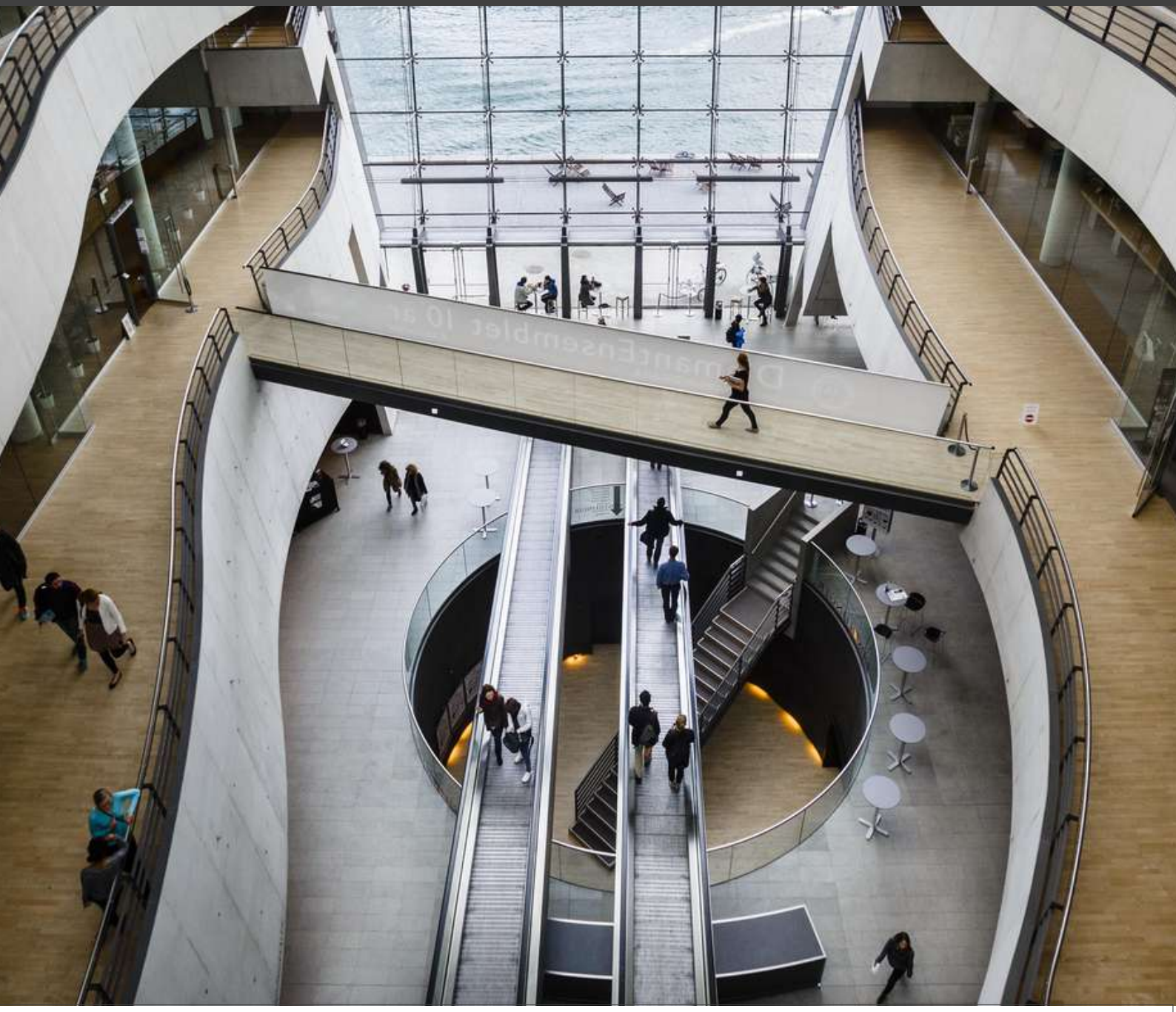
# Scale-ups in the Nordics 2017

Nordic Innovation



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# Contents

Foreword ..... 4
Main take-aways ..... 4
Introduction ..... 6
1. Scale-ups in the Nordic countries ..... 8
2. Economic performance of scale-ups ..... 16
3. Summary ..... 25
4. Data annex ..... 27
5. Methodological annex ..... 39

# Foreword

High growth enterprises are important contributors to employment and wealth creation in the Nordic countries. They also contribute positively to the quality of jobs and dynamism of the national and regional ecosystems.

In 2017, Nordic Innovation kickstarted the two-year pilot Nordic Scalers, a programme designed to support Nordic scaleups in accelerating their next stages of growth. One of the goals of the pilot was to increase the knowledge base on Nordic scaleups, including statistical data which had not existed so far.

The publication *Scale-ups in the Nordics 2017* is supplementing and updating the first statistical analysis on Nordic scale-ups, *Scale-ups in the Nordics – statistical portrait 2008-2016,* produced by the national statistical institutes in Denmark, Finland, Iceland, Norway and Sweden in May 2019.

This supplement analysis gives important insight on what kind of scale-ups are most important when it comes to increased productivity, and increased understanding of scale-ups role for the value creation in the Nordic countries.

The publication is based on harmonised national databases holding statistical information at enterprise level from statistical registers, covering variables from structural business statistics, business register, international trade in goods and business demography.

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'Scale-ups in the Nordics 2017' is part of the Nordic Scalers initiative.
The five Nordic statistical offices are responsible for the content, commissioned by Nordic Innovation.

# Main take-aways

| | | |
|---|---|---|
| **6,350 scale-ups in the Nordics in 2017**<br><br>30% are Turnover and Employment scale-ups<br><br>51% are Turnover scale-ups<br><br>19% are Employment scale-ups | **Low scale-up density in the Nordics**<br><br>Scale-ups constituted 0.4 per cent of all enterprises in the Nordic non-financial business economy | **Many scale-ups in Knowledge-intensive Services**<br><br>Knowledge-intensive Services accounts for 1,100 scale-ups<br><br>Exporting Manufacturing enterprises account for 500 scale-ups |
| **Scale-ups create jobs**<br><br>Scale-ups created 72,500 jobs – a growth rate of 74% from 2014 to 2017* | **Turnover scale-ups most productive**<br><br>Turnover scale-ups generate an average of 145,000 EUR per employee in gross value added. 50% more per employee than Employment scale-ups* | **Scale-ups are international**<br><br>Exporting scale-ups within Manufacturing and Wholesale exported for 17.4 billion EUR of goods in 2017 – up from 9.6 billion in the start year (2014) |
| **Scale-ups are mainly located in capital regions**<br><br>44% of scale-ups are located in the Nordic capital regions, especially Turnover and employment scale-ups* | **Scale-ups mainly growing due to organic growth**<br><br>85% of scale-ups growing due to organic growth, 15% due to mergers and acquisitions* | **High Turnover growth**<br><br>Turnover and employment scale-ups had a turnover growth of 183 per cent from 2014-2017* |

* Data refers only to scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive Services

# Introduction

High growth enterprises are important contributors to employment and wealth creation in the Nordic countries. Especially, established medium-sized enterprises that innovate and scale-up are a driving force behind economic growth. Not only within the enterprises, but also often by ensuring the coordination, upgrading and participation in (global) supply chains of smaller enterprises[1]. Increasingly, governments focus on enabling conditions for the scaling up of enterprises as a lever to boost productivity growth and competitiveness. This attention has created a need for statistical evidence about the numbers and performance of fast growing enterprises, such as scale-ups.[2]

The publication *Scale-ups in the Nordics – Statistical Portrait 2008-2016* documented that there is an increasing number of Employment scale-ups in the Nordic countries in the observed period: the number has increased to 3,000 scale-ups in 2016 using the traditional definition of Employment scale-ups, and the scale-ups created nearly 200,000 jobs across the Nordic countries in the period 2013-2016.[3] The scale-ups constitute only 0.19% of all enterprises, but 5.2% of all employment in the non-financial business economy.

However, focusing only on employment growth implies that more mature enterprises with an established business model might not be captured. Thus, the publication covers the full importance of fast growing enterprises for economic growth and productivity, which is only partially reflected in the statistics produced to date. As a consequence, Nordic Innovation has asked the Nordic statistical institutions to supplement the existing method measuring high growth enterprises by employment growth with enterprises having high growth by turnover.

The definition of scale-up enterprises takes is starting point in the EU definition of high growth enterprises, see Box 1. But the definition applied in this analysis is stricter than the definition of high growth enterprises used by Eurostat as the annual growth rate is set to 20 per cent instead of 10 per cent and also adding an annual turnover threshold of 2 million EUR in the start year of the growth period. Nordic Innovation has chosen this definition in order to focus on the fastest growing established enterprises, the so-called scale-ups. But at the same time less strict compared to the Eurostat definition as scale-ups not only by employment but also by turnover growth only is included in the definition. Finally, growth due to mergers and acquisitions are also included in contrast to the Eurostat definition only operating with organic growth. The reason for including scale-ups by turnover growth is, these enterprises have proven their business model by achieving considerable revenue over a period and therefore potentially contributing to a larger extent to sustainable economic growth.

[1] OECD (2018): Enabling SMEs to scale-up

[2] See for instance the Nordic Innovation project Nordic Scalers designed to support high-growth companies, https://www.nordicinnovation.org/2019/scale-ups-nordics-statistical-portrait-2008-2016

[3] Nordic Innovation (2019): *Scale-ups in the Nordics – Statistical Portrait 2008-2016*

**Box 1: Definition of high growth and scale-up enterprises**

In the European Union, high growth enterprises is defined by the Regulation (EU) No 439/2014 defining high growth enterprises as enterprises with at least 10 employees in the start year of the growth period and having average annualised growth in the number of employees of 10% or more per annum, over a three year period.

All EU member states are obliged to provide Eurostat with data on high growth enterprises using this definition.

The definition is a modified version of the original OECD/Eurostat definition of high growth enterprises using more strict criteria for growth:

Enterprises with average annualised growth in the number of employees greater than 20% per year, over a three year period, and with 10 or more employees in the beginning of the observation period. Only growth caused by organic growth is included, see OECD Manual on Business Statistics, 2008. As only few countries collect data using this definition, it is not possible to carry out international comparisons using the definition.

In general, it is important to underline that growth can occur in different forms; as organic (internally generated) and non-organic growth (through mergers and acquisitions, joint-ventures or alliances).

Furthermore, it is important to note that in a period when enterprises increasingly are organising their production globally, the observed growth only relate to the growth within the domestic economy – not the total global growth of an enterprise group having affiliates abroad.

The definition of scale-up enterprises in this study is the following:

Enterprises with 10 or more full time equivalent number of employees (hereafter employment (FTE)) and an annual turnover of 2 or more million EUR in the start year of observation.

Enterprises with average annualised growth in the number of employees (FTE) and/or in turnover in current prices greater than 20% over a three-year period. Due to the user needs expressed by Nordic Innovation the analysis operates with three types of scale-up enterprises:

Scale-ups by employment (FTE) growth only

Scale-ups by turnover and employment (FTE) growth

Scale-ups by turnover growth only

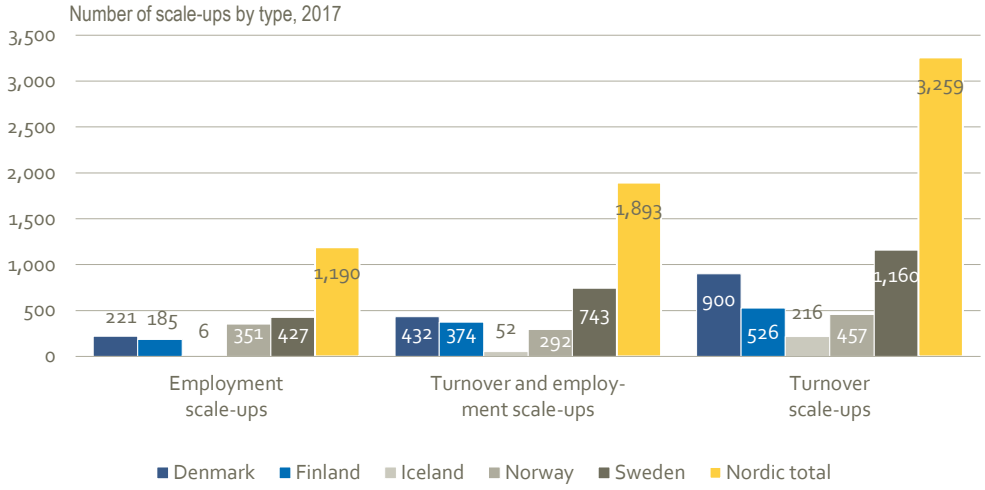
The growth measured can be caused by organic growth or due to mergers and acquisitions.

Concerning the turnover growth it is important to keep the annual fluctuations in exchange rates between the national currencies (IKR, NOK and SEK) and EUR, see also the methodological annex for exchange rates used.

# 1. Scale-ups in the Nordic countries

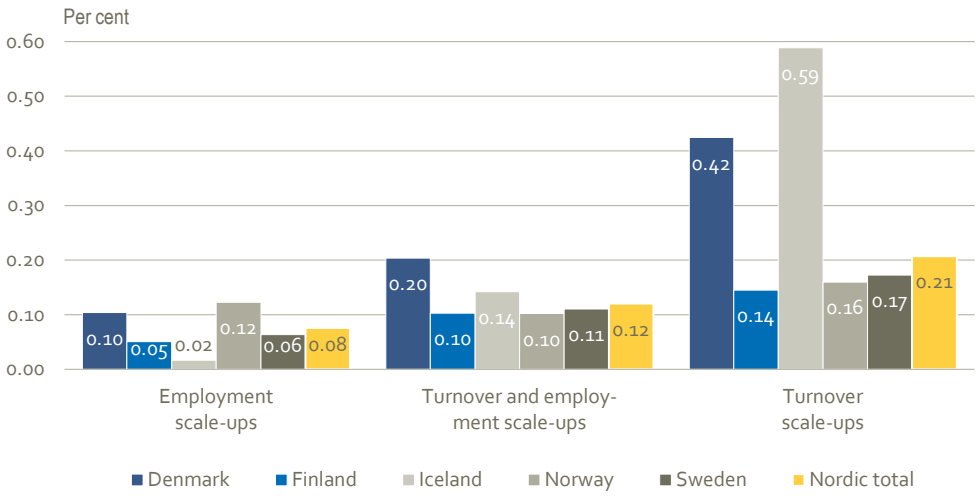
The first section outlines different basic aspects of scale-ups including the number and share of three types of scale-ups in the non-financial business economy. Scale-ups are enterprises that have an extraordinary high growth over a three year period (2014-2017). Growth is measured in turnover, employment or both, see Box 1 for definition. The report operates with three types of scale-ups: Employment scale-ups, Turnover and employment scale-ups and Turnover scale-ups. Furthermore, the section zooms in on scale-ups in selected activities. These activities are Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services.

