Nordregio

NORDREGIO WORKING PAPER 2026:10

Nordic labour markets: Dynamics and sustainable competitiveness

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http://pub.nordregio.org/wp-2026-10-nordic-labour-markets/

Key takeaways

- Nordic labour markets remain strong but are undergoing substantial structural change. The labour productivity levels of all Nordic countries are above the EU average, while employment and productivity trajectories differ considerably across sectors and countries.
- Strong aggregate performance masks important sectoral differences. Both employment and productivity grew in information and communication across the Nordic region, while employment declined in agriculture, forestry and fishing in all countries except Norway.
- Labour market restructuring is highly place-based. Sectoral employment structures have evolved more rapidly in many northern and peripheral municipalities in Norway, Sweden and Finland, reflecting both sectoral growth and decline, while slower structural change is more prevalent in southern Sweden and Denmark.
- Employment is shifting towards higher-skilled occupations, but trajectories vary across places. The share of high-skilled employment increased for both women and men between 2014 and 2023, while municipal labour markets show different combinations of upgrading, polarisation and downgrading.
- Labour market change has a clear gender dimension. Occupational upgrading was more widespread among women, while men experienced more varied local patterns, including greater polarisation and downgrading. Persistent sectoral segregation also means that women and men are differently exposed to growth and decline across sectors.
- Sustainable competitiveness depends on the capacity to adapt to changing labour and skills needs. The findings highlight the importance of making effective use of the available workforce by ensuring that emerging employment opportunities are accessible to both women and men.

Key concepts

Labour market dynamics: The patterns of movement of workers between employment, unemployment and inactivity, as well as transitions between jobs, occupations and sectors.

Sustainable competitiveness: The capacity of an economy to sustain long-term productivity growth and rising living standards, driven primarily by knowledge and skills rather than labour cost competition, supported by fair global competitive conditions and underpinned by economic and geopolitical security (Draghi, 2025).

1. Introduction



Image: Simon Paulin / imagebank.sweden.se

Well-functioning labour markets are key to economic growth and international competitiveness, as well as to individual opportunities, regional business development and the sustainability of the Nordic welfare model. A high employment rate has long been one of the cornerstones of the Nordic labour markets. Previous research has highlighted the importance of regional skills ecosystems, remote work, labour shortages and labour mobility in understanding how the Nordic labour markets function and adapt. However, digitalisation and new technologies, the green transition and, more recently, geo-political and geo-economic changes affecting value chains, security and preparedness have heightened labour market vulnerability. Demographic change is also placing greater pressure on labour supply, while continued urbanisation and population ageing are creating particular challenges for sectors such as healthcare. New employment opportunities do not necessarily align with place-based realities, especially the availability of workers with the required skills. This increases the need to understand where new labour demand is emerging and how education, reskilling and upskilling can support workers and regions in responding to change.

These developments are closely connected to the wider Nordic policy agenda. Nordic Vision 2030 aims to make the Nordic Region the world's most sustainable and integrated region by 2030, pursuing the priorities of a green, competitive and socially sustainable Nordic Region. The Nordic Co-operation Programme for Regional Development and Planning 2025–2030 translates this vision into a regional context, with a focus on creating opportunities for people and businesses through the green transition, strengthening regional competitiveness and resilience, and promoting cooperation across regions (Nordic Council of Ministers, 2024). This place-based perspective is particularly relevant to labour market dynamics, as the capacity to respond to changing labour demand depends on regional differences in labour supply and demand, skills and other local conditions.

Understanding labour market dynamics is central to assessing how the Nordic labour markets can support sustainable competitiveness and respond to changing labour and skills needs. This working paper examines these dynamics through productivity, labour market performance, sectoral employment and mobility, and occupational and skills change, with particular attention to gender differences.

The paper is the starting point for the project Labour market dynamics supporting sustainable competitiveness and development. It provides an overview of the current state and changing dynamics of Nordic labour markets and establishes a knowledge base for the project through key concepts, indicators and data. These form the basis for the forthcoming place-based analysis of labour market dynamics in the Nordic Region.

2. Key concepts



Image: Getty Images / unsplash.com

Labour market dynamics

Labour market dynamics in the Nordic countries are shaped by continuous processes of job creation, job destruction and labour reallocation across companies, sectors, occupations and places. A central insight from the literature is that structural change in advanced economies rarely occurs through a sweeping replacement of old jobs by entirely new ones. Instead, it unfolds largely through reallocation between existing jobs, sectors and occupations, with gross labour flows greatly exceeding net changes in aggregate employment (Autor et al., 2025; Bluedorn et al., 2022).

Current structural transitions (linked to automation, green transition and population ageing) have so far had limited aggregate employment effects but have generated large compositional shifts across occupations and companies. Since 2000, employment has been increasing in the EU rather than shrinking, with growing labour market participation rates playing a crucial role in meeting this higher labour demand (Hurley et al., 2025).

Understanding labour market dynamics therefore requires looking beyond overall net employment growth or decline to examine the movement of workers between labour market segments, while paying particular attention to the role of skills in enabling those movements and to the spatial unevenness of adjustment. Bringing these different dimensions of labour market change together, the project uses the following operational definition of labour market dynamics: the patterns of movement of workers between employment, unemployment and inactivity, as well as transitions between jobs, occupations and sectors.

Sustainable competitiveness

The concept of sustainable competitiveness builds on a broader literature linking long-term competitiveness to productivity growth. However, definitions and approaches to measuring competitiveness, sustainability and economic performance vary (Balkytė & Tvaronavičienė, 2010). Some approaches emphasise the long-term ability of economies to generate prosperity without undermining the conditions for future development (Thore &

Tarverdyan, 2016), while others explicitly include environmental and social sustainability (Balkytė & Tvaronavičienė, 2010; Herciu & Ogrean, 2014; Kaya & Ünal Uyar, 2026).

In recent years, discussions on sustainable competitiveness in Europe have increasingly focused on the role of innovation, skills, resilience and strategic autonomy in sustaining prosperity under conditions of global economic and geopolitical change. The Draghi Report defines sustainable competitiveness as *the capacity of an economy to sustain long term productivity growth and rising living standards, driven primarily by knowledge, innovation, and skills rather than labour cost competition, supported by fair global competitive conditions and underpinned by economic and geopolitical security* (Draghi, 2025).

The Draghi definition serves as the working definition for this project. While other conceptualisations of sustainable competitiveness emphasise environmental sustainability, social cohesion, institutional quality and intergenerational prosperity, the Draghi framework offers a particularly relevant lens for analysing labour market dynamics and regional development. It places productivity growth at the centre of competitiveness, recognising it as the primary driver of long-term economic growth and rising living standards. At the same time, it moves beyond traditional cost-based notions of competitiveness, highlighting the importance of knowledge, skills, innovation and the capacity of the workforce to create value. The framework also acknowledges that competitiveness can be affected by uneven global competitive conditions and emphasises the importance of economic and geopolitical security as foundations for sustained investment, resilience and growth (Draghi, 2025). This perspective aligns closely with the project's focus on how regions can adapt to structural change, strengthen their knowledge and skills base, and maintain prosperity while enhancing their long-term competitive position.

Box: Green jobs

Existing occupational structures are evolving, and the green transition is one source of changing skills demand. A growing body of research on green jobs has emerged since 2008, resulting in a variety of definitions and approaches. While no single definition of green jobs has become universally accepted, the literature shows a broad convergence around occupations and activities associated with sustainable development, renewable energy and the green and circular economy (Stanef-Puică et al., 2022).

It is clear that achieving climate neutrality will require major changes across the economy, transforming sectors such as energy, buildings and transport, and necessitating substantial investment and widespread workforce reskilling. The European Commission estimates that up to 500,000 workers across the EU may need retraining or reskilling each year up to 2050, with particularly strong demand associated with the expansion of electric vehicles and wind and solar power technologies. Skills demand is expected to increase across a broad range of occupations, including highly skilled professionals in IT, science and engineering, medium-skilled workers such as electricians and machinery workers, and low-skilled manufacturing workers (European Commission. Directorate-General for Climate Action et al., 2026). The demand for clean technology occupations and skills is already

growing: 92% of EU companies are taking action to reduce emissions, while 79% report skills shortages as a barrier to investment (Cedefop, 2026).

In the Nordic Region, GHG emissions per person employed have been consistently falling in most countries and in 2021, around 3.5 million jobs were classified as green (according to a task-based classification). Urban areas record both the lowest emissions per person employed and the highest prevalence of green jobs. Beyond the capital regions, some industrial municipalities also recorded employment in green jobs above 30%, including Burlöv, Gnosjö and Ludvika (SE), Uusikaupunki (FI), Skive and Frederica (DK) and Bærum and Sandnes (NO) (Norlén & Berbert Bruno, 2024). The green transition also has an important gender dimension. Globally, two-thirds of green jobs are held by men. In advanced economies, green jobs account for 20,6% of men´s employment, compared with only 6% of women´s employment (Alexander et al., 2024). Nordic research highlights the links between gender-segregated educational choices, existing labour market segregation and access to green jobs, indicating that women and men are differently positioned within the transition. Reskilling, upskilling and lifelong learning will therefore be important in enabling workers to move from activities where employment is declining towards areas of growing demand (Løvslett Danbolt, 2023; Sand, 2026).

Overall, more balanced gender representation, combined with meaningful influence over strategic decisions, can broaden the perspectives shaping the green transition and contribute to more effective decision-making and longer-term competitiveness (Sand, 2026). A competitive green transition will therefore depend on skills and investment, while also ensuring that emerging green jobs are equally accessible to women and men.

3. Labour productivity in the Nordic countries



Image: Mikhail Luxkstn / unsplash.com

Following Draghi (2025), labour productivity is a central driver of sustainable competitiveness, reflecting an economy's capacity to generate value, support rising living standards and sustain long term prosperity. Figure 1 illustrates trends in labour productivity, measured as GDP per worker, across the Nordic Region and in the EU27 between 2005 and 2025.

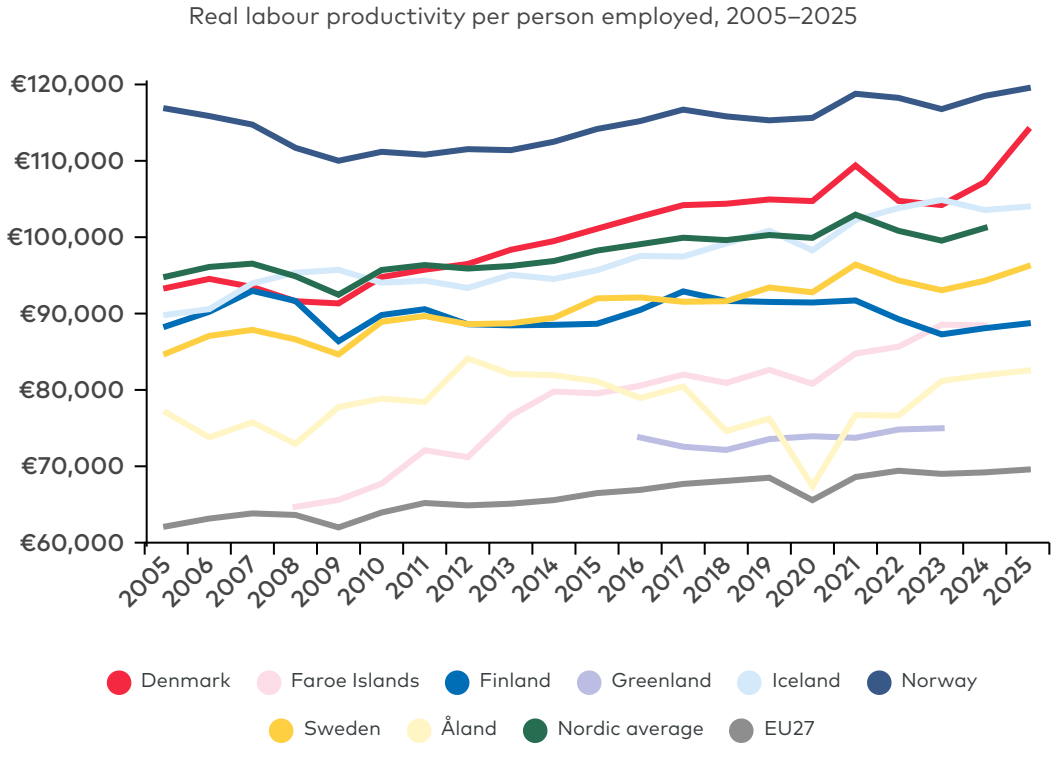


Figure 1. Real labour productivity per person employed, 2005–2025 (euros, at constant 2020 prices).
Source: Annual Regional Database of the European Commission (ARDECO), RNLHZ, SNETZ, SOVGZ; National Statistical Institutes (GL, FO).

Figure 1 shows that productivity generally increased over the period, although growth was temporarily disrupted by the aftermath of the 2009 financial crisis and the COVID-19 pandemic. The smaller Nordic economies also perform comparatively well but exhibit greater sensitivity to economic fluctuations and therefore show more pronounced variations over time. All the Nordic countries have higher levels of real labour productivity than the European average. However, in terms of percentage growth over the period, the EU27 outperforms the Nordic average.

