

## **Signs of recovery: High employment, low unemployment**

The Nordic countries are performing well on indicators relating to labour force participation and education when compared to the EU as a whole. They enjoy higher rates of employment; lower rates of unemployment; higher rates of school completion; and high tertiary attainment rates, particularly among women. The average employment rate for the Nordic Region was 73.4% in 2014 compared with an EU average of 64.9 %. This figure reflects a post global financial crisis recovery in most countries, with a clear exception in Denmark where the employment rate has continued to drop. Notably, Iceland, which experienced the sharpest drop following the financial crisis, now has an employment rate well above the Nordic average. Education levels are also high in the Nordic countries, though perhaps not surprisingly, the highest levels of education can, to a large extent, be found in metropolitan areas, socio-economically strong municipalities, and university cities. Access to education is a key driver for young people to move from rural areas to larger centres.

Despite these overall positive trends, there are regional and demographic differences which warrant consideration. Youth unemployment rates, though lower than the European average, remain at an alarming level in certain regions. Overall employment rates remain higher for males than females, though, again, the Nordic countries perform well in comparison to others. Finally, despite the Nordic countries' strong performances on indicators related to education the overall trend is negative if you look at the PISA results.

# Theme 2

# LABOUR FORCE

## About the labour data

All the labour data used in this report has been adjusted to the Labour Force Survey. There are two main sources of information on employment and unemployment: Labour Force Surveys (LFS) and register based statistics. All of the Nordic countries have a system of register based labour market data. Regarding employment, the available data is usually around two years old, stemming from the long processing time required. Register data of unemployment is available monthly and usually with only a short time lag. For the Nordic countries, register based data is available on the municipal level. However, the drawback with register-based data is that it is not comparable between countries.

The other method for measuring employment – Labour Force Surveys – is based on monthly surveys which in the Nordic countries are conducted by the national statistical institutes. There are international rules (ILO) on how the surveys shall be conducted. In principle, if the sample is large enough (which is generally the case in the Nordic countries), these figures are comparable between countries. The samples are also extended at least once a year in order to make regional estimations. For these estimates however significant margins of error exist, particularly in regions with small populations. E.g. in the case of Åland, the sample size for many labour force surveys is too small.

# Chapter 5

## **EMPLOYMENT: Nordic countries strong in international comparisons**

Authors: **Anna Karlsdóttir, Gustaf Norlén and Linus Rispling**

Maps and data: **Gustaf Norlén, Linus Rispling, Shinan Wang, Anna von Zwegbergk and Julien Grunfelder**

The relatively high historic rate of labour market participation among females in the Nordic countries is a trademark of the region. Labour markets with a gender imbalance where fewer women participate than men may not only be economically counterproductive, but also pose questions over basic issues of equality. By international standards, the Nordic countries continue to retain their vanguard position with a high proportion of females in the workforce. In spite of this status, males remain the dominant group across the Nordic Region when female and male employment rates are compared. The male employment rate increased slightly during the period 2012-2014 while it has decreased for females.

Wage and income distribution in the Nordic countries is more even than in many other Western countries. The corporatist Nordic bargaining systems help keep wage inequality at lower levels than in most other European countries, but it is nevertheless evident that, over time, the wage structure and income inequalities in the Nordic countries have become less distinctive compared with other European countries. The employment rate (high or low) does indicate regional economic resilience in terms of productivity and economic growth, or the lack thereof. Employment is one of the EU2020 targets; the goal is to reach 75% employment in Europe by 2020 (measured for age group 20-64 years). Sweden, Denmark and Finland have also formulated their own goals. Sweden and Denmark have set the goal of having an employment rate above 80% while for Finland the rate was set at 78%.

### **Employment follows a clear pattern**

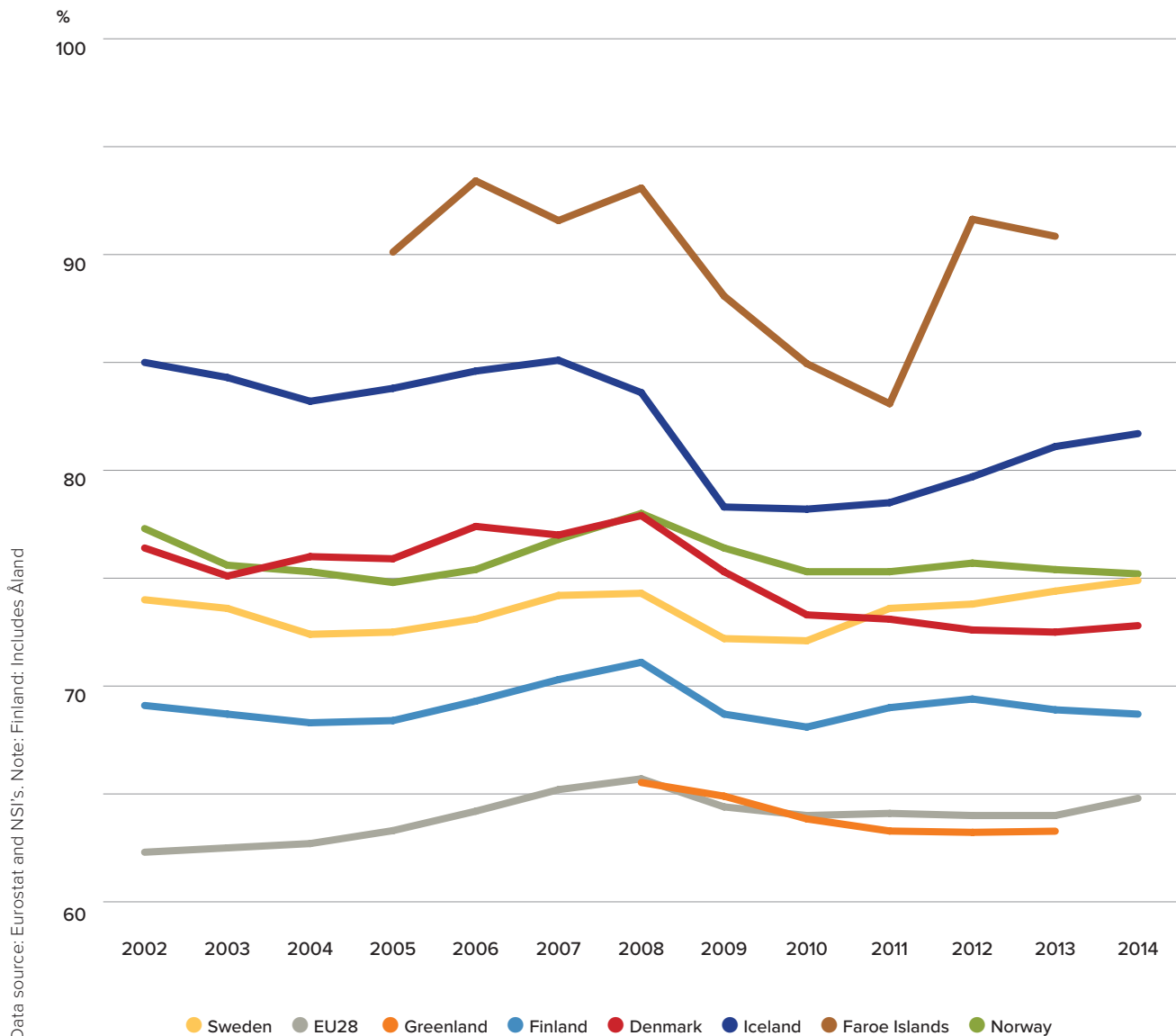
Compared to the EU average, employment rates in the Nordic countries are relatively high. The average employment rate for the Nordic Region in 2014 was 73.4%, which can be compared to the EU average of 64.9%.

**The average employment rate for the Nordic region in 2014 was 73.4%, which can be compared to the EU average of 64.9%.**

Looking at the development over time we can see that the employment rate was one factor that was affected by the financial crisis in 2008, particularly in the smaller economies such as Iceland where it dropped significantly (albeit from a very high level). As figure 5.1 shows, the labour market has since recovered in most countries. Denmark is a clear exception, with a dropping employment rate from 2008 to 2013 and where a stabilisation only began to occur between 2013 and 2014. Finland and Norway have both seen slight decreases in employment rates again after 2012.

Although the general picture in the Nordic Region is that the employment rate is high, there are regional differences and some clear patterns are visible when you zoom down to the municipal level. As seen in figure 5.2 the clearest pattern is the low employment rates in eastern and northern Finland, where many municipalities have employment rates significantly lower than the EU average.

Figure 5.1: Employment rate (15-64 years), 2002-2014



Data source: Eurostat and NSI's. Note: Finland: Includes Åland

Employment rates are high in the small Island economies of the Faroe Islands, Iceland and Åland, in relation to mainland Finland (between 75 and 90%). These stick out as the regions with the highest employment rates in the Nordic Region.

Together with Kujalleq in Greenland all of the 65 municipalities with the lowest employment rates are Finnish (with employment rates between 52 and 59%, i.e. also below the EU28 average). Geographically, this is mainly true for the eastern and northern parts of the country. In addition to Åland also Pohjanmaa (77%) and Uusimaa (74%) had employment rates above the Nordic average.

Norway has a high employment rate in general, only one region, Østfold, had employment rate below the

Nordic average in 2014. In the main, it is municipalities close to the Swedish border that had a relatively lower employment rate; such as Stor-Elvdal, Kongsvinger and Eidskog in Hedmark (64-67%) and Halden, and Sarpsborg in Østfold (66-67%).

Only four of the Swedish regions had employment rates slightly under the Nordic average – Värmland, Skåne, Gävleborg and Östergötland. The municipalities in the north that have a strong mining and industrial tradition generally have high employment rates. Kiruna and Gällivare, for example, have employment rates around 80%. Malmö however sticks out with its low employment rate (under 65%). Even adding those commuting to Denmark however, Malmö has a low employment rate in a Swedish context.



The Danish regions all have employment rates close to the Nordic average in 2013 - from Midtjylland (72.9%) to Syddanmark (71.2%). Municipalities close to Copenhagen - Allerød, Egedal, Dragør and Hørsholm have employment rates around 80%. Odense, Langeland, Svendborg and Nyborg in Syddanmark are among the municipalities with the lowest employment rates in Denmark (65-69 %).

In general, the capital municipalities are close to the Nordic average and thus are usually not at the top in a national context: Oslo - 76%, Stockholm - 78%, Helsinki - 70%, København - 68% and Reykjavik - 75%.

In Sweden government consumption is expanding due to higher spending on integrating migrants, education and care for the elderly. Despite relatively modest economic activity, employment has grown particularly strongly in recent years. It has recovered well from the financial crisis and has already reached pre-crisis levels, with the employment rate among the highest in the EU (European Commission 2015).

The Swedish government hopes to be able to integrate the highly educated immigrants into the labour market more quickly. 30% of the immigrants have a higher education. An inventory has also shown that they often have the competences that are most sought after: such as engineers, technicians, specialist physicians, etc. It continues however to take a long time for these newly arrived immigrants to successfully break into the labour market (Arbeidsliv i Norden 2015a). The Danish authorities are also addressing policies to better integrate and more fully involve refugees and those from immigrant populations into jobs (Arbeidsliv i Norden 2015b).

The Finnish authorities emphasise on restoring growth and promoting competitiveness, as well as on spurring employment. As such, they view job creation as one of the main challenges for the economy. They are also seeking to address the risks posed by weak export performance in the context of industrial restructuring. Fin-

**The Swedish government hopes to be able to integrate the highly educated immigrants into the labour market more quickly.**

**By international standards, the Nordic countries continue to retain their vanguard position with a high proportion of females in the workforce.**

land is still struggling to translate R&D investment into successful exports. It should provide more financing for start-ups and offer them more help enabling them to do more business abroad. Furthermore, in view of the ageing population and shrinking working-age population, it is important that the labour market makes use of the full potential of the workforce (European Commission 2015).

Finnish labour market reforms have been one of the hottest topics for the new government. The goal is to lift Finland out of the economic crisis. Finland's governance culture is very consensus-oriented with fixed power relations between unions, employers and the government. This makes change hard to achieve. The new government is however looking for a new deal that will lower labour costs. Another measure could be to lower the rate at which unemployment benefits are provided (Arbeidsliv i Norden 2015c).

## **Nordic countries leading on gender balance**

Figure 5.3 shows the difference in employment rates between men and women. In most regions the male employment rate is higher than the female employment rate; it is mainly in the northern and eastern parts of Finland that the female employment rate is higher. A few regions have a balanced gender employment ratio. These include various types of municipalities: in Finland cities that have universities' or tertiary educational opportunities, e.g. Joensuu, Helsinki, Tampere, Kuopio and Turku are prominent in this list. In Denmark only municipalities within the Copenhagen metropolitan area have a gender balanced employment ratio (Frederiksberg, Herlev, Ballerup, Tårnby and Allerød). Whereas in Sweden, a gender balanced employment ratio is only found in the municipalities of Värmland and Västra Götaland (where it is common for men to commute on a weekly basis across the border into Nor-

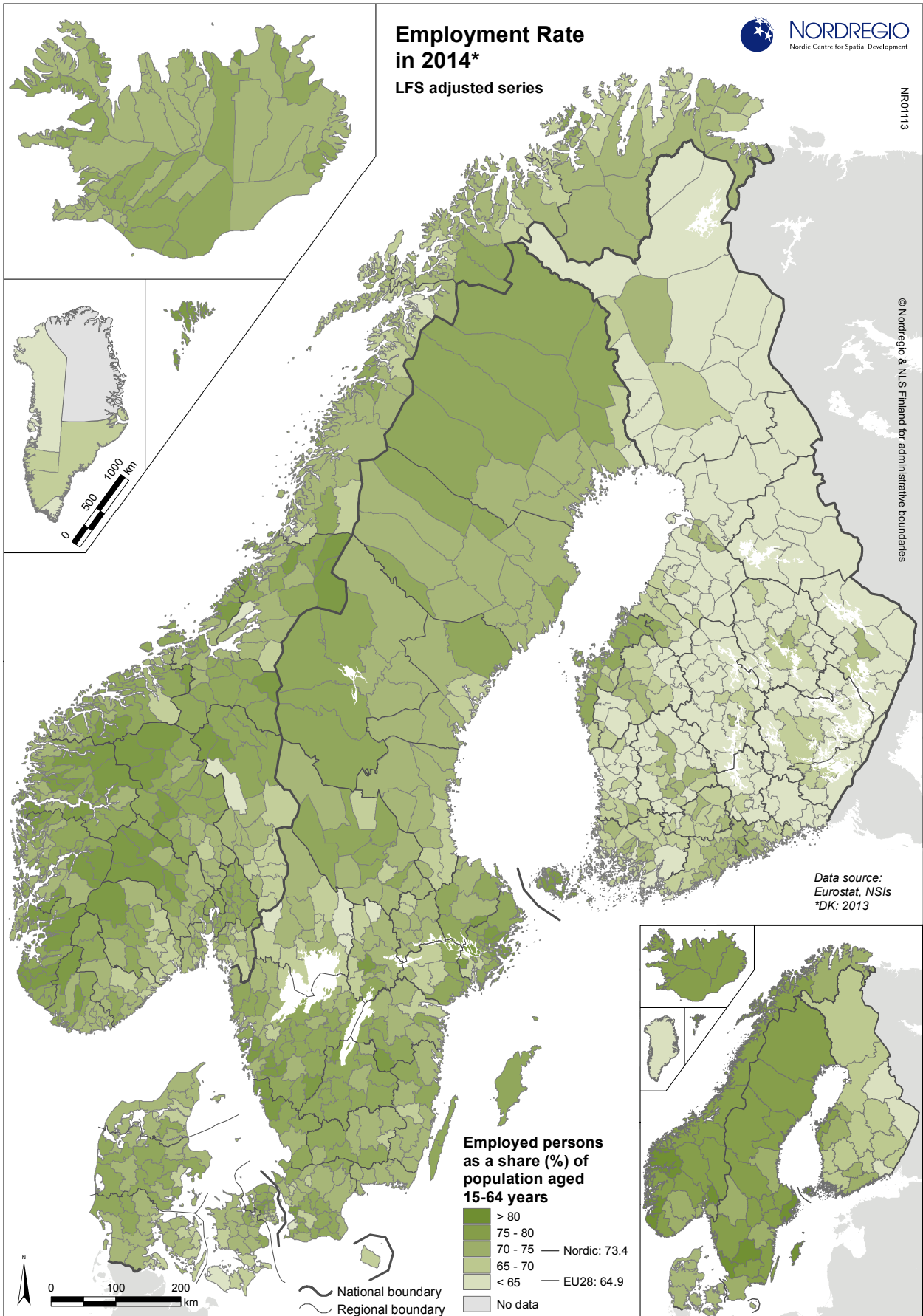


Figure 5.2: Employment rate (15-64 years) in 2014 – Labour Force Survey adjusted series