*Figure 1.1* **Number of scale-ups in the non-financial business economy in the Nordics by type: Employment scale-ups, Turnover and employment scale-ups and Turnover scale-ups. Growth period 2014-2017**



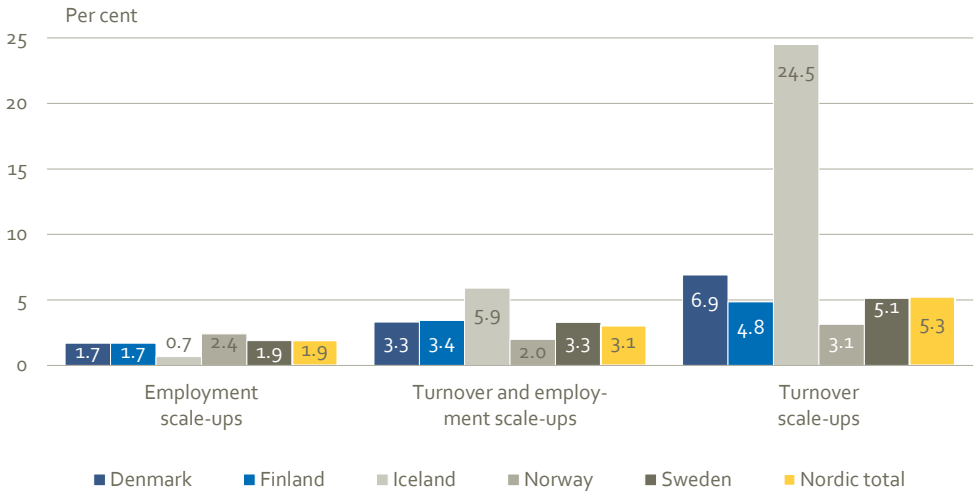

From the growth period 2014-2017, a total of almost 6,350 scale-ups were created in the non-financial business economy in the Nordics, see Figure 1.1. Turnover scale-ups were with 3,259 the largest group, followed by Turnover and employment scale-ups (1,893) and finally Employment scale-ups (1,190). Thus, it is overall more likely for an enterprise to become a Turnover scale-up than a scale-up that also encompasses high employment growth. As for Turnover and employment scale-ups and Employment scale-ups it seems that enterprises are more likely to be both a Turnover and employment scale-up than only an Employment scale-up. This is evident in all countries apart from Norway. Between the Nordic countries the number of scale-ups roughly follows the size of the economy. Sweden has the most scale-ups across type (2.330). Denmark, Finland and Norway are in the same range, having between 1,100 and 1,550 scale-ups and Iceland (274 scale-ups) has the fewest, also see Data annex Table 1.1.

*Figure 1.2* **Scale-ups by type as share of all enterprises in the non-financial business economy in the Nordics, start year of the growth period 2014-2017**




When the scale-up share of all enterprises in the non-financial business economy in the Nordic countries is calculated, the largest shares are found for Turnover scale-ups, see Figure 1.2. Iceland (0.59 per cent) and Denmark (0.42 per cent) are in top and the remaining three counties are somewhat below the Nordic average of 0.21 per cent. Thus, scale-ups are quite rare – even using the broader definition. The percentages for both Turnover and employment scale-ups and Employment scale-ups are even lower. The Nordic average is 0.12 per cent for Turnover and employment scale-ups and 0.08 for Employment scale-ups.

*Figure 1.3* **Scale-ups by type as share of total stock of enterprises with 10 or more employees (FTE) and an annual turnover of 2 million EUR or more in the non-financial business economy in the Nordics, start year of the growth period 2014-2017**




If scale-ups are measured against the total population of enterprises having the same conditions for becoming a scale-up (10 FTE and 2M EUR in turnover in the start year of the growth period 2014-2017), the share increases substantially. The picture is similar to that shown above, however scale-ups constitute a Nordic average of 5.3 per cent (Turnover scale-ups), 3.1 per cent (Turnover and employment scale-ups) and 1.9 per cent (Employment scale-ups) of all enterprises with scale-up preconditions, see Figure 1.3. Iceland shows the very high and low in scale-up creation, with a share of almost 25 per cent

of the enterprises being Turnover scale-ups but only 0.7 percent becoming Employment scale-ups. Other tops are Denmark within Turnover scale-ups (6.9 per cent) and Iceland within Turnover and employment scale-ups (5.9 per cent).

### 1.1 Selected activities: Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services

From an enterprise policy perspective, there is a special interest in scale-ups being active in innovative or knowledge-intensive services such as IT services or other knowledge-based services such as engineering and/or scale-ups being oriented towards and competitive enough to be present on export markets. Consequently, this analysis focuses on exporting scale-ups within manufacturing or wholesale and Knowledge-intensive services, see Box 2.

**Box 2: Activity groupings**

The scale-ups analysed are scale-ups within the non-financial business economy. The non-financial business economy includes the sectors industry, construction, distributive trades and services (NACE Rev.2 sections B to J and L to N and Division 95 of NACE).

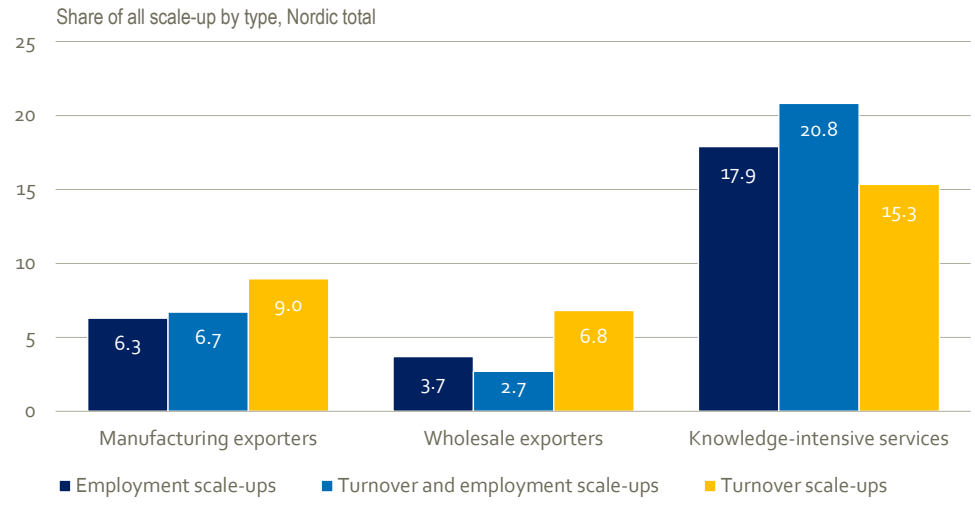
For analytical purposes, the main part of the publication focuses on the following three activity groupings:

**Manufacturing**: Exporting scale-ups within manufacturing (NACE Rev.2 Divisions 10-33)

**Wholesale:** Exporting scale-ups within wholesale (NACE Rev. 2, Division 46)

**Knowledge-intensive services**: All scale-ups within computer programming, consultancy and related activities (NACE Rev.2 Division 62); Information service activities (NACE Rev.2 Division 63); Legal and accounting activities (NACE Rev.2 Division 69); Activities of head offices management and consultancy activities (NACE Rev.2 Division 70); Architectural and engineering activities; technical testing and analysis (NACE Rev.2 Division 71); Scientific research and development (NACE Rev.2 Division 72); Advertising and market research (NACE Rev.2 Division 73); Other professional, scientific and technical activities (NACE Rev.2 Division 74)

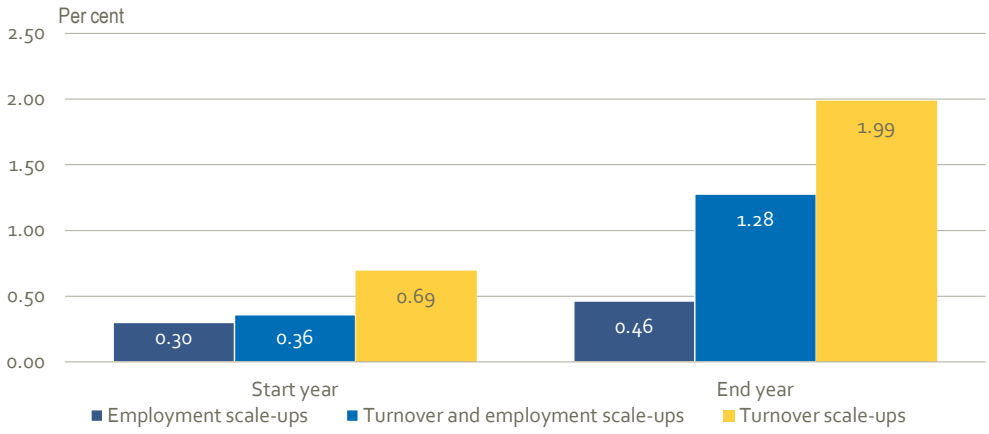
*Figure 1.4* **Share of scale-ups ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. Growth period 2014-2017**




In total, 1,918 scale-ups are active within the selected activity groups, constituting 30 per cent of all scale-ups in the Nordics in 2017, also see Data annex Table 1.1. Most scale-ups in

the Nordics were created within Knowledge-intensive services. This is evident across the three types of scale-ups. Within Knowledge-intensive services the highest share of the three types of scale-ups was Turnover and employment scale-ups. As for the Knowledge-intensive services the lowest scale-up share is found for Turnover scale-ups (15.3 per cent). Showing that rapid growth in these activities are difficult without a high employment (FTE) growth as well. The relative low share stands in contrast to Turnover scale-ups topping in the other two activity groups. Turnover scale-ups have the highest share both within Manufacturing (exporters) and Wholesale (exporters) with 9.0 per cent and 6.8 per cent, respectively. For all three types of scale-ups a higher share of scale-ups are found for Manufacturing (exporters) compared to Wholesale (exporters).

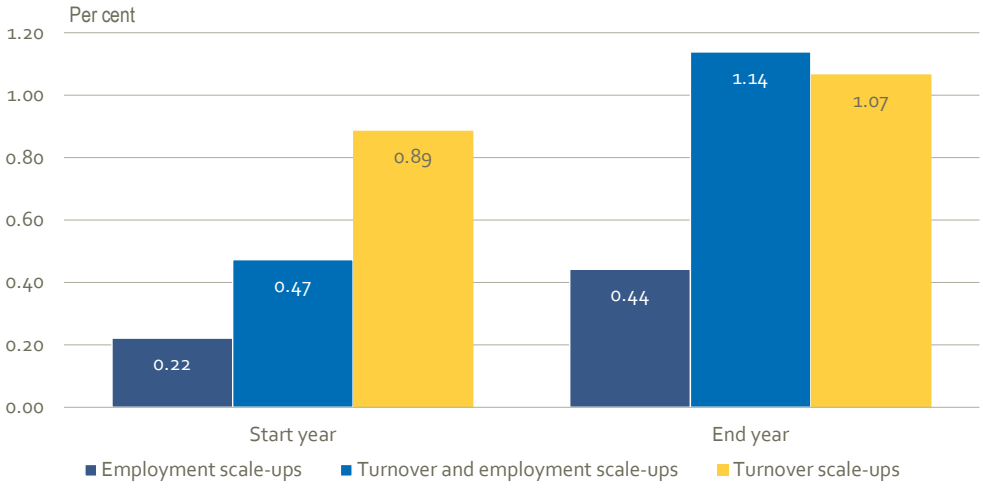
*Figure 1.5* **Turnover in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services as share of total turnover in the non-financial business economy in the Nordics in the start and end year of the growth period 2014-2017**




Scale-ups within the focus activities are increasing in importance for the overall economy, see Figure 1.5. All three types of scale-ups within the activities Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services have a higher share of total turnover in the non-financial business economy in the end year than in the start year of the growth period. The highest share of turnover is found in the Turnover scale-ups, also showing the highest increase (1.3 percentage points). Not surprisingly, the lowest increase is found for Employment scale-ups that by definition do not present very high turnover growth.

*Figure 1.6*

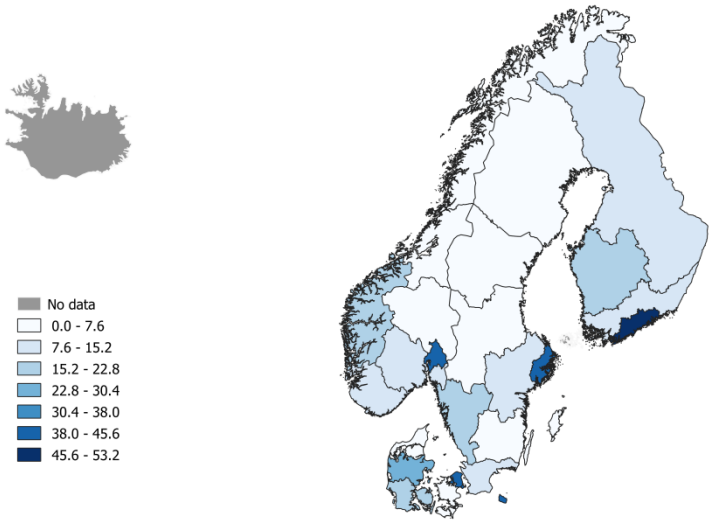
**Employment (FTE) in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services as share of total employment (FTE) in the non-financial business economy in the start and end year of the growth period 2014-2017**




For scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services, the Turnover scale-ups had the highest share of employment (FTE) in the non-financial business economy in the start year of the growth period (0.89 per cent), see Figure 1.6. However, Turnover scale-ups were overtaken by the Turnover and employment scale-ups by the end year, as these grew from a share of 0.47 per cent to 1.14 per cent of the employment (FTE) in the non-financial business economy. The Employment scale-ups remained with the lowest share of the employment (FTE), though the increase of 0.22 percentage point was marginally greater than that of the Turnover scale-ups (0.18 percentage points). Overall, the increasing importance to the economy of scale-ups in terms of both turnover and employment (FTE) growth is reflected in the results above.

