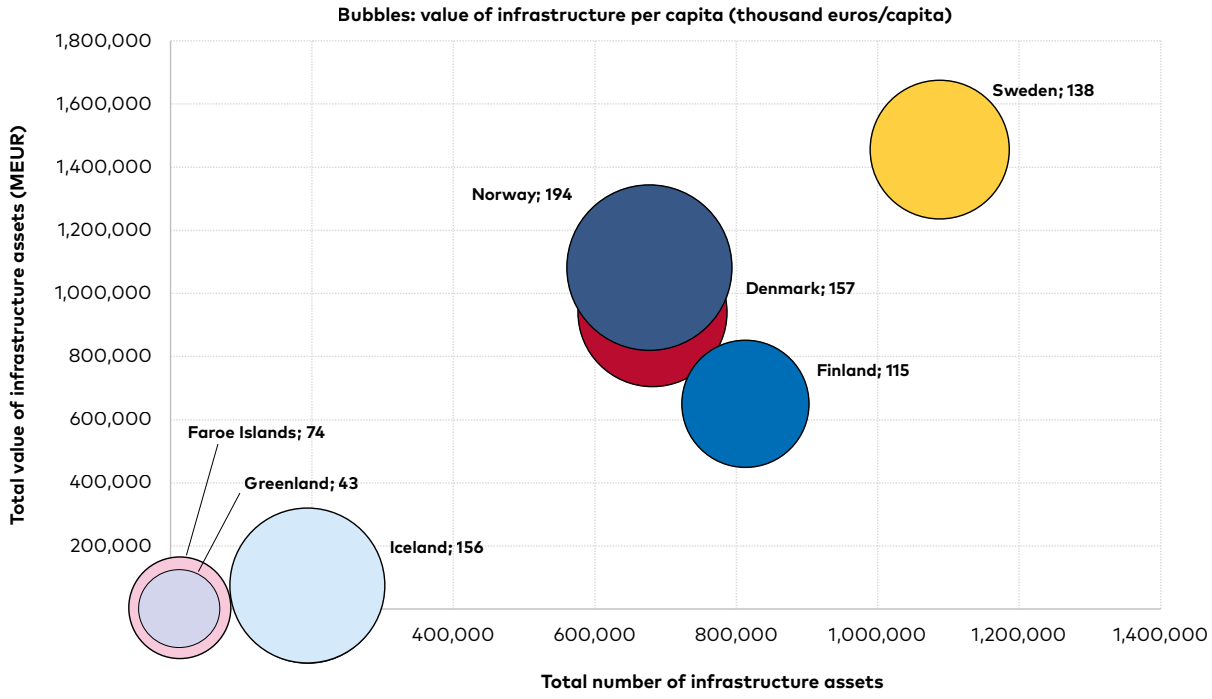
In the following analysis, data derived from the GIRI Index (CDRI, 2023) are used to estimate the economic value of infrastructure assets across Nordic countries and territories (see Box 9.1). This value reflects the economic investment embedded in infrastructure and serves as a proxy for potential economic losses if these assets were damaged or destroyed. The estimates are based on national

TABLE 9.1: DATA SOURCES USED IN CHAPER 9.

	GIRI INDEX	HARCI-EU
What is measured?	Estimated replacement cost of physical infrastructure	Economic value generated by the use of specific services provided by infrastructure
Interpretation	Exposed economic value if infrastructure is damaged or destroyed	The economic value generated from the infrastructure
Sectors/variables included	Roads and railways Transportation (ports and airports) Power Water and wastewater Telecommunications Oil and gas	Transport (annual fright transport) Energy (annual energy produced/transported) Industry (annual turnover) Social (annual expenditure)
How data is used for analysis in this chapter	Cross-country and cross-sectoral comparison of infrastructure costs	Municipal level comparison of the value generated from infrastructure relative to population size

16. Energy (electricity, district heating and cooling, oil, gas, hydrogen), transport (air, rail, water, road, public transportation), banking, financial market infrastructure, health, drinking water, wastewater, digital infrastructure, public administration, space and production, processing and distribution of food.

FIGURE 9.1: TOTAL ESTIMATED ECONOMIC VALUE OF INFRASTRUCTURE ASSETS IN THE NORDIC COUNTRIES.



NOTES: Bubble colours represent countries, and bubble size indicates infrastructure value per capita. Data covers land transport (roads, railways) sea and air transport (ports, airports), energy (generation, transmission, distribution), water and wastewater, oil and gas, and telecommunications. **SOURCE:** Nordregio calculations based on data from GIRI-Index (CDRI, 2023), which estimates the exposed economic value of infrastructure.

capital stock, wealth data, and sector-specific indicators, which facilitate comparisons of the relative economic value of infrastructure across sectors and regions.

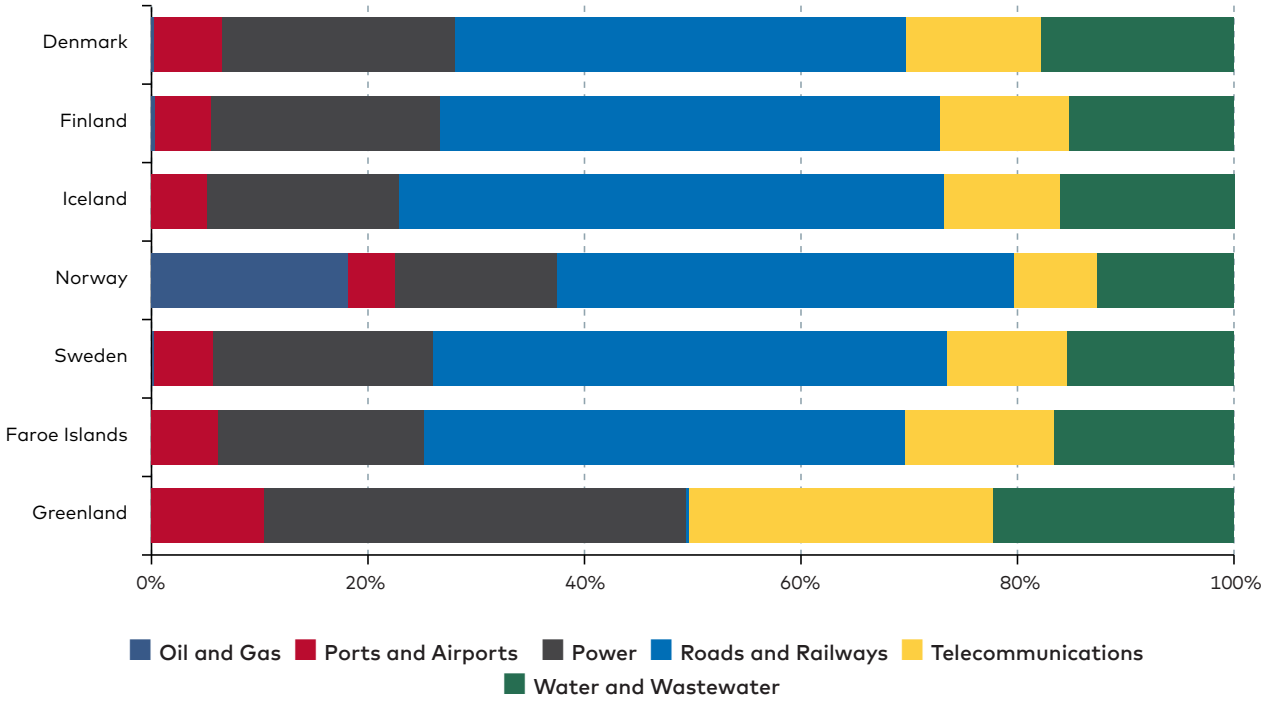
National comparison of infrastructure assets value

The variation across the Nordic countries and regions is reflected in the value of their infrastructure assets. Figure 9.1 illustrates the relationship between the total number of critical infrastructure assets (x-axis) and their estimated total economic value (y-axis) across the Nordic countries and autonomous territories. The data are based on estimates for six infrastructure sectors: land transport (roads and railways); air and water transport (ports and airports); energy; water and wastewater; oil and gas; and telecommunications. The bubble size represents infrastructure value per capita, which facilitates comparisons between countries of different population sizes.

Overall, the figure shows that the estimated total value of infrastructure assets aligns more closely with population size than with geographical area. Sweden, the most populous country, has both the highest total infrastructure value and the largest number of assets. Norway follows, with a population around half that of Sweden, but records the highest per-capita value, largely due to capital-intensive sectors such as oil and gas. Denmark, with a population similar to Norway's, also shows a comparable total infrastructure value, despite its land area being only about 11% of Norway's.

However, different patterns are seen in Finland, which has a population and land area comparable to those of Norway, but a higher number of assets and a lower total infrastructure value. This results in the lowest per-capita value of the Nordic countries, which indicates a network composed of lower-value or less capital-intensive infrastructure. Iceland records a per capita value similar to that of Denmark, despite being about 2.5 times larger in

FIGURE 9.2: RELATIVE ECONOMIC VALUE OF INFRASTRUCTURE FOR CRITICAL SECTORS.



NOTE: The sectors include land transport (roads, railways); sea and air transport; (ports and airports); energy (power); water and waste infrastructure; oil and gas; and telecommunications**. SOURCE:** Nordregio calculations based on data from GIRI Index (CDRI, 2023), which estimates the total value of infrastructure on a country and territory level.

land area and having a population roughly 15 times smaller.

The autonomous territories further illustrate the limited influence of territorial size. Greenland and the Faroe Islands each have around 55,000 inhabitants and display similar infrastructure counts and values, even though Greenland is more than 1,500 times larger in land area.