At sector level, labour productivity growth has slowed across most major sectors in the Nordic countries, with particularly marked declines in manufacturing, trade and transport, and ICT services since 2020. Denmark stands out as an exception, owing to strong productivity growth in its pharmaceutical industry. According to an IMF sectoral analysis by Komatsuzaki & Renault's (2026), this slowdown has been driven primarily by weaker productivity growth within industries rather than shifts in employment between sectors. Labour reallocation has played only a modest role, although in Europe employment increasingly shifted towards lower-productivity sectors during the 2010s (Komatsuzaki & Renault, 2026).

To provide a broader perspective on the relationship between productivity and labour market dynamics in the Nordic Region, Figure 2 compares average annual growth in real gross value added (GVA) per hour worked with average annual employment growth, measured as the number of persons employed, across selected industries in Denmark, Finland, Iceland, Norway and Sweden.

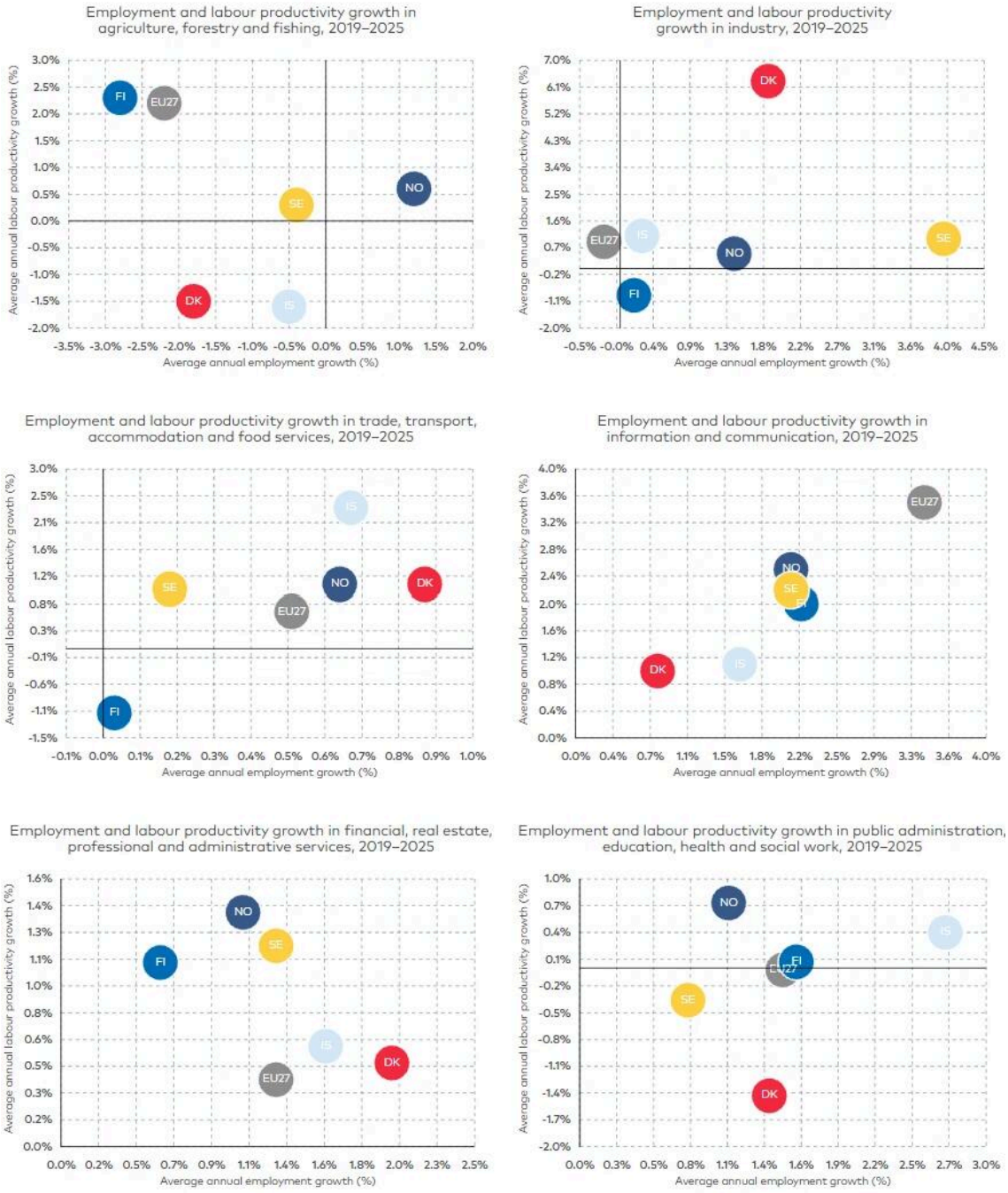


Figure 2. Employment and labour productivity growth by selected industry in the Nordic countries and EU27, 2019–2025.

Note: The horizontal axis shows average annual employment growth, measured in number of employed, while the vertical axis shows average annual labour productivity growth, measured as real GVA per hour worked. The panels cover the following NACE categories: A, B to E, G to I, J, K to N, and O to Q.

Source: Authors' own calculations based on data from the Annual Regional Database of the European Commission (ARDECO), RNLHZ, SNETZ, SOVGZ.

Figure 2 compares average annual employment growth with average annual labour productivity growth across six selected industry groups between 2019 and 2025. Each panel shows Denmark, Finland, Iceland, Norway and Sweden alongside the EU27 average. Countries in the upper right quadrant experienced growth in both employment and productivity, while the other quadrants capture different combinations of employment expansion or contraction and productivity growth or decline. The analysis examines the trajectory of sectoral change in terms of employment and productivity growth, rather than the absolute size of sectors, their share of total employment or their overall contribution to productivity growth. The results should therefore be interpreted as indicating the direction and pace of change within sectors. These national trends may also mask substantial regional differences, as variations in industrial profiles mean that regions are differently exposed to changes in employment and productivity across sectors.

Across the six industry groups, the relationship between employment and productivity growth is considerably more varied than aggregate productivity trends suggest. While some industries, notably financial services and information and communication, combine increasing employment with rising productivity across all countries, others show a trade-off between the two dimensions. There is also substantial variation between the Nordic countries within individual industries, most notably in primary industries. Public-sector productivity is included here for analytical reasons only. Productivity growth in public services should not be interpreted as a measurement of efficiency, as changes in output per hour worked do not fully capture changes in the quality or effectiveness of services provided.

Information and communication (ICT) stands out as the sector with the most consistent positive relationship between employment and productivity growth, with growth recorded in both dimensions across the five Nordic countries and the EU27. It is also the sector in which the EU outperforms the Nordic countries, recording the strongest productivity and employment growth.

Industrial development is characterised by considerable divergence across the Nordic countries. Denmark combines particularly strong productivity growth with employment expansion, while other Nordic countries show more modest productivity gains or, in Finland's case, declining productivity alongside limited employment growth. The strongest employment growth is observed in Sweden, while only the EU experienced an overall decline in employment during the period. Employment declined in agriculture, forestry and fishing in all countries except Norway. In Finland and the EU, the decline in employment is combined with relatively strong productivity growth of between 2% to 2.5% annually, whereas Denmark and Iceland show both falling employment and productivity.

In trade, transport, accommodation and food services, all Nordic countries except Finland record modest growth in employment and productivity. Iceland shows the strongest productivity growth among the Nordic countries. The financial and administrative services sector records consistent expansion in employment across all five Nordic countries and the EU as a whole, whereas the productivity gains in the sector are more varied and moderate.

The welfare sector shows widespread employment expansion but no corresponding uniform pattern in measured labour productivity. Employment increased in all five Nordic

countries and the EU27, while productivity growth ranged from positive in Norway and Iceland to negative in Sweden and particularly Denmark. Given the challenges associated with measuring output in public and welfare-related services, these results should not be interpreted directly as differences in the quality or efficiency of service provision.

The six matrices reveal substantial variation in the relationship between employment and labour productivity growth across both industries and countries. The ICT sector stands out as the clearest example of employment and productivity growth occurring simultaneously across the Nordic countries, while the agriculture, forestry and fishing sector is characterised predominantly by employment contraction. Employment also expanded across all countries in public administration, education, health and social work, although measured productivity growth was mixed. These differences demonstrate that aggregate national indicators can conceal important differences in the way individual sectors contribute to employment and productivity growth.

These contrasting sectoral trajectories are also relevant from a gender perspective, as women and men are unevenly distributed across industries. Whether employment expands or declines, and whether this coincides with productivity growth, may affect the employment opportunities of women and men differently, depending on the gender composition of the sectors concerned. Changes in the sectoral composition of employment therefore represent an important link between labour market dynamics, competitiveness and gender equality.

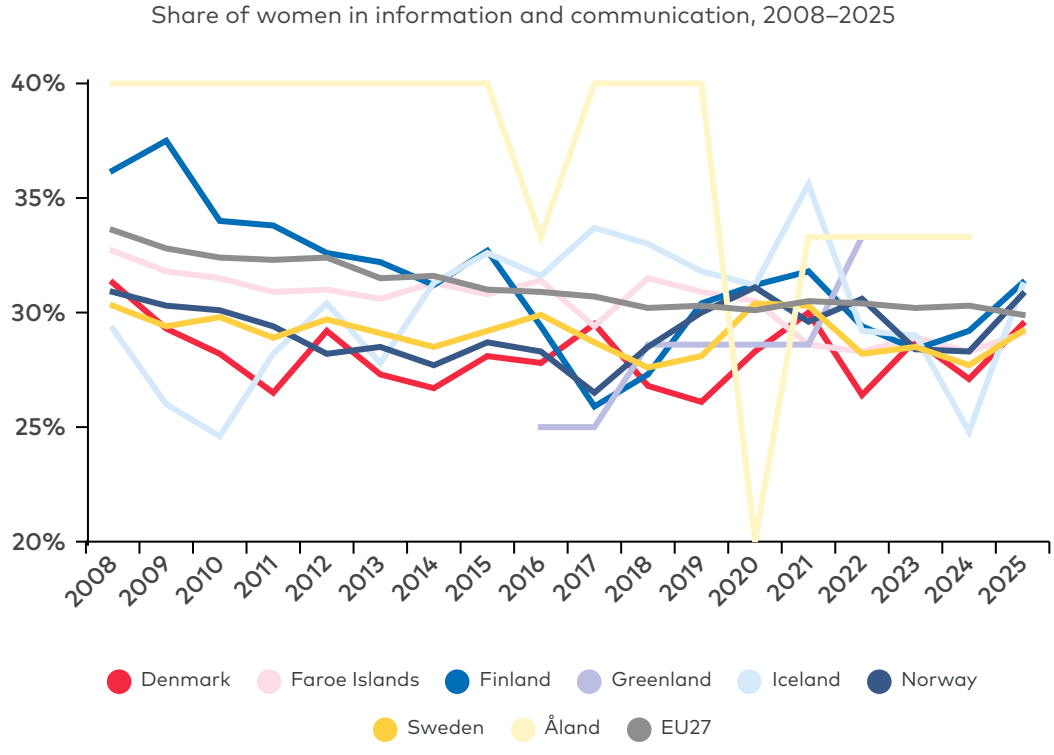


Figure 3. Share of women in information and communication, 2008–2025.
Source: Nordic Statistics Database, LABO01B.

Figure 3 shows the share of women employed in the ICT sector between 2008 and 2025. Women remain underrepresented in the sector, with little evidence of change despite employment growth across the Nordic Region. As a key driver of the digital transformation, ICT is also one of the most dynamic sectors in the EU. Employment among ICT professionals in the EU increased by around 90% between 2012 and 2022, with 54% of ICT professionals working in the ICT sector. Common occupations include software developers, systems analysts, programmers and network specialists (Cedefop, 2023). Women account for less than one-third of employment in the sector, indicating that employment growth in this sector is disproportionately expanding opportunities for men.

Share of women in manufacturing and other industries, 2008–2025

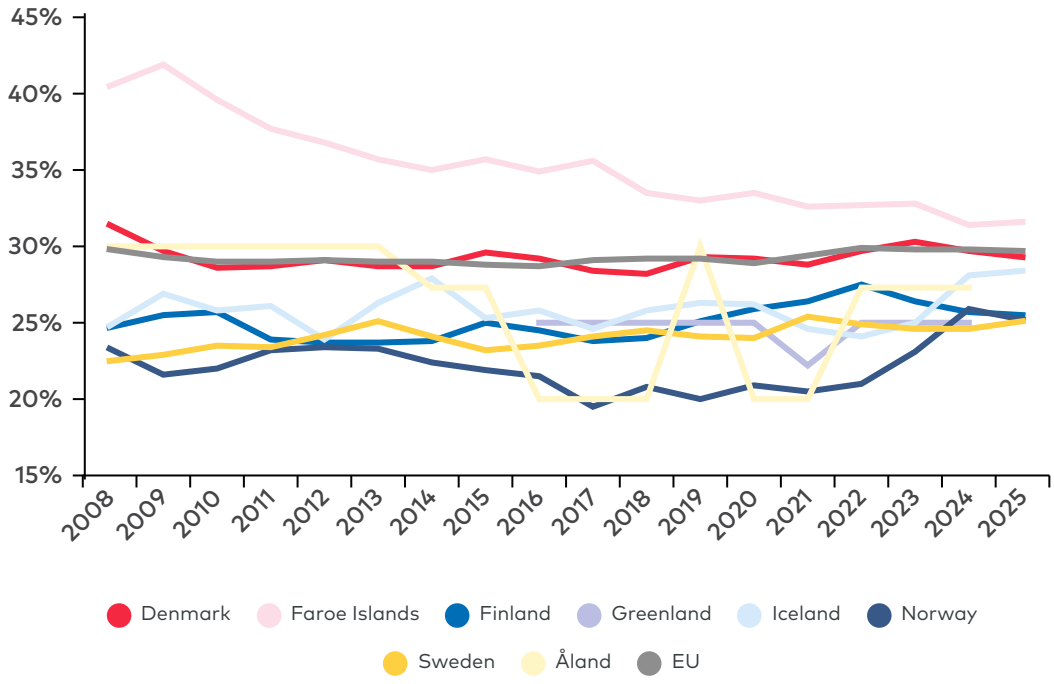


Figure 4. Share of women in manufacturing and other industries, 2008–2025.
Source: Nordic Statistics Database, LABO01B.