*Map 1.1*

**Regional share of scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**[4]




In addressing the regional distribution of scale-ups in the Nordics, the capital regions stand out, see map 1.1. The capital regions all have more than 40 per cent of the total number of scale-ups within the country in question. Even here, the more than 50 per cent of all scale-ups in the Helsinki-Uusimaa region of Finland represent, by some distance, the largest share of the stock of scale-ups. Yet, none of the three other regions of Finland dips below a 10 per cent share. This is in contrast to the regional distribution in Denmark, Norway and Sweden. Here almost half the regions (9 of 20) have less than 8 per cent of the scale-ups. The low share regions are mainly in the northern and generally less populated regions of Norway (Trøndelag and Nord-Norge) and Sweden (North Middle Sweden, Middle Norrland and Upper Norrland). For Denmark the low share regions are Zealand and North Denmark.

From the regional distribution of the share of Turnover and employment scale-ups (2014-2017) it is evident that large regional differences exist. The distribution also show clear signs of centralisation, see Data annex Map 1.1. The centralisation is even further evident when the two dominant region of each country are put together. In this instance, it is only in Norway (63 per cent) where less than 70 per cent of Turnover and employment scale-ups are in the two main regions.

For Turnover scale-ups the regional distribution is marked by more varied shares between the regions, see Data annex Map 1.2. Yet, the capital region of Oslo and Akershus and the capital region of Helsinki-Uusimaa both have a share above 50 per cent. In Norway, the region of Nord-Norge has more than 9 per cent of the Turnover scale-ups, which is in stark contrast to the share of Turnover and employment scale-ups in the region (3.2 per cent), see Data annex Table 1.2. The Stockholm capital region stand out compared to the other Nordic capital region, with less than 40 per cent of the scale-ups located here. Furthermore, the Turnover scale-ups in Sweden are generally more dispersed for than the two other types of scale-ups in the country.

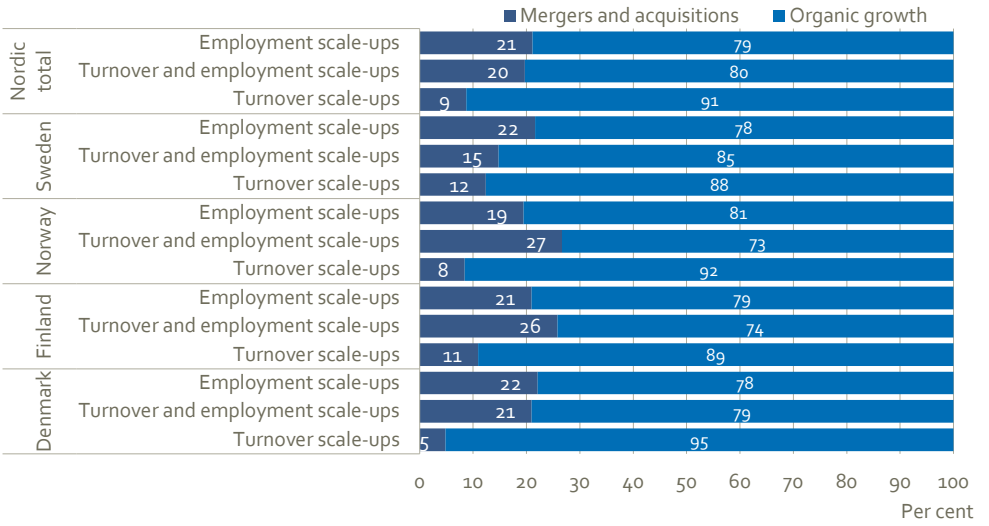
[4] The maps used are based on NUT2 regions. For more information on NUTS regions visit the Eurostat homepage.

Compared to the two other types of scale-ups the distribution of Employment scale-ups are different, see Data annex Map 1.3. Evidence to this, is for instance the proportionally larger share of located Employment scale-ups in the North & East region of Finland (23 per cent compared to around 11 per cent for the two other types), see Data annex Table 1.2. In Sweden the region East Middle Sweden has the largest rise in share when it comes to Employment scale-ups (12 per cent) compared to the low 6 per cent of for instance Turnover and employment scale-ups. Norway is the Nordic country having the biggest difference in share between employment scale-ups and the two other types of scale-ups. This is most notable in the capital region of Oslo and Akershus region, which only holds little more 25 per cent of the Employment scale-ups. In contrast, Norwegian regions such as Vestlandet and Sør-Østlandet see great rise in their share. Overall, this gives Norway a relatively more even regional distribution of Employment scale-ups than for the other types of scale-ups see Data annex Table 1.2.

### 1.2 Type of growth

High growth enterprises are in the official statistical terminology traditionally defined only by organic growth. However, the growth dynamics and ways of enterprise expansion are obviously not confined to organic growth only. Enterprises within specific activities can have a high reliance on mergers and acquisitions; either to grow in a flat-lining market or in order to source specialised products or competences that are hard to develop in-house. Such instances are known from e.g. the IT sectors sourcing of outside frontier knowledge. Coming back to scale-ups within Manufacturing (exporters) and Wholesale (exporters) and Knowledge-intensive services activities growth through mergers and acquisitions is not uncommon, though not the norm either, see figure 1.7.

*Figure 1.7* **Share of scale-ups within Manufacturing (exporters) and Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of growth and type of scale-up. Growth period 2014-2017**




Iceland is not included due to confidentiality

For scale-ups in the Nordics, the share of Turnover and employment scale-ups and Employment scale-ups with mergers and acquisitions is around 20 per cent in the growth period 2014-2017, see Figure 1.7. The highest shares are recorded for Turnover and employment scale-ups in Finland and Norway with more than 25 per cent of the scale-ups expanding, at least partially, through mergers and acquisitions. The numbers are more modest when turning to the Turnover scale-ups. Here the Nordic average is 9 per cent and

only Swedish and Finnish Turnover scale-ups have more than 10 per cent of the scale-ups with growth by means of mergers and acquisitions.

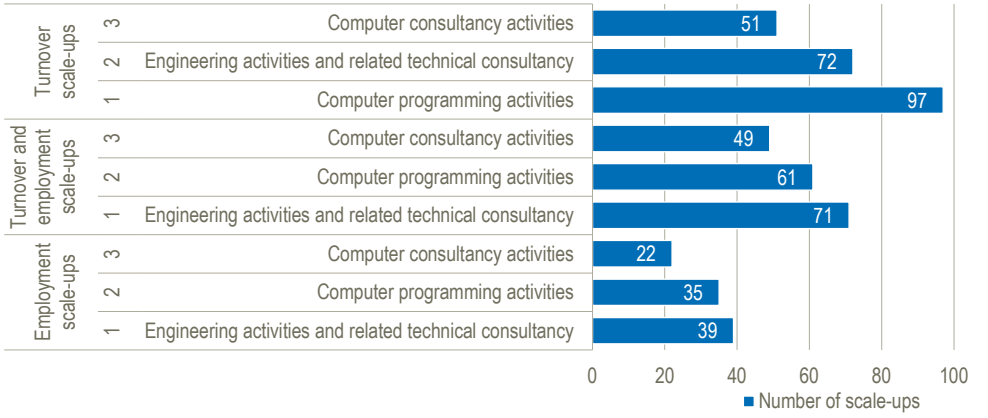
If we then look at the growth, the rates of scale-ups with mergers and acquisitions and those who have grown organically, notable differences can be found. The scale-ups with mergers and acquisitions have a higher employment (FTE) growth (the Nordic average is 2.5 to 5 times higher depending on type of scale-up) than those who grew organically, see Data annex Figure 1.1. This is evident across all types of scale-ups and across countries, the exception being Employment scale-ups in Sweden.

As for turnover growth, this has approximately the same pattern, see Data annex Figure 1.2. This is for instance true for all Turnover and employment scale-ups and holds for most part for the Employment scale-ups and Turnover scale-ups in the Nordics. The scale-ups due to mergers and acquisitions show a higher average growth, respectively, 25 million EUR (Turnover and employment scale-ups), 17 million EUR (Turnover scale-ups) and 8 million EUR (Employment scale-ups). This shows the need to also account for and develop statistical evidence of the patterns of growth for high growth enterprises that take the mergers and acquisition way to expansion.

### 1.3 Top 3 activities

This section addresses which single enterprise activity (four digit NACE level) that has produced most scale-ups in the growth period from 2014-2017. More than one fourth of all scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services can be observed within three activity classes in 2017: Computer programing activities is with 193 scale-ups the activity in which most scale-ups can be found, followed by Engineering activities and related technical consultancy (182 scale-ups) and thirdly Computer consultancy activities (122 scale-ups), see Figure 1.8.

*Figure 1.8* **Top 3 scale-up activity classes (four digit NACE) within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**




In assessing scale-ups by type we find that Engineering activities and related technical consultancy is the number one activity in Turnover and employment scale-ups and Employment scale-ups. Computer programming is first in Turnover scale-ups and second within the other types of scale-ups. Computer consultancy activities come third in all three types of scale-ups.

If we analyse the national level the pattern differs marginally, see Data annex Figures 1.3-1.5. Yet, national variations do exist. For Turnover and employment scale-ups the activity Business and other management consultancy activities make the Top 3 in both Finland and

Sweden. Turnover scale-ups are the only one to have a manufacturing activity to make the Top 3 across the Nordic counties. Processing and preserving of fish, crustaceans and molluscs in Norway makes the Top 3. For Employment scale-ups Business and other management consultancy activities it again makes the Top 3 in Sweden (second place) and activities such as Advertising agencies and activities of head offices management and consultancy services get to third in Finland and Denmark, respectively.

## 2. Economic performance of scale-ups

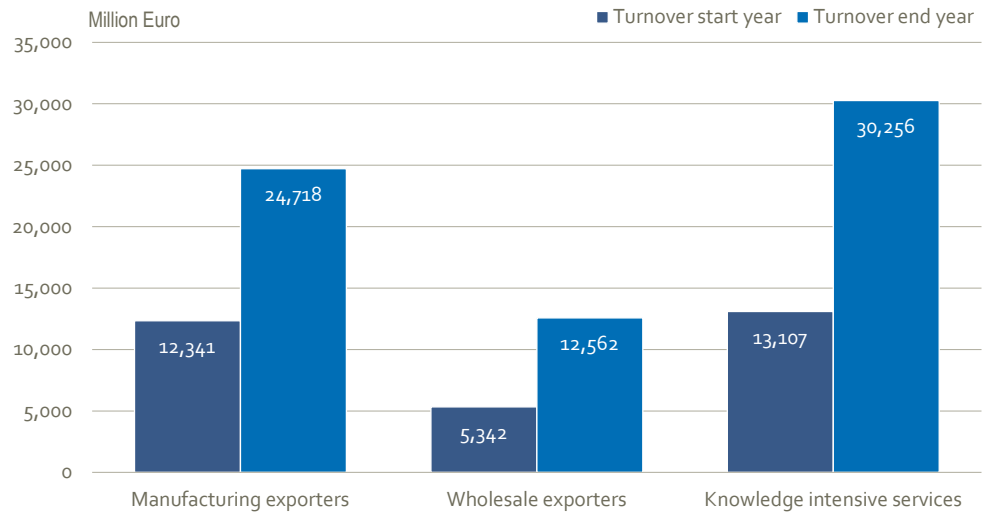
This section analyses the economic performance of scale-up enterprises within Manufacturing (exporters) and Wholesale (exporters) and Knowledge-intensive services in the Nordics. The section investigates differences in economic performance (turnover, employment (FTE), labour productivity and exports) between scale-ups.

### 2.1 Turnover

The 1,918 scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics generated a total turnover of 67.5 billion EUR in 2017 or an average annual turnover of 35.1 million EUR. There are huge differences across the Nordic countries as the Finnish and Norwegian scale-ups presented an average annual turnover of 42.4 respectively 40.3 million EUR in 2017, followed by the Swedish scale-ups with 36.0 million EUR and finally the Danish scale-ups with a considerably smaller turnover of 29.5 million EUR per scale-up, see also Data annex Figure 2.1.a-c.

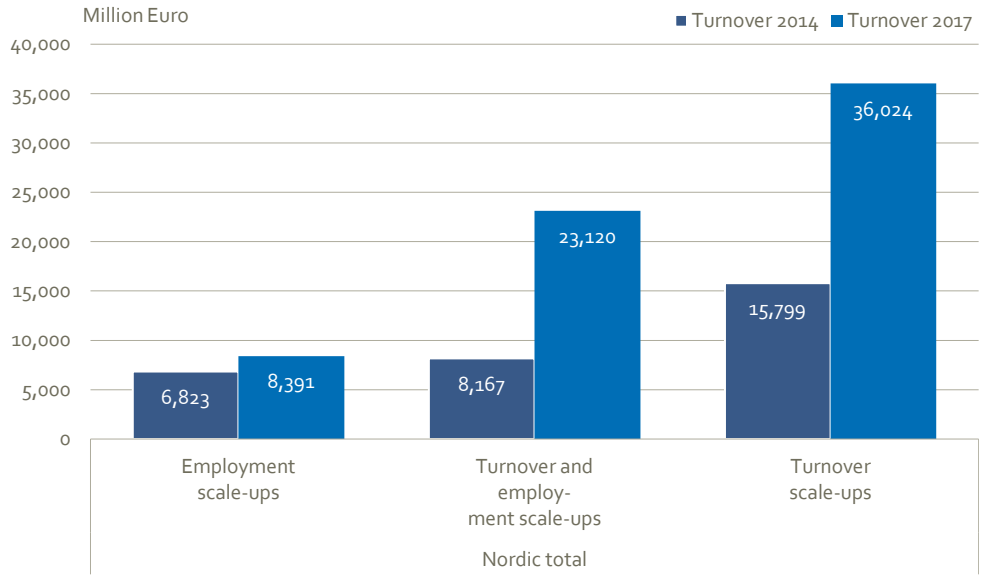
Scale-ups within Knowledge-intensive services accounted for the largest share of turnover (45 per cent) but the scale-ups within Manufacturing (exporters) showed the largest average turnover (50.0 million EUR) compared to 39.5 million EUR for scale-ups within Wholesale (exporters) and only 27.3 million EUR for Knowledge-intensive services, see Figure 2.1.

*Figure 2.1* **Turnover in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by activity. 2014 and 2017**




On average, the Nordic scale-ups showed a growth of 119 per cent in the growth period 2014-2017. The scale-ups within Wholesale (exporters) showed an increase in turnover of 135 per cent, followed closely by Knowledge-intensive services (131 per cent) and Manufacturing (exporters) with an increase of 100 per cent.