Sectoral composition

While there are clear differences in the estimated total value of infrastructure assets across the Nordic countries and territories, the way this value is distributed across sectors is similar across the region. To compare how the different infrastructure sectors relate to each other, Figure 9.2 depicts the relative share of each infrastructure sector's economic value. Roads and railways account for the largest share of economic value in all countries and territories except Greenland, ranging from 42% in Denmark and the Faroe Islands to 50% in Iceland. The second-largest capital stock in all countries and territories, with the exception of Norway, is tied to energy infrastructure, ranging from 15% in Norway to 22% in Denmark. Notably, the economic value of Norway's oil and gas infrastructure (18%) exceeds the value of its included energy infrastructure (15%). With its minimal road and rail networks, Greenland is an outlier: transport infrastructure accounts for less than 1% of its total infrastructure value, while energy accounts for 39%.

Interpreting the economic value of infrastructure assets

The estimates in Figures 9.1 and 9.2 indicate the economic value of infrastructure assets and, therefore, the scale of potential economic losses if those assets were damaged or destroyed. However, the data should not be interpreted as a direct measure of the criticality of different sectors or their infrastructure, as the strategic importance of an asset does not always correspond to its economic value.

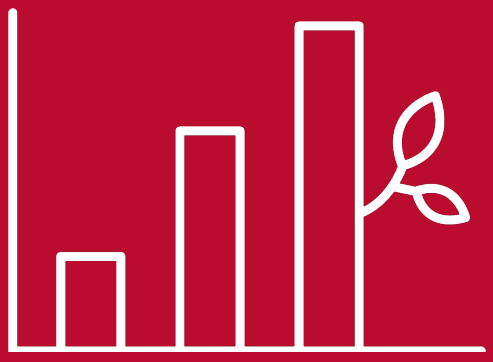
Criticality depends on many factors, such as societal impacts, availability of substitutes, interdependencies and the likelihood of cascading failures. Infrastructure that neither requires substantial investment nor generates high levels of economic output may still be crucial for enabling logistics, distributing essential services or maintaining operational continuity across larger systems.

For example, ports and airports account for a relatively small share of total economic value, yet play important roles in connectivity and trade, particularly in remote areas. Similarly, while telecommunications appear to have modest economic value, they are in fact deeply embedded in communication, emergency response, healthcare, public administration and financial systems.
Recent hybrid attacks in the Baltics have highlighted redundancy challenges for communication infrastructure, as disruptions risk triggering cascading effects across society (Sari, 2025). The Arctic region faces unique challenges due to harsh weather conditions and reliance on foreign-controlled systems, which make it particularly vulnerable to high-impact failures and the lack of replacements (Lai & Flensburg, 2023; Thomson Ek & Wendt-Lucas, 2025).

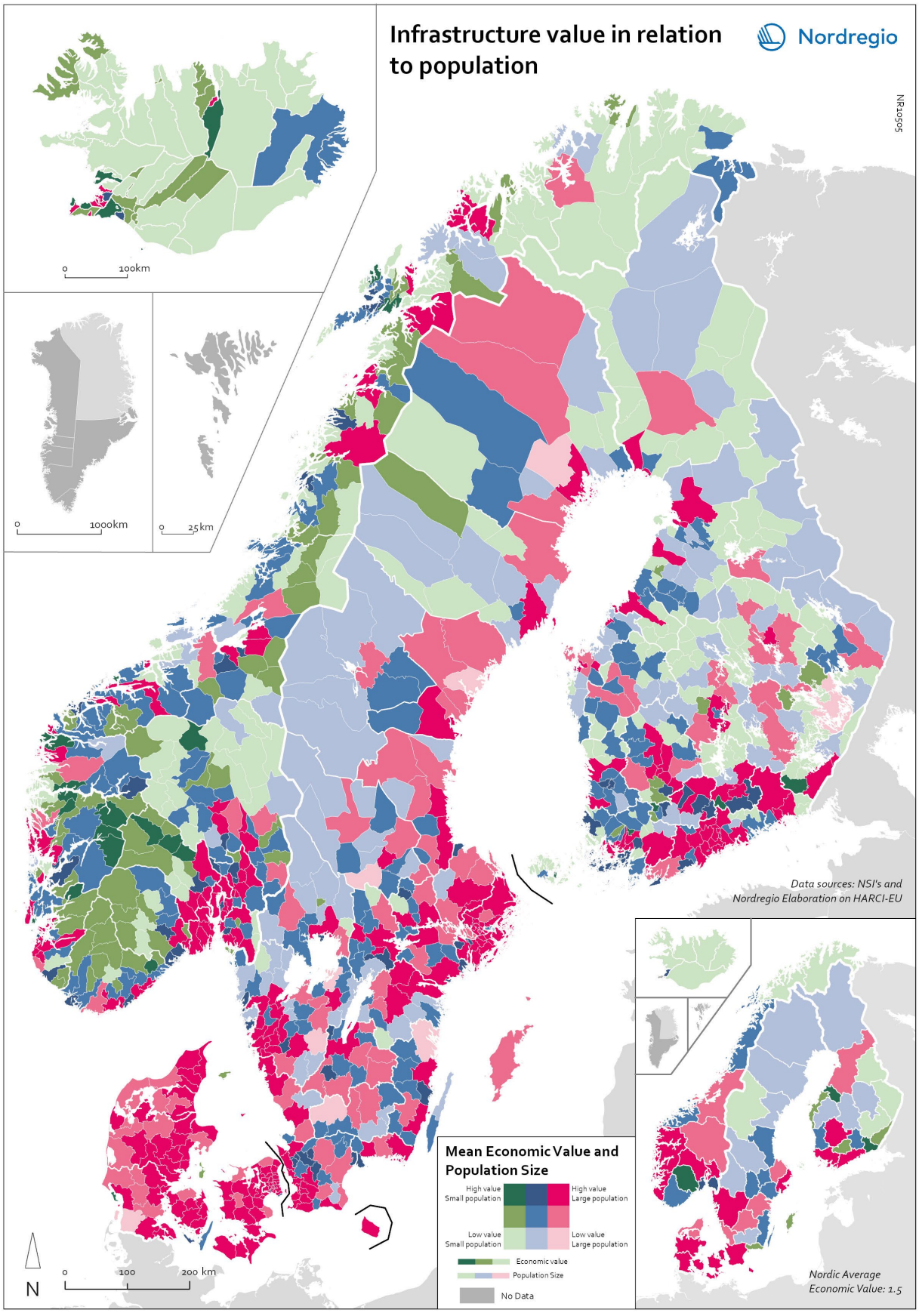
As such, while the economic values presented in Figures 9.1 and 9.2 provide insight into the distribution and scale of infrastructure investments, they represent only one dimension of criticality. Sectors with limited redundancy, strong interdependencies or high cascade potential may, in practice, be more critical than their economic value suggests.

BOX 9.1. CALCULATING THE ECONOMIC VALUE OF INFRASTRUCTURE ASSETS

The economic value of the infrastructure assets in Figures 9.1 and 9.2 is derived from the Global Infrastructure Risk Model and Index (GIRI) provided by the Coalition for Disaster Resilient Infrastructure (CDRI, 2023). GIRI applies an Infrastructure Exposure Model (IEM) that combines top-down and bottom-up approaches to estimate infrastructure value. The top-down component uses macro-economic indicators toassess the total national value of infrastructure, including national capital stock and the share of infrastructure within overall wealth. This is complemented by a bottom-up approach that spatially allocates infrastructure value using GIS vector data and publicly available information on infrastructure assets and networks. Sector-specific indicators and indicative unit costs are used to estimate economic values, resulting in modelled replacement costs that represent the exposed economic value of infrastructure across six sectors. These estimates enable comparative analysis across countries and infrastructure sectors. For this analysis, GIRI data on infrastructure value and asset counts for each Nordic country and territory were converted from USD to euros and compared across sectors, asset counts, and per capita.



MAP 9.1: INFRASTRUCTURE VALUE IN RELATION TO POPULATION.



NOTES FOR MAP 9.1: The map illustrates the relationship between the total population and the mean economic value of infrastructure use across Nordic municipalities. The data for infrastructure value include energy production, industrial turnover, freight transport, and annual expenditure for social infrastructure.

Economic value of infrastructure usage in relation to population

As policy on critical infrastructure increasingly shifts from protecting individual assets to ensuring the services they enable, it becomes relevant to examine economic measures of *infrastructure use* (see Box 9.2). This perspective allows comparison not only across countries, but also at the municipal level within them. Although governance and financing arrangements vary across the Nordic countries, municipalities and regions commonly play key roles in delivering infrastructure-related services (Slätmo & Bogason, 2024).

This analysis examines the economic value of *infrastructure use* based on four metrics: energy production, industrial turnover, freight transport, and annual expenditure on social infrastructure, all of which are derived from the HARCI-EU Index (Batista e Silva et al., 2019). These data are analysed in relation to permanent population size in Nordic municipalities and regions (see Map 9.1). Combined, these variables highlight the areas where infrastructure use value and population size align or diverge, and identify municipalities where people and high-value infrastructure are spatially co-located. The analysis reveals patterns of disproportionate vulnerability, i.e., areas in which infrastructure disruptions could have wide-ranging economic impacts, as well as areas with significant operational responsibilities for services that extend beyond local boundaries. However, this comparison does not imply that infrastructure use for the included measures primarily benefits the local population, nor that areas with lower infrastructure value are therefore less critical from a societal perspective. Rather, it reflects spatial exposure, and shows where disruptions or hazards may have both local and wider effects.

Map 9.1 applies a bivariate 3×3 classification, combining two variables: economic infrastructure use value and population size. This results in nine categories. For analytical clarity, the chapter focuses on the four corner categories, which represent the most contrasting combinations of these variables. Dark colours indicate high economic value of infrastructure use, while light colours indicate low value. Pink represents larger populations, and green represents smaller populations:

Dark pink: high economic value + large population
Dark green: high economic value + small population
Light pink: low economic value + large population
Light green: low economic value + small population

Together, these patterns illustrate how different regions face distinct resilience challenges and vulnerabilities, which underscores the need for differentiated, place-based resilience policies. The following sections examine each pattern in more detail.