Figure 4 shows the share of women in manufacturing between 2008 and 2025. Overall, the figure suggests a pattern similar to that observed in the ICT sector, with women accounting for only around one-third of the workforce in the sector and limited evidence of change during the period, although there are differences between countries. The manufacturing sector is central to the green transition. In the EU, employment in clean energy manufacturing is growing faster than manufacturing employment overall and further employment growth is expected as net-zero technologies expand (Kuokkanen, 2023). In the Nordic Region, manufacturing is likewise an important sector for the green transition, with investments in new industrial activities such as battery production.

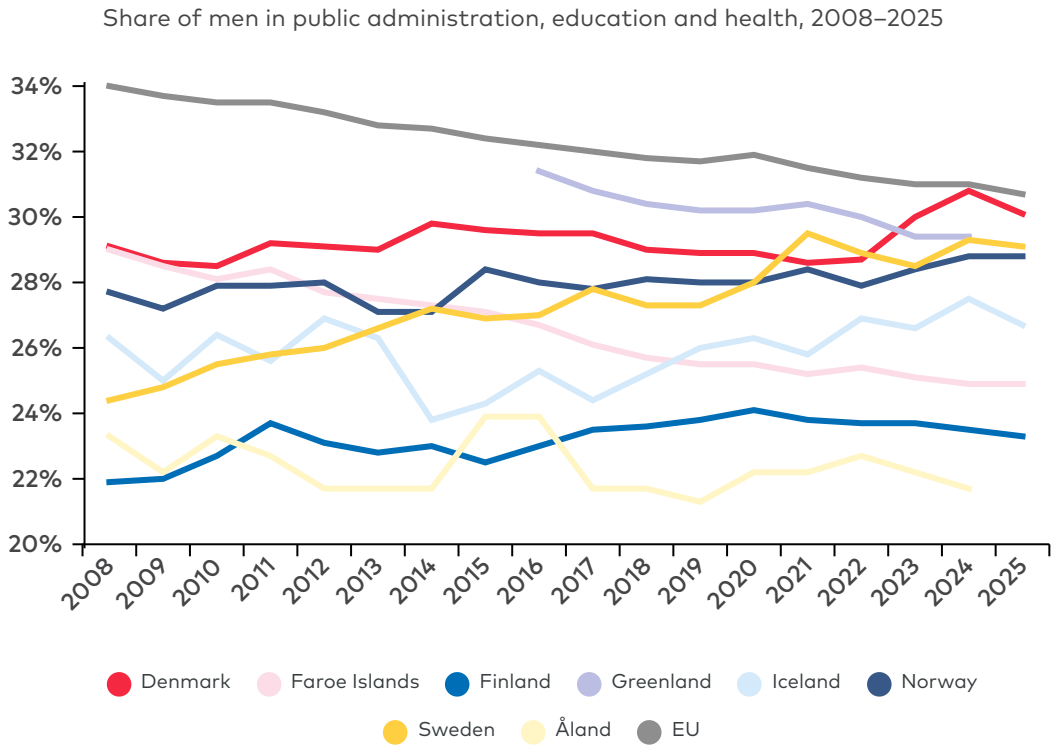


Figure 5. Share of men in public administration, education and health (NACE O–Q, including defence and social work), 2008–2025.
Source: Nordic Statistics Database, LABO01B.

Figure 5 shows the share of men in public administration, education and health 2008–2025. Men remain underrepresented in welfare services, generally accounting for around one-quarter to one-third of the sector´s workforce. There has been relatively little change over the period, with the largest shifts observed in Sweden, where the share of men grew by almost 5 percentage points, whereas it declined in the Faroe Islands (4.4 percentage points) and the EU (3.3 percentage points). This implies that employment growth in welfare services is likely to affect women more strongly than men.

These figures underline the importance of considering gender alongside sectoral labour market change. Persistent differences in the distribution of women and men across industries mean that structural changes may have uneven implications for employment and skills demand, even where overall labour market performance remains strong.

4. Labour market performance



Image: Alex Kotlyarskyi / imagebank.sweden.se

The productivity analysis highlighted different employment and productivity patterns across sectors. The focus now shifts to the broader performance of Nordic labour markets, examining employment, unemployment and labour force participation, and how these outcomes differ between women and men.

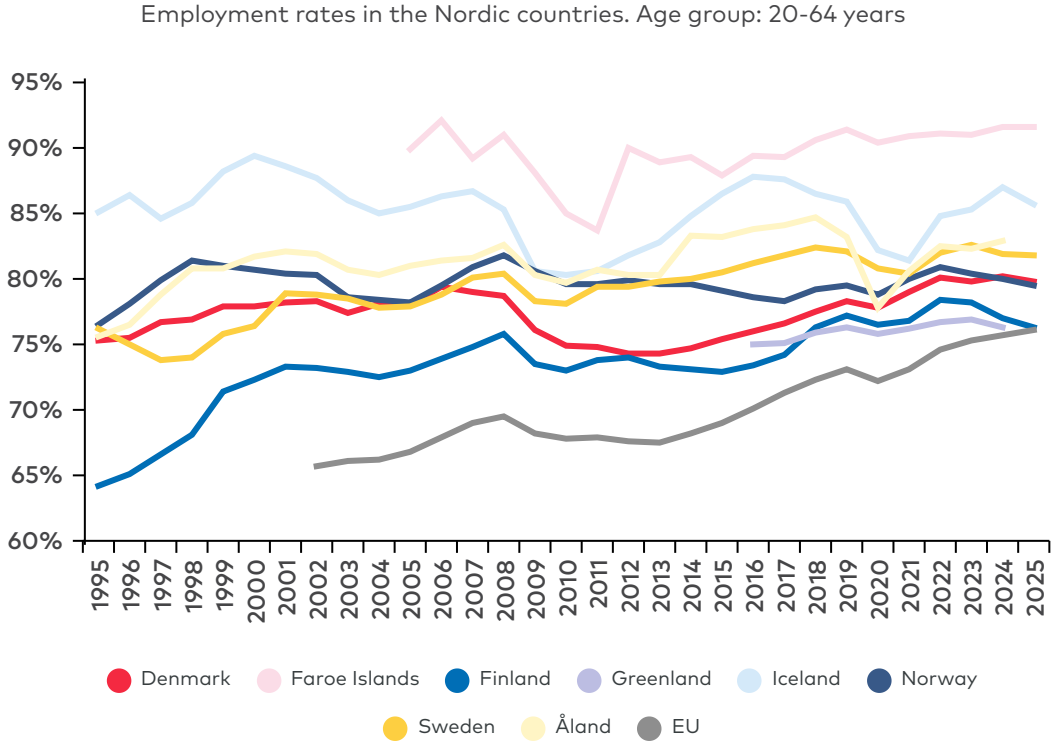


Figure 6. Employment rates in the Nordic countries, 1995–2025.
Source: Nordic Statistics Database, WORK02.

Figure 6 shows employment rates in the Nordic countries. The Faroe Islands recorded the highest employment rates over much of the period shown, remaining above 90% in recent years, while Iceland also maintained comparatively high employment. Finland, Denmark, Norway and Sweden are more closely grouped, with rates of around 80% in recent years. Considerable variations are observed between regions and municipalities, with northern parts of Sweden recording employment rates of above 85% and some municipalities in eastern Finland showing rates of below 70% (Berbert Bruno et al., 2026).

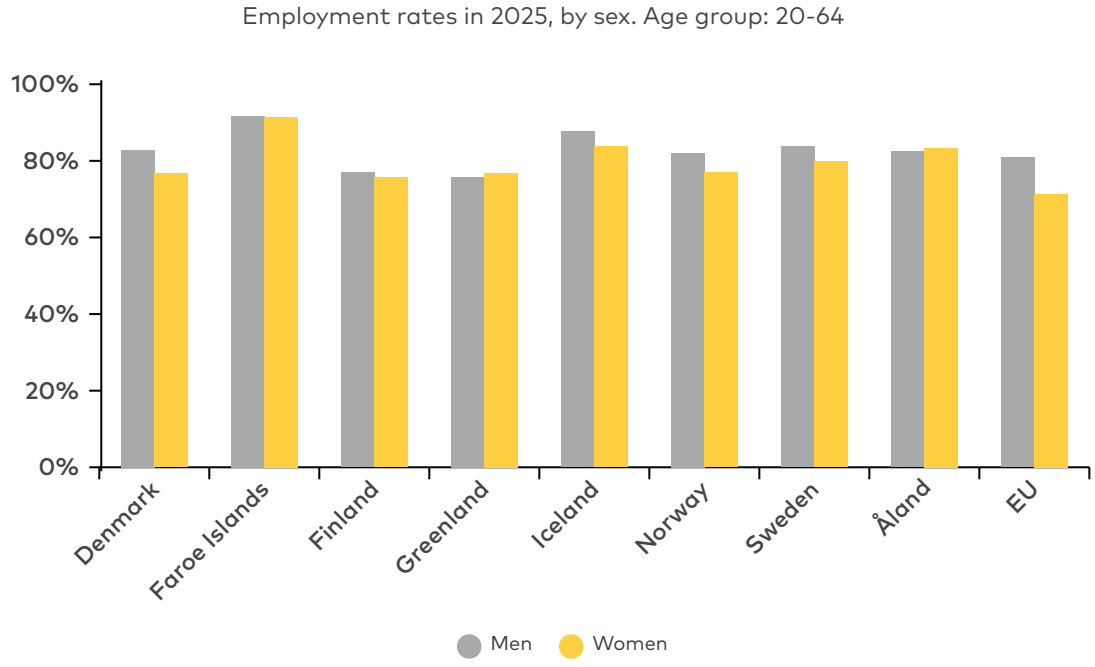


Figure 7. Employment rates in 2025 by sex. Data for Greenland and Åland refer to 2024.
Source: Nordic Statistics Database, WORK02.

Figure 7 shows employment rates in the Nordic countries by sex. High employment among women has long been a characteristic of the Nordic labour markets, supported by strong welfare policies and supportive infrastructure including access to daycare and flexible parental leave policies (Alsos & Dølvik, 2021; Lind, 2021). The largest gender gap in employment across the Nordic countries is recorded in Denmark, at 6 percentage points, while in the EU27, the employment rate for women is almost 10 percentage points lower than for men. In Greenland and Åland, women's employment rate is higher than men's.

Small gender gaps in employment do not necessarily mean that women's and men's participation in paid work is equal, as differences may also be reflected in working time. Part-time employment captures an additional dimension of gender differences in labour market participation and performance.

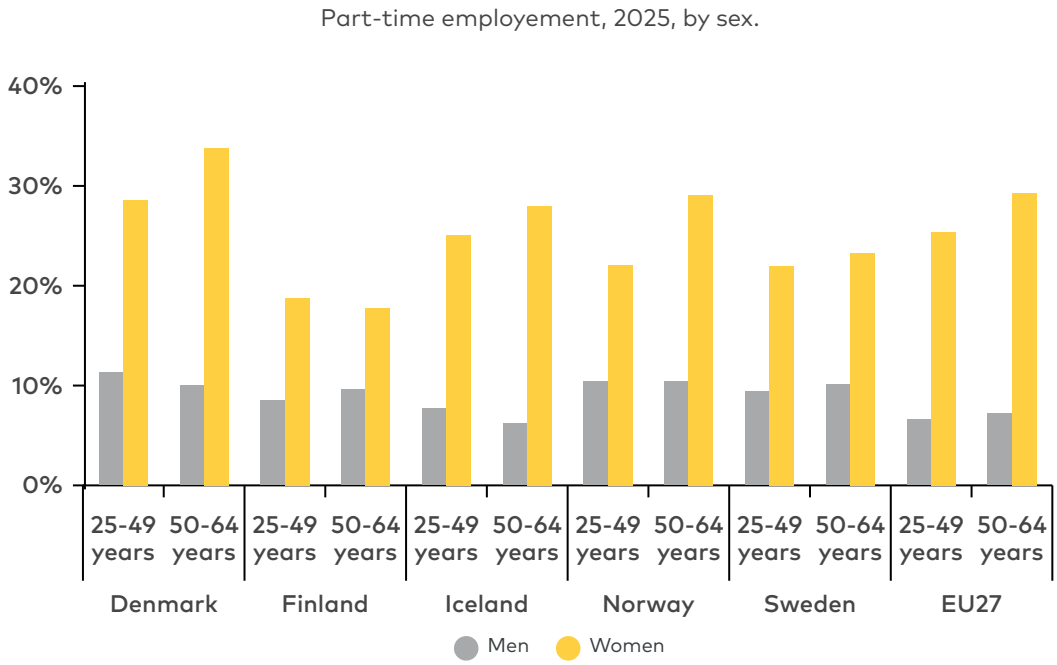


Figure 8. Part-time employment[1] by sex and age-group, 2025.
Source: Nordic Statistics Database, LABO03.