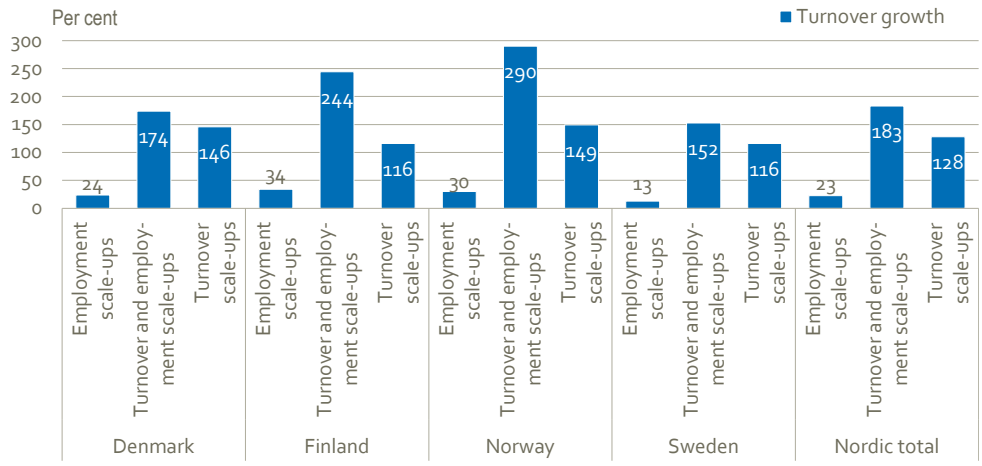
*Figure 2.2* **Turnover in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. 2014 and 2017**




Not surprisingly, the Turnover scale-ups accounted for more than half of the total turnover in 2017, followed by the Turnover and employment scale-ups (34 per cent), see Figure 2.2. On average, the Turnover and employment scale-ups were the largest ones with 40.4 million EUR in turnover per scale-up compared to 35.5 million EUR for Turnover scale-ups and only 25.3 million EUR for Employment scale-ups. Especially the Finnish Turnover scale-ups stand out with an average turnover of 54.5 million EUR in 2017.

The Turnover and employment scale-ups showed a remarkable high growth rate of 183 per cent in the growth period 2014-2017, followed by the Turnover scale-ups (128 per cent), while the Employment scale-ups only presented a turnover growth of 23 per cent.

*Figure 2.3* **Turnover growth in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. Growth period 2014-2017**




Iceland is not included due to confidentiality

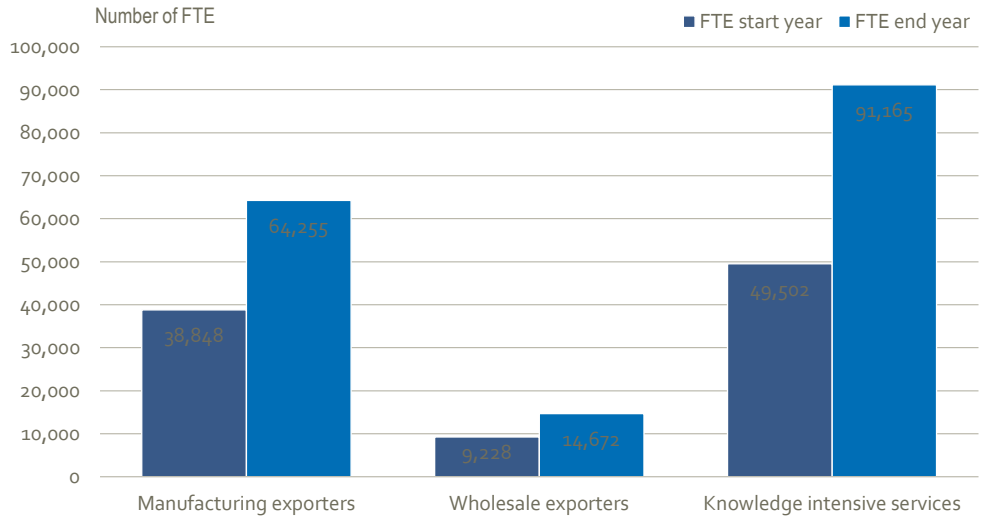
Looking at the national pattern within the Nordic countries, we find the same structure with Turnover and employment scale-ups showing the highest growth rates in all the Nordic countries followed by the Turnover scale-ups in second place and the Employment scale-ups falling far behind. Especially the Norwegian and Finnish Turnover and

employment scale-ups show very high growth rates (290 and 244 per cent, respectively in the growth period 2014-2017), see Figure 2.3.

### 2.2 Employment

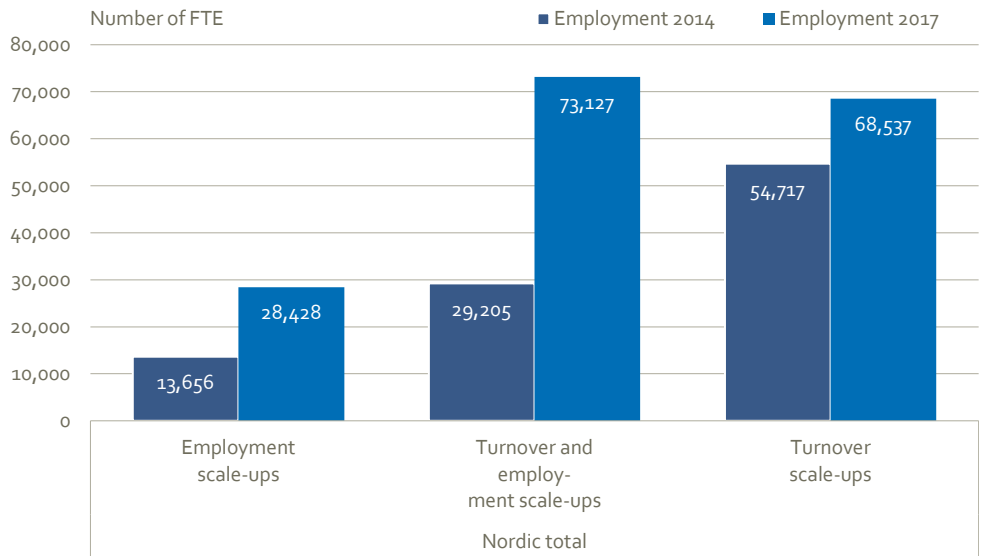
The 1,918 scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics employed nearly 170,100 full-time equivalent employees (FTE) in 2017 equalling 88.9 FTE per scale-up. The scale-ups within Knowledge-intensive services accounted for nearly 54 per cent of the total employment (FTE) followed by the scale-ups within Manufacturing (exporters) with 38 per cent, see Figure 2.4. Whereas, the scale-ups within Manufacturing (exporters) showed the largest average employment (130.1 FTE per scale-up), followed by Knowledge-intensive services (82.4 FTE) and Wholesale (exporters) with only 46.3 employees (FTE) per scale-up in 2017.

*Figure 2.4* **Employment in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by activity. 2014 and 2017**




The scale-ups within Knowledge-intensive services showed a growth of 84.1 per cent in the growth period 2014-2017 followed by the scale-ups within Manufacturing (exporters) with 65.4 and finally the Wholesale (exporters) with 58.9 per cent.

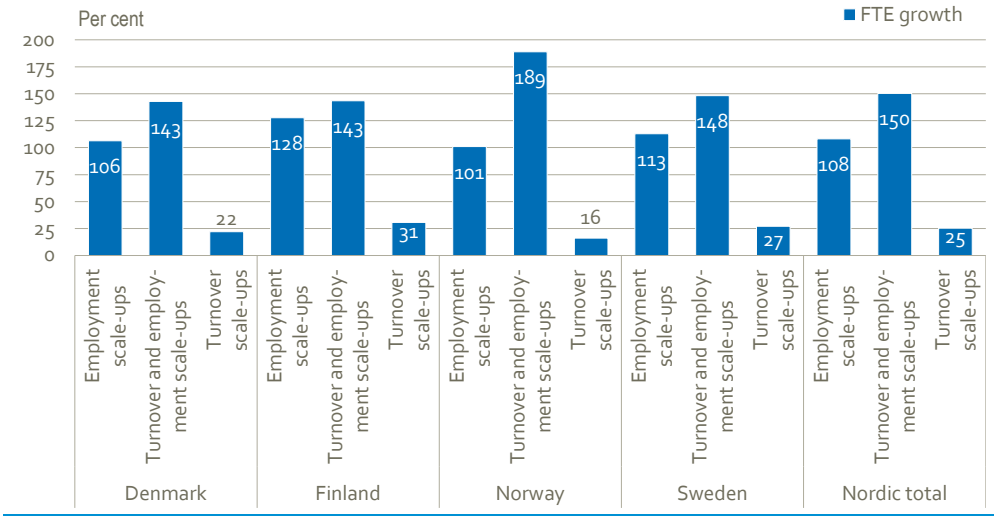
*Figure 2.5* **Employment (FTE) in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. 2014 and 2017**




The Turnover and employment and Turnover scale-ups accounted for 43 per cent of the total employment (FTE), followed by the Turnover scale-ups accounting for 40 per cent. The Turnover and employment scale-ups showed the largest average employment (128 FTE) followed by the Employment scale-ups (86 FTE) and the Turnover scale-ups came third with 68 employees (FTE) per scale-up in 2017

Across the Nordic countries, we find the same pattern with Turnover and employment and Turnover scale-ups employing most persons on average per enterprise, except for Norway where the Employment scale-ups are the largest scale-up group, see Data annex Figure 2.5.a-c. Furthermore, it should be noted that the Danish scale-ups are clearly smaller than the other Nordic scale-ups in the period 2014-2017. The Danish scale-ups employ 65.3 FTE per scale-up compared to 128.3 FTE in the Finnish scale-ups and 94.0 FTE in the Swedish scale-ups and finally 90.8 FTE in the Norwegian scale-ups.

*Figure 2.6* **Employment (FTE) growth in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. Growth period 2014-2017**




Iceland is not included due to confidentiality

The Nordic scale-ups employed 72,500 more employees (FTE) in the end year than in the start year of the growth period. This is a growth of 37.8 employees (FTE) per scale-up. The main driver of employment (FTE) growth are the Turnover and employment scale-ups with a growth rate of 150 per cent, followed by the Employment scale-ups (108 per cent) while the employment (FTE) in the Turnover scale-ups only grew with 25 per cent in the growth period, see Figure 2.6.

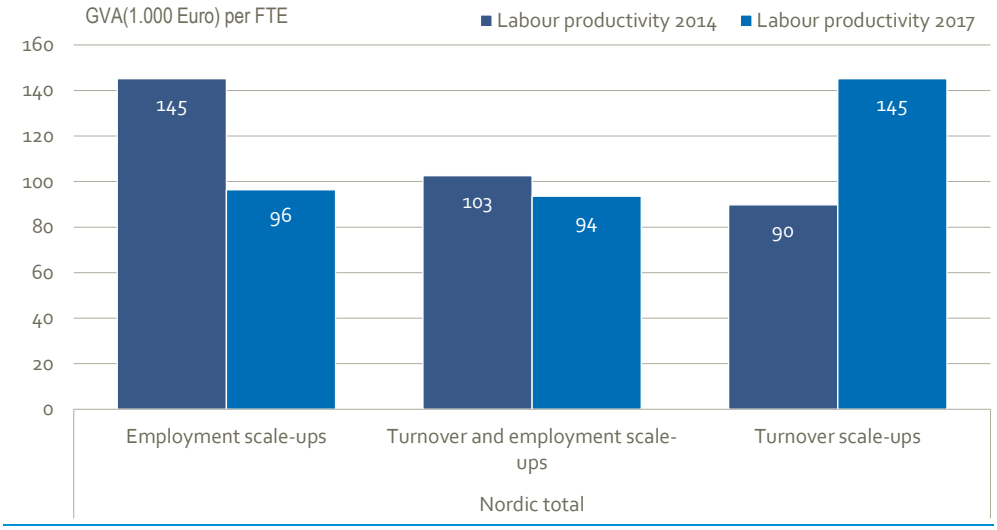
Huge differences in the employment (FTE) creation can be found across the Nordic countries. Not surprisingly, the Swedish scale-ups represent a large share (43 per cent) of the employment (FTE) created in the period, see Data annex Figure 2.5.a-c. However, the Finnish scale-ups created most employment per scale-up (128.3 FTE), followed by the Swedish (94.0 FTE) and Norwegian scale-ups (90.8 FTE). The Danish scale-ups lagged far behind with 65.3 FTE per scale-up.

When analysing the employment (FTE) growth by type of scale-up, the pattern is similar across the Nordic countries as Turnover and employment scale-ups created most employment (FTE) in all Nordic countries, followed by Employment scale-ups. Especially the Norwegian Turnover and employment scale-ups show a high growth rate (189 per cent), although from a relative small number of employment (2.080 FTE).

### 2.3 Labour productivity

Productivity is an issue ranking high on the policy agenda both in the Nordic countries and in an international context in general. In this section labour productivity (defined as gross value added (GVA) per full time equivalent employee) is analysed. Not surprisingly, the Turnover scale-ups show the highest value added creation per employee (145,000 EUR per FTE) in 2017, while the two the types of scale-ups created a clearly lower value added per employee. Employment scale-ups created 96.000 EUR, closely followed by Turnover and employment scale-ups (94,000 EUR), see Figure 2.7.

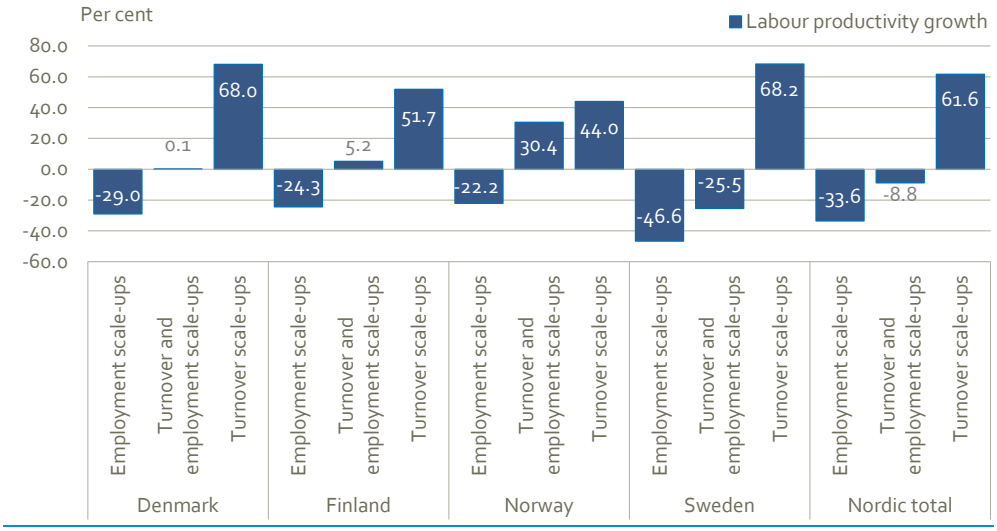
*Figure 2.7* **Labour productivity in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. 2014 and 2017**




At Nordic level, only the Turnover scale-ups experienced a positive development in value added creation per employee (FTE) with an increase of 61.6 per cent in the period 2014-2017, reflecting the difficulty of both creating jobs and improving productivity at the same time. For all Nordic countries, the Turnover scale-ups show by far the largest increase in

value added. However, the pattern across countries differs from the overall Nordic development, as only Sweden experiences a fall in value added per employee for both Turnover and employment scale-ups and Employment scale-ups, while Turnover and employment scale-ups in all the other Nordic countries show an increase in value added creation per employee, see Figure 2.8.