High infrastructure value: Systemic hotspots and vulnerabilities

Nordic municipalities with a high economic value of infrastructure use (shown in dark colours in Map 9.1) are found both in urban regions with large populations and in rural regions with small ones. While high infrastructure value can be found in both contexts, population size has an influence on specific resilience challenges and governance needs.

High economic infrastructure value + large population (dark pink). Most Nordic municipalities with high economic value in terms of infrastructure use and large populations are located in urban and peri-urban areas, such as Haugesund (Norway), Reykjavík (Iceland), Gladsaxe (Denmark), Solna (Sweden) and Helsinki (Finland). In these municipalities, infrastructure supports large populations and multiple interconnected services, which makes them potential systemic hotspots, in which disruptions in one system can quickly cascade into others

BOX 9.2. CALCULATING THE ECONOMIC VALUE OF INFRASTRUCTURE OUTPUTS

Map 9.1 combines two datasets: HARCI-EU economic infrastructure data and population data. The HARCI-EU dataset provides a spatial representation of the economic value of critical infrastructure across Europe (Batista e Silva et al., 2019). It harmonises multiple European geospatial and statistical data sources and aggregates them into 1 km grid cells, using sector-specific proxies to capture the distribution and concentration of infrastructure. Infrastructure value is expressed as an index, rather than a direct monetary value. Although published in 2019, the dataset remains suitable for regional comparison, as changes to the spatial distribution of major infrastructure systems are gradual.

The population data represent the resident population as of 1 January, based on official population registers, and reflect permanent rather than seasonal populations.

For this analysis, HARCI-EU raster data were aggregated to the municipal level by converting grid cells to points, removing zero values, merging sectoral layers, and calculating the mean infrastructure value within each municipality. These values were then combined with population data to create a bivariate map. Infrastructure value and population size were classified separately using a data-driven method in ArcGIS Pro, with class thresholds derived from the statistical distribution of each variable at the Nordic level. This approach assigns municipalities to relative categories of low or high infrastructure value, and small or large population, ensuring a balanced and comparable visual representation across the Nordic Region.

and affect many people simultaneously. Resilience planning in these areas should therefore consider not only which infrastructure systems and actors are critical, but also how these systems interact. Although urban areas may benefit from closer proximity to backup options, their high degree of interdependence requires flexible and well-coordinated systems to prevent cascading failures.

High economic infrastructure value + small population (dark green). Municipalities with a high economic value in terms of infrastructure use, but small populations often host infrastructure that serves much larger areas, such as major power plants, industrial sites, ports or transport hubs. Although these municipalities are relatively few in number, as shown on the map, they may bear a disproportionate share of the accountability for the operation and maintenance of infrastructure that supports regional or national systems.

While formal responsibility for infrastructure, such as industrial facilities or power generation, is typically tied to private or public entities, municipalities with small populations can still play a crucial role in hosting, operating, and maintaining these assets, thereby contributing to the resilience of infrastructure serving communities some distance away. Disruptions affecting infrastructure in these locations may therefore have disproportionate impacts and create vulnerabilities that extend well beyond the local area. Denmark stands out for consistently exhibiting high overall infrastructure values. In this context, some island municipalities with relatively small populations, such as Fanø, illustrate how disproportionate operational responsibilities and vulnerabilities can emerge in sparsely populated areas that host infrastructure of wider national importance.

Low infrastructure value: Local dependence and limited redundancy

Municipalities with a lower economic value in terms of infrastructure use, as shown in light colours in Map 9.1, often have small populations (light green). While fewer in number, this category also

includes municipalities with large populations (light pink). Despite their lower estimated economic value, infrastructure in these areas can still be critical for local communities, particularly where alternative services or backup options are limited.

Low economic infrastructure value + small population (light green). Municipalities in this category are typically in remote or sparsely populated regions, characterised by limited energy production, low industrial turnover, limited freight transport, and lower expenditure on social infrastructure. This pattern is especially pronounced in Iceland, but also appears in other Nordic countries, for example, in Røst (Norway), Árneshreppur (Iceland), Ydre (Sweden) and Enonkoski (Finland). These patterns may reflect lower infrastructure investment as a consequence of small population size, but they may also indicate areas where population levels remain low due to limited infrastructure and sparse service provision. In either case, infrastructure redundancy is likely to be low, leaving communities with few viable alternatives in the event of disruptions.

Low economic infrastructure value + large population (light pink). The map shows a limited number of municipalities with low economic value, despite large populations. This reflects limited local contributions to the included services (e.g., energy production or freight transport), which indicates a high level of dependence on infrastructure located elsewhere. These municipalities may have fewer local obligations related to operating, maintaining and ensuring place-based infrastructure resilience. They remain vulnerable to disruptions in external systems. In such contexts, criticality arises from limited redundancy and a high degree of dependency on external supply, rather than the scale of local infrastructure assets.

Conclusion

As critical infrastructure policy shifts from protecting individual assets towards ensuring the continuity of societal services, it is important to understand the economic significance of infrastructure assets and their use. Economic measures help to illustrate both the potential losses associated with disruptions and the broader societal importance of infrastructure.

Infrastructure criticality takes different forms across the Nordic Region. When comparing the economic value of infrastructure in different sectors, land transportation stands out as the sector with highest total value, accounting for up to half of total infrastructure value in most Nordic countries and territories. The analysis also reveals differences in how infrastructure use and settlements interact across the Nordic Region.

High-value infrastructure use is found in municipalities with both small and large populations, but the associated roles and challenges differ. Some small municipalities host infrastructure that serves much wider regions. They have significant operational and crisis-management responsibilities for nationally important systems. By contrast, some large population centres rely heavily on infrastructure located elsewhere, which increases their exposure to external disruptions.

Together, these findings highlight the need for differentiated, place-based resilience strategies that balance robustness and redundancy across the Nordic Region. For example, large urban centres with high infrastructure use value can function as systemic hotspots, where disruptions can potentially cascade across multiple sectors. Sparsely populated municipalities that host key infrastructure may be saddled with disproportionate operational responsibilities. Conversely, densely populated areas with limited local infrastructure value may be particularly vulnerable due to their dependence on external supply.

While these economic measures of infrastructure value highlight areas in which economic value is concentrated, they do not capture cascading effects that shape the impact of disruptions and the understanding of their criticality. Complementary assessments of strategic functionality and crisis-related dependencies can further strengthen evaluations of critical infrastructures in the Nordic Region.

References

Batista e Silva, F., Forzieri, G., Marin Herrera, M. A., Bianchi, A., Lavalle, C. & Feyen, L. (2019). HARCI-EU, a harmonized gridded dataset of critical infrastructures in Europe for large-scale risk assessments. Scientific Data, 6(1), 126. https://doi.org/10.1038/s41597-019-0135-1

CDRI. (2023). Building & infrastructure | GIRI [Coalition of Disaster Resilient Infrastructure]. Global Infrastructure Resilience: Capturing the resilience dividend - A Biennial Report from the Coalition for Disaster Resilient Infrastructure. https://giri.unepgrid.ch/facts-figures/building-infrastructures

European Commission. (2025). EU Preparedness Union Strategy.: Vol. Secretariat General. Publications Office. https://data.europa.eu/doi/10.2792/1964849

European Union. (2022). DIRECTIVE (EU) 2022/2557 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 December 2022 on the resilience of critical entities and repealing Council Directive 2008/114/EC (Official Journal of the European Union No. L 333/164). https://eur-lex.europa.eu/eli/dir/2022/2557/oj/eng

Forzieri, G., Bianchi, A., Silva, F. B. e, Marin Herrera, M. A., Leblois, A., Lavalle, C., Aerts, J. C. J. H. & Feyen, L. (2018). Escalating impacts of climate extremes on critical infrastructures in Europe. Global Environmental Change, 48, 97–107. https://doi.org/10.1016/j.gloenvcha.2017.11.007

Lai, S. S. & Flensburg, S. (2023). Gateways: Comparing Digital Communication Systems in Nordic Welfare States (p. 205) [Application/pdf, application/epub+zip]. Nordicom, University of Gothenburg. https://doi.org/10.48335/9789188855848

Larsson, S. & Rhinard, M. (Eds). (2020). Nordic Societal Security: Convergence and Divergence. Routledge. https://doi.org/10.4324/9781003045533

Nordic Council. (2023, March 15). International Strategy of the Nordic Council. https://doi.org/10.6027/politiknord2023-718

Pursiainen, C. (2018). Critical infrastructure resilience: A Nordic model in the making? International Journal of Disaster Risk Reduction, 27, 632–641. https://doi.org/10.1016/j.ijdrr.2017.08.006

Pursiainen, C. & Kytömaa, E. (2023). From European critical infrastructure protection to the resilience of European critical entities: What does it mean? Sustainable and Resilient Infrastructure, 8(sup1), 85–101. https://doi.org/10.1080/23789689.2022.2128562

Sari, A. (2025). Protecting maritime infrastructure from hybrid threats: Legal options. [Hybrid CoE Research Report 14.].