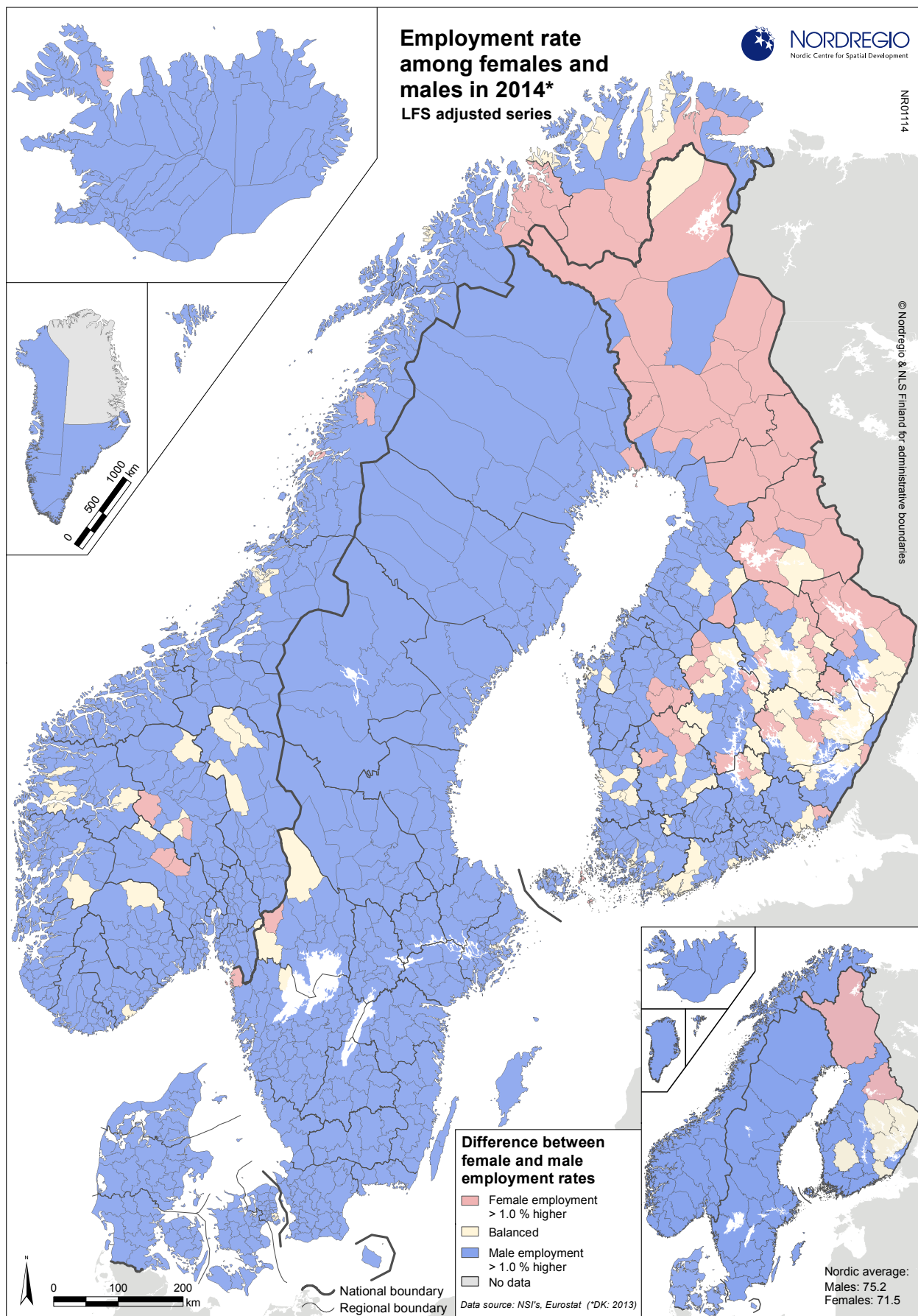


Figure 5.3: Employment rate among females and males in 2014 – Labour Force Survey adjusted series

way, which skews the statistical data). In Norway quite a varied mix of rural and small town municipalities in Oppland, Buskerud, Telemark, Hordaland, Sogn og Fjordane along with Troms and Finnmark have gender balanced employment ratios. In the North Atlantic, the Faroe Islands, Iceland and Greenland have no municipalities which are completely gender balanced in labour market terms. In Åland there is one municipality, Kökar, which has a higher employment rate for females.

The relatively high historic rate of labour market participation among females in the Nordic countries is a trademark of the region. Labour markets with a gender imbalance where fewer women participate than men, may not only be economically counterproductive, but also pose questions over basic issues of equality. For example, among the OECD countries, Finland, Iceland, Norway, Sweden and Denmark are all among the top grouping of OECD countries with regard to the employment rate for women. Nordic co-operation has also focused on increasing awareness about gender equality among the people of the region, parliamentarians, governments and the Nordic Council of Minister's own organs and projects. Among their many broad socio-economic goals the Nordic countries, (including the Faroe Islands, Greenland and Åland) seek to ensure that women and men have equal opportunities to participate in the labour market and to be financially independent (Nordic Council of Ministers 2015).

Wage and income distribution in the Nordic countries is more even than in many other Western countries. The corporatist Nordic bargaining systems help keep wage inequality at lower levels than in most other European countries, but it is nevertheless evident that, over time, the wage structure and income inequalities in the Nordic countries have become less distinctive compared to other European countries. There are however a number of other factors affecting gender related pay distribution, such as unemployment levels, access to and the organisation of childcare, the generosity of the unemployment insurance schemes and to other benefits (Andersen et al. 2014).

**Wage and income distribution in the Nordic countries is more even than in many other Western countries.**

**The Nordic average for male employment participation is 75.2% in 2014 while it is 71.5% for females.**

### **Males still predominate in the labour market**

In spite of this status, males remain the dominant group across the Nordic Region when female and male employment rates are compared. The Nordic average for male employment participation is 75.2% in 2014 while it is 71.5% for females. The Nordic average employment rate has grown marginally since 2012 for both male, where it was 75% and female, where it was 71.2%. Some of the reasons explaining the difference between male and female employment rate may concern the sectoral structure and proportional labour need in a labour market that is seemingly still gender segregated.

As figure 5.3 shows, the male employment rate is at least one percentage point higher in most of Norway, Sweden, Denmark, Iceland, along with the Faroe Islands and Greenland. This is also the case for the south western corner of Finland. In general however, regional variations in Finland are much more evident than elsewhere in the Nordic countries.

Employment in the Nordic Arctic region is characterised by a relatively large public sector and a higher share of employment in primary production, while the southern parts of the Nordic countries and the main urban centres in particular have a more balanced gender ratio in terms of labour market participation.

Iceland's employment rate is well above the Nordic average, both for males and females across all regions of Iceland. The same is true for the Faroe Islands where up to 95% of the labour force of both genders is employed. The North Atlantic Islands share this characteristic with



**Iceland's employment rate is well above the Nordic average, both for males and females across all regions of Iceland. The same is true for the Faroe Islands where up to 95% of the labour force is employed.**

Åland which also has a generally high employment rate for both genders.

In the northern and eastern parts of Finland, the female employment rate is higher than that for males, which is not the case for most other parts of the Nordic countries. In these Finnish areas, the male employment rate is generally low. Most of the regions with this characteristic face problems related to industrial restructuring with a significant decline in the importance of so-called 'traditional occupations'.

A number of small communities in the southern part of Norway also have a higher proportion of women in employment than men. Three border regions in Sweden also have higher proportions of women in employment although this is because the men commute across the border to Norway for work and therefore do not appear in the Swedish national labour force statistics.

## **Commuting between work and home**

The employment rate is usually measured from the 'night population', i.e. based on where people live. Since a labour market region is bigger than the municipalities where the people live there are often significant differences between where people live and where they work. Figure 5.4 shows out-commuting people in terms of their share of the working age population (15-64 years). Out-commuting refers to commuting out from an origin municipality, i.e. where the commuters reside, to the receiving municipality, i.e. where the commuters' work place is located. For domestic commuters only out-com-

## **Visualising commuting**

The map in figure 5.4 shows municipal out-commuting flows as a share of the origin municipality's working age population (15-64 years). The origin municipality is the municipality where the commuters reside, while they work (and commute to) the destination municipality. Thus, the map does not show commuting in absolute numbers, but instead which municipalities have the largest shares of commuting (in relation to their working age population, i.e. people aged 15-64 years). One could say that this map gives the perspective of the out-commuting municipalities rather than that of the in-commuting municipalities, and takes into account the (working) population size of the included municipalities.

There is clearly a challenge here in presenting commuter flows in map form, as the map should remain readable and not too blurry. It is for this reason that the capital regions, where much of the most intense commuting take place, are presented in separate maps. In order to limit the amount of commuter flows shown in the map, a threshold was set to 6% for domestic commuting, i.e. for commuting between municipalities within a country, only out-commuting shares above 6% have been included in the map. Regarding commuting between municipalities across national borders, the commuting flows are relatively limited when compared to the largest domestic commuting flows, but are still distinct in some areas, e.g. the Värmland-Oslo region, and the Öresund region. Thus, for municipal commuting across national borders, the threshold for out-commuting shares has been set to 1%. Furthermore, due to limited data availability, only international municipal commuting between Denmark and Sweden has been included in this map (see the two folded maps in the upper left corner).

muting shares above 6% have been included in the map, while for commuting between countries, only out-commuting shares above 1% have been included (applies to Denmark-Sweden and Norway-Sweden only; see the two small maps in upper left corner). The capital regions are presented in separate boxes.

### Major municipal out-commuting flows in 2013

Out-commuting as share of the origin municipality's working age population (15-64 years)



NE01111

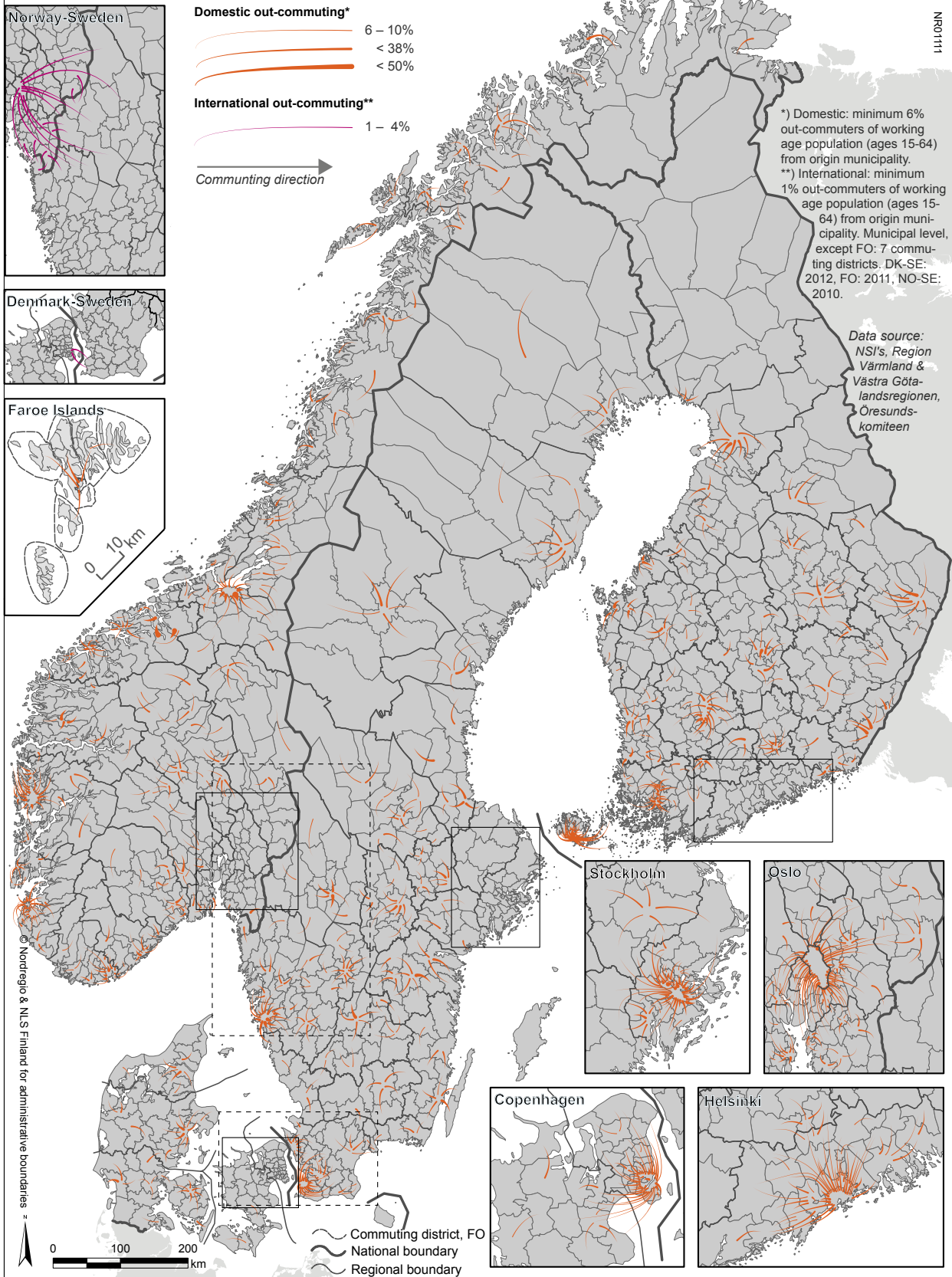
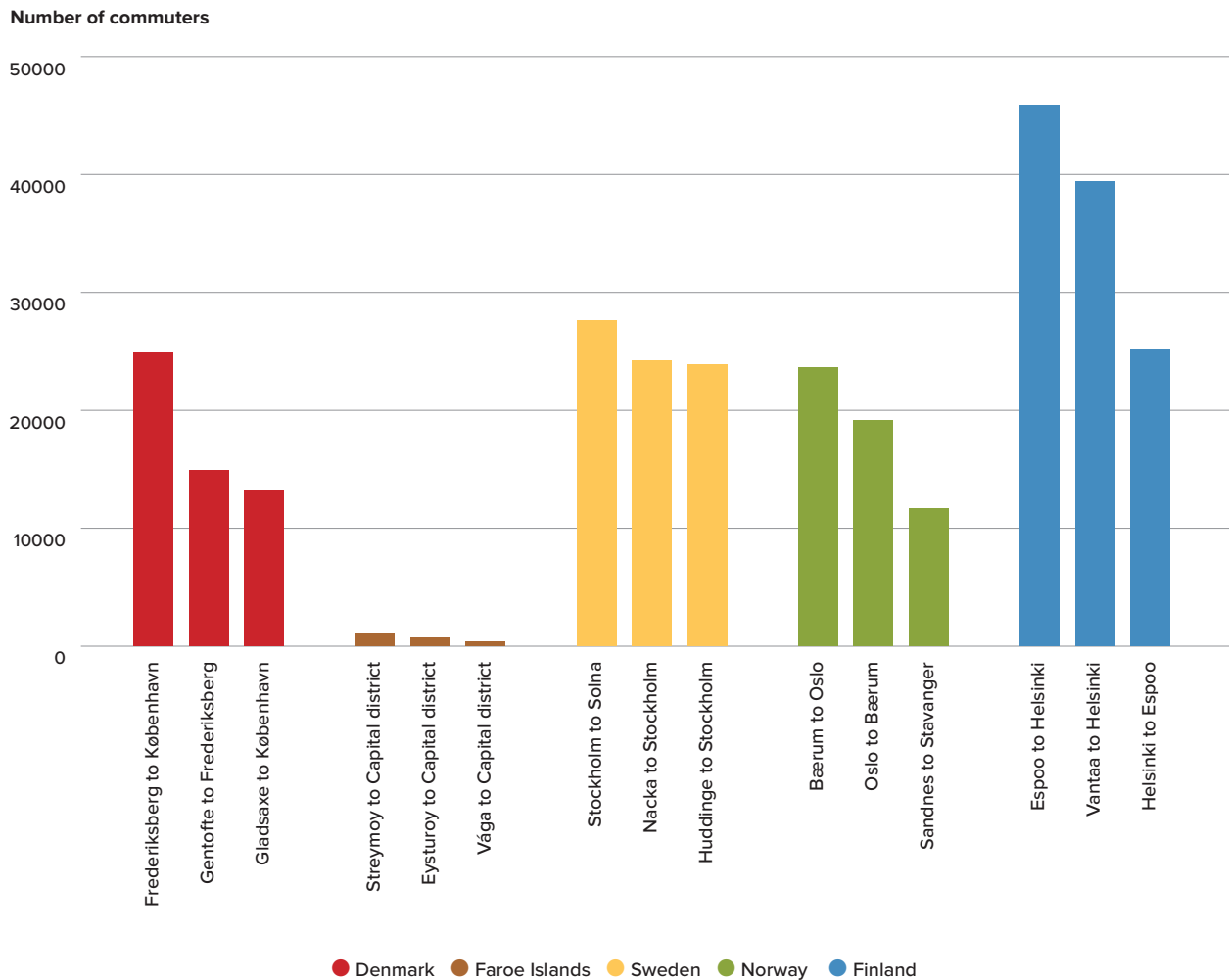