Figure 8 shows part-time employment by sex and age group. Overall, between 5 and 10% of men work part-time across both age groups, while the share of women working part-time is above 20% in all countries except Finland. While part-time work can facilitate women's labour market participation, its unequal distribution between women and men remains an important dimension of gender inequality in Nordic labour markets. The concentration of part-time employment in female-dominated sectors reflects not only individual choices, but also work organisation, care responsibilities and gendered expectations surrounding work and family life (Drange & Egeland, 2014).

Drange & Egeland (2014) also question the dominance of full-time employment as the implicit benchmark for working time, particularly when this norm coexists with expectations that women with children reduce their working hours.

1. Part-time employment is expressed as a percentage of the total number of employed persons in each age group. In all countries, the distinction between full-time and part-time employment is based on respondents' spontaneous answers. In Iceland and Norway, part-time employment is defined as usually working fewer than 35 hours per week, and full-time employment as usually working 35 hours or more. In Sweden, this criterion also applies to self-employed persons.

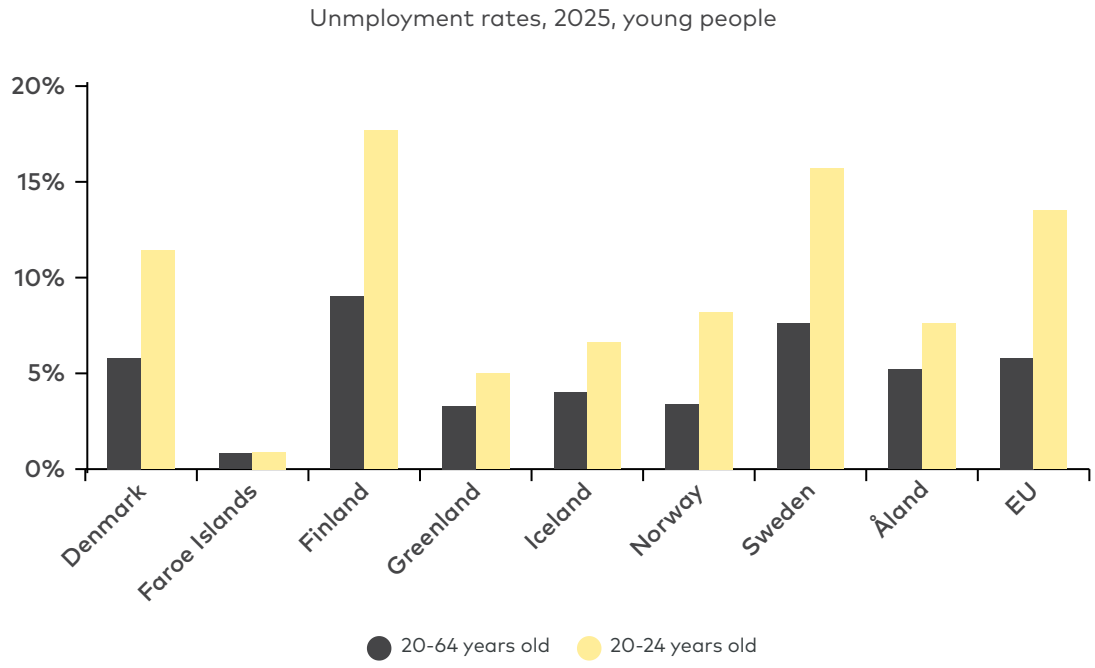


Figure 9. Unemployment rates of young people in the Nordic countries, 1995–2025.
Source: Nordic Statistics Database, WORK02.

Figure 9 shows the unemployment rate of young people (20–24 years old) and that of the total working population (20–64 years old) in the Nordic countries. The youth unemployment rate is almost twice that of the total working-age population (20–64 years) in Denmark, Finland, Norway, Sweden and the EU.

Finland has the highest recorded unemployment rate for both groups, at 17.7% for young people and 9% for the total working-age population. Research indicates that youth unemployment and labour market exclusion are closely linked to difficulties in the transition from education to work, particularly among young people with low educational attainment or limited previous work experience. Poor labour market conditions further constrain entry opportunities (Forslund & Liljeber, 2020; Frøyland et al., 2022). Persistently high youth unemployment therefore represents not only a labour market challenge but also a potential constraint on competitiveness, as prolonged difficulties in entering employment can limit the effective use and development of young people's skills.

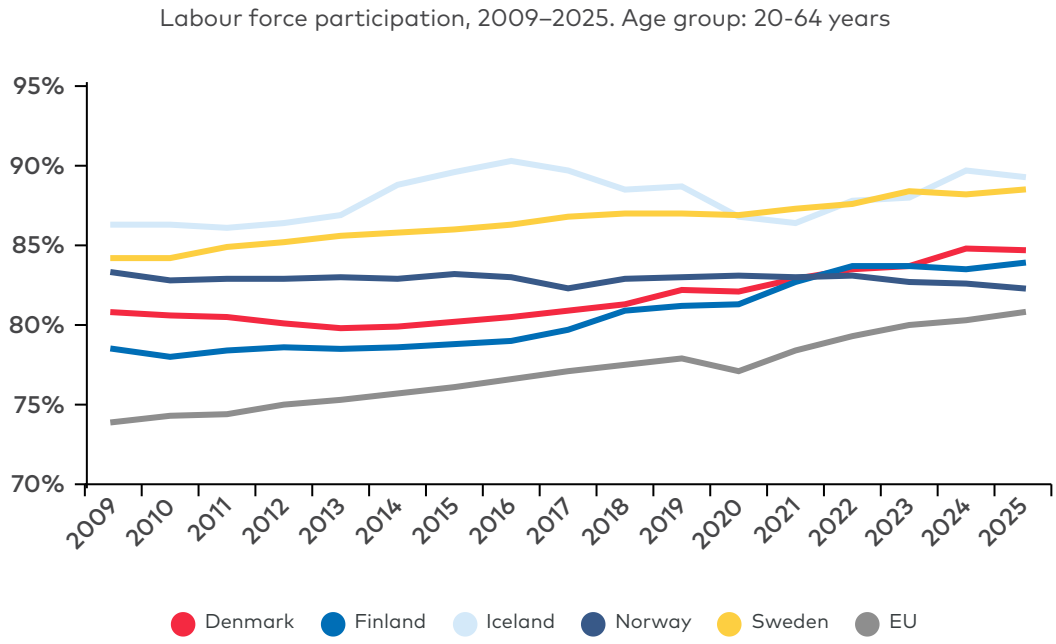


Figure 10. Labour force participation, 2009–2025. **Source:** Eurostat, lfsi_emp_a.

The labour force participation rate measures the share of persons in the labour force as a percentage of the working-age population. The labour force is the sum of all persons of working age who are employed and those who are unemployed (ILOSTAT, n.d.-b).

Labour force participation is high across the Nordic countries and generally increased over the period. Iceland and Sweden recorded the highest labour force participation rates in 2025, at around 89%. All five Nordic countries remain above the EU average, which has risen steadily from 74% to 80% in the past 16 years.

The increase in EU labour force participation partly reflects the growing role of groups that have historically been underrepresented in the labour market. Women have contributed to recent record employment levels, together with older people and migrants, with women's employment rates also rising over the longer term (European Commission, 2025).

Despite this progress, women remain less represented in employment than men in the EU and are considerably more likely to work part-time. As the previous figures show, these differences also persist in the Nordic countries, despite comparatively high female employment.

5. Sectoral employment



Image: Akram Huseyn / unsplash.com

Looking beyond overall labour market performance, changes in the sectoral structure of employment provide insight into how Nordic labour markets are adjusting to economic change.

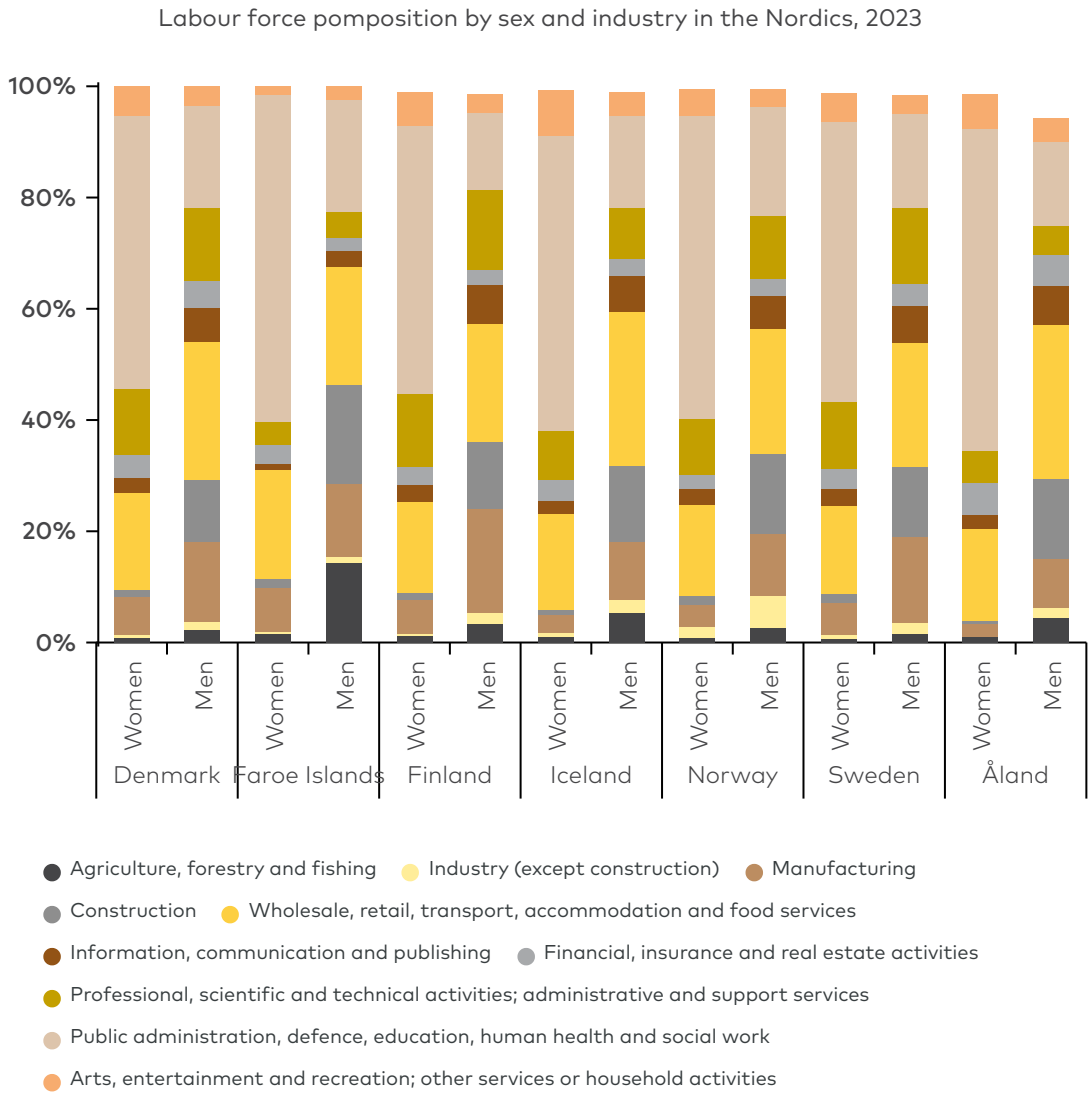


Figure 11. Labour force composition by sex and industry, 2023.
Note: Due to confidentiality methods used when producing labour and occupational statistics, the number of people in the municipal and/or regional labour force do not always add up to the total labour force, particularly in localities with a low population. For the production of this graph, municipal data were aggregated, which results in some countries' compontents not adding up to 100%.
Source: Nordregio calculations based on data from national statistical institutes and Eurostat.

Figure 11 shows labour force composition by sex and industry in the Nordic countries. The graph reveals a strongly gendered pattern across the Nordic labour markets. The clearest gender difference is in public administration, education, health and social work, which together account for over half of women's employment in the Nordic countries. Men's employment is more strongly represented in manufacturing, construction and other industrial activities. The contrast with the concentration of women's employment in public and welfare-related services illustrates that sectoral segregation operates in both directions: women and men remain concentrated in different parts of the economy.

This pattern links back to the productivity and employment growth across industries discussed in the first section of this paper. As industries experience different trajectories of growth, contraction, productivity and churn, existing sectoral segregation means that women and men may be differently exposed to these changes.