Slätmo, E. & Bogason, Á. (2024). Nordic rural policies for future service needs. Nordisk Administrativt Tidsskrift, 101(1). https://doi.org/10.7577/nat.5800

Thomson Ek, H. & Wendt-Lucas, N. (2025). Security threats to a digital world – Lessons on securing digital infrastructure in a changing environment. DigiHub. https://nordregioprojects.org/digihub/news/security-threats-to-a-digital-world-lessons-on-securing-digital-infrastructure-in-a-changing-environment/

UNDRR. (2017). Definition: Critical infrastructure | UNDRR. United Nations Office for Disaster Risk Reduction (UNDRR). https://www.undrr.org/terminology/critical-infrastructure

Chapter 10

THE ROLE OF INNOVATION IN THE NORDIC GREEN RUSH

AUTHORS: Ágúst Bogason and Maja Brynteson
DATA AND MAPS: Madelene Sonesson

Introduction

The green transition represents a defining paradigm shift in the 21st century. It encompasses political, economic and societal transformations designed to achieve climate neutrality, resource efficiency and sustainable economic growth (European Commission, 2019; OECD, 2023). At its core, it involves a structural reorientation of production and consumption systems, including the deployment of renewable energy, electrification of transport, circular economy practices and the decarbonisation of heavy industries (Geels et al., 2017). Beyond environmental imperatives, the transition entails profound socio-economic implications for competitiveness, labour markets and territorial cohesion (Flam & Sánchez Gassen, 2024).

Globally, the green transition is framed by international agreements such as the 2015 Paris Agreement (UNFCCC, n.d.) and the United Nations Sustainable Development Goals (UN, 2015), which provide both targets and normative legitimacy for action. Yet the transition is uneven across regions due to differences in resource endowments, governance capacities and political priorities (Aiginger & Rodrik, 2020).

The Nordic Region has long positioned itself as a global leader in sustainability, innovation and welfare governance. Nordic countries consistently rank among the top performers in global environmental indices and have committed to achieving net-zero greenhouse gas emissions by or before 2050 (Sánchez Gassen et al., 2025). However, the transition is far from uniform. While some regions are experiencing rapid industrial growth, others face structural challenges, including labour shortages, uneven access to infrastructure and socio-economic disparities (Dixon et al., 2023). These regional differences are shaped by territorial dynamics, including the geography of resources, industrial clustering, and the availability of critical infrastructure and institutional capacity.

The term "Green Rush" refers to accelerating green investments, rapid structural shifts and intensified competition for green technologies – a framing that underscores the urgency and complexity of the transition. The green transition is inseparable from processes of invention and innovation, which act as critical enablers of systems change. While invention refers to the creation of new technologies and solutions, often reflected through patents, innovation encompasses the broader adoption, diffusion, and integration of these solutions into economic and social systems. This is a crucial distinction, as patents signal inventive capacity, but successful green transition depends on systemic innovation, in which technological breakthroughs are aligned with supportive policies, market incentives and institutional frameworks.

This chapter investigates the evolving dynamics of the green transition across the Nordic Region,

with a particular focus on the roles of invention and innovation as catalysts for systemic change and sustainable growth. It begins by outlining the economic and sectoral impacts of the transition and goes on to analyse the innovation systems and the spatial distribution of green patents and eco-innovation. The chapter then explores the challenges of moving from invention and innovation to implementation, before discussing the territorial, governance and social equity dimensions that shape the outcomes and equity of the green transition in different Nordic contexts.

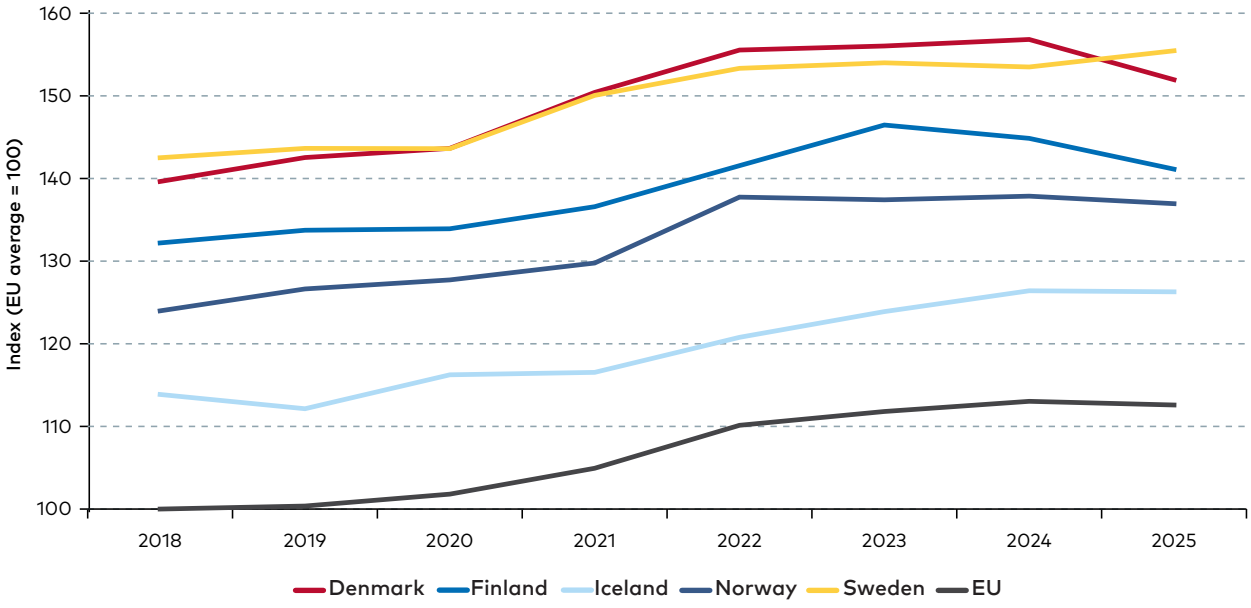
Features of the green transition

Economic and sectoral impacts of the green transition

The green transition represents both a structural opportunity and a disruptive "shock" to the Nordic economies. On the one hand, it promises new sources of growth in clean energy, advanced manufacturing, sustainable services, etc. On the other hand, it entails significant adjustment costs, especially in carbon-intensive sectors such as energy, manufacturing, transportation and heavy industry, as well as major societal changes (IEA, 2021).

In the energy sector, the shift from fossil fuels towards renewables requires not only technological innovation, but also substantial investments in grid infrastructure and energy storage. Manufacturing industries face the dual challenge of reducing emissions while maintaining competitiveness, which prompts a shift towards circular economy models, the electrification of processes and the use of low-carbon materials, such as green steel. The transportation sector must undergo a comprehensive transition, not only through the electrification of vehicles, but also by prioritising sustainable fuels for aviation and shipping and by exploring other low-emission solutions to reduce dependency on fossil fuels. These changes will likely lead to mixed economic effects, as regions and workers currently dependent on traditional industries will be at risk of being left behind unless they are supported by proactive policies for reskilling, innovation and regional development (Dixon et al., 2023).

FIGURE 10.1: NORDIC INNOVATION SCOREBOARD INDEX.



NOTES: This figure presents the innovation performance of the Nordic countries relative to the EU average, based on the European Commission's European Innovation Scoreboard (EIS). This dataset, which includes all of the Nordic countries, provides a comparative assessment of national innovation systems across Europe. The Nordic countries consistently outperform the EU average, with Sweden and Denmark remaining among Europe's top performers, and Finland showing a strong upward trend. Norway and Iceland also demonstrate steady improvement, although at lower overall index levels compared to their Nordic neighbours. **SOURCE:** European Commission (2025a).

The geography of the green transition, particularly where new green industries will emerge, will be shaped by a mix of supply-and-demand-driven factors that will attract investment to specific regions. For example, access to renewable energy and critical materials, combined with infrastructure, institutional capacity, and supportive policies, determines how appealing a location is for investment (Kilinc-Ata & Dolmatov, 2022). However, the locations where green industries develop do not necessarily coincide with those where green innovation is generated.

Innovation landscape

As shown by the European Innovation Scoreboard (EIS), innovation patterns differ across the Nordic countries, which consistently rank at the top of the EIS, outperforming the EU average by a significant margin, as illustrated in Figure 10.1. This indicates that the Nordic countries are strong in research and development, advanced infrastructure and robust innovation ecosystems.

The EIS is a tool used by the European Commission to benchmark innovation performance across Europe on an annual basis. It uses 32 indicators grouped into four key areas: framework conditions (education, research systems), investments (R&D and venture capital), innovation activities (business innovations, patents), and impacts (economic and environmental outcomes). It classifies countries into performance groups, with an increasing emphasis on green and digital transitions. In the 2025 edition, Sweden reclaimed its top spot as the EU's most innovative country, ahead of Denmark and Finland, both of which also ranked as Innovation Leaders. Although not EU members, Norway was classified as a Strong Innovator and Iceland performed above the EU average.

Regional innovation systems

Regional innovation systems play a central role in advancing the green transition by fostering collaboration between companies, research institutions and policymakers. The 2025 Regional Innovation Scoreboard (RIS) highlights the Nordic Region's exceptional performance, as shown in Map 10.1. Among all represented regions, only one falls into the Moderate category, while nearly all other regions are classified as Strong or Leading Innovators, both of which are well above the EU average (European Commission, 2025b). The widespread capacity indicates the presence of an innovation culture that reaches beyond metropolitan centres into smaller and remote areas, with support from strong national research infrastructure and policy frameworks.