Figure 5.4: Major municipal out-commuting flows in 2013. Note: Greenland and Iceland: No data

**Figure 5.5: The three largest municipal out-commuting flows in Denmark, the Faroe Islands, Sweden, Norway and Finland in 2013**



Data source: NSI's. Note: Faroe Islands: commuting districts, 2011; Finland: Includes Åland. Greenland and Iceland: No data

The dominant commuting flows are understandably directed to the capital municipalities. Large flows can also however be viewed in the direction of a number of municipalities located in the proximity of the Nordic capital cities where many employers are located, e.g. Solna in Stockholm region, Espoo in Helsinki region, Frederiksberg in Copenhagen region and Bærum in Oslo region. There are also large commuting flows from municipalities located around various other metropolitan municipalities, e.g. Århus and Odense in Denmark, Stavanger, Bergen and Trondheim in Norway, Malmö and Göteborg in Sweden and Turku and Tampere in Finland.

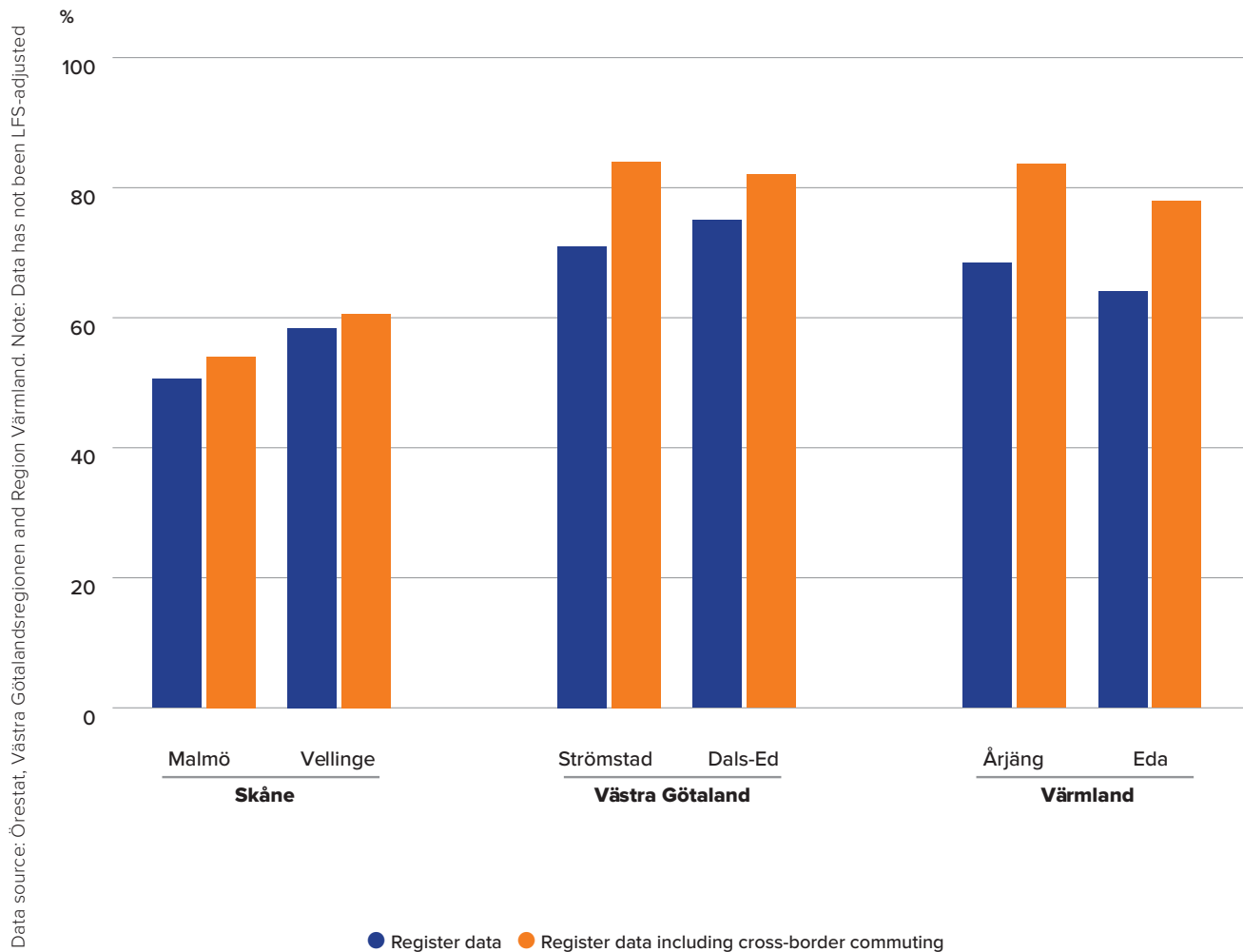
Åland, although it has quite a small total population, has many municipalities, intense commuting patterns between the municipalities, similar to the larger metropolitan regions. The commuter flow is generally directed towards Mariehamn, the main urban center. In the Faroe

Islands, only two out of seven commuting districts do not have out-commuting flows to the capital district (Tórshavn and suburban settlements) above 6%, i.e. Suduroyar and Nordoya. Suduroyar is, in fact, the only commuting district without an out-commuting flow above 6% (due to its remoteness from Tórshavn, the main labour market). Inland northern Sweden and Finland generally have a sparsity of out-commuting flows above 6%, but some rather major ones do still exist, in Sweden to Östersund, Umeå and Luleå and in Finland to Oulu and Vaasa.

As can be seen in figure 5.5 the three largest municipal out-commuting flows, per country, in absolute terms can all, with the exception of Sandnes to Stavanger, be found in the capital cities, with the biggest flows between the populous municipalities in the Helsinki region.

In general, cross-border commuting is rather limited compared to commuting within the Nordic coun-

Figure 5.6: Employment rates in 2012 for selected Swedish municipalities



**The big commuting flows go from Sweden to Norway and Denmark whereas commuting from Norway and Denmark to Sweden remains small in volume terms.**

tries. There are however some exceptions, in particular in the Värmland, Västra Götaland and Öresund regions. In these regions cross-border commuting is of some importance. The big commuting flows go from Sweden to Norway and Denmark whereas commuting from Norway and Denmark to Sweden remains small in volume terms.

Since the national statistics on employment do not take cross-border commuting into consideration, employment rates for these border regions are usually reported as lower than they would be if cross-border commuting were included. Figure 5.6 shows the difference in the employment rate for selected Swedish municipalities if cross-border commuting is included. As can be seen here, some municipalities would have a significantly higher employment rate if cross-border commuting was added into the calculations.



# Chapter 6

## UNEMPLOYMENT:

### Young people pay the price for an incomplete recovery

Authors: **Anna Karlsdóttir** and **Gustaf Norlén**  
 Maps and data: **Gustaf Norlén**

In terms of unemployment the Nordic Region has several distinctive development trends. The unemployment rate is very low in the North Atlantic regions, Iceland, Faroe Islands and Norway. On the other hand, Sweden and Finland are still experiencing a high unemployment rate in some areas particularly in the northernmost regions. Some urban and metropolitan regions are also witnessing high unemployment rates among their more vulnerable and immigrant populations, as is the case in Denmark. The youth unemployment rate is likely also to be on the rise across much of the Nordic Region.

In this chapter we describe unemployment development in the Nordic Region in a European context and thereafter describe the main challenges for each of the Nordic countries in terms of unemployment. We will focus on the youth segment of the population in particular as a vulnerable group, especially Finland, Sweden and to some extent also in Norway, given that across the Nordic Region as well as globally, the proportion of youth currently without work or not involved in either education or training is growing. The terms on which people get access to the labour market may need to be reconsidered to prevent a lost generation, especially in Finland.

#### **Nordic unemployment low in a European context**

The countries along the EU's southern and eastern borders are suffering from the highest levels of unemployment, i.e. the southern part of the Mediterranean region, the south-eastern part of the Baltic Sea Region, the central-eastern regions, as well as the north west of Ireland (figure 6.1). At the other end of the scale, large parts of western-central Europe, the oil driven economies of the North Sea (i.e. Scotland and Norway), as well as the

Russian regions around St. Petersburg were facing unemployment rates below 5%, which is well under the EU average of 10.8% in 2013. Compared to the rest of Europe, the Nordic Region has a regionally varied patchwork of unemployment levels across regions, but without the very high levels found in southern and south-eastern parts of the EU.

The average unemployment rate in the Nordic Region was 7.0% in 2014, a bit lower than the European rate of 10.2% for the same year. As shown in figure 6.2, the highest unemployment rates in the Nordic Region are found in northern and eastern Finland as well as in some Swedish municipalities (e.g. Södertälje, Trollhättan, Landskrona, Malmö and Haparanda). All of these have unemployment rates above 14%. Faroe Islands, Iceland and Åland with unemployment rates between 3-5%

#### **Measuring employment and unemployment**

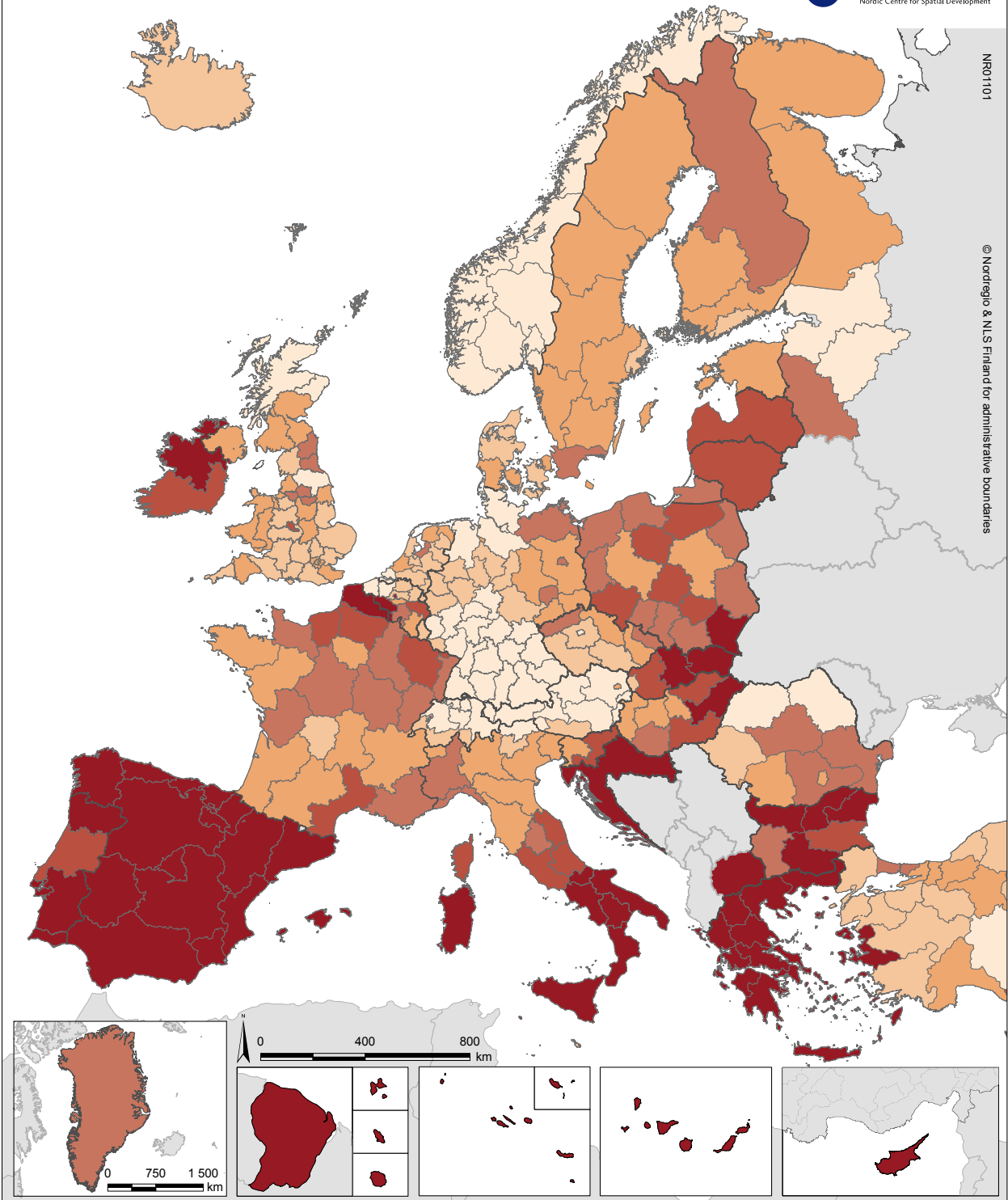
There is a relation between the employment rate and the unemployment rate, but it is not a 1:1 relation. While employment rates are calculated as shares of the total population, the unemployment rate is calculated as a share of the active population, i.e. as a share of the employed plus the unemployed. Hence, unemployment rate does not include the people that are outside the workforce, only those who are actively searching for jobs.