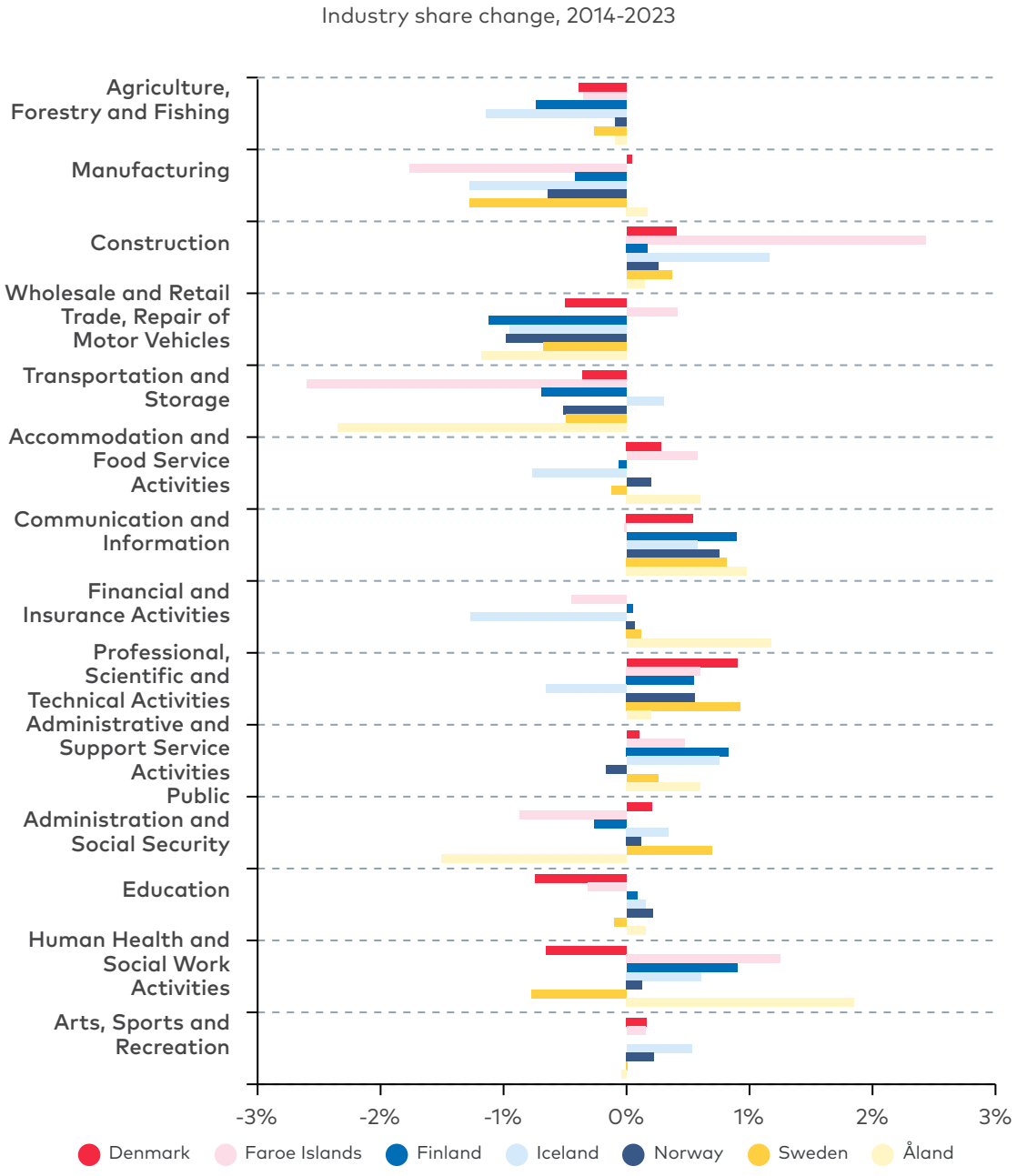


Figure 12. Changes in industry shares of employment, 2014–2023 (percentage points).
Source: Nordregio calculations based on data from national statistical institutes and Eurostat.

Figure 12 shows changes in the industry shares of employment between 2014 and 2023. Across the Nordic countries, sectoral employment has followed broadly similar patterns, although the scale of change varies. In line with Figure 2 on employment and productivity growth, employment in agriculture, forestry and fishing has declined across the region, with the largest decrease in Iceland, while manufacturing, wholesale and retail trade and repair of motor vehicles, and transportation and storage have also recorded substantial declines. By contrast, employment in construction, communication and information, and professional, scientific and technical activities has generally expanded across the Nordic countries, pointing to a gradual shift in the sectoral composition of employment. The increase in construction is particularly pronounced in the Faroe Islands. Overall, these common trends suggest that Nordic labour markets are undergoing similar processes of structural change, while differences in the magnitude of sectoral growth and decline reflect varying national and territorial trajectories.

Labour market churn provides a simple measure to capture the pace of this structural change across industries. Sectoral labour market churn is defined as the absolute change in a sector's share of total employment. Summing the churn across all sectors provides an indicator of the overall extent of employment reallocation between growing and declining industries. Higher churn indicates greater change in the sectoral structure of the national or regional economy (Deming et al., 2024).

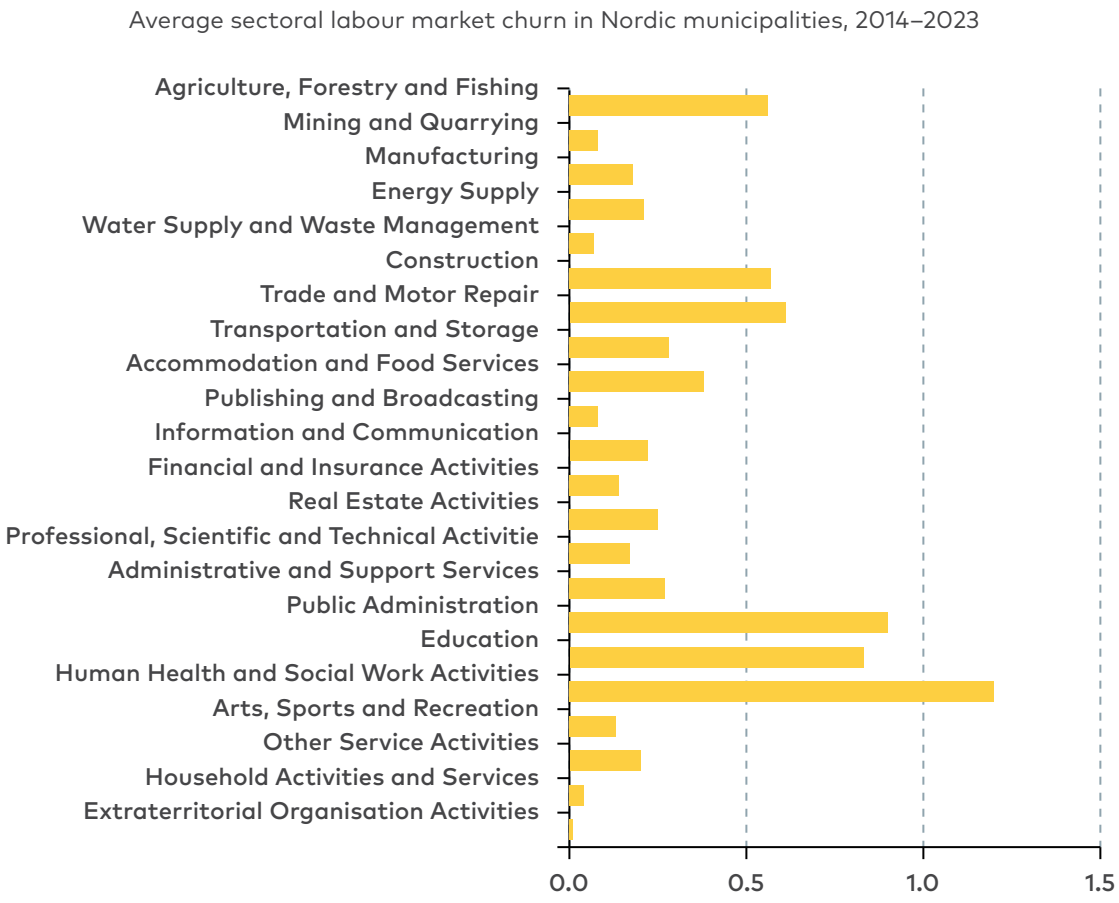


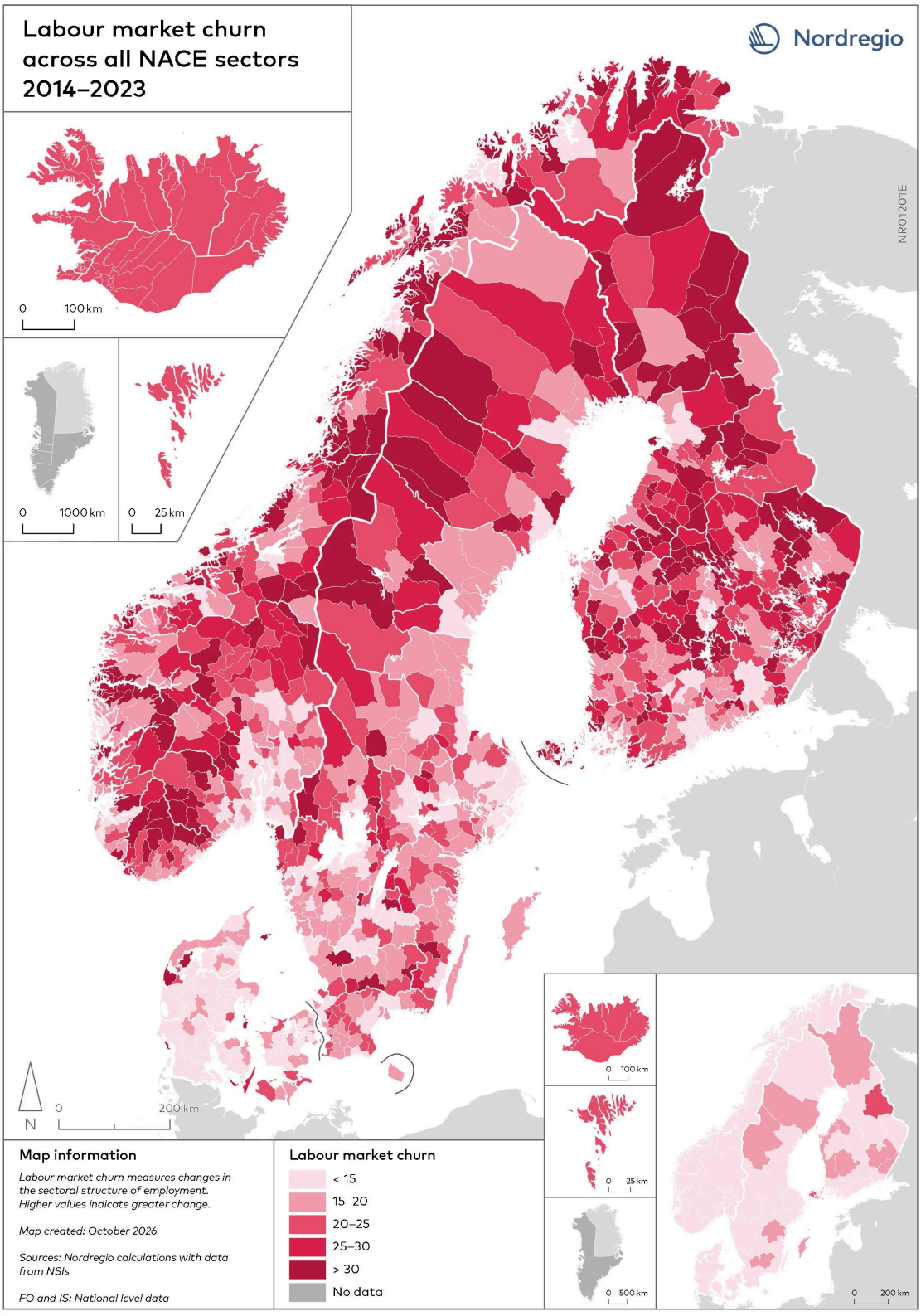
Figure 13. Average sectoral labour market churn in Nordic municipalities, 2014–2023 (average absolute change in employment shares across NACE two-digit sectors in Nordic municipalities, aggregated at the NACE one-digit level).
Source: Nordregio calculations based on data from national statistical institutes and Eurostat.

Figure 13 illustrates which sectors have experienced the largest and most spatially widespread labour reallocation in Nordic municipalities in the recent past. In line with the employment trends shown in Figure 2, the largest changes are found in sectors with sizable employment growth such as public administration, education and health and social work. These are followed by construction, wholesale and retail, and agriculture, forestry and fisheries. As welfare-related branches are female-dominated, such prevalent changes suggest that women's employment is being affected across a broad range of Nordic municipalities. Among male-dominated sectors, construction, which has expanded at the national level, shows a similarly widespread pattern.

By contrast, the ICT sector and professional, scientific and technical activities do not rank as highly in terms of average absolute change in municipal employment shares, despite experiencing a substantial employment increase at the national level (see Figure 2). One possible explanation is that these sectors tend to be more concentrated spatially (Berbert Bruno et al., 2026) meaning that the changes in their employment shares have a pronounced effect in selected municipalities only.

We now turn to how the overall pace of labour reallocation between sectors varies across Nordic municipalities. Map 1 shows substantial spatial variation in labour market churn. Employment structure is changing more rapidly in the northern and peripheral parts of Norway, Sweden and Finland, while slower changes are more common in southern Sweden and Denmark. Finland displays considerable local variation, with high- and low-churn municipalities often located close to one another.