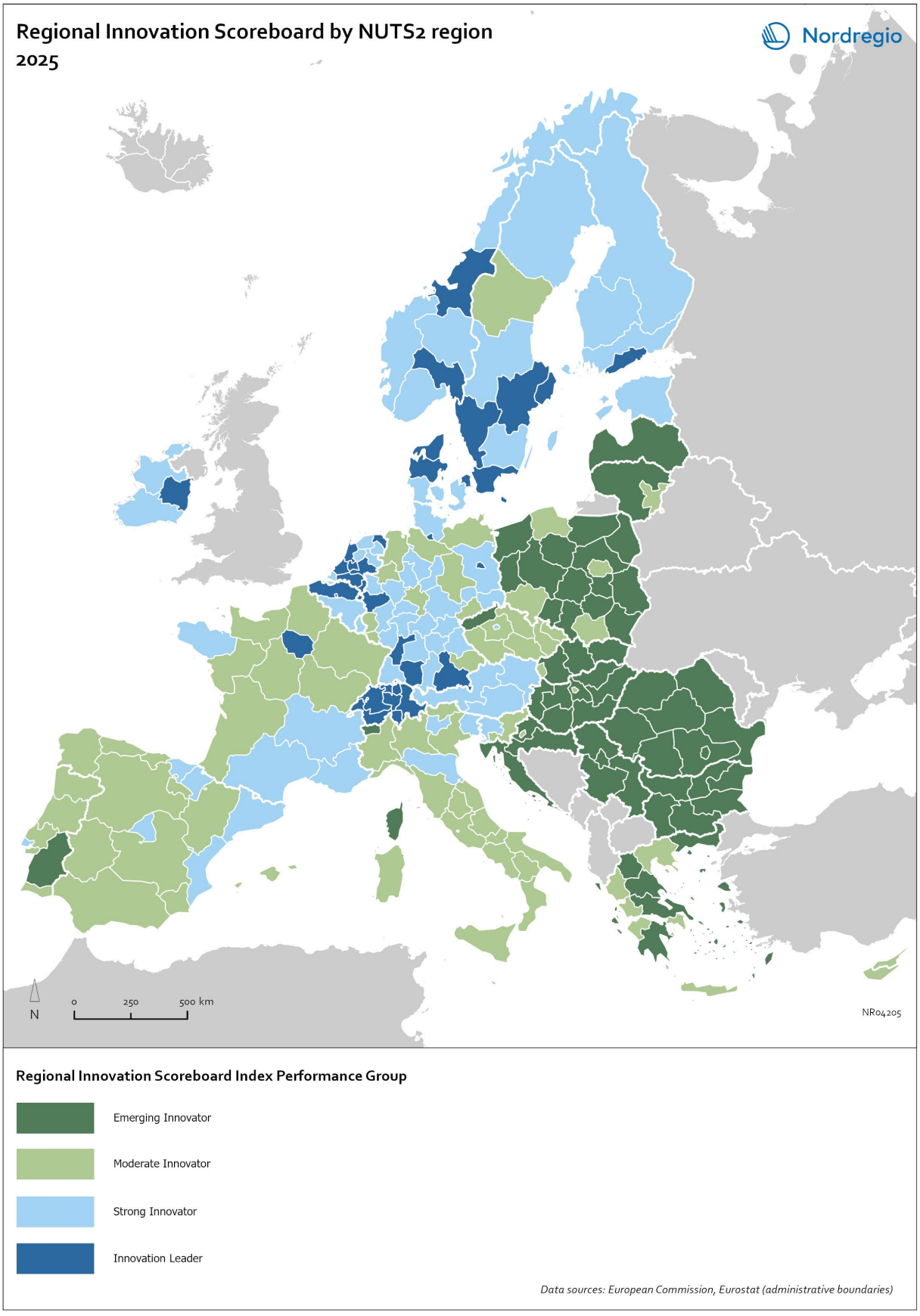
Compared to the broader European landscape – in which regional disparities remain pronounced, particularly in Southern and Eastern Europe – the Nordic countries stand out not only for their high scores, but for the consistency of innovation performance across regions. This distinguishes them from most other parts of Europe, where many regions still fall below the EU average (European Commission, 2025b). The results indicate a broadly distributed innovation capacity, suggesting that even the smaller and more remote Nordic regions maintain strong links to national research systems, higher education institutions, and innovation-oriented enterprises.

Much of Northern and Western Europe falls into the Strong Innovator and Innovation Leader categories, which reflect high R&D intensity, strong institutional frameworks, and mature innovation ecosystems. The Nordic regions' alignment with top-performing regions such as Baden-Württemberg, Île-de-France, and Randstad in the Netherlands underscores their strategic positioning within Europe's innovation ecosystem (European Commission, 2025b). This cohesion is particularly significant for the green transition, as it enables coordinated efforts across borders and sectors, and facilitates the scaling of sustainable technologies and practices (Kwilinski et al., 2025).

Green patents and green innovation

The number of green patents is a key marker of green technological progress. Such patents primarily reflect inventions – new technical solutions aimed at reducing environmental impact – rather than fully deployed innovations. They include technologies for renewable energy, energy efficiency, waste reduction and carbon capture. Patent activity signals concentrations of investment and

MAP 10.1: REGIONAL INNOVATION SCOREBOARD BY NUTS2 REGION, 2025.



NOTES FOR MAP 10.1: The map illustrates the results of the Regional Innovation Scoreboard (RIS) 2025 and shows how EU and Nordic regions perform relative to the EU average (set at 100). The index categorises regions into Emerging Innovators (< 70%), Moderate Innovators (70–100), Strong Innovators (100–125) and Leading Innovators (>125), based on a composite of indicators spanning research, business innovation, digitalisation and sustainability

R&D and indicates industries and regions in which there are high levels of invention relevant to the green transition. Countries with strong patent portfolios often gain an edge in emerging green markets (Kim & Cho, 2025), while regions with abundant renewable energy and strategic minerals are not only positioned to decarbonise industrial processes, but also to power digital and AI-driven transformation (UN, 2025).

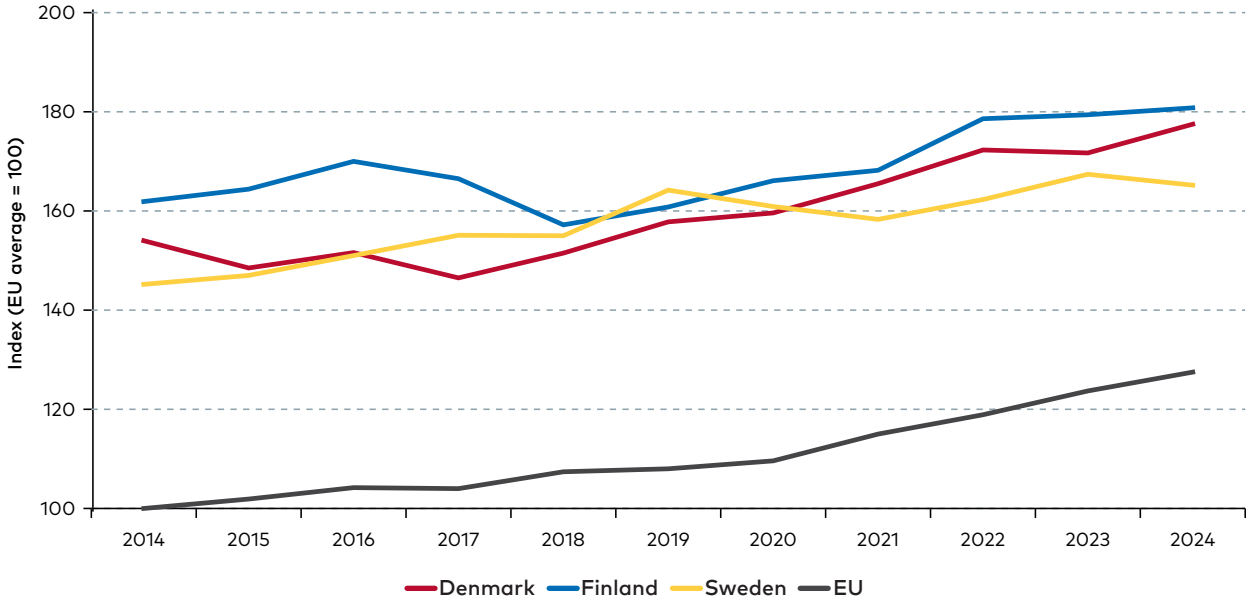
Map 10.2 presents a three-year rolling average of patent applications (absolute numbers) in environment-related technologies across the Nordic regions, based on data from the OECD REGPAT database. The three-year rolling average was chosen to smooth out the inherent volatility in annual patent filings, which can fluctuate significantly due to economic cycles, policy changes or large one-off applications. By aggregating data over three years, this method mitigates the impact of these potential distortions and outlier years and provides a clearer view of trends in green innovation activity. It also improves comparability across regions and highlights underlying patterns of green patent activity.

The spatial distribution of patenting activity shown in Map 10.2 reveals a clear concentration around major urban and industrial hubs, particularly in Southern Finland and Western Norway, where knowledge-intensive industries and research institutions are clustered. Regions such as Helsinki-Uusimaa, Stockholm and Oslo-Viken emerge as leading centres of green patents, averaging between 320 and 1,250 patents each. This underscores their role as engines of technological development in the green transition. Regions like North Ostrobothnia in Finland – which is home to the University of Oulu and major information and communication technology clusters – and Midtjylland in Denmark also rank highly. A secondary belt of medium-high activity is visible in Southern and Western Sweden (e.g., Västra Götaland and Skåne), Southern Jutland, and Denmark's Capital Region, where strong linkages between manufacturing, cleantech, and university research sustain innovation output. By contrast, lower levels of patenting activity are seen in northern and peripheral regions, including Iceland, Northern Finland and Northern Norway. This pattern reflects an urban–rural divide in patent capacity, which is shaped by differences in industrial density, research infrastructure and access to skilled labour.

However, population size can also influence absolute patent counts, potentially obscuring the innovation intensity of less populous regions. To address this, Map 10.3 presents the three-year rolling average of green patent applications per 10,000 inhabitants, offering a population-adjusted perspective on green patents across the Nordic countries. This per capita measure reveals that, while urban regions like Helsinki-Uusimaa, Stockholm, and Oslo-Viken remain leaders in total patent counts, several less populous regions, particularly in Northern Sweden, Norway, and Finland, demonstrate high innovation intensity relative to their populations. These findings suggest that innovation capacity is not solely a function of urban scale, but also reflects regional specialisation, research focus and the presence of knowledge-intensive industries (Tanner et al., 2019; Østergaard et al., 2024).