### Unemployment rate in 2013



NR01101

© Nordregio & NLS Finland for administrative boundaries



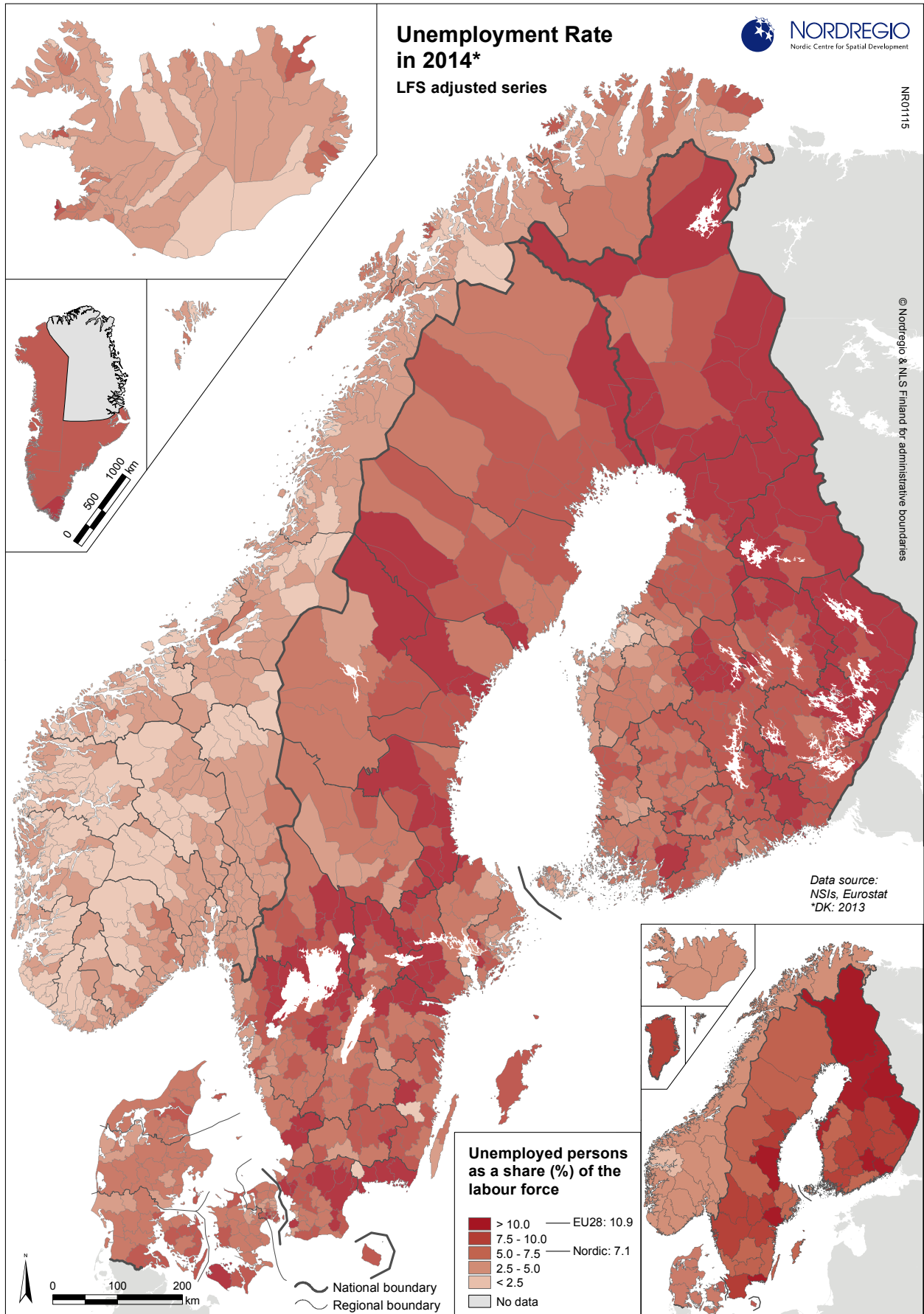
Unemployment rate in 2013: annual average in %. LFS adjusted series

- > 13.0
  - 11.0 – 13.0
  - 9.0 – 11.0
  - 7.0 – 9.0
  - 5.0 – 7.0
  - < 5.0
- EU28 = 10.8

2013 data, except: GL 2012; RU 2011  
NUTS2/SNUTS2 regional level, except: HR NUTS1

Data source: Eurostat, NSIs. N.W. Russia:  
© ESPON 2014: ESPON BSR-TeMa/Nordregio

Figure 6.1: Unemployment rate in 2013



**Figure 6.2: Unemployment rate in 2014 – Labour Force Survey adjusted series**

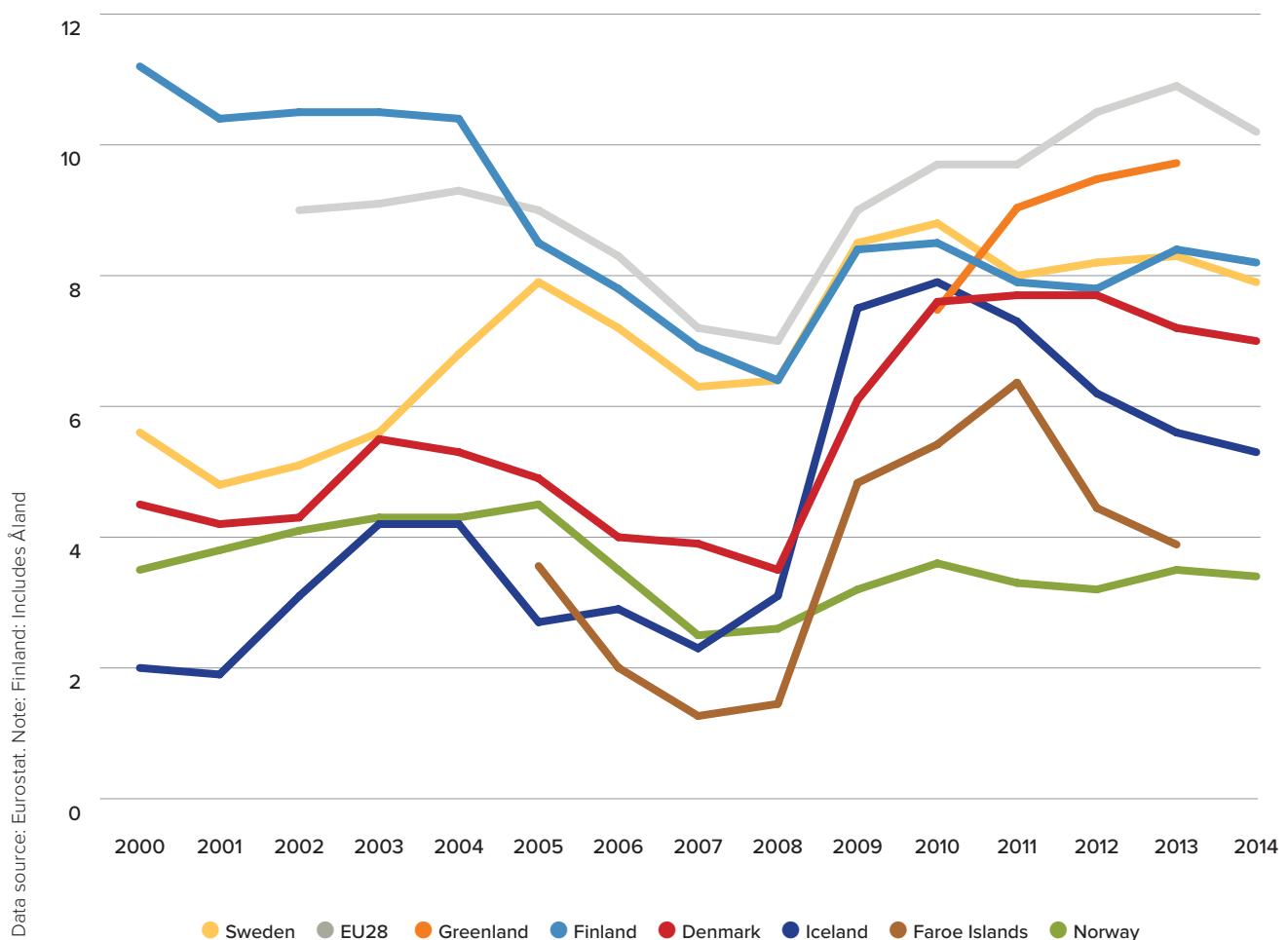
on the other hand have unemployment rates significantly lower than the Nordic average. The unemployment rate in Norway is also low, 3.5% in 2014. The regions with some of the highest unemployment rate – Østfold, Finnmark and Oslo – have an unemployment rate of around 4.5% which is still considerably lower than the Nordic average. The absolutely highest unemployment rates in Norway are found in the very northern municipalities such as Båtsfjord, Vardø and Hasvik in Finnmark and Værøy, Øksnes and Bø in Nordland (all with unemployment rates above 8%). It is also worth noting that many Norwegian municipalities have both a lower employment rate and a lower unemployment rate than e.g. many Swedish municipalities. This shows that there are many people there that are outside the workforce (e.g. Egge 2015).

In Sweden the highest unemployment rates are found in Gävleborg and Blekinge län (both around 11%). Old industrial towns, such as Trollhättan, Södertälje, Sand-

viken and Norrköping also have high unemployment rates (above 12%). The lowest unemployment rates are found in municipalities surrounding the big cities; Ekerö, Vallentuna, Täby, Danderyd and Vaxholm around Stockholm, Knivsta which is close to Uppsala, Lomma close to Malmö and Öckerö, Kungälv, Tjörn and Lerum close to Gothenburg. All of these municipalities have unemployment rates below 4%. This also highlights the issue of segregation in the bigger cities since there are municipalities here with both the lowest and the highest unemployment rates in the same city region.

The pattern of unemployment in Finland is a mirror image of its employment patterns. High unemployment rates are found in the eastern and northern part of the country (above 10%, but in some municipalities, e.g. Pelkosenniemi, Salla and Kemijärvi even above 15%). The Finnish regions of Keski-Pohjanmaa, Uusimaa and Pohjanmaa however have lower unemployment rates than the Nordic average.

Figure 6.3: Total unemployment rate (15-64 years), 2000-2014



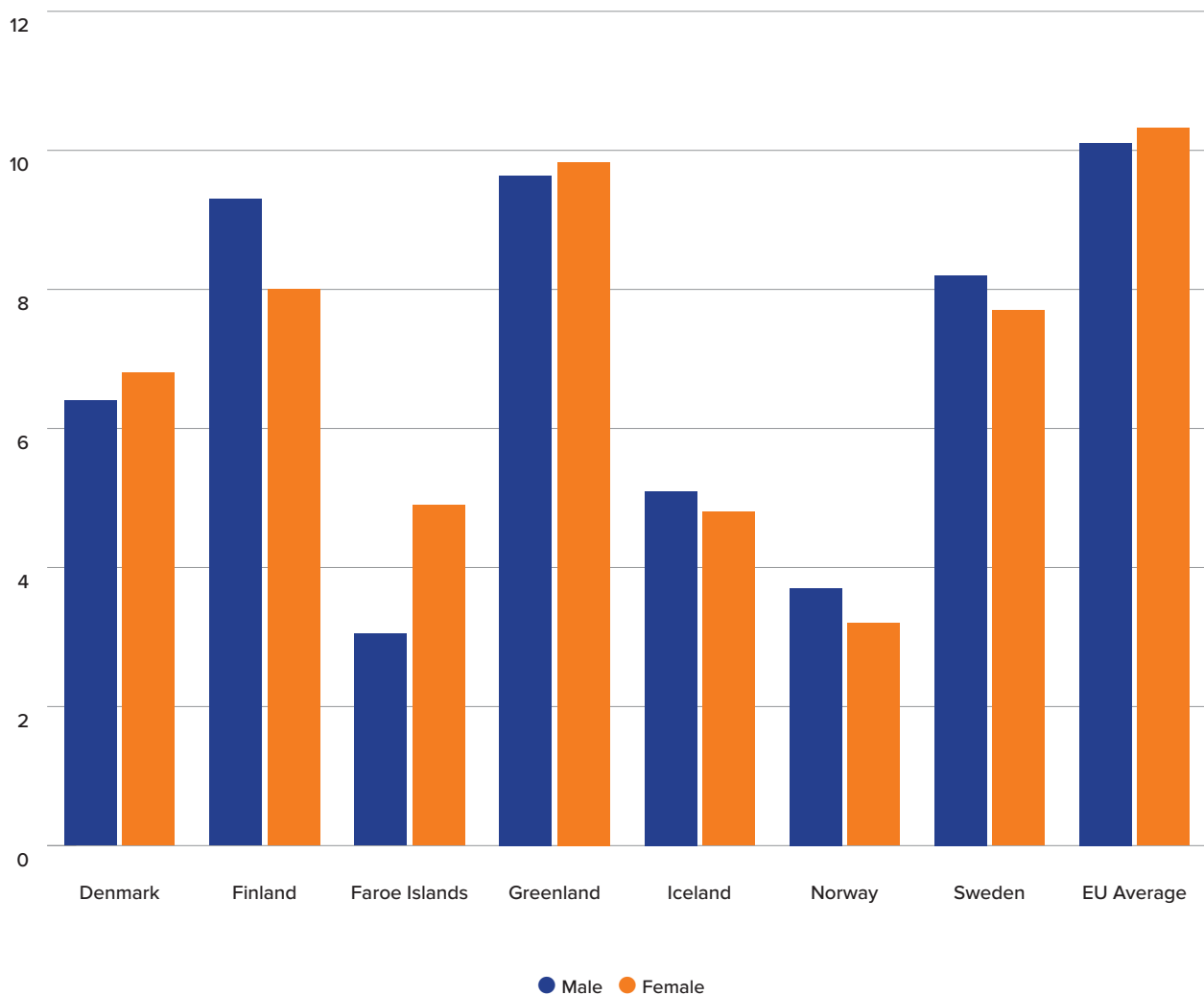
Data source: Eurostat. Note: Finland: Includes Åland

In Denmark four municipalities in Hovestaden – Ishøj, Albertslund, Brøndby, Høje-Taastrup – and Lolland in Sjælland have unemployment rates above 10%. Big cities like Copenhagen and Odense also have rather high unemployment (between 9 and 10%). The regional differences are otherwise smaller in Denmark than in the other Nordic countries and most Danish regions are rather close to the Nordic average.

As a consequence of the economic crisis, the unemployment rate for the Nordic population in working age (15-64 years) did increase sharply across several Nordic nations after 2008, especially in Denmark, the Faroe Islands, Greenland and Iceland (figure 6.3). As we can see from figure 6.3, the pace of recovery also varied, with some countries seeing unemployment decrease faster than others. This is true for Denmark after 2012 and even more so for Iceland after 2010 and the Faroe Islands

**As a consequence of the economic crisis, the unemployment rate for the Nordic population in working age did increase sharply across several Nordic nations after 2008.**

**Figure 6.4: Unemployment Rates, Male/Female in 2014**





after 2011. The Norwegian unemployment rate has been low and rather stable since the crisis, with only a limited increase between 2007 and 2010. This renders it as quite distinct from the other Nordic countries, while in Sweden and Finland the unemployment increased modestly between 2008 and 2010, then slightly decreased between 2010 and 2012 but again increased up to 2013, ending in 2014 with similar persistent levels of unemployment as those of 2009.

In the Nordic Region the average male unemployment rate, at 7.2%, was slightly higher than the female unemployment rate, which was 6.8% in 2014. As illustrated in figure 6.4, male unemployment is highest in Greenland followed by Finland and Sweden. Denmark and Iceland saw a reduction in male unemployment after 2011 while in Sweden, Finland and Norway the rate increased slightly over the same period. As illustrated in figure 6.4, unemployment rates between genders, in 2014, varied most significantly in Faroe Islands and Finland, but in rather different ways. While the unemployment rate among males in Finland is higher than for women, the opposite is true for the Faroe Islands. In the case of the Faroe Islands, men's work-mobility seems to contribute to the higher rate of female unemployment. A significant portion of the labour force in the Faroe Islands work abroad, an arrangement that appears to be taken up almost exclusively by men. The flexibility to travel gives males access to a broader range of employment opportunities than women. Furthermore, as a consequence of the large share of men working abroad, women are often required to take on more responsibility for the family, decreasing their work opportunities (ALS 2016).