*Figure 2.8* **Labour productivity growth per employee in scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics by type of scale-up. Growth period 2014-2017**




Iceland is not included due to confidentiality

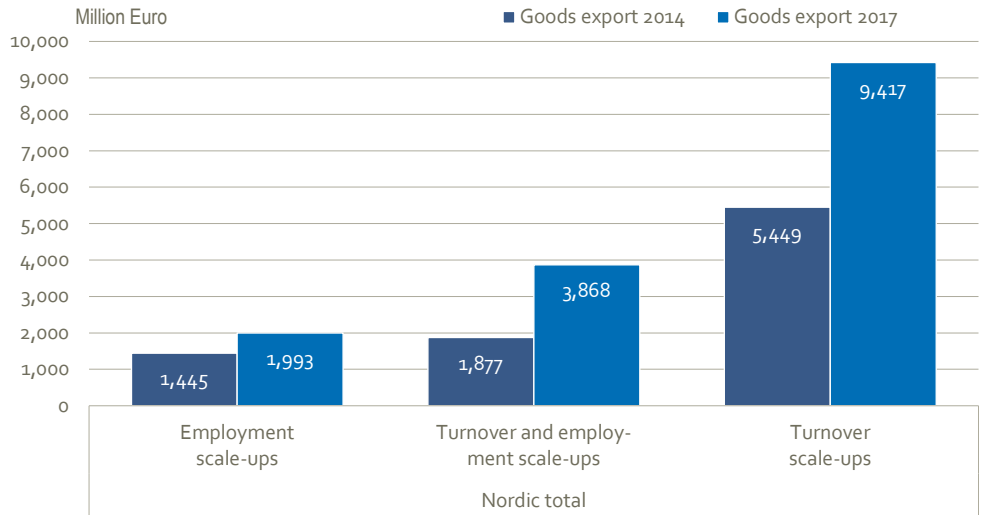
## 2.4 Exports of goods

As the Nordic countries are small economies, the growth potential is to a certain degree related to the possibility of expanding via access to export markets and integration into global value chains, allowing enterprises to specialise in specific activities within global production networks[5]. Due to data availability, only exports of goods can be analysed at enterprise level. This is the reason for only focusing on exporting scale-ups within manufacturing and wholesale in this section, as only few scale-ups within Knowledge intensive services have exports of goods.

Exports as an important source of growth are also reflected in the results. Nearly 500 scale-ups within Manufacturing are exporters of goods – or close to 50 per cent of all Manufacturing scale-ups in the Nordics, while nearly 320 scale-ups within Wholesale are exporters of goods – or 30 per cent of all scale-ups within Wholesale. Especially, the Turnover scale-ups are frequent exporters, as nearly 300 of the 500 exporters within Manufacturing are Turnover scale-ups. Interestingly, Denmark is the only country where the majority of Manufacturing enterprises within all three types of scale-ups are exporters. For the other Nordic countries, the non-exporting Manufacturing scale-ups constitute a majority; except for the Swedish Turnover and employment scale-ups.

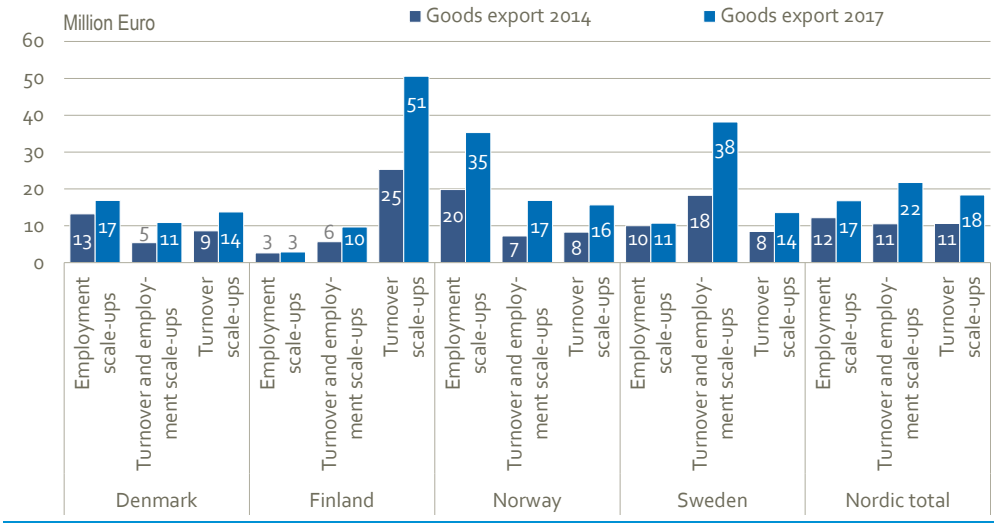
[5] Statistics Denmark, OECD et al: Nordic Countries in Global Value Chains (2017) https://www.dst.dk/Site/Dst/Udgivelser/GetPubFile.aspx?id=28140&sid=nordglobchains

*Figure 2.9* **Goods export in scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics 2017. 2014 and 2017**




The more than 800 exporting scale-ups within Manufacturing (exporters) and Wholesale (exporters) had a total export of goods of 17.4 billion EUR in 2017. On average, the exporting scale-ups exported for 21 million EUR in 2017. The Turnover scale-ups accounted for 54 per cent of the total turnover representing half of the total export growth in the period 2014-2017, see Figure 2.9.

*Figure 2.10* **Average per scale-ups goods export within Manufacturing (exporters) and Wholesale (exporters) in the Nordics by type of scale-up. 2014 and 2017**

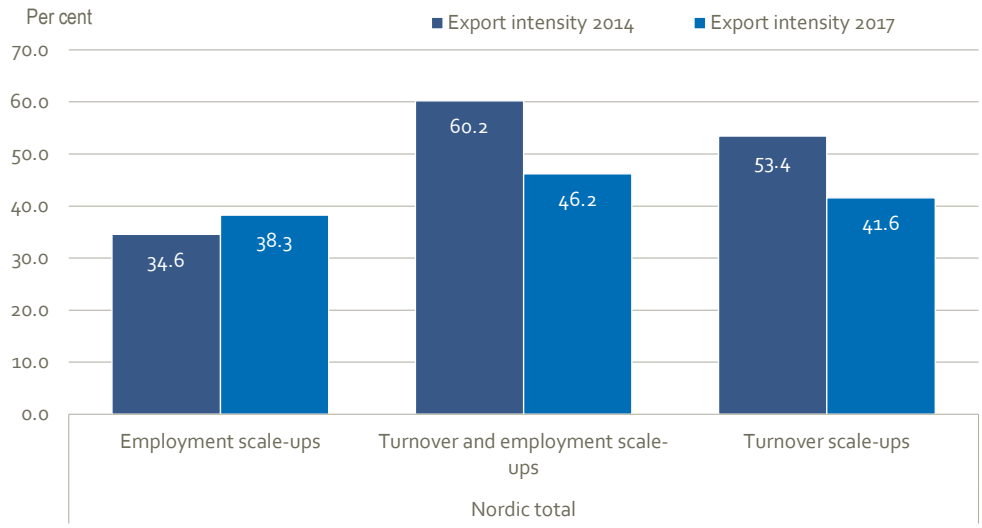



Iceland is not included due to confidentiality

When breaking down the goods exports per scale-up by type of scale-up, the difference is relative small as Turnover and employment scale-ups show an average of 22 million EUR per scale-up in 2017 followed by Turnover scale-ups (18 million EUR) and Employment scale-ups (17 million EUR), see Figure 2.10. But at national level, we find larger differences, as the Turnover scale-ups in Finland showed an average export value of 51 million EUR per Turnover scale-up compared to 3 million EUR for Employment scale-ups, see also Data annex Figure 2.10.a-c. In Norway and Denmark, the Employment scale-ups showed the largest export per enterprise (35 and 17 million EUR respectively) and in Sweden, the Turnover and employment scale-ups had the largest export per scale-up (38 million EUR).

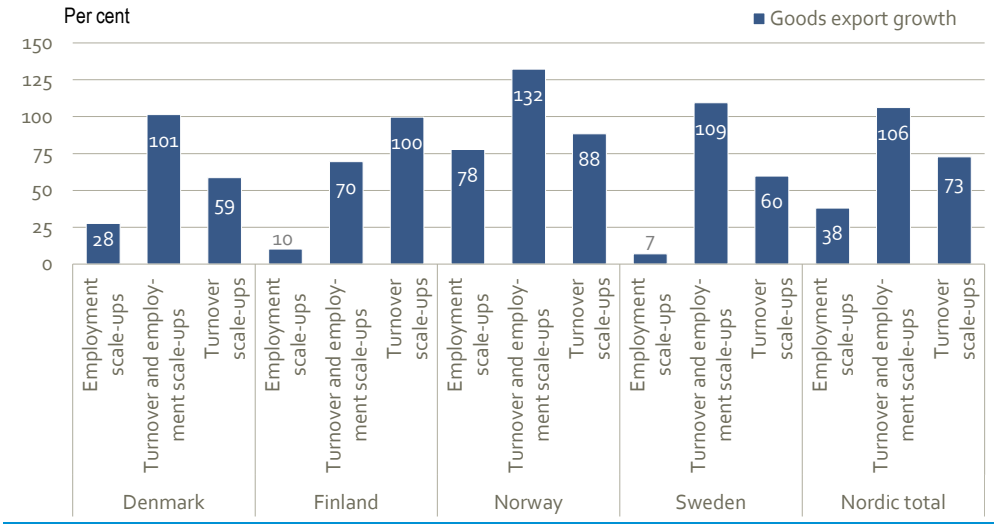
Furthermore, it is remarkable that the Danish scale-ups show relatively small export values per scale-up for all three types of scale-ups.

*Figure 2.11* **Export intensity for goods exporting scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics by type of scale-up. 2014 and 2017**




Looking at export intensity (exports over total turnover), the intensity is actually decreasing from 2014 to 2017. This is evident for both Turnover and employment and Turnover scale-ups, while Employment scale-ups as the only group experienced an increase in export intensity, see Figure 2.11. Yet, Turnover and employment scale-ups show the highest intensity of 46.2 per cent in 2017, followed by the Turnover scale-ups (41.6 per cent) and finally the Employment scale-ups (38.3 per cent).

*Figure 2.12* **Growth in goods exports in scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics by type of scale-up. Growth period 2014-2017**




Iceland is not included due to confidentiality

The exporting scale-ups increased their goods exports with 7.8 billion EUR in the growth period or a growth of 80 per cent. The Turnover scale-ups accounted for half of the total growth exports. In relative terms, the Turnover and employment scale-ups had the best exports performance in the observed growth period (106 per cent), see Figure 2.12. This is the case for all the Nordic countries but especially the Norwegian Turnover and employment scale-ups showed high growth rates (132 per cent,). These scale-ups also accounted for the largest growth in total turnover. In the same period, the Employment

scale-ups showed the clearly lowest export growth rates, Norway being the exception, with a relatively small lag of only 10 percentage point for the Employment scale-ups. This pattern is a repetition of the growth pattern for turnover.

# 3. Summary

This analysis supplements the traditional method in official statistics measuring high growth enterprises through employment growth only by introducing high growth by turnover. This approach gives a number of interesting results – from increasing the number of scale-ups to remarkable differences in economic performance.

Almost 6,350 scale-ups were created in the Nordics in the period 2014-2017. Turnover scale-ups were with 3,259 the largest group, followed by Turnover and employment scale-ups (1,893) and finally Employment scale-ups (1,190). Thus, it is overall more likely for an enterprise to become a Turnover scale-up than a scale-up that also encompasses high employment growth. As for Turnover and employment scale-ups and Employment scale-ups it seems that enterprises are more likely to be both a Turnover and employment scale-up than only an Employment scale-up.

The Turnover scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services show a much higher labour productivity; on average 145,00 EUR in created value added per employee (FTE) compared to 96,000 EUR per employee (FTE) for Employment scale-ups. This is a staggering 50 per cent higher labour productivity. This is an important finding when taking the productivity agenda into account.

The 1,918 scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics employed nearly 170,100 full-time equivalent employees (FTE) in 2017 equalling 88.9 FTE per scale-up. The Turnover and employment scale-ups accounted for 43 per cent of the total employment, followed by the Turnover scale-ups accounting for 40 per cent. The Turnover and employment scale-ups showed the largest average employment (128 FTE) and they also accounted for the largest employment growth (43.900 FTE) in the growth period 2014-2017.

Not surprisingly, the Turnover scale-ups accounted for more than half of the total turnover in 2017, followed by the Turnover and employment scale-ups (34 per cent). On average, the Turnover and employment scale-ups were the largest ones with 40.4 million EUR in turnover per scale-up compared to 35.5 million EUR for Turnover scale-ups and only 25.3 million EUR for Employment scale-ups.

As the Nordic countries are small economies, the growth potential is to a certain degree related to the possibility of expanding via access to export markets and integration into global value chains. The more than 800 exporting scale-ups within Manufacturing and Wholesale had a total export of goods of 17.4 billion EUR in 2017. On average, the exporting scale-ups exported for 21 million EUR in 2017. The Turnover scale-ups accounted for 54 per cent of total exports representing half of the total export growth in the period 2014-2017.

For Turnover and employment and Employment scale-ups the source of growth is more frequently mergers and acquisitions (around 20 per cent of all scale-ups) compared to Turnover scale-ups (9 per cent). On a Nordic level, we also find that scale-ups with merger and acquisitions had both a higher average per scale-up employment (FTE) and turnover growth than the organic growth scale-ups. Highlighting, that understanding the growth patterns of these high growth enterprises can offer new insights.