It is also important to note that urban regions often host the headquarters of knowledge-intensive firms and research institutions, and as such serve as the legal points of origin for patent applications. For example, the patent data from the OECD REGPAT database, as visualised in Map 10.2 and Map 10.3, offers valuable insights into inventive activity, but should be interpreted with caution. REGPAT assigns patents to regions based

FIGURE 10.2: DEVELOPMENT OF ECO-INNOVATION PERFORMANCE IN THE NORDIC COUNTRIES BENCHMARKED AGAINST THE EU AVERAGE.



NOTES: The European Commission produces the Eco-Innovation Index (EII) as part of a broader pan-European dataset. For the purposes of this chart, the values have been filtered to display only Nordic countries. The EII is part of the EU's Eco-Innovation Action Plan (EcoAP) and has been developed specifically to monitor eco-innovation performance within EU Member States. As non-EU members, Norway and Iceland fall outside of the scope of the policy framework the index is designed to evaluate. **SOURCE:** European Commission (2024).

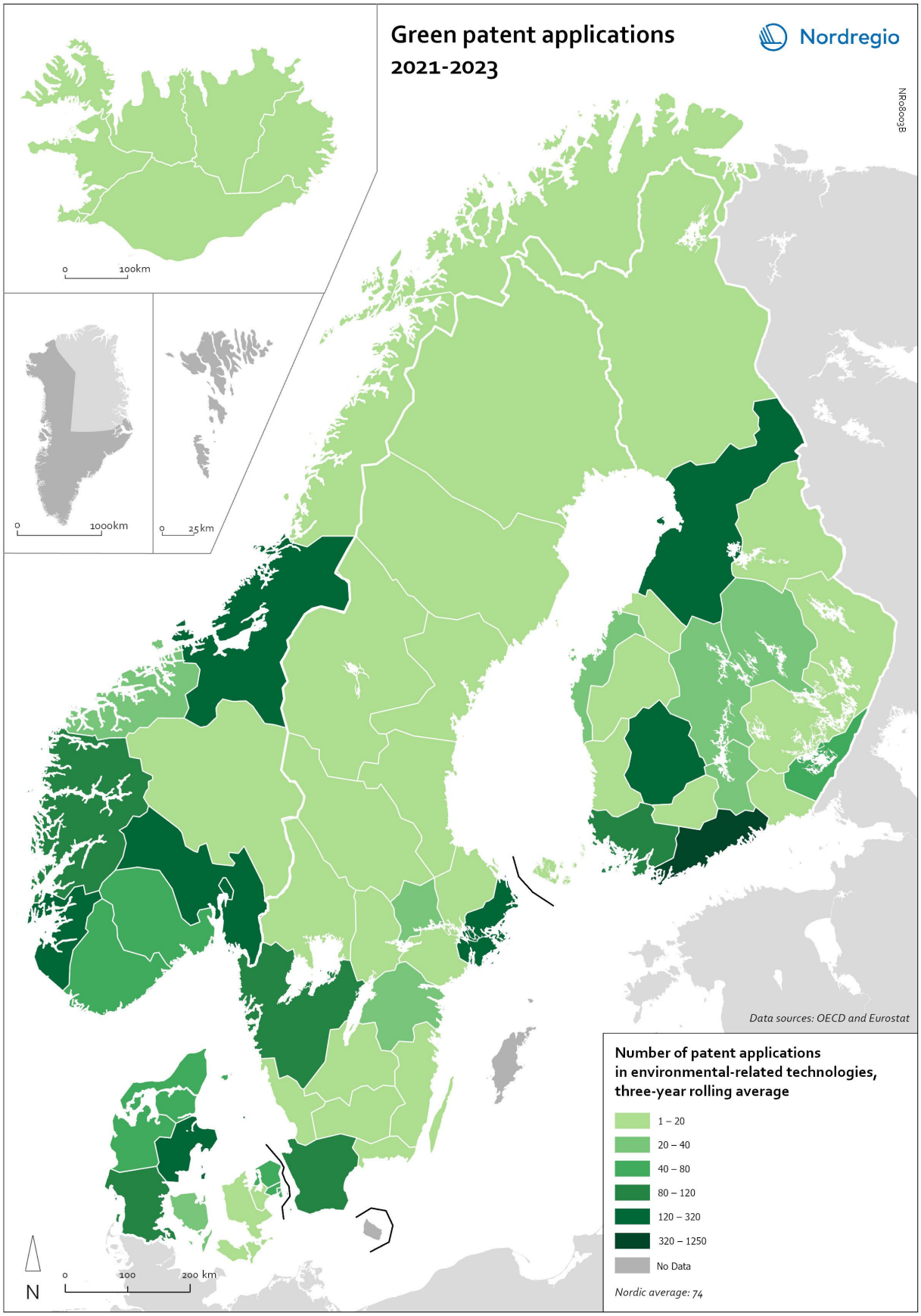
on the addresses of the inventor and applicant, which often correspond to corporate headquarters rather than actual R&D locations, potentially leading to overrepresentation of urban areas (Maraut et al., 2008). Actual innovation activities, such as manufacturing, testing, or resource extraction, may take place in more rural or peripheral areas. For instance, companies may register patents through urban offices while conducting operations in northern regions. This means that while patent data reflects institutional and administrative concentration, it can also underrepresent the geographic spread of innovation-related activities.

In summary, the combination of absolute and per capita patent measures highlights both the concentration of green innovation in urban hubs and the significant contributions of less populous regions. Moreover, patents are an imperfect proxy for innovation: they exclude non-patented innovations, vary by sector in terms of the propensity to submit applications, and do not indicate the economic or technological significance of the inventions (OECD, 2010). Our data do not allow us to test whether these attribution biases or sectoral differences significantly affect the observed patterns and therefore should be interpreted with caution (Cozza & Schettino, 2013).

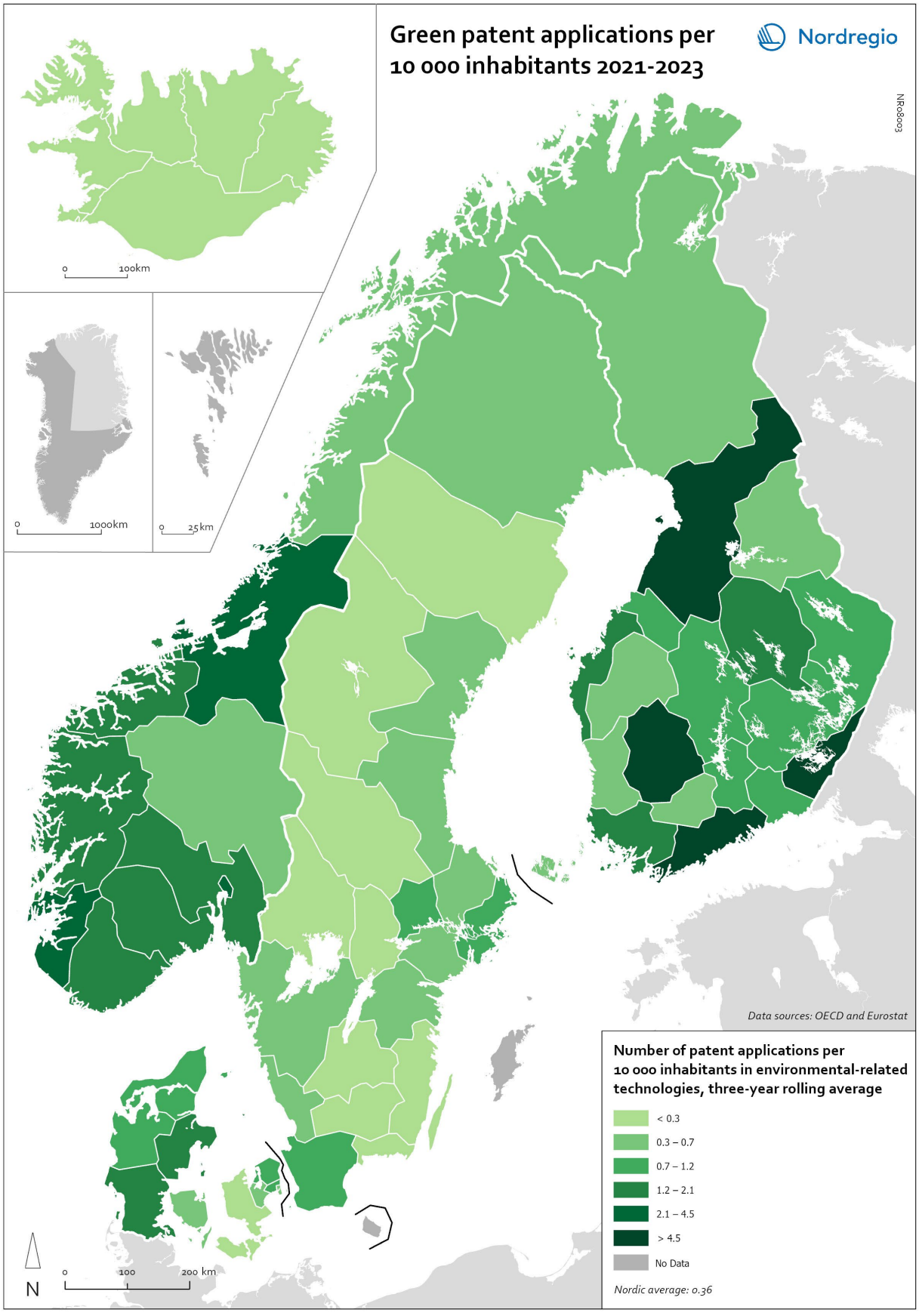
Regional comparisons should therefore be complemented with other indicators and understood as indicative rather than exhaustive measures of innovation performance. One practical way to do this is to employ multi-dimensional innovation metrics, such as the EU's Eco-Innovation Scoreboard. This framework focuses specifically on innovations that reduce environmental impact and support the green transition across the EU. It measures performance across five dimensions: inputs, activities, outputs, resource efficiency and socio-economic outcomes.