Many municipalities with high churn are small, sparsely populated or relatively specialised economies. In these places, the expansion or contraction of a few industries or major employers can substantially alter the local employment structure. Faster changes in local employment mixes are also observed in several northern resource-based and industrial regions, where investments in mining, energy and manufacturing associated with the green transition have been important drivers of recent economic restructuring. At the same time, other types of regions also experience high churn, suggesting that different processes (such as a broader shift towards services and industrial expansion or decline) may generate similar level of shifts in employment. At the regional level, Kainuu stands out as the region with the highest sectoral labour churn in Finland, reaching levels comparable to those observed in Iceland, the Faroe Islands and Åland. These rapid changes in Kainuu's sectoral employment structure reflect the combined effects of restructuring, including recent large investments in mining activities, and population decline. Overall, the extent of sectoral employment structure change has been highly uneven spatially in the Nordic Regio. The change has been fastest in many smaller and peripheral labour markets, reflecting both sectoral growth and decline. Importantly, the churn measure alone does not reveal whether restructuring is driven by employment growth or decline.



Map 1. Municipal labour market churn across all sectors, 2014–2023.
Note: Churn is calculated as the sum of absolute change in employment shares of all sectors (NACE two-digit level) between 2014 and 2023. Higher churn indicates greater change in the sectoral structure of the local economy.
Source: Nordregio calculations based on data from national statistical institutes. Data for the Faroe Islands and Iceland are at the national level. No data are available for Greenland.

6. Skills and occupations



Image: Vitaly Gariev / unsplash.com

Sectoral churn shows where labour market adjustment is particularly pronounced but does not reveal whether the types of jobs or skills within industries are also changing. To understand these changes more fully, it is necessary to examine the occupational and skills structures of employment. Here, occupational skills, as classified by the International Standard Classification of Occupations (ISCO), refer to the nature and complexity of tasks and duties performed in an occupation, as well as the level of formal education, informal on-the-job training and/or previous work experience required (ILOSTAT, n.d.-a). Based on these occupational skill levels, occupations have been grouped into low-, medium- and high-skilled categories (for details, see footnote 4). Examining changes in the relative shares of these groups helps to reveal the direction of labour market restructuring: whether employment is shifting towards high-skilled occupations (upgrading) or is characterised by growth in high- and low-skilled jobs, while medium-skilled jobs decline (polarisation).

Labour market churn between occupational categories can provide a broad indication of the extent to which the skills composition of an economy is changing. Figure 14 shows that the extent of employment reallocation is broadly similar across all countries, except in Iceland, which stands out for its substantial compositional changes in both occupations and sectors. Denmark and Norway display similar patterns in employment shifts, while Sweden has higher churn in terms of both occupations and industries. Although Finland has a similar level of sectoral change as Sweden, its occupational composition has changed much less. This suggests that either the sectoral changes are occurring between branches with similar occupational profiles, or that occupational mixes within industries are changing more slowly.

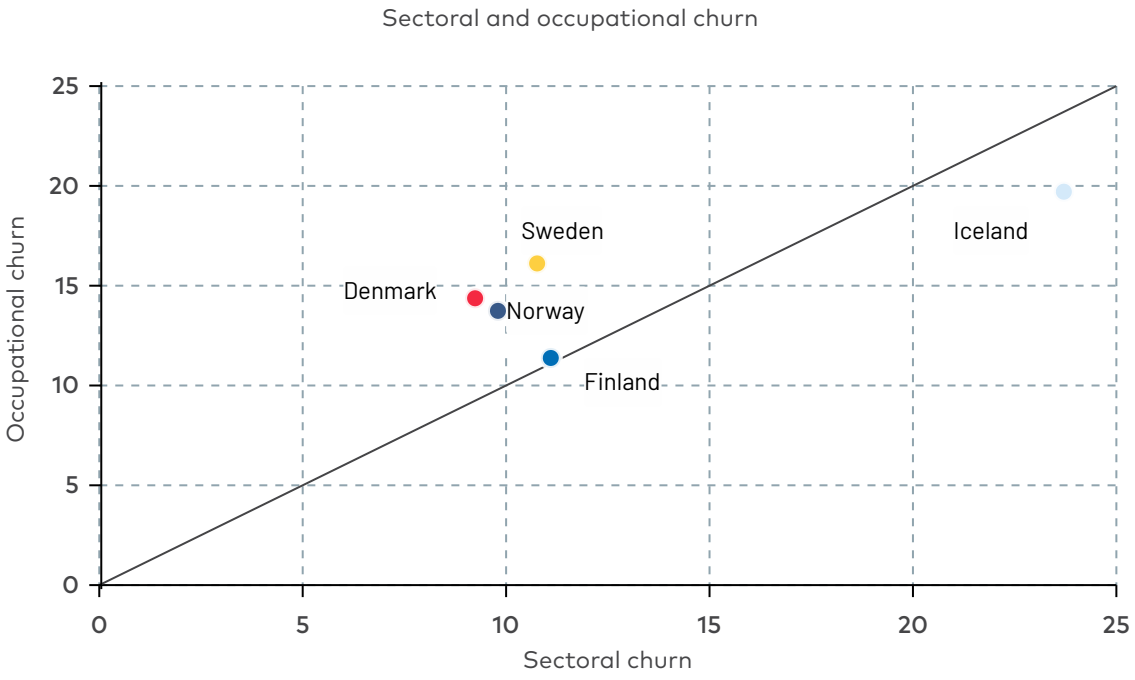


Figure 14. Sectoral (2014–2023) and occupational churn (2016–2025).
Note: Occupational churn is measured at the ISCO two-digit level and sectoral churn at the NACE two-digit level.
Source: Nordregio calculations based on data for sectoral employment from national statistical institutes and occupational employment from Eurostat. Occupations with missing or unreliable data were excluded. Where possible, missing employment figures at the two-digit occupation level was estimated using aggregate employment at the one-digit level.

Box: Labour market polarisation and upgrading

Technological change leads to labour reallocation across occupations and sectors, generating distinct effects on the distribution of skill and wages. A major debate concerns whether changing employment structures primarily lead to **upgrading**—a steady shift toward higher-skilled jobs—or **polarisation**—a hollowing out of the middle of job distribution, with faster growth at both the top and bottom (Acemoglu & Autor, 2011; Autor et al., 2006; Fernández-Macías & Hurley, 2017; Goos et al., 2009; Katz & Murphy, 1992; Oesch & Piccitto, 2019).

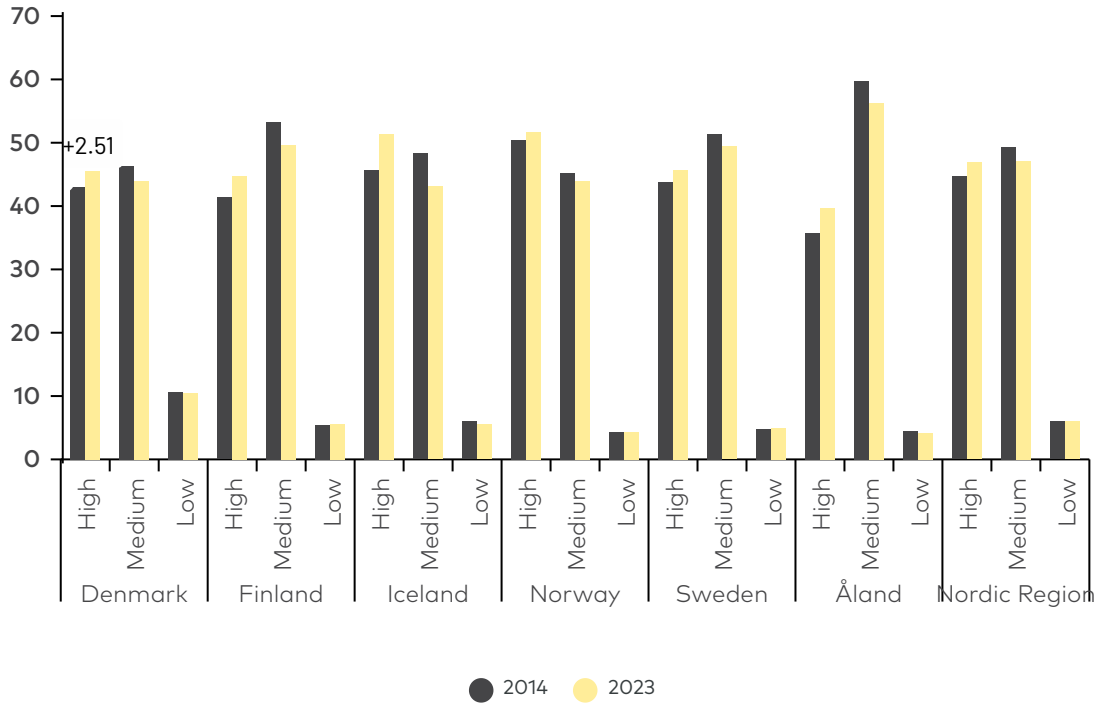
While the prevalence of universal job polarisation is a dominant theme in US-focused research (Autor et al., 2006), a closer look at Europe reveals a more nuanced picture. European labour markets exhibit a variety of structural change patterns, with job polarisation less common than occupational upgrading (Eurofound, 2017; Fernández-Macías & Hurley, 2017; Torrejon et al., 2024). Upgrading has been the dominant pattern in EU employment shifts since 1995, particularly over the past decade, when jobs in the top wage quintile accounted for nearly all net employment growth (Hurley et al., 2025). Recent US evidence also points to a shift towards upgrading in 2016–2022 (Deming et al., 2024).

In the Nordic Region, the picture is similarly mixed, varying by country, period and methodology (Berglund et al., 2019, 2025; Hurley et al., 2025). In recent years, only Denmark has shown a clear pattern of polarisation, although even there growth in top-tier jobs has been significantly higher than in bottom-tier jobs. Norway and Sweden are experiencing upgrading, as is Finland, although medium-skilled jobs have been more strongly affected by employment decline there. Furthermore, upgrading in Sweden is driven by the public sector, while the private sector exhibits modest polarisation (Berglund et al., 2019).

These patterns in European employment also differ by gender. In the past two decades, women have generally experienced stronger occupational upgrading, while the structure of male jobs has polarised. The patterns, however, vary by time period and country, depending on which sectors are driving the growth (Torrejon et al., 2023, 2024).

Job polarisation is also a place-based process (Henning & Eriksson, 2021). While national-level studies usually show upgrading or polarisation, analyses at the regional level also reveal (relative) downgrading and considerable spatial variation (Hurley et al., 2019). Polarisation often emerges in particular local contexts such as metropolitan areas or declining industrial regions, while many other regions continue on an upgrading trajectory. Capital cities represent a special case, often combining growth in both high-paid and low-paid jobs (Hurley et al., 2021; Mazzolari & Ragusa, 2013). Similarly, analysis of West-German local labour markets in 1980–2010 suggests that job polarisation is predominantly an urban phenomenon (Dauth, 2014). In Sweden, polarisation has occurred both in declining manufacturing regions and fast-growing metropolitan areas, while most municipalities have experienced job upgrading (Henning & Eriksson, 2021).

Share of occupation skill groups by country and change from 2014 to 2023 (Men)



Share of occupation skill groups by country and change from 2014 to 2023 (Women)

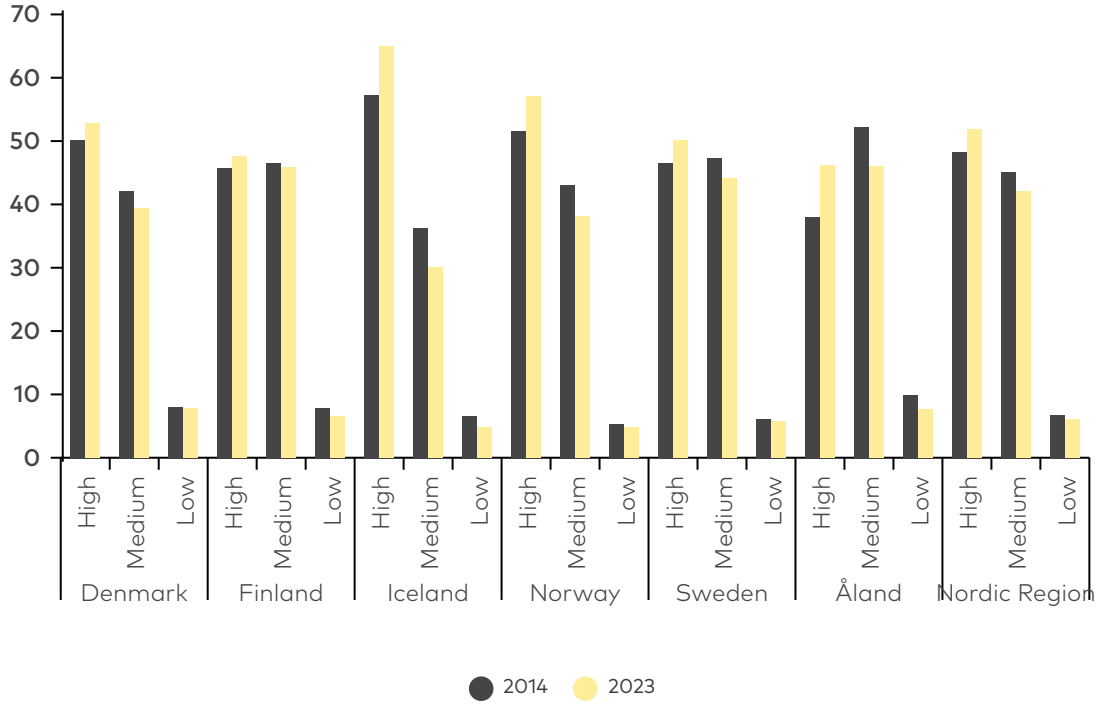


Figure 15. Share of occupational skill groups by country and change between 2014 and 2023 for men and women.
Source: Nordregio calculations based on data from national statistical institutes and Eurostat. Data for Sweden 2014 have been adjusted to account for the transition in labour market statistics from RAMS to BAS.
* Nordic Region = Denmark, Finland, Iceland, Norway, Sweden and Åland.