### **Cause for concern in parts of Denmark, Finland and Sweden**

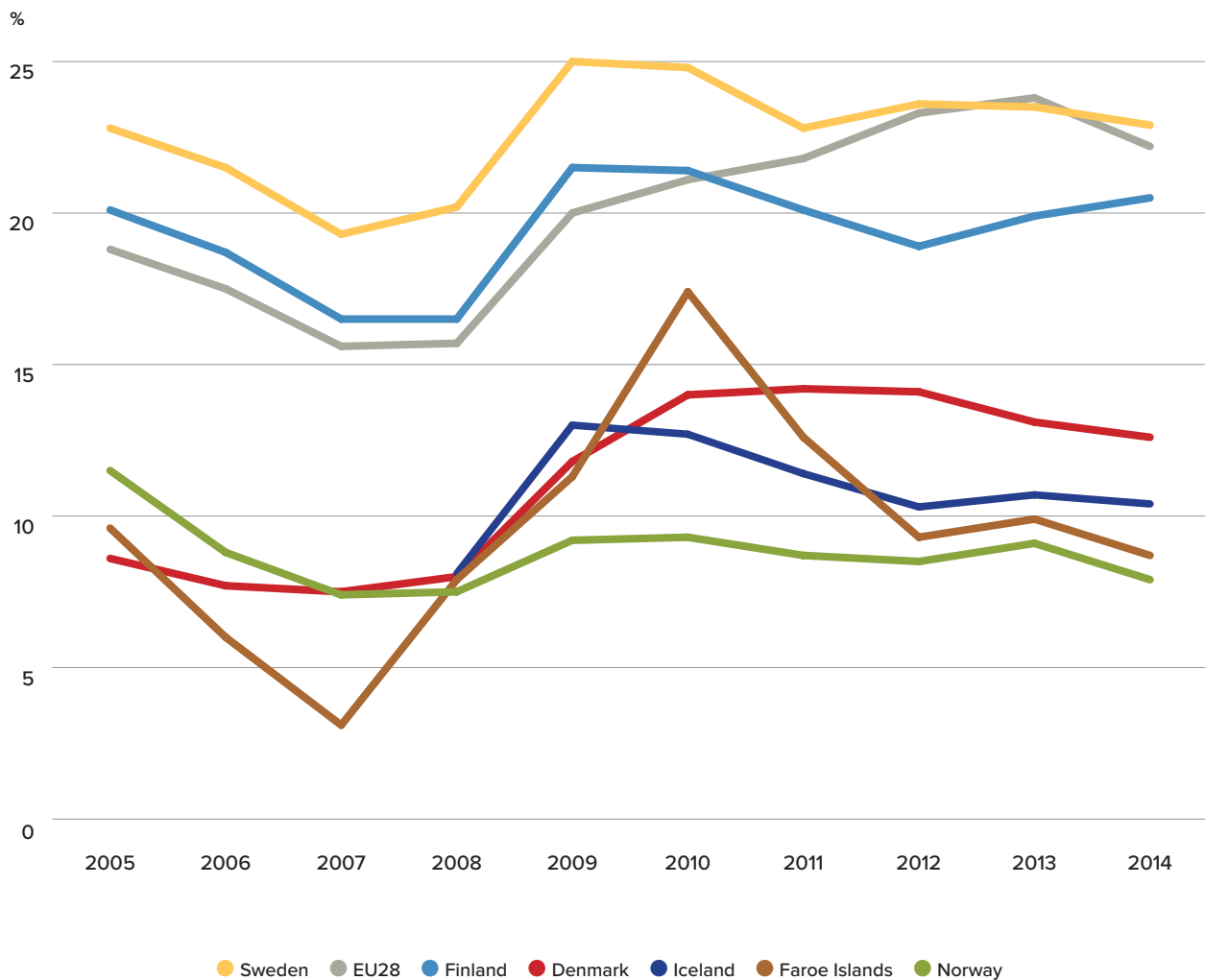
Denmark is a rich country with relatively small internal socioeconomic differences compared with many other EU countries. However, the Danish economy was hit relatively hard by the financial crisis, which led to a substantial increase in unemployment, in particular among young people and inhabitants with a non-Danish background. Denmark also continues to face a number of challenges in respect of workforce skill levels. These include a falling proportion of people taking vocational training, a decreasing proportion of people from migrant backgrounds receiving an education (especially male), and a persistently high educational drop-out rate (European Commission 2015). The Danish regions most affected by unemployment among males are Albertslund and Ishøj in the Copenhagen metropolitan region and Lolland in the south of Sjælland. There is also an interesting gendered aspect to employment and

unemployment in Denmark, in the sense, that female unemployment primarily relates to the main urban centre. Of the 26 municipalities in the Capital region of Copenhagen, 12 have higher female unemployment rates than the average of 6.9% in 2013. Moreover, some of them e.g. Albertslund, Høje Tåstrup and Ishøj have a female unemployment rate between 11 and 15%. In general, unemployment rates are higher among women than men in Denmark. The population group that features most prominently in terms of unemployment rates in the Capital region and Sjælland is, women born abroad; their unemployment rate is 26-28% which is far above average rates for 2014.

In Finland the unemployment rate was 8.7% in 2014 and is rising, particularly among young people and older workers. Another challenge for Finland is the weakening balance of public finances and the threat posed by demographic trends to their long-term sustainability. In some municipalities in Finland male unemployment is between 16 and 22% (Salla, Kemijärvi, Pelkosenniemi and Enontekiö in Lappi, Puolanka, Suomussalmi, Paltamo and Kuhmoin Kainuu) while Juuka in Pohjois-Karjala holds the dubious record of having a 21% unemployment rate among male inhabitants. In many of the regions with high unemployment for males there is also a correspondingly high female unemployment rate. Municipalities with over 12% female unemployment in 2014 were; Kemi, Simo and Savukoski in Lapland; Kotka in Kymenlaakso; Kuhmo and Suomussalmi in Kainuu; Kitee and Enonkoski in Etälä-Savo; Lahti in Päijät-Häme and Tohmajärvi in Pohjois-Karjala. Many of these areas share experiences of the challenges associated with industrial restructuring.

According to the Swedish government, GDP and employment have been boosted by growing domestic demand. However due to the growing size of the labour

**In the Nordic Region the average male unemployment rate, at 7.2%, was slightly higher than the female unemployment rate, which was 6.8% in 2014.**

**Figure 6.5: Youth unemployment rate (15-24 years), 2005-2014**

Data source: Eurostat. Finland: Includes Åland. Faroe Islands and Greenland: No data

force, unemployment has stayed at around 8% for several years (European Commission 2015). Municipalities with over 13% and up to 17% male unemployment in 2014 were Södertälje in Stockholm region, Eskilstuna in Södermanland, Lessebo in Kronoberg, Ronneby in Blekinge, Perstorp, Malmö and Landskrona in Skåne, Storfors and Filipstad in Värmland, Ljusnarsberg in Örebro, Trollhättan and Åmål in Västra Götaland, Fagersta in Västmanland and Haparanda in Norrbotten. As in Finland, some of the municipalities with high male unemployment rates also have correspondingly high female unemployment rates. This e.g. applies to Storfors, Landskrona, Trollhättan, Eskilstuna and Södertälje. In both Sweden and Finland, inner peripheries and coastal peripheries have the highest youth unemployment rates. The continuing challenge facing the

**One of the major knock-on effects of the financial crisis in 2008 is rising youth (ages 15-24) unemployment across Europe.**

Swedish labour market then is the need to integrate the large number of economically and socially vulnerable persons currently without work. The regions with the highest unemployment rates also have high percentages of immigrants and socially vulnerable persons (European Commission 2015).

## Youth unemployment at alarming levels

One of the major knock-on effects of the financial crisis in 2008 is rising youth (ages 15-24) unemployment across Europe. As shown in figure 6.5 the youth unemployment increased in all of the Nordic countries during the financial crisis and has remained on a fairly high level since. In 2013 the average European youth unemployment level was 23.8%, although it was slightly lower for the Nordic Region, at 17.2%.

The group aged 15-24 is usually preoccupied with education. As such, unemployment statistics mainly reflect the lives of the most vulnerable group of adolescents, i.e. the share of adults which is entirely new to, or about to enter, the labour market. It is also the case that in response to the tightening of the labour market, the length of time spent in education has, in many cases, been extended. As such, young people across the Nordic Region now spend more of their life in education or training than did previous generations. The need for formal qualifications contributes to this, and as the labour market requirements for experienced labour increases, different forms of trainee or even voluntary arrangements become part of the 'entrance ticket' into the formal world of work. As a result, it takes longer for young people to become full participants in the labour market.

As seen in figure 6.6 some regions and municipalities had notably higher youth unemployment rates than the EU28 average of 23.8% in 2013. Some regions in Sweden in particular have high youth unemployment, e.g. Blekinge, Gävleborg, Gotland and Södermanland, all with youth unemployment rate of around 30%. According to Statistics Sweden (SCB) one reason for this is that the systems of apprenticeship differ between the Nordic countries. In the Labour Force Survey (LFS) series apprentices with a salary are considered to be employed. In Sweden there have been very few apprentices (under 1%) whereas in countries such as Germany and Austria almost 25% of students are apprentices. A system with many apprentices' means that fewer are considered unemployed and that the quantity of the labour force increases. Since unemployment is a ratio this affects the unemployment rate in two ways.

Another explanation relates to the system of subsidies for students. In Sweden and Finland, both countries

## The youth unemployment rate is generally higher for men than for women; the Nordic average for men was 18.9 % while it was 15.6 % for women in 2013.

with high youth unemployment rates, student subsidies are not given in the summer. This increases the incentive for students to become job seekers and thus results in more students being registered as unemployed than would otherwise be the case. Labour force survey statistics counts full time students that are looking for work as unemployed. A youth unemployment rate of 25% does not mean that every fourth youth is unemployed. Rather that 25% of the potential labour force is unemployed. In 2011 more than half of all students in Sweden were part of the labour force, the rest were students that were not looking for jobs (SCB 2016).

Three of the micro economies in the Nordic Region, Iceland, Åland and, in particular, the Faroe Islands, do not face challenges in terms of youth unemployment, with generally low levels, but Greenland is challenged by higher rates of youth unemployment, up to 22%, which is the case in Kujalleq (South Greenland).

The youth unemployment rate is generally higher for men than for women; the Nordic average for men was 18.9 % while it was 15.6 % for women in 2013. The biggest differences between male and female youth unemployment is found in the Finnish regions Keski-Suomi, Etelä-Pohjanmaa and Pohjanmaa, as well as in some regions in the North of Sweden such as Västernorrland and Jämtland. All these regions have significantly higher male youth unemployment.

Persistent or long-term unemployment among young people is a concern in some of the Nordic countries. Additionally the share of young people (aged 15-29) that are neither in employment, nor in education or training (commonly abbreviated as "NEET") has risen internationally, in 30 out of 40 countries for which data is available between 2007 and 2012 (ILO 2014). High and/or rising NEET rates are a major concern for policy makers,



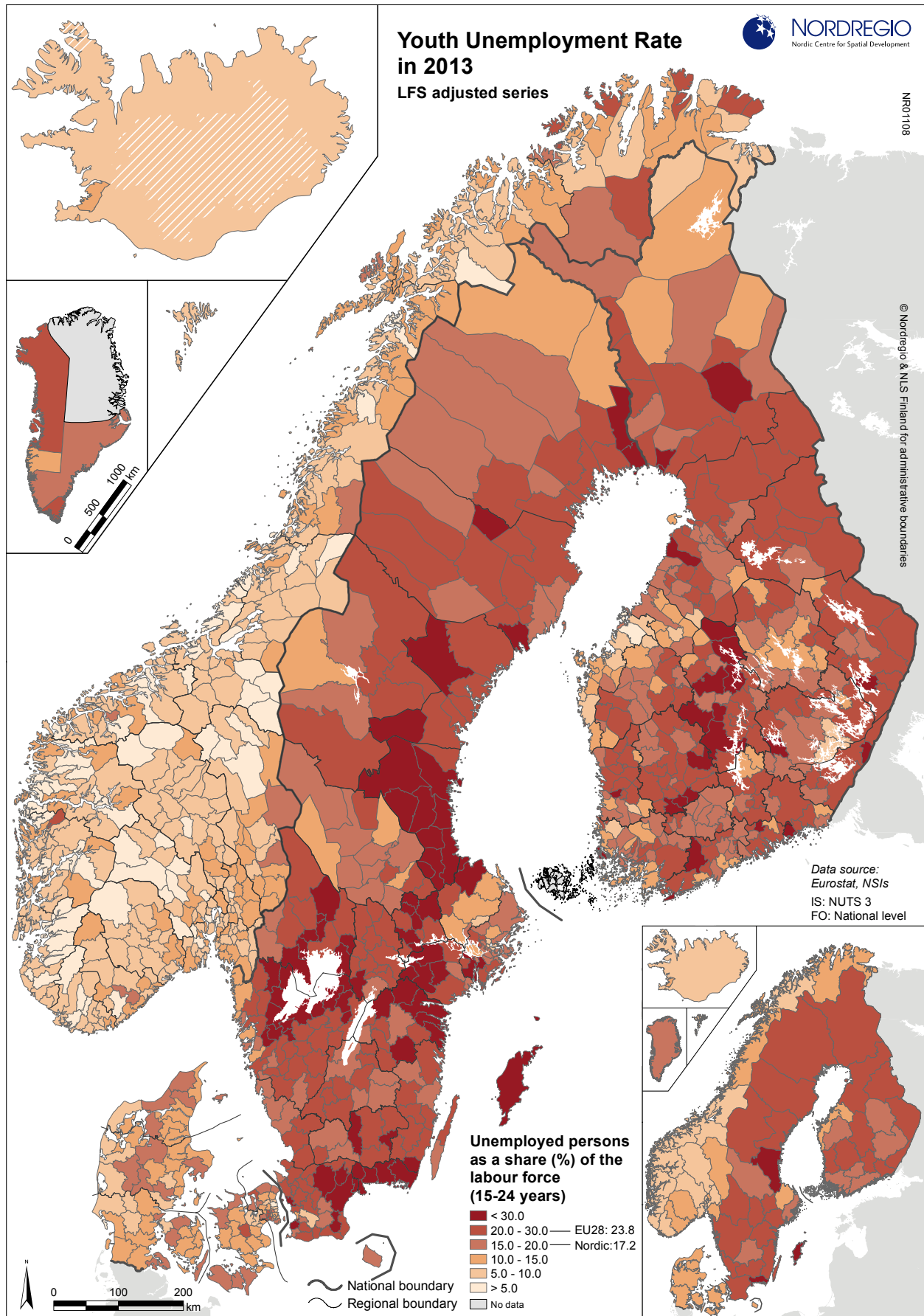


Figure 6.6: Youth unemployment rate in 2013 – Labour Force Survey adjusted series.

as this group is neither engaged in employment, nor investing in skills development. Moreover, young people that are among the NEET group may be less engaged and more dissatisfied with their societies than their peers who are employed or in the education system.

This has for example been a challenge in Norway. Norway has a low youth unemployment rate but still many young people that neither are a part of the workforce nor engaged in education. Norwegian authorities have started to pay attention to this group coining it “Nave” (Egge 2015). Swedish social authorities have also for a while focused on this marginalised group from the perspective of mental disabilities or dysfunctionalities (Socialstyrelsen 2013). From a regional welfare perspective, the regional labour market policies response to ageing and shrinking regions should obviously be to focus on the talents and potentials of young people, however there are indications that labour market policies, e.g. in Sweden addressing consequences of ageing fail to include young adults and the policies do not address regional heterogeneity in respect of e.g. ageing and youth unemployment (Rauhut and Kahila 2012). Globally, the labour market for the NEET group has worsened, posing significant challenges in the years ahead in terms of reconsidering employability (ILO 2014).

**In Norway many young Swedes have been given opportunities to gain work experience in recent years. There is a complementarity principle between neighbour countries that calms pressures on unemployment insurance systems.**

Denmark has for a number of years had as its top priority in terms of labour market and social policy issues, to recruit young long term unemployed into jobs or educational options (Norden 2010). In 2013 the highest youth unemployment in Denmark was to be found in the various municipalities across the Capital Region (on average 14.5%), with Halsnæs municipality facing the highest rate of 28.7%. The most vulnerable group in the age group 15-24 years experiences a hugely marginalised role, without education, without job or any training experience (Halvorsen et.al 2012).

In Norway many young Swedes have been given opportunities to gain work experience in recent years. There is a complementarity principle between neighbour countries that calms pressures on unemployment insurance systems, when flows of workers between the Scandinavian countries, engage in employment-related mobility.

The youth unemployment in Finland varies across regions but is high in many municipalities and in some cases exceeds the alarming levels that have been associated with Southern Europe. This applies to municipalities with unemployment rates higher than 32% and up to 45% such as Rautjärvi in Etelä-Karjala, Pyhtää in Kymenlaakso, Pätäjävesi and Jämsä in Keski-Suomi, Orivesi and Akaa in Pirkanmaa, Kemi and Kemijärvi in Lapland, Kustavi in Varsinais-Suomi and Hanko in Uusimaa. Strategies to reduce this alarmingly high youth unemployment rate and mobilise the youth segment of society are thus desperately required in order to ensure that a lost generation is not created.

## Concluding comments

In this overview of development trends in respect of unemployment in the Nordic Region we have shown, supported by statistical data, how unemployment levels vary between regions. Some of the Nordic countries are experiencing generally high and persistent unemployment levels among their immigrant and socially vulnerable population that is living in the capital and urban regions. Meanwhile others are dealing with high unemployment levels in rather more rural and remote regions, where ageing and regional shrinking, due to demographic changes and industrial restructuring, is prevalent. Countries within the Nordic Region are also recovering, at varying rates, from plummeting employment levels due to the financial crisis and the recession that followed in 2008. The group of so-called NEETS has increased across the Nordic countries since 2007. This group remains of major concern for policy makers as the individuals concerned are neither engaged in employment, nor investing in skills development. Regional labour market policies will thus have to address the issue of employability more seriously.