*Summary table*

**Performance indicators for scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics by type of scale-up**

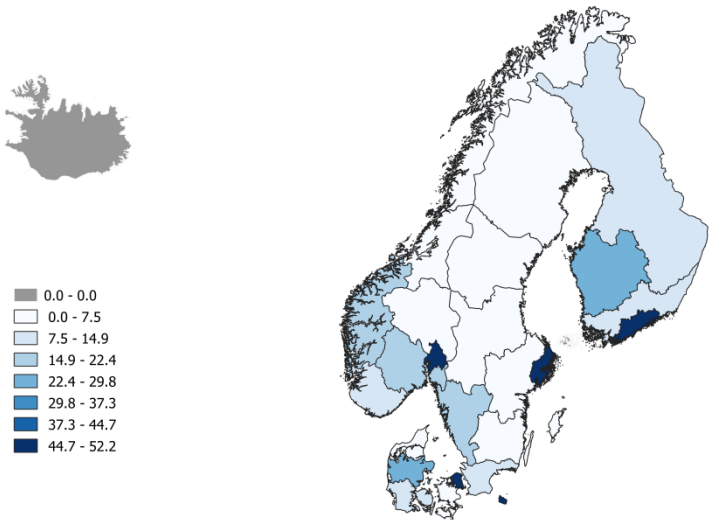
| | 2014 | 2017 |
|---|---|---|
| **All scale-ups** | | |
| Number of scale-ups | 1.918 | 1.918 |
| Employment per scale-up (no. of FTE) | 51 | 89 |
| Turnover per scale-up (million EUR) | 16,1 | 35,2 |
| Export per scale-up (million EUR) | 11,3 | 20,0 |
| GVA per FTE (labour productivity) | 101.371 | 114.831 |
| **Employment scale-ups** | | |
| Number of scale-ups | 332 | 332 |
| Employment per scale-up (no. of FTE) | 41 | 86 |
| Turnover per scale-up (million EUR) | 20,6 | 25,3 |
| Export per scale-up (million EUR) | 12,9 | 17,7 |
| GVA per FTE (labour productivity) | 145.131 | 96.432 |
| **Turnover and employment scale-ups** | | |
| Number of scale-ups | 572 | 572 |
| Employment per scale-up (no. of FTE) | 51 | 128 |
| Turnover per scale-up (million EUR) | 14,3 | 40,4 |
| Export per scale-up (million EUR) | 11,1 | 23,8 |
| GVA per FTE (labour productivity) | 102.610 | 93.585 |
| **Turnover scale-ups** | | |
| Number of scale-ups | 1.014 | 1.014 |
| Employment per scale-up (no. of FTE) | 54 | 68 |
| Turnover per scale-up (million EUR) | 15,6 | 35,5 |
| Export per scale-up (million EUR) | 11,0 | 19,2 |
| GVA per FTE (labour productivity) | 89.788 | 145.130 |

# 4. Data annex

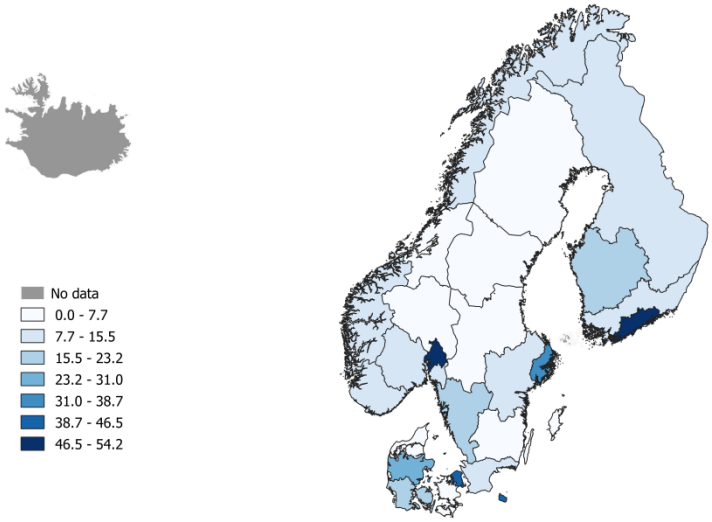
*Annex Table 1.1* **Number of scale-ups by type, activity and country in the Nordics. Growth period 2014- 2017**

| **Employment scale-ups** | Denmark | Finland | Iceland | Norway | Sweden | Nordic total |
|---|---|---|---|---|---|---|
| Manufacturing exporters | 22 | 10 | 0 | 19 | 24 | 75 |
| Wholesale exporters | 13 | 4 | 0 | 6 | 21 | 44 |
| Knowledge-intensive services | 51 | 29 | 1 | 52 | 80 | 213 |
| Manufacturing non-exporter | 14 | 21 | 1 | 37 | 42 | 115 |
| Wholesale non-exporters | 29 | 13 | 1 | 27 | 43 | 113 |
| Other activities | 92 | 108 | 3 | 210 | 217 | 630 |
| Total | 221 | 185 | 6 | 351 | 427 | 1.190 |
| **Turnover and employment scale-ups** | Denmark | Finland | Iceland | Norway | Sweden | Nordic total |
| Manufacturing exporters | 39 | 17 | 3 | 16 | 52 | 127 |
| Wholesale exporters | 28 | 4 | 0 | 3 | 16 | 51 |
| Knowledge-intensive services | 100 | 72 | 5 | 41 | 176 | 394 |
| Manufacturing non-exporter | 13 | 24 | 2 | 24 | 43 | 106 |
| Wholesale non-exporters | 39 | 37 | 6 | 41 | 71 | 194 |
| Other activities | 213 | 220 | 36 | 167 | 385 | 1.021 |
| Total | 432 | 374 | 52 | 292 | 743 | 1.893 |
| **Turnover scale-ups** | Denmark | Finland | Iceland | Norway | Sweden | Nordic total |
| Manufacturing exporters | 111 | 51 | 8 | 25 | 97 | 292 |
| Wholesale exporters | 137 | 14 | 2 | 13 | 56 | 222 |
| Knowledge-intensive services | 148 | 72 | 21 | 57 | 202 | 500 |
| Manufacturing non-exporter | 55 | 69 | 29 | 48 | 105 | 306 |
| Wholesale non-exporters | 115 | 43 | 35 | 62 | 148 | 403 |
| Other activities | 334 | 277 | 121 | 252 | 552 | 1.536 |
| Total | 900 | 526 | 216 | 457 | 1.160 | 3.259 |

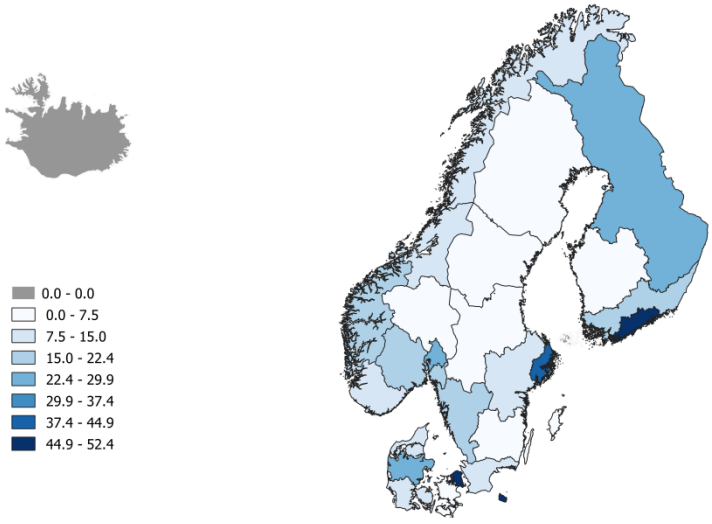
*Annex Map 1.1* **Regional share of Turnover and employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**



*Annex Map 1.2* **Regional share of turnover scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**



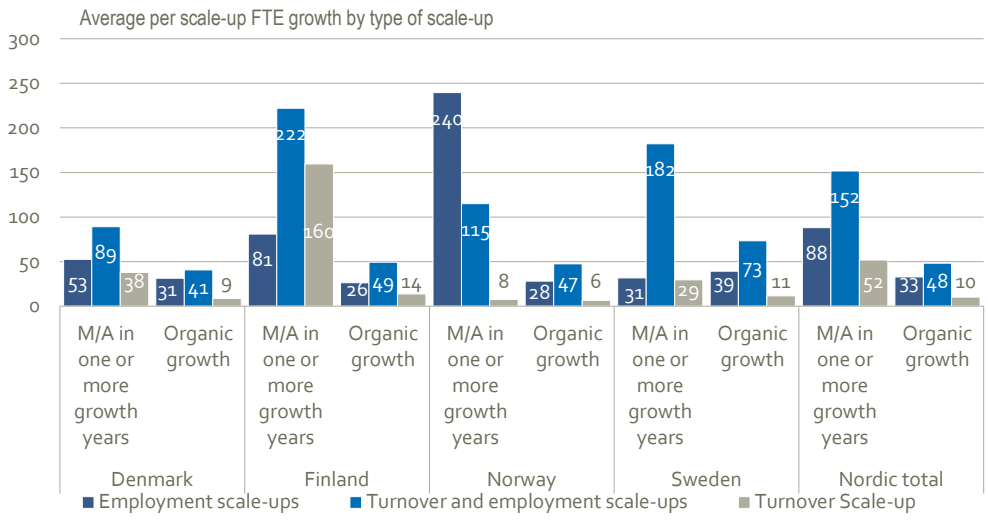

*Annex Map 1.3* **Regional share of Employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**



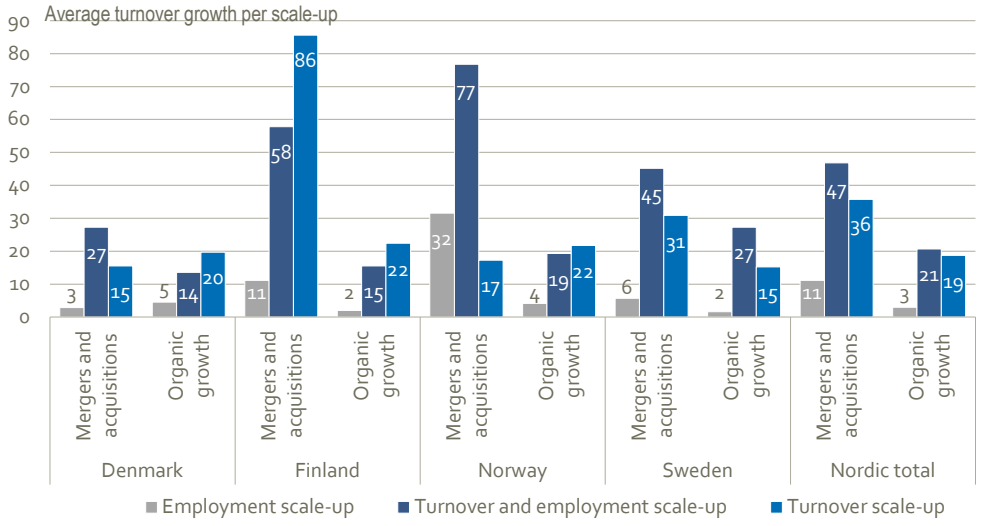
*Annex Table 1.2* **Regional share of scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**

| Country | Region | All scale ups | Employment scale-ups | Turnover and employment scale-ups | Turnover scale-ups |
|---|---|---|---|---|---|
| Denmark | North Denmark | 7,4 | 8,1 | 7,2 | 7,3 |
| | Central Denmark | 25,6 | 25,6 | 26,3 | 25,3 |
| | Southern Denmark | 17,6 | 12,8 | 14,4 | 19,9 |
| | Greater Copenhagen | 44,5 | 46,5 | 47,3 | 42,9 |
| | Zealand | 4,9 | 7,0 | 4,8 | 4,5 |
| Finland | West Finland | 19,2 | 7,1 | 22,8 | 20,6 |
| | Helsinki-Uusimaa | 53,2 | 52,4 | 52,2 | 54,2 |
| | South Finland | 14,3 | 16,7 | 13,0 | 14,5 |
| | North & East Finland | 13,2 | 23,8 | 12,0 | 10,7 |
| | Åland | No data | No data | No data | No data |
| Iceland | No NUTS 2 level | No data | No data | No data | No data |
| Norway | Oslo and Akershus | 42,2 | 26,0 | 48,3 | 51,6 |
| | Hedmark og Oppland | 4,3 | 3,9 | 3,3 | 5,3 |
| | Sør-Østlandet | 14,2 | 18,2 | 15,0 | 10,5 |
| | Agder og Rogaland | 9,9 | 11,7 | 10,0 | 8,4 |
| | Vestlandet | 15,9 | 22,1 | 15,0 | 11,6 |
| | Trøndelag | 6,0 | 9,1 | 6,7 | 3,2 |
| | Nord-Norge | 7,3 | 9,1 | 1,7 | 9,5 |
| Sweden | Stockholm | 42,0 | 42,4 | 48,8 | 37,2 |
| | East Middle Sweden | 9,1 | 12,8 | 7,0 | 9,3 |
| | South Sweden | 12,2 | 12,8 | 8,6 | 14,4 |
| | North Middle Sweden | 3,7 | 1,6 | 3,7 | 4,5 |
| | Middle Norrland | 1,5 | 1,6 | 1,2 | 1,7 |
| | Upper Norrland | 3,3 | 3,2 | 2,5 | 3,9 |
| | Småland and the islands | 7,0 | 6,4 | 6,6 | 7,6 |
| | West Sweden | 21,1 | 19,2 | 21,7 | 21,4 |

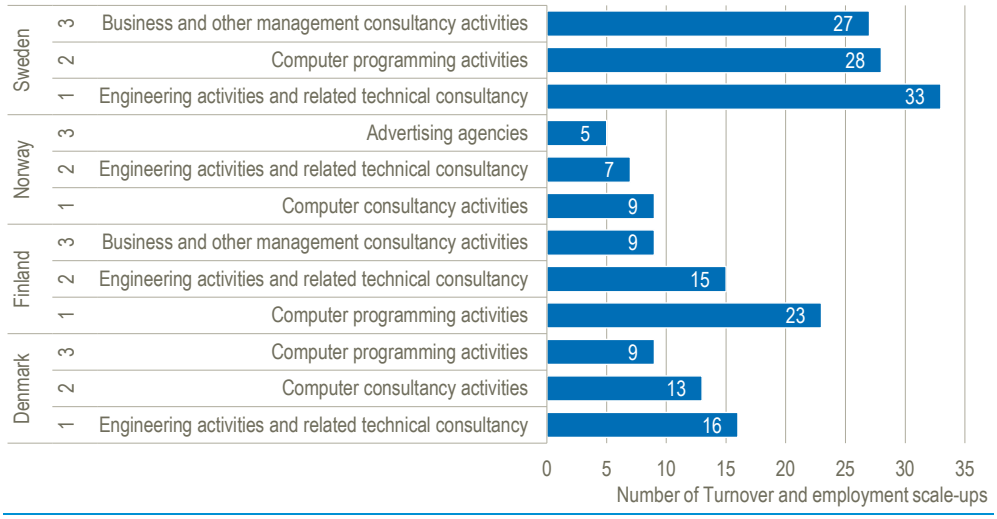
*Annex Figure 1.1* **Average employment growth per scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**