Figure 15 shows the share of occupational skill groups[2] by country and change (in percentage points) between 2014 and 2023, for men and women. Across the Nordic Region, the occupational structure of employment shifted towards high-skilled occupations between 2014 and 2023. The share of high-skilled occupations increased for both women and men, while the share of medium-skilled occupations generally declined. Low-skilled occupations account for a much smaller share of employment and changed relatively little. The overall direction of change was therefore similar for women and men, although the shift towards high-skilled occupations was more marked among women than among men.

Among women, the shift from medium- to high-skilled occupations was particularly pronounced in Åland, Iceland and Norway. In each case, strong growth in the share of high-skilled occupations was accompanied by a substantial decline in medium-skilled occupations. Denmark, Finland and Sweden show the same broad direction of change, but to a lesser extent. In 2023, over half of employed women in Denmark, Iceland, Norway and Sweden were employed in a high-skilled group, with the highest share recorded in Iceland at 65%. Among men, the most pronounced increases were recorded in Iceland and Åland. The countries with the highest share of men in high-skilled occupations were Iceland and Norway at 51%.

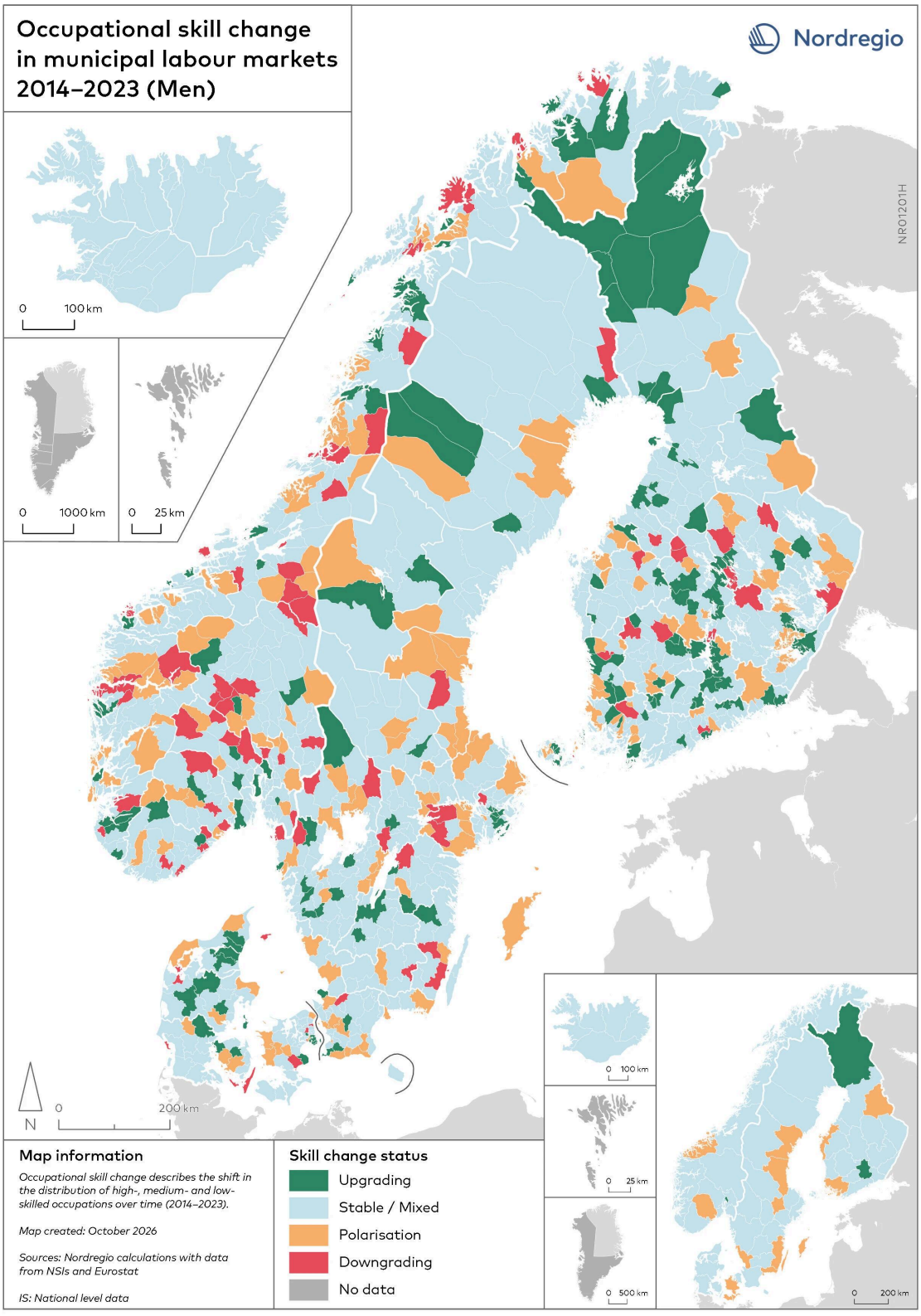
Maps 2 and 3 show these changes in occupational structure across municipalities, separately for men and women. The maps reveal strong gender and spatial variation in occupational shifts across Nordic labour markets, consistent with previous studies highlighting the place-based and gendered nature of labour market restructuring (Berglund et al., 2025; Henning & Eriksson, 2021). For women, upgrading is clearly the dominant pattern, at both the municipal and regional levels. In Sweden, Finland and Norway, a large share of local labour markets, both metropolitan and more peripheral, are experiencing upgrading. Stable or mixed development is also quite common, while polarisation is less prevalent and geographically scattered. Downgrading is rare and appears in only a handful of places. Denmark presents a more mixed picture, with polarisation more evident alongside upgrading. In Iceland, labour market is upgrading, reflecting the strong national trend (see Figure 15).

For men, local patterns of occupational change are considerably more diverse. Large areas in Sweden, Norway and parts of Finland are characterised by mixed or stable development. Notably, both polarisation and downgrading are also more widespread among men than among women. Norway displays an especially patchy pattern. In the southern and western parts of the country, numerous areas are experiencing polarisation or downgrading (together accounting for 30% nationally), outnumbering areas experiencing upgrading. The contrast between the labour market trends for women and

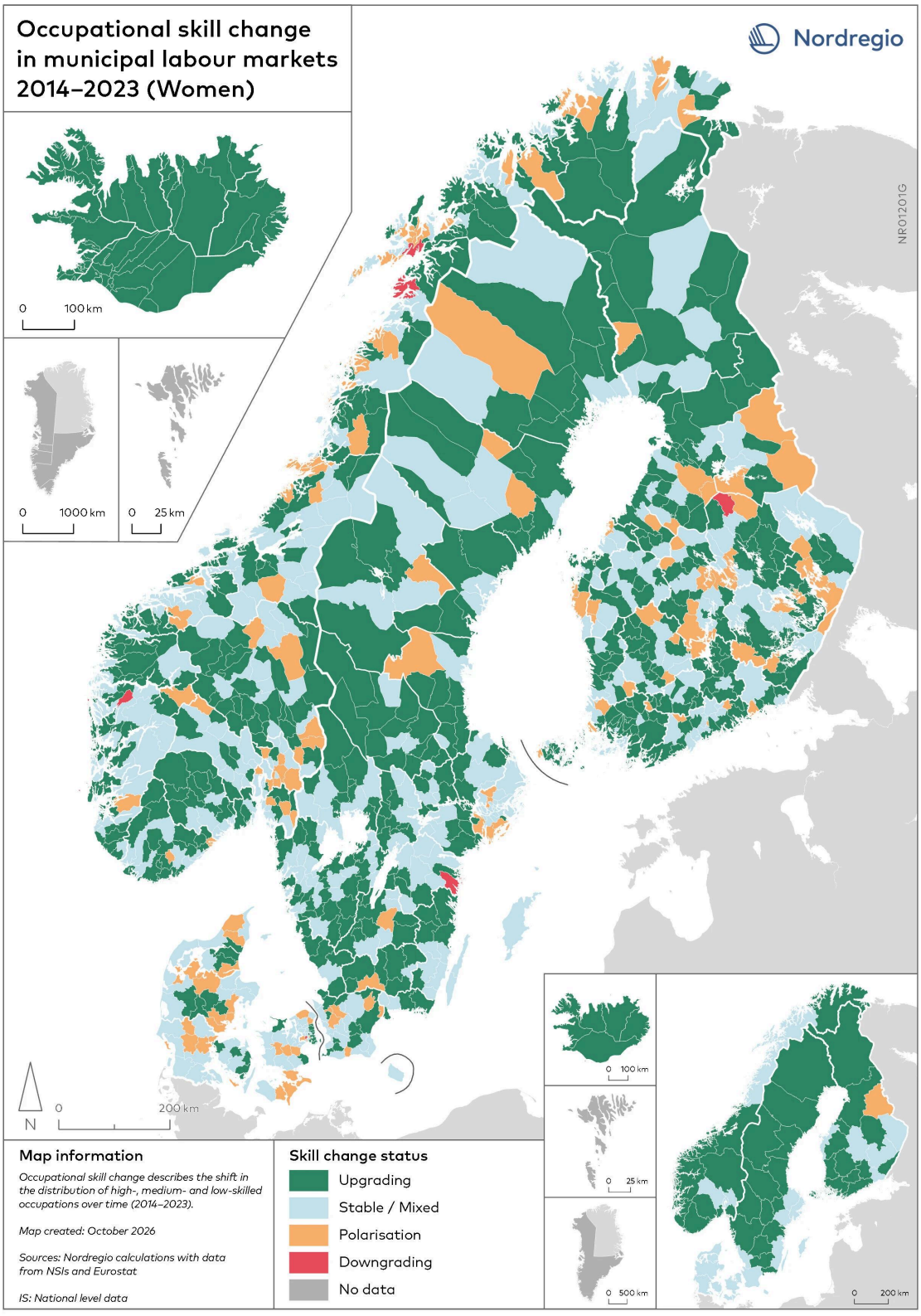
2. The analysis uses the Major Occupational Groups (at the ISCO one-digit level), ranging from groups 1 to 9. Group 0 (Armed Forces Occupations) is excluded due to a lack of data. High-skilled occupations comprise managers, professionals, technicians and associate professionals. Medium-skilled occupations comprise 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. Low-skilled occupations correspond to elementary occupations (ILOSTAT, n.d.-a).

men is similar in Sweden—upgrading is much more widespread among women, while the dominant pattern for men is stable/mixed development. These stable/mixed areas are interspersed with local pockets of polarisation and downgrading. In Finland, labour market changes for both men and women show mixed patterns. However, among men the shares of local labour markets experiencing upgrading, stable, downgrading and polarisation are relatively evenly distributed. In Denmark, the polarisation tendencies for both genders are the most visible, consistent with the earlier national-level findings (Berglund et al., 2019, 2025; Hurley et al., 2025). By contrast, Iceland's labour market shows no clear employment shift pattern among men.