# Chapter 7

## EDUCATION: Strong performance but alarming regional fluctuation

Author: **Linus Rispling, Gustaf Norlén** and **Liisa Perjo**  
 Maps and data: **Linus Rispling** and **Gustaf Norlén**

**E**ducation and skills levels clearly play an important role in social and labour market policy and this is also true for regional development. Positive economic development within a region depends on its access to a population pool with right types of education and skills.

In general, the Nordic countries are doing well when it comes to education-related indicators, but regional variations remain. This chapter presents the current situation in the Nordic countries from the Nordic Regions level while, in addition, also providing an international comparison, including a reference to the EU's Europe 2020 education targets. In order to provide a snapshot of the most important issues related to education at different levels, the chapter presents a suite of statistics ranging from compulsory education to doctoral education and life-long learning in the form of distance learning.

### **Nordics remain top of PISA table but are losing their lead**

The Programme for International Student Assessment (PISA) is an international survey that is made by the OECD every three years. The aim of the assessment is to evaluate education systems by testing the skills and knowledge of 15-year-old students. Around 510 000 students from 65 countries took part in the PISA 2012 assessment and they represented, in total, 28 million 15-year olds. The goal of the PISA survey is to enable countries to compare their students' performance over time and assess the impact of education policy decisions. Although the PISA assessment approach has been criticised, it remains a widely used tool to assess education systems around the world.

In the PISA 2012 survey, the results of the Nordic countries were, in general, close to the OECD average, but some clear patterns are discernible as illustrated by

### **In the PISA 2012 survey, the results of the Nordic countries were, in general, close to the OECD average.**

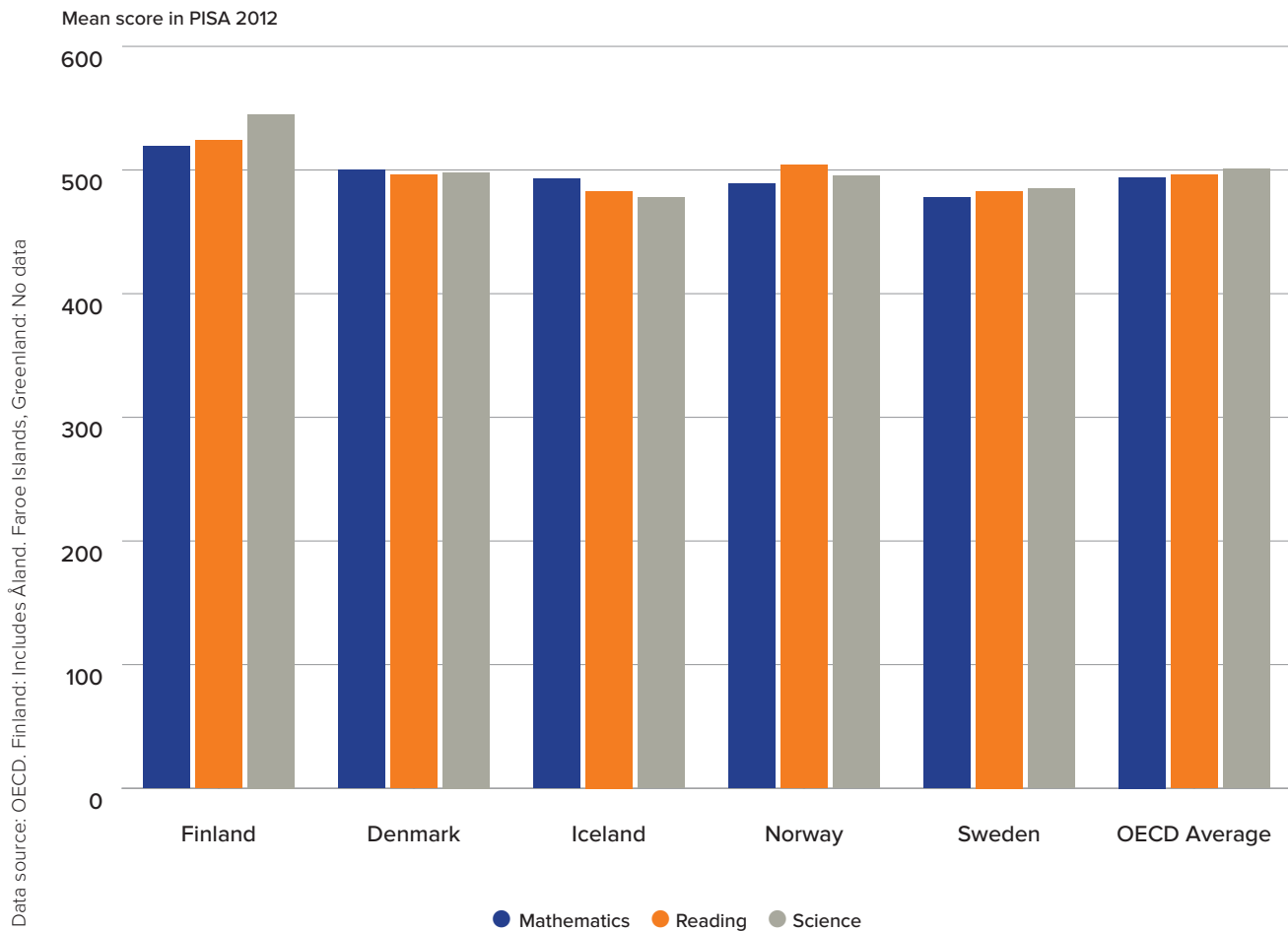
figures 7.1 and 7.2. Finland in particular stands out as a higher performer than the rest of the Nordic Region.

Since the first PISA report in 2000 Finland has been a top achiever. Its results have however declined in the last two reports (2009 and 2012), but they still remain top in a Nordic context (figure 7.2). All of the Nordic countries have seen a decline in their scores since 2003, although for Norway this decline has been small and not statistically significant. Sweden however is the OECD country that has seen the biggest negative change since 2003 and is now scoring below the OECD average; this is especially true when it comes to mathematics (OECD 2015).

### **Regional variation apparent in rates of early school leaving**

Analysing the share of early school leavers can provide an indication of the challenges to be met in the Nordic Regions. A high share of early school leavers may, among other things, point to the likely future challenges in skills-provision for regions where the young population lack upper-secondary school level skills and thus the possibility to attend universities and colleges. The share of early school leavers is also a central indicator

Figure 7.1: PISA results in 2012

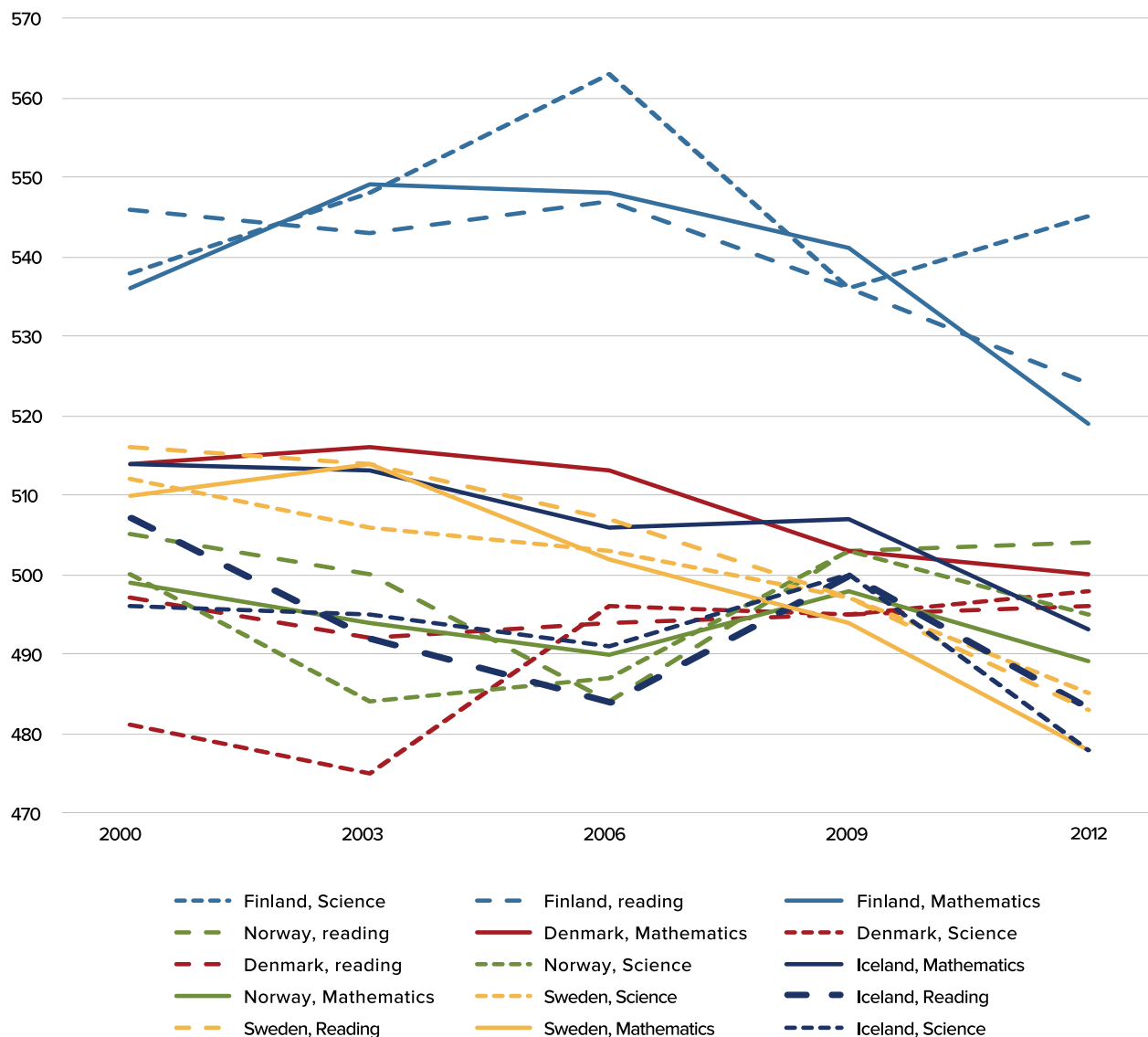


in the EU 2020 strategy as a high level of early school leavers may influence societal development in a variety of ways. The map in figure 7.3 shows the share of early school leavers in Nordic Regions among persons in their early twenties, i.e. the share of persons aged 18-24 years who, at best, have only attained a lower secondary education, and are not involved in further education or training. Early school leavers are defined as those who have not moved on from the compulsory lower secondary school to upper secondary school, i.e. what in Danish and Swedish is called *gymnasium*, in Finnish *lukio* (complemented by vocational education, *ammattillinen oppilaitos*), in Norwegian *videregående skole*, and in Icelandic *framhaldsskóli*. With a narrow age selection of 18-24 years, the indicator captures people who, by this age, would recently have finalised their lower secondary education, and should also have started or finalised the upper-secondary level – had they attended upper-secondary school.

The European Commission has included early school leavers as one of the Europe 2020 headline indicators, as numerous linkages exist between giving up school

## The Europe 2020 target is early school leaving rates of below 10%

and a range of factors important for the development of the society, such as unemployment, social exclusion and poverty. The Europe 2020 target for this indicator is that rates of early school leaving should be below 10% (EU Commission 2015a). As displayed in figure 7.3, in several parts of the Nordic Region this 10% target has already been reached. The light-yellow hues in the map indicate values on the positive side of the threshold, i.e. below 10%, and these can be found in all Danish and Swedish regions, and in some Finnish and Norwegian regions. At

**Figure 7.2: PISA results 2000-2012**

Data source: OECD. Finland: Includes Åland. Faroe Islands, Greenland: No data

the national level, Norway, Iceland, and the non-EU Faroe Islands and Greenland have not, as of 2014, fallen below the Europe 2020 target of 10%, which is the case with Sweden (6.7%), Denmark (7.7%) and Finland (9.5%). In the EU as a whole, 19 of the 28 member states had already, as of 2012, scored below the 10% target (Eurostat 2015a).

Figure 7.3 shows the share of early school leavers on the NUTS 2 (definition in the Introduction chapter) level. This includes areas that are larger than the regional standard divisions in Finland, Norway and Sweden. It indicates some interesting variations within the Nordic Regions. In Danish regions, the share of early school leavers varies between 7% and 9%, i.e. below the Europe 2020 threshold. In Norway, Oslo og Akershus and Vest-

landet are the only two NUTS 2 regions (landsdel) below the 10% threshold, with rates around 9%. Also, despite the public debate in Sweden on pupils not finalising the lower secondary school, the Swedish regions have among the lowest shares of early school leavers in the Nordic countries. Six out of eight Swedish NUTS 2 regions (riksområden) have a share of early school leavers below 7%, while Hovedstaden in Denmark is the only other Nordic Region with a similar rate. In Finland, variations between the NUTS 2 regions (suuralue/storområde) are bigger than in Sweden and Denmark and more similar to the regional variation within Norway. In Åland, the share of early school leavers is estimated to be 11%, but Åland students enrolled in studies in neighbouring



# Despite the public debate in Sweden on pupils not finalising the lower secondary school, the Swedish regions have among the lowest shares of early school leavers in the Nordic countries.

Sweden are not included in this figure and therefore the true figure is probably smaller.

Perhaps the most striking feature in respect of early school leaver rates is the high rate of early school leavers in the Faroe Islands, Greenland, Iceland and northern Norway, all of which are above 15%. With the exception of northern Norway, these regions have a gender distribution among early school leavers which is unfavourable for men; as indicated in the pie charts, males generally predominate among early school leavers in these regions. This can probably be explained with reference to the regional economic structure as these areas have largely resource-based economies with little incentive, particularly for men, to delay earning in order to continue education.

Looking at the broader picture, the fact that males in many Nordic Regions predominate among early school leavers follows the trend and average of the 28 EU countries (figure 7.3). Generally, the higher the early school

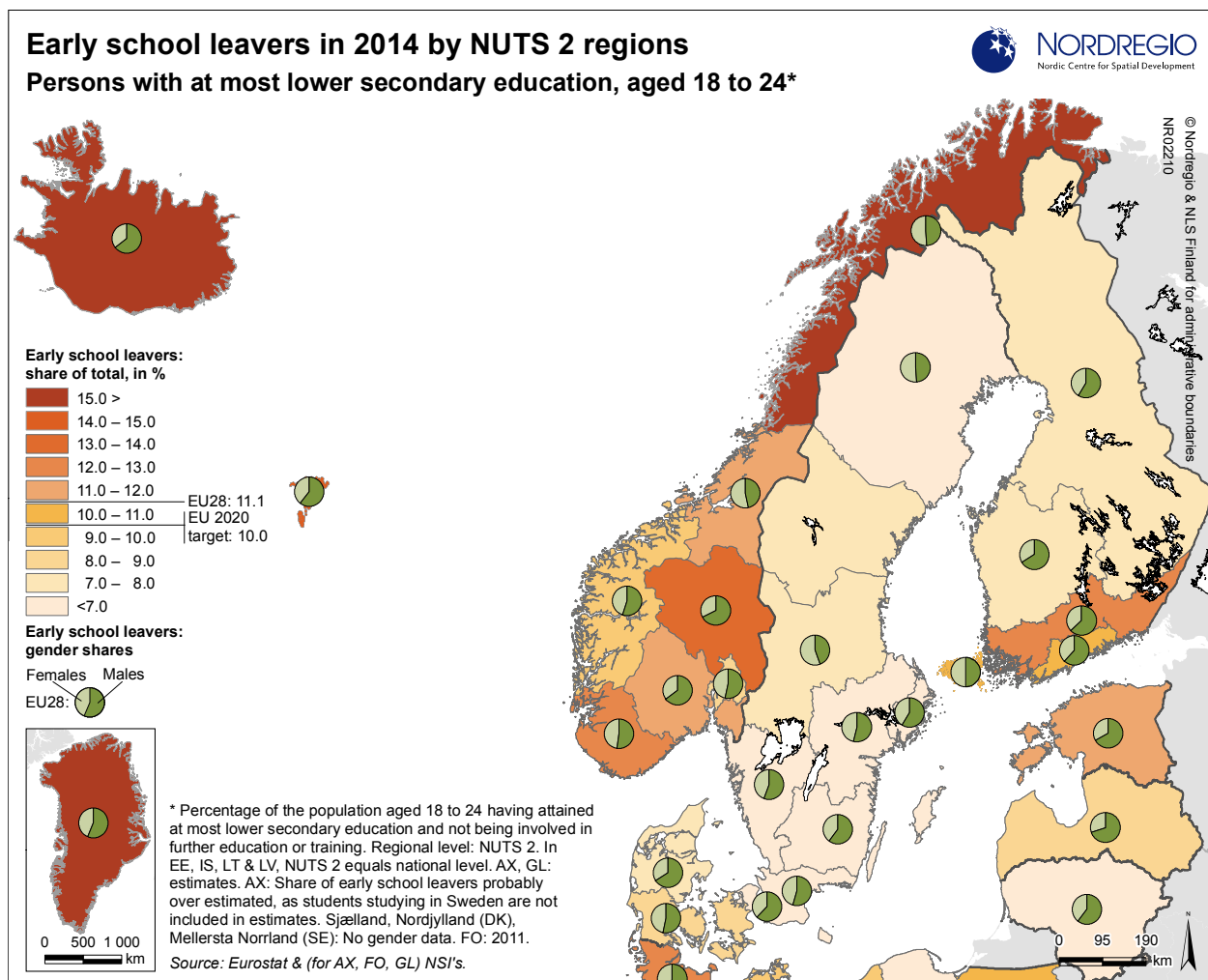


Figure 7.3: Early school leavers in 2014 by NUTS 2 regions

leaving rate, the bigger is the share of males among the early school leavers. Indeed, apart from the already mentioned exception of northern Norway, all Nordic NUTS 2 regions with early school leaver rates above 12% also had a predominance of males among the early school leavers group.