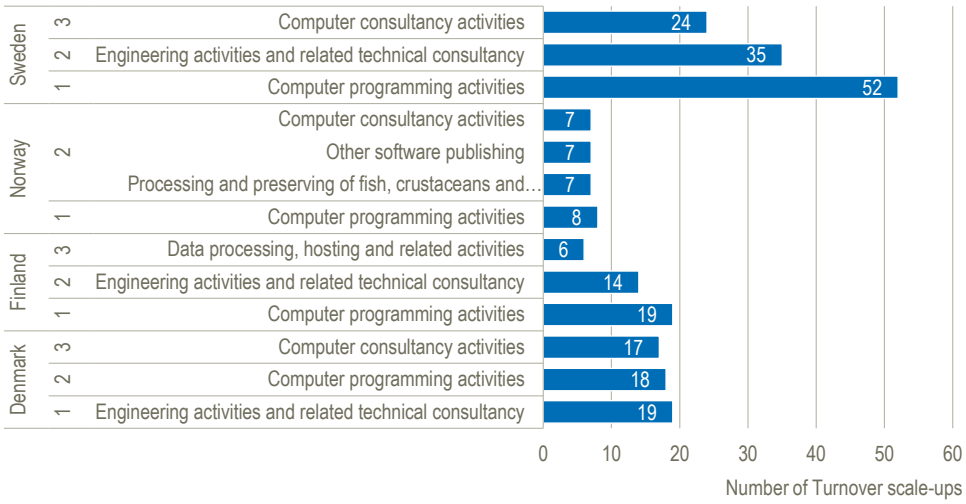
*Annex Figure 1.2* **Average per scale-ups turnover growth within Manufacturing (exporters) and Wholesale (exporters) and Knowledge-intensive services in the Nordics 2017. Growth period 2014-2017 turnover in million EUR**



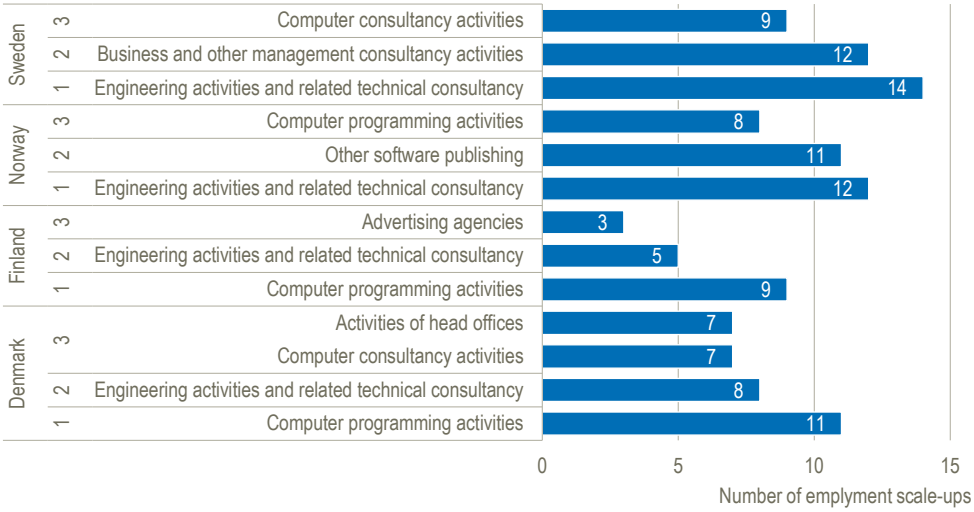

*Annex Figure 1.3* **Top 3 activity classes (four digit NACE) within Turnover and employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**



*Annex Figure 1.4* **Top 3 activity classes (four digit NACE) within Turnover scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**




*Annex Figure 1.5* **Top 3 activity classes (four digit NACE) within Employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. Growth period 2014-2017**



*Annex Figure 2.1.A* **Turnover in Employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. 2014 and 2017**

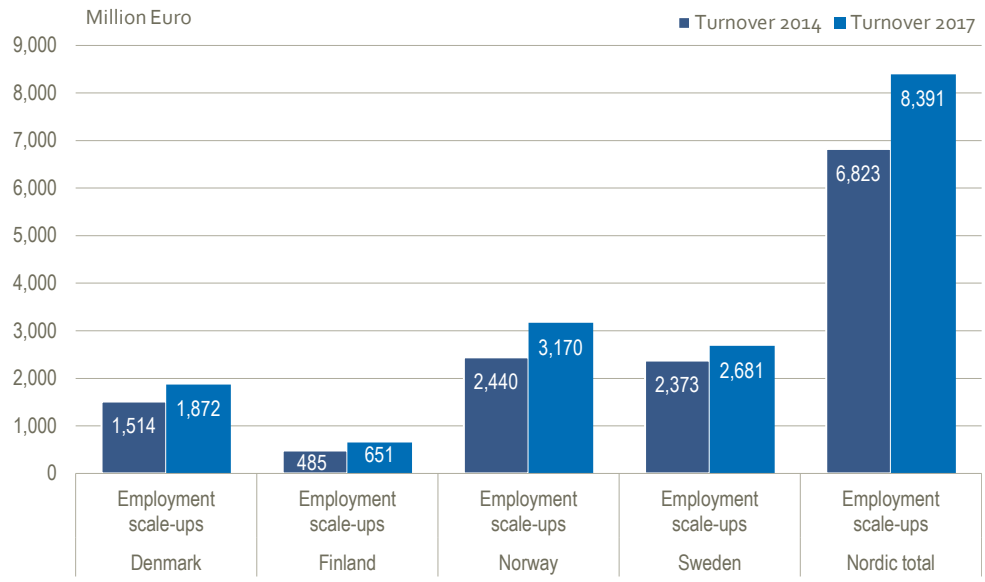
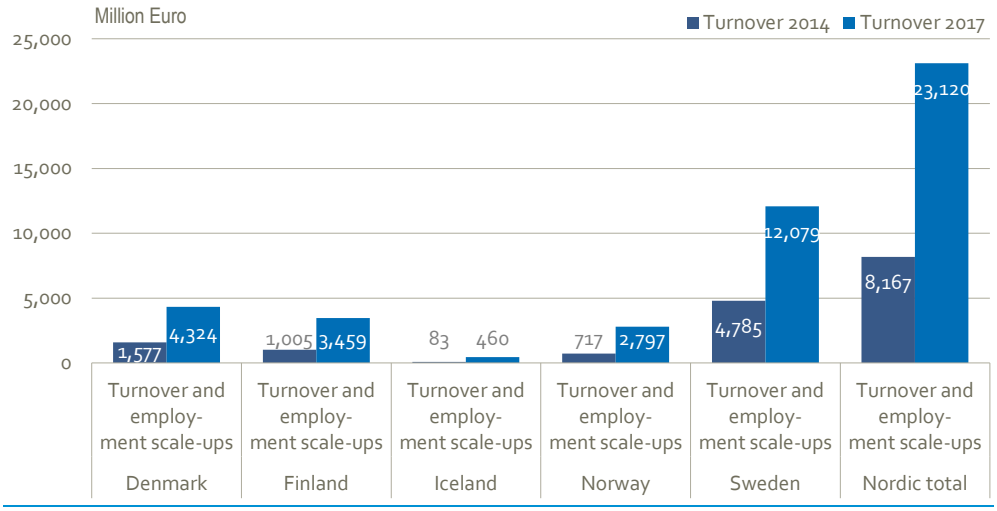
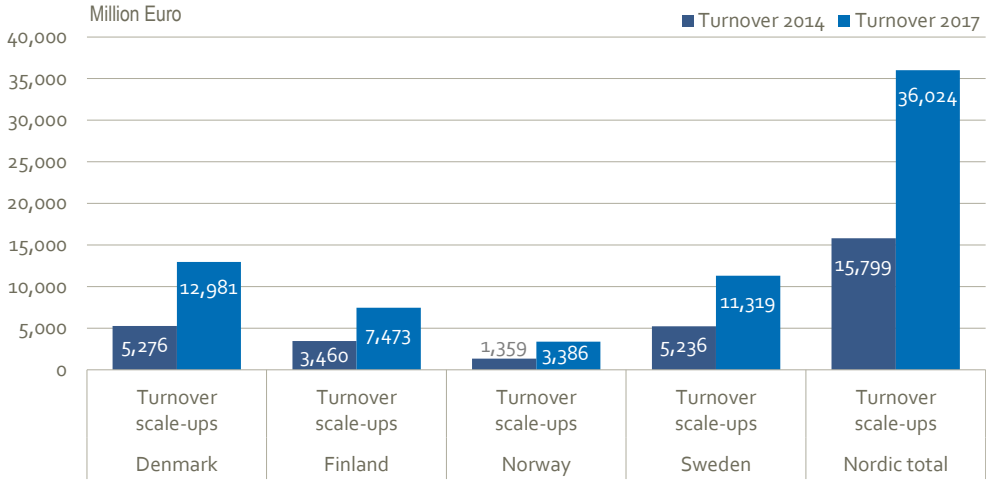


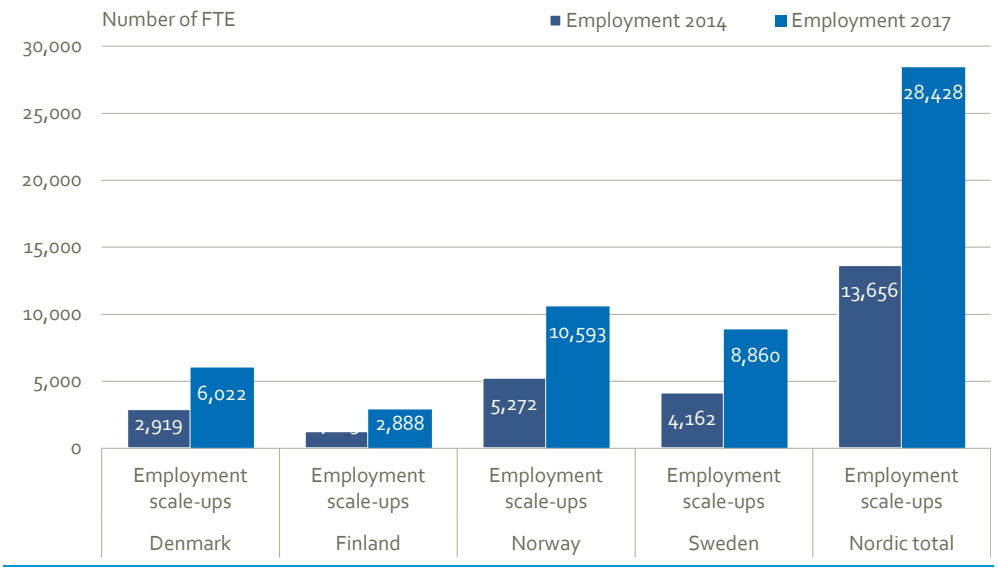

*Figure 2.1.B* **Turnover in Turnover and employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. 2014 and 2017**



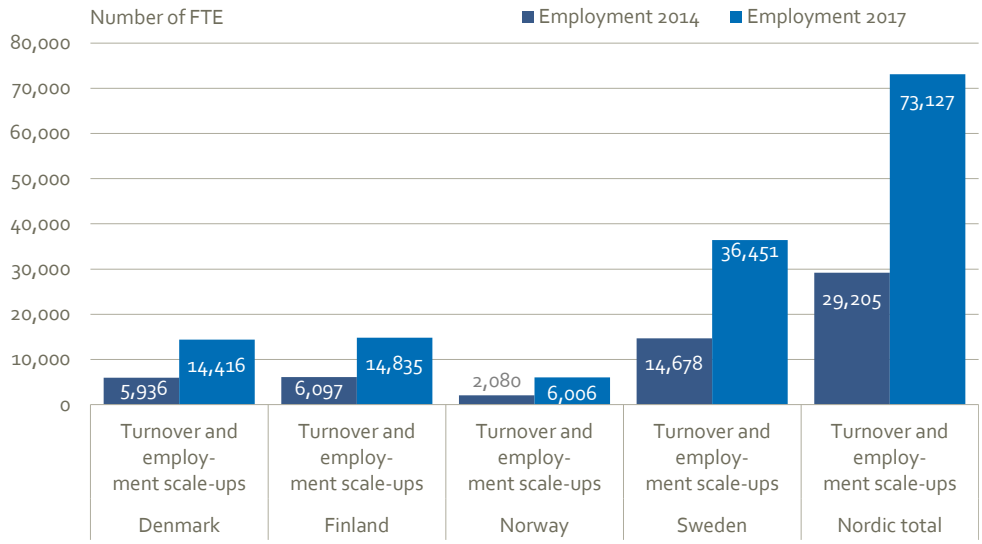
*Annex Figure 2.1.C* **Turnover in Turnover scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. 2014 and 2017**



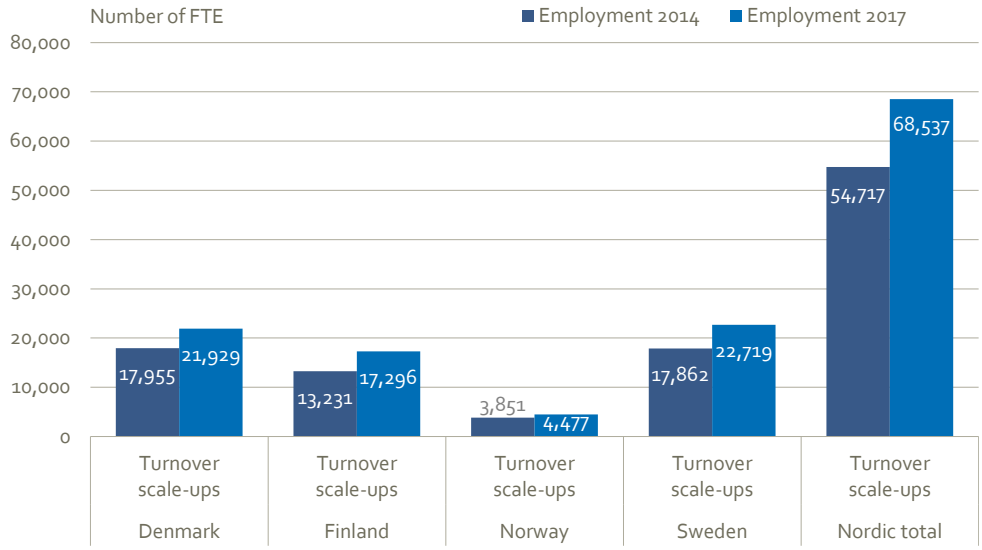

*Annex Figure 2.5.A* **Employment (FTE) in Employment scale-ups Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. 2014 and 2017**