Compared with the EU, the Nordic countries are at the forefront in terms of both green patents and green innovations. Between 2014 and 2024, the EU's eco-innovation index rose by 27.5%, primarily driven by gains in resource efficiency, especially increases in greenhouse gas emission productivity

MAP 10.2: GREEN PATENT APPLICATIONS, 2021-2023.



MAP 10.3: GREEN PATENT APPLICATIONS PER 10,000 INHABITANTS, 2021-2023.



NOTES FOR MAP 10.2: This map illustrates the three-year rolling average of patent applications in environment-related technologies across the Nordic countries, serving as an indicator of green innovation activity.

NOTES FOR MAP 10.3: This map illustrates the three-year rolling average of patent applications in environmental-related technologies per 10,000 inhabitants across the Nordic countries. This provides a measure of green innovation intensity relative to population size.

(meaning more economic output generated per unit of emissions). As shown in Figure 10.2, the EU's Eco-Innovation Scoreboard ranks the Nordic countries well above the EU average, putting them at the forefront of Europe's green energy transition.

From innovation to implementation

The Nordic Region's strong innovation ecosystem, with high levels of activity in green patents and sustainable technologies, means that it is well positioned to drive the green industrial transition (European Commission, 2025a). However, innovation alone does not guarantee impact. The shift from innovation to implementation in the Nordic green transition also requires governance, investment strategies and institutional capacity. While policy tools such as regulatory testbeds and incentives can support the scaling of new technologies, their effectiveness varies across regions and is influenced by both local conditions and external factors, such as local governance, market maturity and institutional capacity (Clark, 2019). The process remains subject to uncertainties, and the outcomes depend not only on technological advances, but also on the ability of regions to adapt to changing policy and market environments (Breaugh et al., 2021).

Significant differences in regional capacities and resources create uneven conditions for implementation across the Nordic landscape. For instance, resource endowment plays a central role as access to renewable energy sources and critical raw materials is a fundamental determinant of industrial attractiveness (Mertens et al., 2024). The Nordic energy mix (e.g., hydropower, wind and geothermal) provides a strong foundation but also raises complex questions regarding land use, biodiversity and cultural heritage (Nilsson et al., 2019; Xylia et al., 2024).

Infrastructure readiness is equally critical, as the scaling of green industries depends on energy grids, transport corridors and digital networks. Persistent bottlenecks and logistical vulnerabilities can slow deployment and lead to uneven growth patterns (Gonzalez, 2025). Similarly, institutional and governance capacity influence outcomes – for example, regions with robust administrative systems and strategic investment frameworks are better positioned to mobilise resources and adapt to policy shifts, while fragmented governance can stall implementation even when innovation is present (Aguiar Borges et al., 2025).

Market and financial dynamics add another layer of complexity. High upfront costs, uncertain returns and fluctuating demand for green products all shape adoption trajectories, while access to capital and risk-sharing mechanisms often determine whether projects progress beyond pilot stages (Andersson et al., 2025; OECD/The World Bank, 2024). Finally, social and territorial dimensions cannot be overlooked. The effects of the green transition on employment, migration, and regional development vary. While some regions enjoy economic revitalisation, others face challenges such as marginalisation or increased pressure on local communities and ecosystems (Sánchez Gassen et al., 2024; Bogason et al., 2025).

In short, green innovation is necessary but not sufficient for a successful green transition. Implementation depends on the interplay of technological readiness with systemic enablers, in the form of policy coherence, infrastructure, institutional strength and societal acceptance. Without this alignment, the Nordic green transition risks fragmentation, resulting in islands of progress rather than a cohesive transformation across the Nordic Region.

Conclusions

The ongoing green transition of the Nordic Region is characterised by regional variation, in which the interplay of resources, industrial structures and policy frameworks influences outcomes. While some areas benefit from abundant renewable resources and strong innovation capacity, others encounter adjustment challenges linked to legacy industries and infrastructure limitations (ESPON, 2025). This unevenness shapes both the opportunities and the pressures associated with the green transition.

Nordic countries consistently rank among the leaders in sustainability and innovation at the European level. Green patent activity and innovation outputs are notably concentrated in urban and industrial hubs, yet smaller and more remote regions also demonstrate considerable capacity, particularly when compared to the broader EU context. These patterns suggest a relatively cohesive innovation environment, although some spatial disparities remain.

Moving from innovation to implementation requires more than technological breakthroughs – it demands alignment across governance, infrastructure and market conditions. Effective policy frameworks, investment strategies, and institutional capacity are critical for scaling solutions beyond pilot projects. Equally important are social acceptance and workforce readiness, which influence how quickly and equitably new technologies are adopted. These enabling conditions – governance, infrastructure and social readiness – are unevenly distributed across the Nordic Region, reinforcing spatial disparities and determining which areas can effectively translate innovation into implementation.

References

Aguiar Borges, L., Cavicchia, R., Tomren, L., Bogason, Á. & Kačkus Tybjerg, J. (2025) Nordic cities: pathways towards climate neutrality. Nordregio Report 2025:8. https://pub.nordregio.org/r-2025-8-nordic-cities-pathways-towards-climate-neutrality/pathways-towards-climate-neutrality.pdf

Aiginger, K. & Rodrik, D. (2020). Rebirth of Industrial Policy and an Agenda for the Twenty-First Century. Journal of Industry, Competition and Trade, 20(2), 189–207.

Andersson, M., Köhler-Ulbrich, P. & Nerlich, C. (2025). Green investment needs in the EU and their funding. European Central Bank. https://www.ecb.europa.eu/press/economic-bulletin/articles/2025/html/ecb.ebart202501_03~90ade39a4a.en.html

Bogason, Á., Brynteson, M., Rohrer, L. & Tomren, L. (2025) The Right Kind of Tourist? Rethinking tourism's impact on Nordic communities. Nordregio Report 2025:5. DOI: http://doi.org/10.6027/R2025:5.1403-2503

Breaugh, J., McBride, K., Kleinaltenkamp, M. & Hammerschmid, G. (2021). Beyond Diffusion: A Systematic Literature Review of Innovation Scaling. Sustainability, 13(24), 13528. https://doi.org/10.3390/su132413528

Clark, J. (2019). "From Theory to Practice: What Policies Can Prepare Regions for the Challenges and Opportunities Associated with Disruptive Technologies?", OECD Regional Development Papers, No. 89, OECD Publishing, Paris, https://doi.org/10.1787/06dce570-en

Cozza, C. & Schettino, F. (2013) 'Explaining the Patenting Propensity: A Regional Analysis using EPO-OECD Data', MPRA Paper No. 45084. University of Piemonte Orientale. https://mpra.ub.uni-muenchen.de/45084/

Dixon, P., Rimmer, M., Glyn, W., Juha, H., Tapia, C. & Sánchez Gassen, N. (2023). What impact do climate change policies have on Nordic economies, industries, and households? (C. Tapia & N. Sanchez Gassen, Trans.). Nordregio. https://doi.org/10.6027/R2023:10.1403-2503

ESPON (2025). Territorialising Resilience: Transforming Europe for an Age of Crisis (TERRES). ESPON EGTC, 2025.

European Commission. (2019). The European Green Deal. Brussels: EC.

European Commission. (2024). EU eco-innovation index 2024. Publications Office of the European Union.

European Commission. (2025a). European Innovation Scoreboard 2025. Publications Office of the European Union. https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en

European Commission. (2025b). Regional Innovation Scoreboard 2025. Publications Office of the European Union. https://data.europa.eu/doi/10.2777/2313906

Flam, H. & Sánchez Gassen, N. (eds.) (2024) Regional economic effects of the green transition in the Nordic Region. Nordregio Report 2024:25. https://norden.diva-portal.org/smash/get/diva2:1917487/FULLTEXT02.pdf

Geels, F. W., Sovacool, B. K., Schwanen, T. & Sorrell, S. (2017). Sociotechnical transitions for deep decarbonization. Science, 357(6357), 1242–1244.

Gonzalez, A. (2025). Grid and storage readiness is key to accelerating the energy transition. International Renewable Energy Agency. Retrieved December 9, 2025, from https://www.irena.org/News/expertinsights/2025/Jan/Grid-and-storage-readiness-is-key-to-accelerating-the-energy-transition

IEA. (2021). Net Zero by 2050: A roadmap for the global energy sector. Paris: IEA.

Kilinc-Ata, N. & Dolmatov, I.A. (2022) 'Which factors influence the renewable energy investors' decision?: Empirical evidence from OECD and BRICS countries', Environmental Science and Pollution Research. https://link.springer.com/article/10.1007/s11356-022-22274-8

Kim, S. & Cho, K. (2025). Assessing International Technological Competitiveness in Renewable Energy: An IPC-Based Analysis of Granted Patents. Sustainability, 17(12), 5479. https://doi.org/10.3390/su17125479

Kwilinski, A., Dacko-Pikiewicz, Z., Szczepańska-Woszczyna, K., Lyulyov, O. & Pimonenko, T. (2025). The Role of Innovation in the Transition to a Green Economy: A Path to Sustainable Growth. Journal of Open Innovation: Technology, Market, and Complexity. 11. 100530. 10.1016/j.joitmc.2025.100530.