### **Nordic countries well placed to meet higher education targets for 30-34-year-olds**

In addition to early school leaving, the other main Europe 2020 target within the education field is “at least 40% of 30-34-year-olds completing third level education”. This means that the EU promotes the view that at least two fifths of people aged 30-34 years should complete courses at the higher or tertiary education level. This target can be compared to the fact that European labour market projections have indicated that by 2020, in order for the EU to compete internationally, 35% of all jobs in the EU will require skills comparable to a completed tertiary level education (EU Commission 2015b).

This indicator, as distributed to the municipalities and regions within the Nordic Region, is visualised in figure 7.4. Blue hues display municipalities and regions which in 2014 were above the Europe 2020 threshold of 40% having completed tertiary level education. In the other direction, red hues mark administrative units where the 40% target had not been accomplished by 2014.

Perhaps not surprisingly, the highest education levels, above 40% (indicated by the three darkest blue hues), among 30-34-year-olds can, to a large extent, be found in either university cities, or in socio-economically strong municipalities in the main metropolitan areas. At the regional level in some cases the existence of an important university within a rather sparsely populated region positively contributes to a high tertiary education average in those regions. This is the case in Västerbottens län (Umeå) in Sweden and Troms (Tromsø) and

**Generally, the higher the early school leaving rate, the bigger is the share of males among the early school leavers.**

**The other main Europe 2020 target within the education field is “at least 40% of 30-34-year-olds completing third level education”.**

Sør-Trøndelag (Trondheim) in Norway. Thus, in relation to the Europe 2020 target of 40% of 30-34 years-olds having completed tertiary level education, the existence of a university within the same or nearby municipality, or within the region, to a large degree seems to influence whether a municipality or a region achieves this Europe 2020 target. In addition, it should also be noted that while 30-34 years is an age group where many people have finalised their studies, it is still, in geographical terms, a relatively mobile group. As such, the individuals who constitute it may still choose to move from the city in which their studies were undertaken.

At the national level, in the Nordic Region, this Europe 2020 headline target of 40% had, by 2014, been met in all five Nordic countries though challenges nevertheless remain. In Denmark, many students have lengthy study periods before education is completed. For Sweden there are indices of high drop-out rates. Finland, unlike most other EU countries, has not seen a steadily increasing rate of 30-34-years-old finalising their higher education (EU Commission 2015b). Instead, Finland has stayed around 45-46% over the period 2010-2014. The Faroe Islands (37%), and especially Åland (26%) and Greenland (18%), have significantly lower rates than the five Nordic countries.

In the EU as a whole, more women than men in the age range 30-34 have attained a tertiary level education with this trend increasing. The same situation exists in the Nordic Region. The Nordic average is a striking 15.1% unit difference between men and women in favour of women. In fact, no region within the Nordic countries has a higher share of highly educated males than females in the age range 30-34 (figure 7.5, bottom right corner map). This is now also the case in the Faroe Islands. In the broader age group of 25-64 years however,

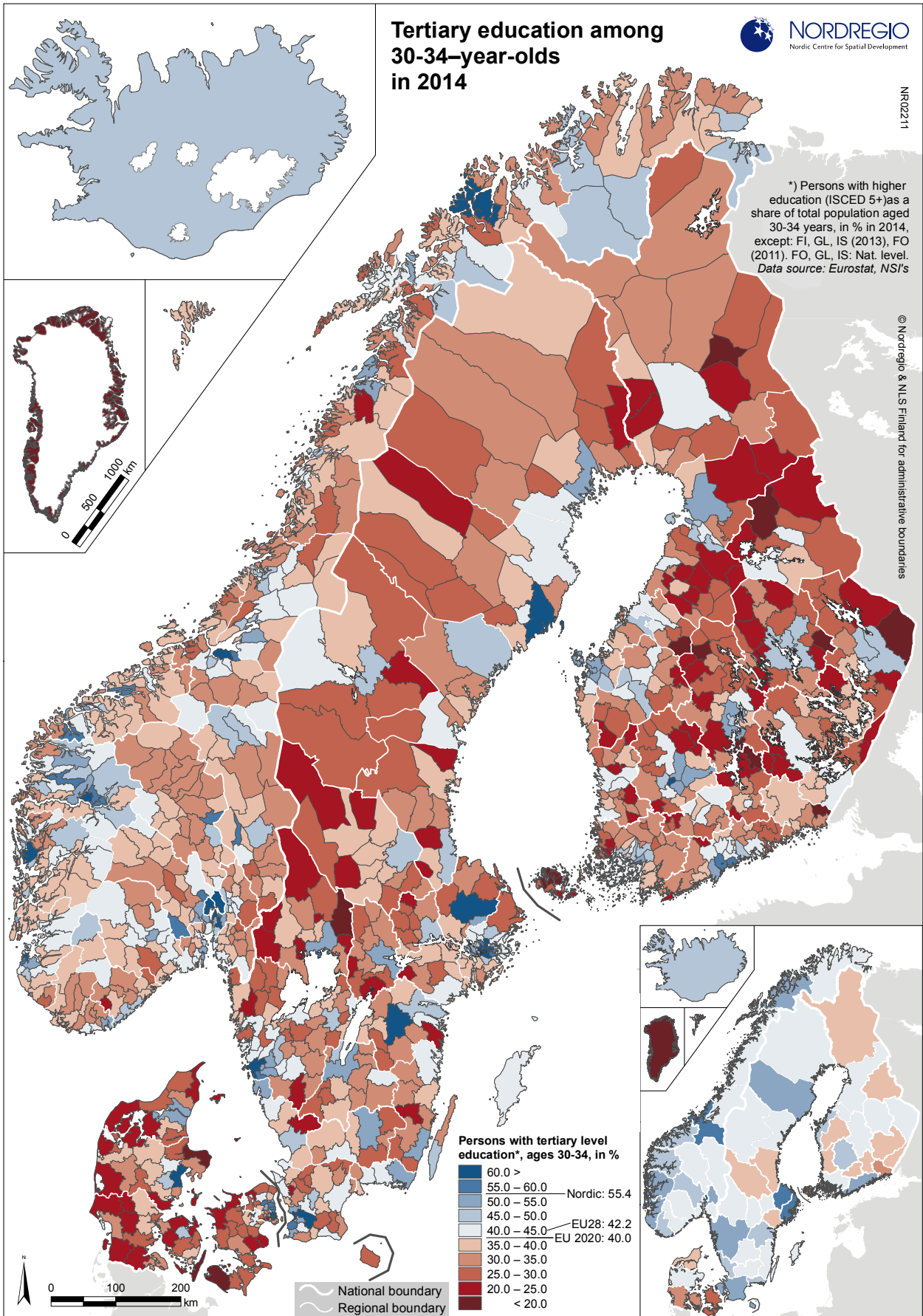
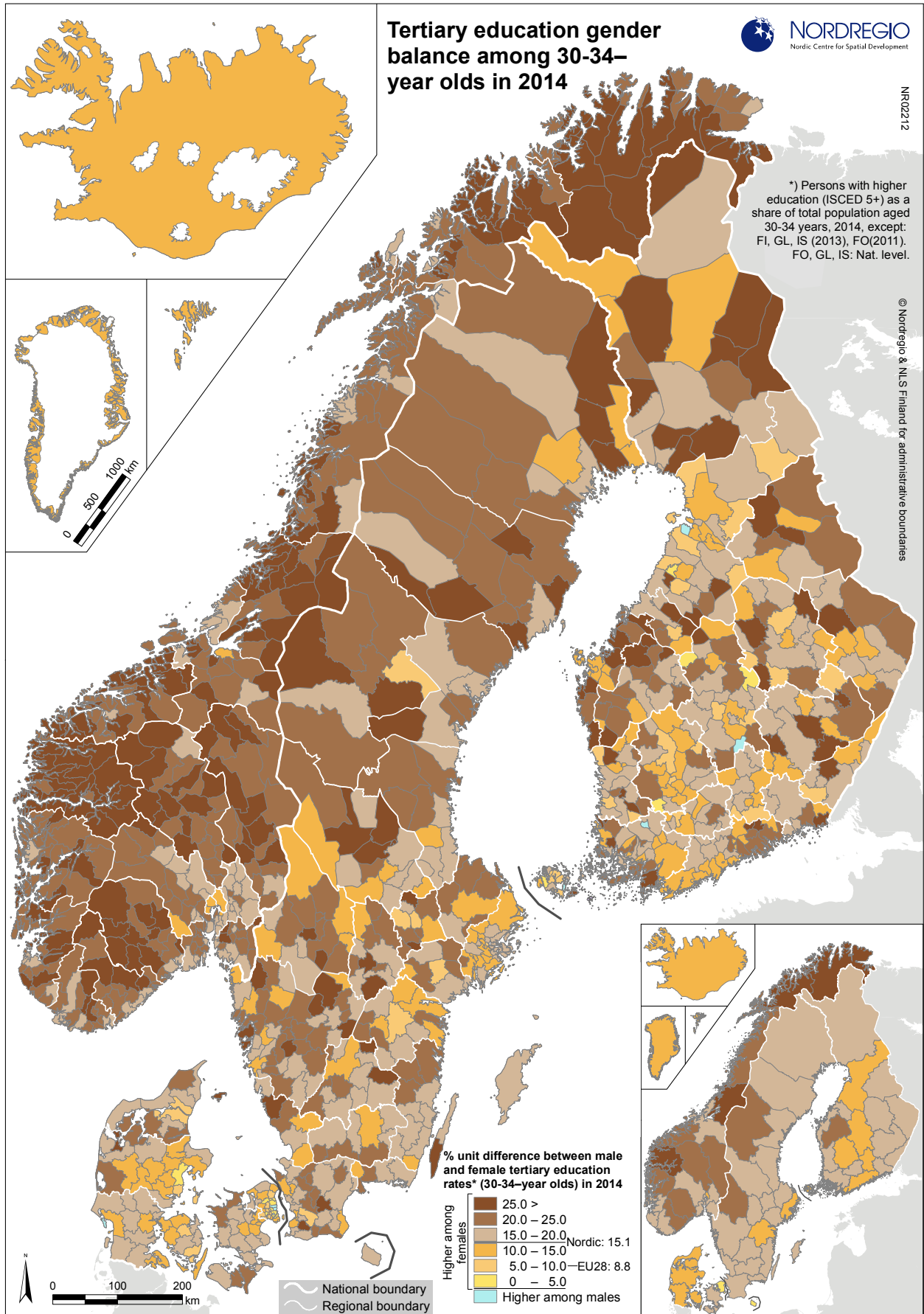


Figure 7.4: Tertiary education among 30-34-year-olds in 2014





**Figure 7.5: Tertiary education gender balance among 30-34-year olds in 2014**

the Faroe Islands is the single remaining region within the Nordic countries that has a higher share of highly educated men than women. For the Faroe Islands, this situation can be explained primarily by the fact that women to a much greater degree than men leave home to study abroad, especially in Denmark. Taking advantage of their acquired skills, they then tend to remain abroad, perusing their career (Rasmussen, 2011, Hirshberg & Petrov, 2014). By comparison, in Greenland, the traditional pattern which saw men dominating the educational system has shifted in recent times (during the 1990s and 2000s) to reflect that in the rest of the Nordic countries (Hirshberg & Petrov, 2014).

At the municipal level, in the Nordic Region, a handful of municipalities still have a higher share of men than women with tertiary level education in age range 30-34 (figure 7.5, municipalities coloured blue), i.e. Gentofte, Lyngby-Taarbæk, Frederiksberg, and Fanø in Denmark, Luhanka, Oripää, and Lumijoki in Finland, and Åland's Lumparland. The Nordic municipalities which have the largest differences between highly educated females

## In the EU as a whole, more women than men in the age range 30-34 have attained a tertiary level education with this trend increasing.

and males (dark brown hues in the map) are generally found in rural areas. In many metropolitan areas, although the share of highly educated women is still higher than men, the differences between men and women's education levels are less pronounced, suggesting that it is the men in rural areas who generally do not proceed to higher education, while men in urban areas, as well as females in both rural and urban areas, tend to opt for higher education.

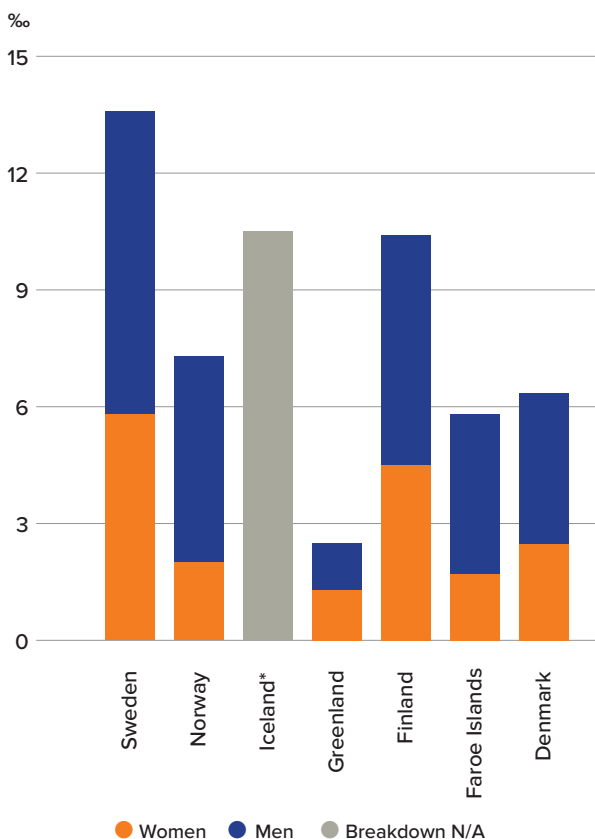
Another part of the gender dimension is that in Nordic municipalities with a higher education institution within their borders and a very high share of male students, the higher education institution is either a technical university, or a (university) college with a focus on maritime or forestry studies (Hedin, 2009).

### Nordics trail on Doctorate degrees

As we can see in figure 7.6, the Nordic countries lead the way in Europe when it comes to general higher education rates, including all kinds of tertiary education, i.e. short-cycle tertiary education (typically shorter, practical and occupationally-specific programmes), bachelor, master and doctoral, or equivalent, education. As chapter 9 will however show, in comparison to other European countries, the share of doctorate holders is not particularly high in the Nordic Region. Furthermore, compared to the rest of European OECD countries, the gender gap in attaining a doctoral degree is quite apparent (although less pronounced than in e.g. Switzerland, where there are 9.5 females and 18 males with a doctoral degree per 1000 working age persons).