*Annex Figure 2.5.B* **Employment (FTE) in Turnover and employment scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. 2014 and 2017**




*Annex Figure 2.5.C* **Employment (FTE) in Turnover scale-ups within Manufacturing (exporters), Wholesale (exporters) and Knowledge-intensive services in the Nordics. 2014 and 2017**



*Annex Figure 2.10.A* **Goods exports in Employment scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics 2017. 2014 and 2017**

*Annex Figure 2.10.B* **Goods exports in Turnover and employment scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics 2017. 2014 and 2017**

*Annex Figure 2.10.C* **Goods exports in Turnover scale-ups within Manufacturing (exporters) and Wholesale (exporters) in the Nordics 2017. 2014 and 2017**

*Summary table 1*

## Performance indicators for scale-ups within Manufacturing (exporters) and Wholesale (exporters) in Denmark by type of scale-up

| | Selected activities, scale-ups in Denmark | |
|---|---|---|
| | **2014** | **2017** |
| **All scale-ups in Denmark** | | |
| Number of scale-ups | 649 | 649 |
| Employment per scale-up (no. of FTE) | 41 | 65 |
| Turnover per scale-up (million EUR) | 12,9 | 29,5 |
| Export per scale-up (million EUR) | 9,0 | 14,8 |
| GVA per FTE (labour productivity) | 104.923 | 136.771 |
| **Employment scale-ups in Denmark** | | |
| Number of scale-ups | 86 | 86 |
| Employment per scale-up (no. of FTE) | 34 | 70 |
| Turnover per scale-up (million EUR) | 17,6 | 21,8 |
| Export per scale-up (million EUR) | 13,6 | 17,6 |
| GVA per FTE (labour productivity) | 126.325 | 89.752 |
| **Turnover and employment scale-ups in Denmark** | | |
| Number of scale-ups | 167 | 167 |
| Employment per scale-up (no. of FTE) | 36 | 86 |
| Turnover per scale-up (million EUR) | 9,4 | 25,9 |
| Export per scale-up (million EUR) | 6,0 | 13,6 |
| GVA per FTE (labour productivity) | 105.976 | 106.076 |
| **Turnover scale-ups in Denmark** | | |
| Number of scale-ups | 396 | 396 |
| Employment per scale-up (no. of FTE) | 45 | 55 |
| Turnover per scale-up (million EUR) | 13,3 | 32,8 |
| Export per scale-up (million EUR) | 9,1 | 14,8 |
| GVA per FTE (labour productivity) | 101.095 | 169.863 |

*Summary table 2*

## Performance indicators for scale-ups within Manufacturing (exporters) and Wholesale (exporters) in Finland by type of scale-up

| | Selected activities, scale-ups in Finland | |
|---|---|---|
| | **2014** | **2017** |
| **All scale-ups Finland** | | |
| Number of scale-ups | 273 | 273 |
| Employment per scale-up (no. of FTE) | 75 | 128 |
| Turnover per scale-up (million EUR) | 18,1 | 42,4 |
| Export per scale-up (million EUR) | 18,5 | 36,6 |
| GVA per FTE (labour productivity) | 80.496 | 100.442 |
| **Employment scale-ups in Finland** | | |
| Number of scale-ups | 43 | 43 |
| Employment per scale-up (no. of FTE) | 30 | 67 |
| Turnover per scale-up (million EUR) | 11,3 | 15,1 |
| Export per scale-up (million EUR) | 2,7 | 2,9 |
| GVA per FTE (labour productivity) | 85.632 | 64.798 |
| **Turnover and employment scale-ups in Finland** | | |
| Number of scale-ups | 93 | 93 |
| Employment per scale-up (no. of FTE) | 66 | 160 |
| Turnover per scale-up (million EUR) | 10,8 | 37,2 |
| Export per scale-up (million EUR) | 5,9 | 10,2 |
| GVA per FTE (labour productivity) | 73.180 | 76.975 |
| **Turnover scale-ups in Finland** | | |
| Number of scale-ups | 137 | 137 |
| Employment per scale-up (no. of FTE) | 97 | 126 |
| Turnover per scale-up (million EUR) | 25,3 | 54,5 |
| Export per scale-up (million EUR) | 26,0 | 52,4 |

| | | |
|---|---|---|
| GVA per FTE (labour productivity) | 83.375 | 126.522 |

*Summary table 3*

## Performance indicators for scale-ups within Manufacturing (exporters) and Wholesale (exporters) in Iceland by type of scale-up

| | Selected activities, scale-ups in Iceland | |
|---|---|---|
| | **2014** | **2017** |
| **All scale-ups in Iceland** | | |
| Number of scale-ups | 40 | 40 |
| **Employment scale-ups Iceland** | | |
| Number of scale-ups | 1 | 1 |
| **Turnover and employment scale-ups in Iceland** | | |
| Number of scale-ups | 8 | 8 |
| **Turnover scale-ups in Iceland** | | |
| Number of scale-ups | 31 | 31 |

*Summary table 4*

## Performance indicators for scale-ups within Manufacturing (exporters) and Wholesale (exporters) in Norway by type of scale-up

| | Selected activities, scale-ups in Norway | |
|---|---|---|
| | **2014** | **2017** |
| **All scale-ups Norway** | | |
| Number of scale-ups | 232 | 232 |
| Employment per scale-up (no. of FTE) | 48 | 91 |
| Turnover per scale-up (million EUR) | 19,5 | 40,3 |
| Export per scale-up (million EUR) | 11,9 | 22,5 |
| GVA per FTE (labour productivity) | 121.205 | 129.875 |
| **Employment scale-ups in Norway** | | |
| Number of scale-ups | 77 | 77 |
| Employment per scale-up (no. of FTE) | 68 | 138 |
| Turnover per scale-up (million EUR) | 31,7 | 41,2 |
| Export per scale-up (million EUR) | 20,4 | 35,8 |
| GVA per FTE (labour productivity) | 132.639 | 103.237 |
| **Turnover and employment scale-ups in Norway** | | |
| Number of scale-ups | 60 | 60 |
| Employment per scale-up (no. of FTE) | 35 | 100 |
| Turnover per scale-up (million EUR) | 12,0 | 46,6 |
| Export per scale-up (million EUR) | 7,4 | 17,9 |
| GVA per FTE (labour productivity) | 124.409 | 162.228 |
| **Turnover scale-ups in Norway** | | |
| Number of scale-ups | 95 | 95 |
| Employment per scale-up (no. of FTE) | 41 | 47 |
| Turnover per scale-up (million EUR) | 14,3 | 35,6 |
| Export per scale-up (million EUR) | 8,7 | 16,0 |
| GVA per FTE (labour productivity) | 103.820 | 149.499 |

*Summary table 5* **Performance indicators for scale-ups within Manufacturing (exporters) and Wholesale (exporters) in Sweden by type of scale-up**

| | Selected activities, scale-ups in Sweden | |
|---|---|---|
| | **2014** | **2017** |
| **All scale-ups in the Sweden** | | |
| Number of scale-ups | 724 | 724 |
| Employment per scale-up (no. of FTE) | 51 | 94 |
| Turnover per scale-up (million EUR) | 17,1 | 36,0 |
| Export per scale-up (million EUR) | 11,7 | 20,2 |
| GVA per FTE (labour productivity) | 105.547 | 103.179 |
| **Employment scale-ups in Sweden** | | |
| Number of scale-ups | 125 | 125 |
| Employment per scale-up (no. of FTE) | 33 | 71 |
| Turnover per scale-up (million EUR) | 19,0 | 21,4 |
| Export per scale-up (million EUR) | 11,3 | 12,3 |
| GVA per FTE (labour productivity) | 191.044 | 102.011 |
| **Turnover and employment scale-ups in Sweden** | | |
| Number of scale-ups | 244 | 244 |
| Employment per scale-up (no. of FTE) | 60 | 149 |
| Turnover per scale-up (million EUR) | 19,6 | 49,5 |
| Export per scale-up (million EUR) | 18,9 | 39,6 |
| GVA per FTE (labour productivity) | 111.053 | 82.726 |
| **Turnover scale-ups in the Nordics** | | |
| Number of scale-ups | 355 | 355 |
| Employment per scale-up (no. of FTE) | 50 | 64 |
| Turnover per scale-up (million EUR) | 14,7 | 31,9 |
| Export per scale-up (million EUR) | 8,6 | 13,8 |
| GVA per FTE (labour productivity) | 81.101 | 136.451 |

# 5. Methodological annex

The annex outlines the harmonised methodology applied by the Nordic statistical institutes for the project Nordic Scale-up (scalars) commissioned by Nordic Innovation. The annex is arranged as follows. First, a short introduction to the micro data linking, coherent databases and the joint syntax approach used in the project. This is followed by a listing of the variables outputted from the databases.

## Methodology

### Micro data linking and Nordic databases

The foundation of the project is national register databases established in each of the Nordic statistical offices containing a number of harmonised statistical variables and enterprise populations covering Structural Business Statistics, International Trade in Goods Statistics and Foreign Affiliates Statistics (FATS), see below. The databases cover all active enterprises in the non-financial business economy (NACE Rev.2 sections B to N, excl. K) for the period 2008 to 2017, the latter being the most recent year available across the Nordic countries when it comes to annual business statistics.

Core to micro data linking (MDL) is the unique enterprise ID, operating as key for identifying the same enterprises across statistical registers, e.g. Structural Business Statistics and Foreign owned enterprises (Inward Foreign Affiliates Statistics), and matching the data from the different registers. Furthermore, the ID number is used for tracking the development of individual enterprises over a period of time in order to monitor the growth rate. Thus, established register databases tailored to cross national microdata linking purposed and unique enterprise ID allows for longitudinal micro-level analysis of Nordic scale-up enterprises.

To the extent possible, the project tailored MDL databases use input data for the reference period 2008-2017 from the Structural Business Statistics, International Trade in Goods Statistics, Foreign Affiliate Statistics (Inward and Outward FATS) and the Statistical Business Register for each of the Nordic countries.

For the above sources, annual micro- level datasets are created. For the purpose of producing output smoothly yearly dataset are stored for each reference years and register included in the MDL database. These are stored locally at each NSI and identifiable data will not be exchanged.

The analysis of Nordic scale-up enterprises is based on variables (see variable description below) contained in the MDL database outlined above. First, base datasets for each year 2008-2017 are created. Following this, each base dataset are joined to corresponding data for the following years using enterprise ID as key. This ensures that the correct information is linked at a micro level. Lastly, the dataset are merged in to one master dataset that holds all country specific information needed to create additional derived variables to be used in the analysis. The approach ensures a safe and easy handling of data and variables.

Following the establishing of the master dataset, the next step is to create the variables not already included in data. This is done for all years at once due to a consistent and rational structure of the data across years. At completion, this dataset is ready to create the output needed to analyse the structure and development of scale-up enterprises across the Nordic countries.

The last issue is the programming of tabulations showing the agreed output for analytical purposes.

## Shared syntax

One of the major benefits of the applied design and coherent MDL databases at the Nordic NSI is the possibility of applying centrally scripted SAS syntax locally at each NSI. This ensures a similar approach to the tailoring of panel data for each country and a consistent output. This methodology has been tested in previous project and, for instance, circumvents issues of different data sources being applied and errors regarding different styles of scripting statistical programs.

## Statistical variables

***Turnover*:** Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. Turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the value added type taxes (VAT). Turnover is measured in current prices and values are converted from national currencies EUR using the average yearly exchange rate set for each country, see point 5 below.

***Full Time Equivalent number of employees (FTE)*:** The number of employees converted into full time equivalents (FTE). Figures for the number of persons working less than the standard working time of a full-year full time worker, should be converted into full time equivalents, with regard to the working time of a full time full-year employee in the unit. It is the total hours worked divided by the average annual number of hours worked in full time employees in the reporting country.

***FTE size class*:** The variable is constructed from the variable Full Time Equivalent number of employees and has the range 10-49 employees (FTE), 50-99 employees (FTE) and 100+ employees (FTE).

***Gross Value Added**:* gross income from operating activities after adjusting for operating subsidies and indirect taxes

***Exports of goods:*** The variable is created from the variable Exports of goods, which is as recorded in the International Trade in Goods Statistics but converted to EUR using the average yearly exchange rate set for each country.

***Exporter*:** An exporting enterprise is defined as one where exports account for at least 5% of the turnover in a given year and where the absolute export value is higher than 5,000 EUR.

***Analytical activity grouping:*** For analytical purposes the following three activity groupings are identified and analysed:

*Manufacturing:* Exporting scale-ups within manufacturing (NACE Rev.2 Divisions 10-33)
*Wholesale:* Exporting scale-ups within wholesale (NACE Rev. 2, Division 46)
*Knowledge-intensive services (KIS)*: All scale-ups within computer programming, consultancy and related activities (NACE Rev.2 Division 62); Information service activities (NACE Rev.2 Division 63); Financial service activities, except insurance and pension funding (NACE Rev.2 Division 64); 69 Legal and accounting activities (NACE Rev.2 Division 69); Activities of head offices management consultancy activities (NACE Rev.2 Division 70);

Architectural and engineering activities; technical testing and analysis (NACE Rev.2 Division 71); Scientific research and development (NACE Rev.2 Division 72); Advertising and market research (NACE Rev.2 Division 73); Other professional, scientific and technical activities (NACE Rev.2 Division 74)

***Mergers and Acquisitions:*** Mergers and acquisitions (M&A) are transactions in which the ownership of enterprises, or their operating units are transferred or consolidated with other entities. From a legal point of view, a merger is a legal consolidation of two entities into one, whereas an acquisition occurs when one entity takes ownership of another entity's assets.

***Region***: This variable is the regional codes used by the national statistical institutes; in this project at NUTS2 level. The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU, see https://ec.europa.eu/eurostat/web/nuts/background

## Exchange rates

The following exchange rates to EUR have been used:

| | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|
| Danish krone | 7.4548 | 7.4587 | 7.4452 | 7.4386 |
| Swedish krona | 9.0961 | 9.3548 | 9.4675 | 9.6326 |
| Icelandic krona | 154.86 | 146.30 | 133.59 | 120.54 |
| Norwegian krona | 8.3544 | 7.9496 | 9.2906 | 9.3271 |