Maraut, S., Dernis, H., Webb, C., Spiezia, V. & Guellec, D. (2008) The OECD REGPAT Database: A Presentation. OECD Science, Technology and Industry Working Papers, 2008/02. OECD Publishing. https://www.oecd.org/en/publications/the-oecd-regpat-database_241437144144.html

Mertens, J., Dewulf, J., Breyer, C., Belmans, R., Gendron, C., et al. (2024). 'From emissions to resources: mitigating the critical raw material supply chain vulnerability of renewable energy technologies', Clean Energy Systems. https://link.springer.com/content/pdf/10.1007/s13563-024-00425-2.pdf

Nilsson, K., Slätmo, E. & Turunen, E. (2019). Green Infrastructure – Strategic land use. Nordregio Policy Brief 2019:5. https://www.diva-portal.org/smash/get/diva2:1308113/FULLTEXT02.pdf

OECD. (2010) Measuring Innovation: A New Perspective. OECD Publishing. https://www.oecd.org/en/publications/measuring-innovation_9789264059474-en.html

OECD. (2023). Green transition in OECD countries: Opportunities and challenges. Paris: OECD Publishing.

OECD/The World Bank. (2024). Leveraging De-Risking Instruments and International Co-ordination to Catalyse Investment in Clean Hydrogen, Green Finance and Investment, OECD Publishing, Paris, https://doi.org/10.1787/9a377303-en

Sánchez Gassen, N., Lundgren, A. & Tapia, C. (2025). Towards a Just Green Transition: 10 Key messages for Nordic policymakers. Nordregio Policy Brief 2025:26.

Sánchez Gassen, N., Rohrer, L., Berlina, A., Ögland, L., Tapia, C., Cavicchia, R. & Lundgren, A. (2024). Nordic Toolbox for a Just Green Transition. Nordregio Report 2024:21. DOI: http://doi.org/10.6027/R2024:21.1403-2503

Tanner, A. N., Faria, L., Moro, M. A., Iversen, E., Østergaard, C. R. & Park, E. K. (2019). Regional Distribution of Green Growth Patents in four Nordic Countries: Denmark, Finland, Norway and Sweden. Technical University of Denmark.

United Nations (UN). (2015). Transforming our world: The 2030 Agenda for Sustainable Development. New York.

UN. (2025). Leveraging critical energy transition minerals: policy pathways for sustainable development. Policy Brief No. 171.

UNFCCC. (n.d.). Key aspects of the Paris Agreement. Retrieved November 22, 2025, from https://unfccc.int/most-requested/key-aspects-of-the-paris-agreement

Xylia, M., Bin Ashraf, F., Rudberg, P.M., Barquet, K. & Han., G. (2024). Keeping the flow: hydropower, river ecosystems and governance in northern Sweden. Stockholm Environment Institute.

Østergaard, C. R., Park, E., Hain, D. S. & Tanner, A. N. (2024). Understanding green regional path development: a systematic study of the Nordic regions. Regional Studies, 58(11), 2158–2174. https://doi.org/10.1080/00343404.2024.2324925

About NORDREGIO

Research that guides policies for a thriving, sustainable Nordic Region

Nordregio is a Nordic research institute specialised in regional development, policy, and spatial planning. Established by the Nordic Council of Ministers in 1997, the institute supports Nordic co-operation by producing applied, policy-relevant research and comparative analysis on the latest development trends in policy areas central to Nordic regional economic growth, competitiveness and sustainable development.

Through its research, Nordregio contributes to the Nordic Vision of becoming the world's most sustainable and integrated region. The institute's mission is to provide policymakers and practitioners with the knowledge and tools necessary to support sustainable and inclusive development across the Nordic Region and beyond.

Nordregio conducts solution-oriented research and statistical and geospatial analysis that address current societal challenges from both an academic and a policy perspective. The institute works across international, national, regional and local levels, with a primary focus on the Nordic countries while also engaging in the Baltic Sea Region, Europe and the Arctic.

Research fields and expertise

Nordregio's work covers a broad range of themes central to regional development and planning, including:

- Regional development
- Rural development
- Urban planning and housing
- Demography and migration
- Labour markets and economic policy
- Governance
- Sustainability
- Digitalisation
- Marine spatial planning
- Arctic

Through interdisciplinary teams combining policy analysis, data and spatial expertise, Nordregio links statistical and geospatial analysis with research insights. Strong competences on GIS and cartographic visualisation are an integral part of identifying and communicating territorial patterns and regional disparities. By connecting local knowledge with cross-country comparisons, Nordregio provides decision-makers with practical tools and evidence to support balanced, place-based development strategies.

A hub for Nordic statistics

In addition to its research activities, Nordregio serves as a central hub for Nordic statistics. The institute coordinates and develops the Nordic Statistics database and the Nordic Health and Welfare Statistics (Nomesco-Nososco). These statistical platforms provide a centralised access to comparable Nordic data to support analysis and evidence-based policymaking across the Nordic Region.

By combining research expertise with statistics, Nordregio strengthens the link between data, analysis and policy development.

Explore further

Research projects: Learn more about Nordregio's research at nordregio.org/research

Publications: Access reports, policy briefs, working papers and studies at nordregio.org/publications

Maps: Make use of downloadable maps, including those featured in *State of the Nordic Region* at nordregio.org/maps

Statistics: Get easy access to comparable Nordic statistics at nordregio.org/statistics

Newsletter: Subscribe to thematic mailings and research updates at nordregio.org/about/subscriptions

About Nordic cooperation

Nordic cooperation is is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland, and Åland. Nordic co-operation has firm traditions in politics, the economy, and culture. It plays an important role in European and international collaboration and aims at creating a strong Nordic community in a strong Europe. Nordic cooperation seeks to safeguard Nordic and regional interests and principles in the global community and position the Nordic Region as one of the most integrated and sustainable regions in the world.

About
STATE OF THE NORDIC REGION 2026

State of the Nordic Region is Nordregio's flagship publication on regional development in the Nordic countries. The 2026 edition marks the 21st volume of the publication. It builds on a long tradition of Nordic co-operation in collecting, harmonising, and analysing regional statistics. First produced in 1981 by Nordregio and its predecessor organisations, the report provides an overview of ongoing trends across municipalities and regions. It offers policy-makers and practitioners fact-based analysis to support strategic planning and decision-making.

The report examines key developments across three broad themes: demography, labour market, and the economy. The combination of statistics, analysis and map-based visualisation highlight both shared Nordic patterns and local or regional differences. As such, *State of the Nordic Region* enables place-based insights that inform policy and strategic planning at local, regional, national, and Nordic levels. It also facilitates comparative learning and reflection.

State of the Nordic Region strengthens Nordic identity and co-operation and contributes to international understanding of the region. It offers a robust foundation for identifying opportunities and challenges in building sustainable, inclusive, and resilient Nordic regions.

Acknowledgements

State of the Nordic Region 2026 has been developed by Nordregio with Maria Bobrinskaya and Thomas Niedomysl as the editors. Nora Sánchez Gassen, Anna Lundgren and Carlos Tapia coordinated the writing process with researchers and GIS analysts from Nordregio. Miia Itänen and Annika Östman oversaw the communication activities related to the report. Mette Agger Tang and Marija Zelenkauske contributed to the layout process.

In addition to the editors and authors from Nordregio, Gustaf Norlén, Johan Flink and Linus Owman gave valuable inputs and comments in the review process. We also want to thank Rolf Elmér, Nordregio Director, and the Nordregio board - Kasper Lykke Kirkelund Søndergaard, Erik Vieth Pedersen, Maria Eriksson, Olli Voutilainen, Björn Ingi Óskarsson, Katarina Fellman, and Eyðun Christiansen - as well as colleagues at the NCM secretariat and committees for their support.

IMAGES
TOP: ISTOCK
BOTTOM: EMIL SPANGENBERG, VISIT.DK

State of the Nordic Region 2026

Editors: Maria Bobrinskaya and Thomas Niedomysl

Authors: Karina Berbert Bruno, Debora Pricila Birgier, Ágúst Bogason, Maja Brynteson, Hjördis Gudmundsdottir, Timothy Heleniak, Anna Lundgren, Daniel Pils, Nora Sánchez Gassen, Elin Slätmo, Madelene Sonesson, Carlos Tapia, Hedda Thomson Ek and Patrik Tornberg

Data and maps: Karina Berbert Bruno, Debora Pricila Birgier, Hjördis Gudmundsdottir, Timothy Heleniak, Daniel Pils, Nora Sánchez Gassen, Elin Slätmo, Madelene Sonesson, Hedda Thomson Ek and Patrik Tornberg

Nordregio report 2026:2
ISBN: 978-91-8001-189-1 (digital)
ISBN: 978-91-8001-190-7 (PDF)
ISBN: 978-91-8001-191-4 (print)
ISSN: 1403-2503
DOI: http://doi.org/10.6027/R2026:2.1403-2503

Layout: Agger Grafisk Design

Communication: Miia Itänen, Annika Östman and Marija Zelenkauske

Cover photo: iStock

Print: Allduplo
Printed in Sweden

Nordregio
P.O. Box 1658
SE-111 86 Stockholm, Sweden
nordregio@nordregio.org
www.nordregio.org

Nordregio

STATE OF THE NORDIC REGION 2026 provides an overview of recent developments across the Nordic Region, comprising Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland, and Åland.

With data, maps and analysis, the report shows the current state of play within core socioeconomic sectors, including demography, labour markets and the economy. It highlights how multiple, partially overlapping transitions shape the Nordic Region and why territorial context matters for effective policy.

Combining a Nordic-wide perspective with place-based analysis, State of the Nordic Region 2026 offers insights from local, regional and national levels, as well as cross-regional comparisons. As such, it equips policymakers, practitioners, and researchers with analysis and evidence to inform strategic planning, policy design and cross-regional learning.

Nordregio
P.O. Box 1658
SE-111 86 Stockholm, Sweden
nordregio@nordregio.org
www.nordregio.org