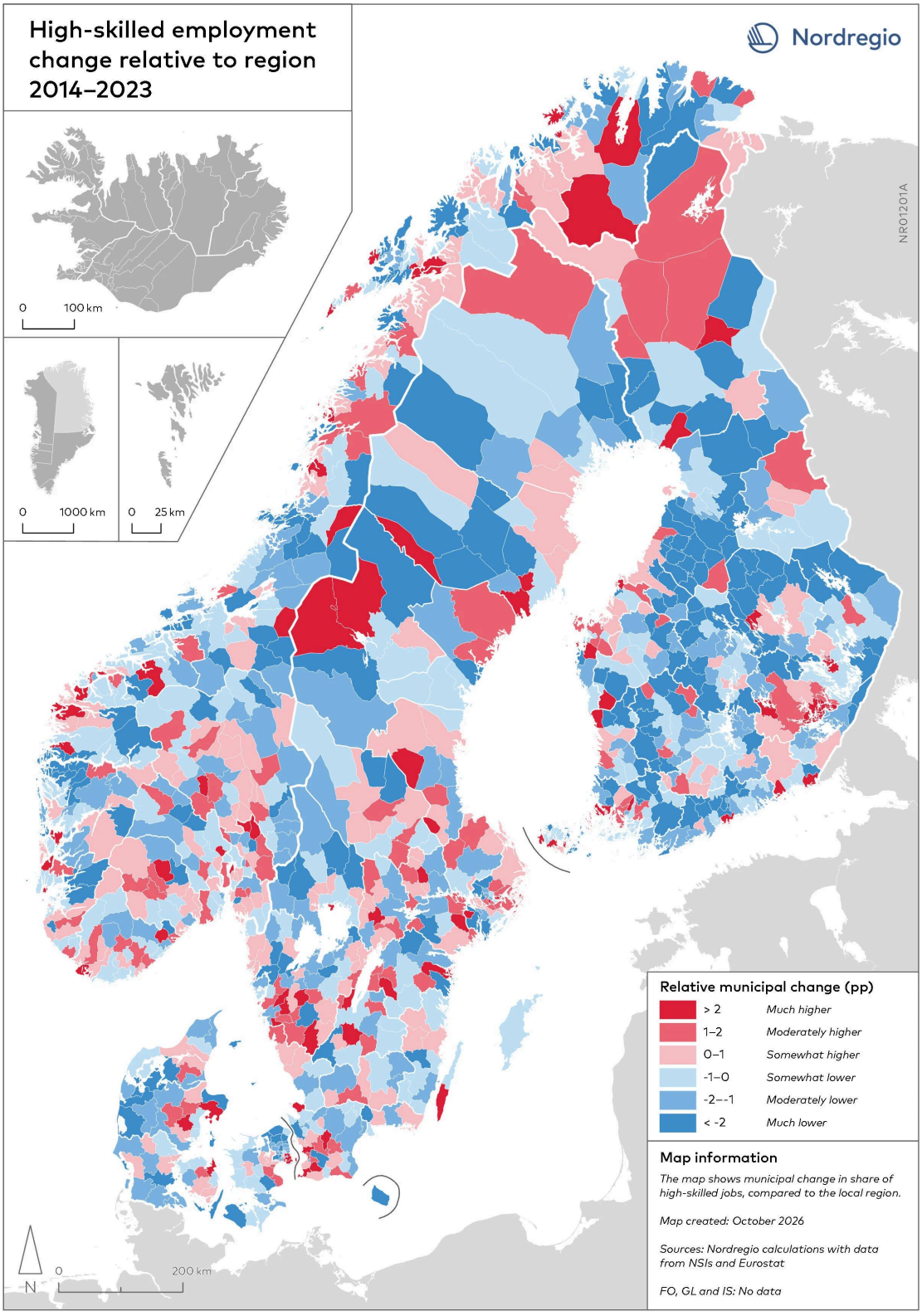
Overall, upgrading is the dominant pattern at the national level across the Nordic Region, but the results highlight two important aspects of employment trajectories. First, occupational change varies considerably between municipal labour markets within the same country, supporting the argument that labour market restructuring is, to a large extent, a place-based process (Henning & Eriksson, 2021). Second, these processes have a clear gender dimension. Women's employment has generally shifted towards high-skilled occupations, not only at the national level, but also in the majority of municipal labour markets. Men's employment, by contrast, displays diverse trajectories, including greater polarisation and downgrading at the local level.



Map 2. Occupational skill change in Nordic municipal labour markets 2014–2023 (men).
Source: Nordregio calculations based on data from national statistical institutes and Eurostat. No data are available for Greenland and the Faroe Islands. Data for Sweden 2014 have been adjusted to account for the transition in labour market statistics from RAMS to BAS. Data for Iceland are at the national level.
Note: Upgrading and downgrading refer to clear shifts towards higher- or lower-skilled employment respectively; polarisation refers to simultaneous growth in high- and low-skilled employment combined with a decline in medium-skilled jobs; the stable/mixed category covers the areas that lack a dominant structural change. A detailed description of the classification is provided in Appendix.



Map 3. Occupational skill change in Nordic municipal labour markets 2014–2023 (women).
Source: Nordregio calculations with data from national statistical institutes and Eurostat. No data are available for Greenland or the Faroe Islands. Data for Sweden 2014 have been adjusted to account for the transition in labour market statistics from RAMS to BAS. Data for Iceland are at the national level.
Note: Upgrading and downgrading refer to clear shifts towards higher- or lower-skilled employment respectively; polarisation refers to simultaneous growth in high- and low-skilled employment combined with a decline in medium-skilled jobs; the stable/mixed category covers the areas that lack a dominant structural change. A detailed description of the classification is provided in Appendix.



Map 4. Municipal change in high-skilled employment relative to the regional average, 2014–2023.
Source: Nordregio calculations based on data from national statistical institutes and Eurostat.
No data are available for the Faroe Islands, Greenland and Iceland.

Map 4 displays the changes in the share of high-skilled employment in municipalities relative to the regional average. It illustrates even more explicitly how upgrading in municipal labour markets is concentrated in particular local areas. The patchy patterns on the map reveal how the upgrading (or increase in high-skilled employment) forms pockets within regions, while surrounding areas are experiencing less favourable developments. Such trends are visible, for example, in capital regions, with Helsinki and Copenhagen showing a much larger shift towards high-skilled workers than in the rest of the region. In Finland, several cases stand out where one or two municipalities outperform the rest of their respective regional labour markets, while relatively large clusters of surrounding municipalities experience slower growth in high-skilled employment. In Sweden and particularly in Norway, by contrast, the local clusters of outperforming municipalities are sometimes much larger, while the weakest performance is concentrated in a few municipalities.

7. Concluding remarks

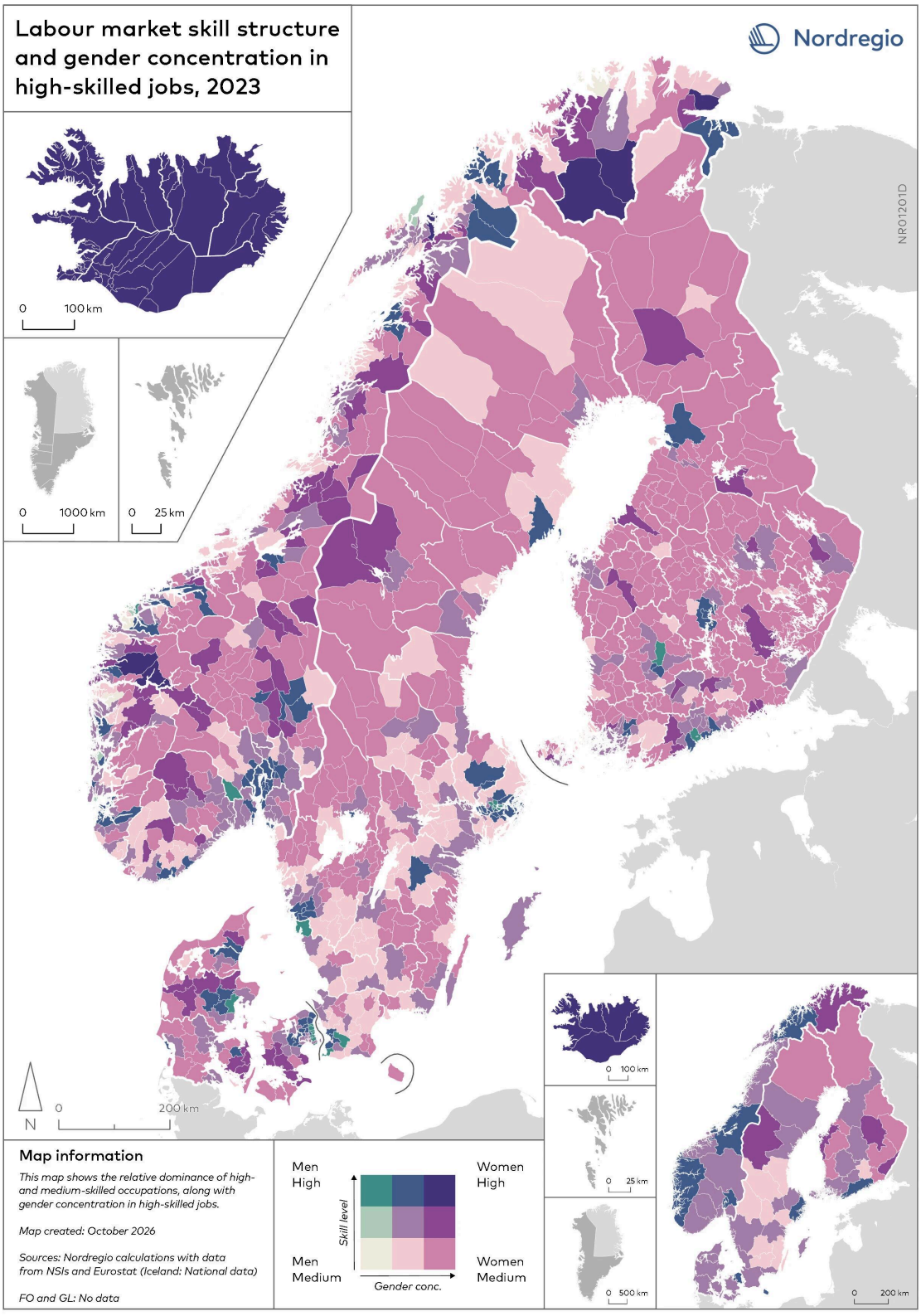


Image: Yaid Levy / norden.org

Overall, the Nordic labour markets continue to perform strongly, but the analysis also points to considerable structural change. Productivity and employment are developing differently across sectors, the composition of employment is shifting, and high-skilled occupations are becoming more prominent. However, the general trend towards occupational upgrading is not necessarily accompanied by a corresponding boost in productivity in those regions or sectors. These findings highlight that competitiveness is shaped not only by productivity but also by how effectively labour markets adapt to structural change and make use of available labour and skills.

The changes also have a clear gender dimension, with women and men remaining unevenly distributed across sectors and occupations. The occupational analysis showed that changes in the skills composition of employment vary considerably across the Nordic Region and between women and men. Map 5 brings these perspectives together in a single spatial overview, highlighting how gender and occupational skill structures intersect across regional labour markets. The metropolitan areas of Copenhagen and Stockholm appear predominantly dark green on the map, indicating a concentration of men in high-skilled occupations, while the Oslo area is predominantly dark blue, illustrating differences in the gender composition of high-skilled employment across the Nordic capital regions. A notable pattern is the prevalence of light purple areas, indicating a medium-skilled-dominated economy, with women more concentrated in high-skilled jobs, while the corresponding light cream colour is nearly absent from the map. This also highlights the difference in industry structures between municipalities and regions.

The uneven distribution of men and women across sectors and occupations can shape how effectively Nordic labour markets respond to changing skills needs. As demographic change and the economic, green and digital transitions reshape demand, sustainable competitiveness will depend on greater mobility between sectors and occupations, as well as on local capacity to match changing demand with the available workforce. Ensuring that emerging employment opportunities are accessible to both women and men can therefore strengthen both labour market dynamics and sustainable competitiveness by improving the capacity of regional economies to respond effectively to evolving skills needs.



Map 5. Labour market skill structure and gender concentration in high-skilled jobs, 2023.
Note: Each class represents a combination of labour market structure (relative dominance of high-skilled versus medium-skilled occupations) and the extent to which women or men are more concentrated in high-skilled occupations.
Source: Nordregio calculations based on data from national statistical institutes and Eurostat. Data for Iceland are at the national level. No data are available for the Faroe Islands and Greenland.

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Appendix

Local labour market status	**High-skilled (Δ)** *Changes measured in percentage points (pp)*	**Medium-skilled (Δ)** *Changes measured in percentage points (pp)*	**Low-skilled (Δ)** *Changes measured in percentage points (pp)*	**Interpretation**
Upgrading	*Increase (≥ +0.5 pp)*	*No restriction, as upgrading is driven by shifts from low- to high-skilled occupations*	*Decrease (≤ –0.5 pp)*	Clear shift towards a higher-skilled occupational structure
Polarisation	*Increase (≥ +0.5 pp)*	*No increase (≤ 0 pp)*	*Increase (≥ +0.5 pp)*	Simultaneous growth at the high-and low-skilled ends, with a decline in medium-skilled occupations
Downgrading	*Decrease (≤ –0.5 pp)*	*No decrease (≥ 0 pp)*	*Increase (≥ +0.5 pp)*	Shift towards a lower-skilled occupational structure
Stable/Mixed	*Any combination not meeting the criteria above*			*No clear structural change or a mixed pattern without a dominant trend*

Table 1. Classification of municipalities and regions by occupational skill change.

In Maps 2 and 3, municipalities and regions were classified based on changes in the shares of high-, medium-, and low-skilled occupations between 2014 and 2023, using absolute changes in percentage points. Categories were assigned based on the combination of these changes, requiring a clear shift in at least one key segment while allowing other segments to remain stable or move in a consistent direction.

About this publication

Nordic labour markets: Dynamics and sustainable competitiveness

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Nordregio working paper 2026:10
ISBN: 978-91-8001-210-2 (ONLINE)
ISBN: 978-91-8001-211-9 (PDF)
ISSN: 1403-2511
DOI: http://doi.org/10.6027/WP2026.10.1403-2511

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Data: Daniel Pils, Hjördís Guðmundsdóttir and Kadri Kuusk
Maps: Daniel Pils
Layout: Marija Zelenkauskė
Cover photo: Unsplash.com

This research project is part of the Nordic thematic group for competitiveness and inclusive green transition at the regional and local level. The Nordic thematic groups contribute to the Nordic Co-operation Programme for Regional Development and Planning 2025–2030 under the Nordic Council of Ministers' Committee of Senior Officials for Regional Policy (EK-R).

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