As shown in figure 7.6, the gender gap is relatively small in Sweden, where 5.8% of the working age female population have doctorate degree and 7.8% of the male working age population. In Finland, the gender gap is similar, but the total share of doctorate degree holders in

**Figure 7.6: Doctorate holders as a share of the working age population (25-64 years) in 2012**



Data source: OECD Science, Technology and Industry Scoreboard 2015, NSI's. Note: Iceland: No distinction between women and men. Faroe Islands: 2011. Finland includes Åland

Finland, around 10% of the working age population, is smaller than that of Sweden (approximately 14%). Iceland has a similar total share to that of Finland, but no gender data is available. Norway has a substantial gender gap (2.0% females against 5.3% males), and together with Denmark has a distinctly lower total share of doctorate holders than Sweden, Iceland or Finland. The Faroe Islands are not far behind Denmark's total share of doctoral degree holders, but the gender difference is pronounced with 1.7% females against 4.1% males with a doctoral degree, while Greenland has a rather equal gender share but a very small proportion of doctorate holders among the working age population, less than 3%.

### **Education levels of working age population above EU average**

The map Persons with tertiary level education in 2014 (figure 7.7) reflects the fact that a considerable share of the municipalities in the Nordic Region – close to half of them – are above the EU average in terms of persons in working age who are also generally past their student years (i.e. aged 25-64 years) and carry higher education degrees. The map also highlights the influence that higher education provision in a municipality has on the share of that population with a higher education degree.

Municipalities in green hues in the map have levels of tertiary education above the EU average, which was 29.3% in 2014. The darker the green hue, the higher the level of tertiary education among the working age population. The ten municipalities with the highest levels of higher education, above 60%, are all to be found in the largest city regions. The highest rate, and in fact the only Nordic municipality to break the 70% barrier, is found in Kauniainen in the Helsinki area. The other top-ten municipalities are Bærum and Oslo in the Oslo region (Norway), Danderyd in the Stockholm region (Sweden), and, in the greater Copenhagen-Malmö region, Lomma, Lund (Sweden) and Frederiksberg, Gentofte, Lyngby-Taarbæk and Rudersdal (Denmark). Municipalities that are coloured yellow in the map have a tertiary education level around the EU average, 20-30%. The two brown hues reflect municipalities below the EU average, i.e. tertiary education levels among 25-64 year-olds below 20% and below 10%, respectively. Such low shares apply only to a handful of municipalities in Denmark, Finland, Norway and Sweden, respectively, but to all municipalities in Greenland while data for Iceland was only available at the municipal level.

In the Nordic Region today, more than 160 out of some 1200 municipalities have at least one higher education establishment within their borders. This reflects the policy of establishing higher education institutions in new regions, including those far from the most populous urban centres or traditional university towns,

## **There is a strong correlation between a high tertiary education level within a municipality and the existence of at least one university or college campus, or branch, within that same municipality.**

a process which has been ongoing in the Nordic countries since the 1960s (Hedin, 2009). Higher education establishments in this context (figure 7.7) are any kind of campuses or side-branches of a university, a university college, a technical training institute, a nursing school, or other establishments of higher education, both theoretical and more practically-oriented. These municipalities are represented by a red circle in the map, centred on the municipality in question. The size of the circles corresponds to the number of campuses or branches within a municipality. Despite the fact that higher education establishments in the Nordic Region have been established fairly evenly – in a geographical sense – across the Nordic Regions, and have now existed for several decades in less populous regions, it should be noted that the number of students is still far greater in institutions in the Nordic metropolitan areas (Hedin, 2009). Moreover, in the sparsely populated North, the largest urban settlements are also the prime centres for educational resources, e.g. Tromsø in northern Norway, and Rovaniemi in Finland (Hirshberg & Petrov, 2014).

As shown in figure 7.7, there is a strong correlation between a high tertiary education level within a municipality and the existence of at least one university or college campus, or branch, within that same municipality. In fact, while slightly more than half of the Nordic municipalities have a tertiary education level below 30% (i.e. below the EU average – yellow and brown hues in the map); only 30 of these municipalities host any kind of higher education establishment. The remainder, more than 130 municipalities which contain at least one higher education establishment, all have tertiary education levels above 30%.



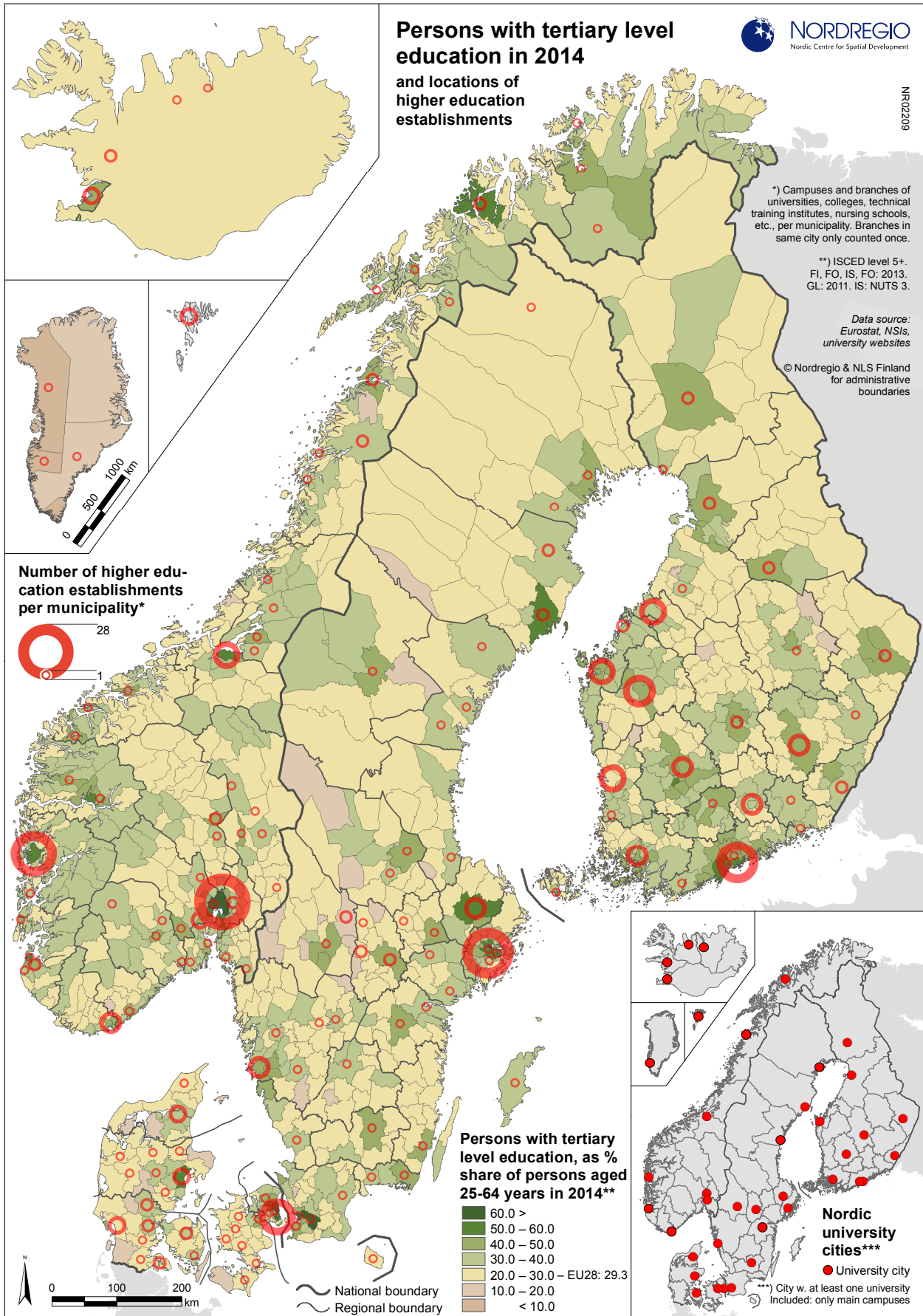


Figure 7.7: Persons with tertiary level education in 2014 and locations of higher education establishments

## **Broadband access enables lifelong learning through distance education**

As we have seen, the location of higher educational institutions plays a role in the creation and maintenance of a local or regional resource base of highly skilled individuals. New technologies however can also now provide tools for groups living far from a college or university campus enabling them to enrol in higher education. Although so-called distance education, or distance learning, is not a new phenomenon it has grown in importance because of the new possibilities that the internet provides, while interest in distance education as a way of promoting regional development, particularly in rural and sparsely populated regions, is also becoming more prominent in the policy discourse.

Unlike campus-based education, within distance learning younger students are in a clear minority. The vast majority of distance education students are those who already have had a period of work or leave before their studies, often paired with family duties. Retirees are also a significant group here, while distance education also provides educational opportunities for students who are disabled or have health issues. Furthermore, distance education offers educational opportunities for students living in areas located far from any higher educational institutions, something which compared to many other parts of Europe, in particular suits the relatively sparsely populated Nordic Region (ICDE 2014b). Generally, the Nordic countries have opted for distance education as a method of reaching out to non-traditional learners across almost all universities, unlike some other countries in Europe, which concentrates distance learning to one or very few higher education establishments only (ICDE 2014a). National policies do however vary across the Nordic Region in respect of fees for distance learning, e.g. there is a fee for higher education distance courses in Finland, while such courses are generally freely available in Sweden.

Generally, statistics on distance education are rather scarce. For the parts of the Nordic Region where data is available, attendance rates have increased over the last decade. For example in Sweden, the number of students enrolling in distance learning higher education, or combined courses mixing distance learning with campus based courses, increased from 80 000 to 138 000 between 2004/2005 and 2010/2011 (although over the following three years, the number decreased again to 110 000 students in 2013/2014). In 2013/2014, 73 500 students in Sweden studied exclusively via distance learning. In 2013/2014 that meant that 27% of students studied at least partly via distance learning and 18% studied exclusively

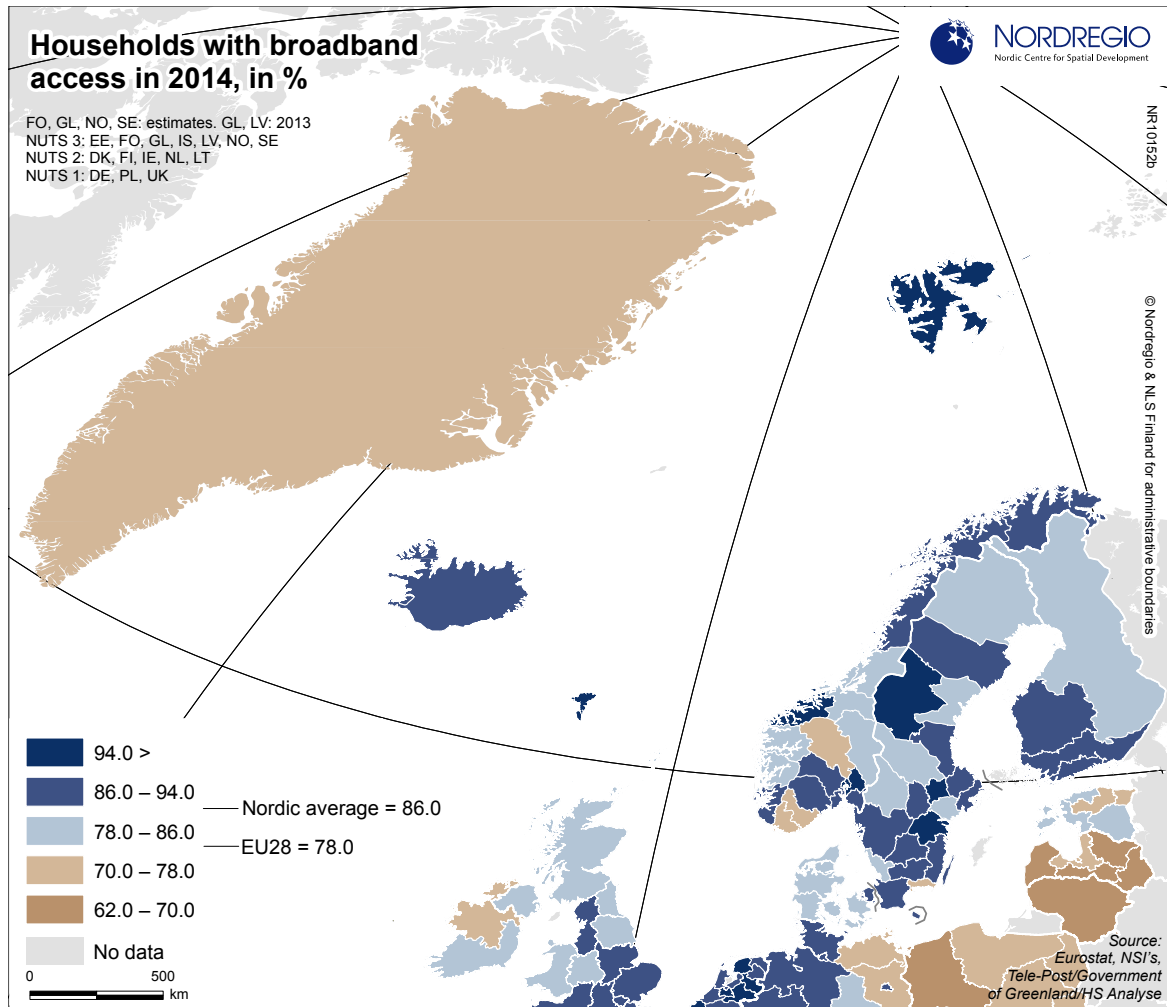
so (UKÄ 2015). Looking at data for accredited web-based schools in Norway, which include education equal both to upper secondary school and higher education levels, 16 400 people took part in web-based education in 2014, with a majority, some 62%, being women (SSB 2016a). Approximately 20% of students participating in such web-based education were enrolled in tertiary education (SSB 2016b). The majority of the students, almost 5000, were found in the age range 30-39 years. As a share of working age population (15 years or older), the highest shares of students enrolling in web-based education were found in the Finnmark, Buskerud, Hedmark, and Sogn og Fjordane fylken, regions with relatively few higher educational institutions and which also have tertiary education levels around the Nordic average, or lower (SSB 2016c).

A fundamentally important prerequisite for distance studies is the possibility to access the internet through fast and reliable connections. Figure 7.8 shows the distribution of broadband access across northern Europe at the most detailed regional level. It displays the share of households with at least one household member being aged 16–74 which has any type of broadband connection, be it fixed or mobile.

Information and communication technologies (ICT) have become increasingly important not only in people's daily lives, but also from a regional development perspective because of their ability to overcome geographical distances, particularly for sparsely populated regions. Broadband is one part of the suite of information technologies which are now of great importance for those peripheral regions where long distances impair access to services. Good broadband access can also ease the delivery of important public services such as health – and education (OECD 2011).

**Information and communication technologies have become increasingly important not only in people's daily lives, but also from a regional development perspective.**

Figure 7.8: Households with broadband access in 2014, in %. Note: Norway and Sweden: Limited sample sizes



The indicator presented in this map, “Households with broadband access”, stems from Eurostat’s annual regional survey on ICT use in households. It should however be noted that this indicator is defined in relation to the actual take-up of broadband connections by households, as opposed to the technological possibility of accessing broadband (Eurostat 2015b). Thus, with this indicator, the de facto usage of broadband is measured in terms of access, not to be confused with the calculated potential access to broadband (the latter method is often the way in which broadband access for national telecom agencies is measured).

It should however be noted here that Eurostat only supplies data for middle sized regions, i.e. at the NUTS 2 level, and thus that additional data was

collected from National Statistical Institutes (NSI’s) whenever possible.

In a European perspective, the broadband access rate within the Nordic Region is very high, although with some variations. A large majority of the Nordic Regions have broadband access rates above the EU28 average. While high rates are found in the capital regions, it is interesting to note that several often rather disparate regions, located outside the capital regions, actually have the highest broadband access rates. Among them are Svalbard (thanks to it being a test-bed for IT infrastructure and, since 2003, connected to the Norwegian mainland by optical fibre cables), the Faroe Islands, Jämtland, Västmanland and Östergötland in Sweden, and More og Romsdal in Norway.