



Statistics Sweden

Statistiska centralbyrån

# Youth unemployment – comparability in statistics between a number of European countries

2013:4

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Continued on inside of the back cover!

## **Background Facts**

# **Youth unemployment – comparability in statistics between a number of European countries**

**Labour and Education Statistics 2013:4**

**Statistics Sweden  
2013**

## Background Facts

Labour and Education Statistics 2013:4

# Youth unemployment – comparability in statistics between a number of European countries

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2013

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## **Foreword**

In October 2007, Statistics Sweden changed fully over to presenting the Labour Force Surveys (LFS) in accordance with both the International Labour Organisation's (ILO) Convention for labour market statistics and Eurostat regulations. Previously, Sweden was one of the few countries within the European statistical system that did not comply with the ILO recommendation. The change meant that the reported youth unemployment in Sweden was significantly higher than before and appeared to be very high in an international comparison.

The transition was controversial and subsequently there has been a lively debate in which it is often argued that youth unemployment is incorrectly reported and that it cannot be currently compared with that of other countries.

In September 2012, Statistics Sweden was commissioned by the Government of Sweden to examine the comparability of statistics on youth unemployment between Sweden and the Netherlands, Germany, Austria, the United Kingdom, Denmark, Finland, Iceland and Norway.

In this report, Statistics Sweden investigates how comparability in the measurement of youth unemployment is influenced by differences in the organisation and implementation of the labour force surveys in the selected countries. The study was carried out with the aid of experts from statistical agencies in the countries concerned and Eurostat.

In accordance with the Government's commission, Statistics Sweden shall also present an overview of institutional differences between the countries and provide an assessment of whether these can explain differences in the level of youth unemployment.

Statistics Sweden therefore describes in the report several key institutional differences between countries with regards to youth unemployment that affect the level of youth unemployment. The focus is on labour market programmes and the structure of the educational system, including the presence of apprenticeships. Other differences between countries are also briefly described that may increase our understanding of the differences in youth unemployment levels.

Statistics Sweden hopes this report will lead to an improvement in the public discourse on youth unemployment and how its interpretation.

The work was carried out by a project team consisting of Anna Broman, Daniel Samuelsson, Karl-Erik Kristiansson and Alexandra Kopf Axelman. Andreas Lennmalm, Fredrik Andersson and others have contributed with work materials on the educational systems and labour market policy interventions in the designated countries.

The group has received a great amount of help from colleagues in the selected countries and at Eurostat, who answered our questions with patience and dedication. Statistics Sweden would like to thank everyone who contributed to the report.

Statistics Sweden, March 2013

Mats Wadman

Hassan Mirza

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# 1. Introduction

## 1.1 Background

On 6 September 2012, the Swedish Government commissioned Statistics Sweden to examine the comparability of international statistics on youth unemployment, i.e. unemployment among people aged 15–24. Statistics Sweden was assigned to report on methodological differences between the labour force surveys of the nine designated countries. The countries covered by the study included Sweden, the Netherlands, Germany, Austria, the United Kingdom, Denmark, Finland, Norway and Iceland. Based on these methodological differences, Statistics Sweden would provide quantitative assessments of the significance of these differences. The government's commission also referred to methodological differences in terms of differences in definitions as well as in other methodological issues in statistical production.

In addition, Statistics Sweden would present an overview of institutional differences between the countries and provide assessments of how these differences could affect comparability of the statistics. Institutional differences referred to the scope and focus of labour market policy interventions as well as the structure of the educational systems.

Statistics Sweden was also asked to investigate whether the countries' reported measurements of youth unemployment at the national level deviated from internationally agreed definitions.

The aim of the commission was to reduce the uncertainty that existed about the comparability of the statistics and thus contribute to improving the public discourse on youth unemployment.

## 1.2 Purpose and implementation of the study

The purpose of the study is to highlight methodological and institutional differences and assess their impact on the comparability of unemployment among young people. The assessment is based on the EU Labour Force Survey (LFS) published by Eurostat. These figures, in turn, are based on individual country surveys and are often used in international comparisons.

The Eurostat recommendations and their compliance constituted the primary starting point in the study of how well the countries are harmonised. In some cases there are no clear recommendations. In these cases, the study is based on how the survey is implemented in Sweden. This applies, for example, to people enrolled in labour market programmes.

The government's commission emphasised in particular that the result should be based on first-hand information from the statistical agencies of the countries in the study. Statistics Sweden has therefore collected detailed information on how the countries implement their labour force surveys. At the same time, Statistics Sweden asked countries to assess the comparability of their own statistics based on any deviations from the Eurostat recommendations or on other quality deficiencies. Following Statistics

Sweden's processing of the information received, the countries were given the opportunity to review the text in Chapters 3 and 4 of the report.

Eurostat has been very helpful in this study by providing information on the harmonisation of the statistics as well as basic data<sup>1</sup>. The quality reports on the LFSs published by Eurostat<sup>2</sup> have also been used.

However, Statistics Sweden has also used other sources with respect to institutional differences between the countries. For example, it has relied on first-hand contacts with other units within national statistical agencies as well as published figures from the OECD, among others.

The report focuses on deficiencies in the comparability of the statistics, which are partly dependent on methodological and quality differences in statistical production, and partly due to differences in the countries' classifications of individuals in education and labour market programmes.

The report also presents factors that do not affect the comparability of the statistics, but that may explain differences in unemployment and/or employment levels. These include the extent of or focus on labour market programmes and the structure of the educational system.

### 1.3 Delimitations

A variety of circumstances can cause levels of youth unemployment to differ between countries, such as differences in labour market policies, labour laws, transfer payment systems and demographics. However, these types of issues will not be addressed in this report.

The methodological issues have been limited to questions concerning measurement and definitions, target population, sampling frame, measurement errors, reference weeks and non-response.

Institutional issues are limited to matters pertaining to labour market programmes and the educational system. Labour market programmes are primarily highlighted in terms of their impact on comparability, but also in terms of scope. For the educational system, we highlight apprenticeship training, the structure of student financial aid and the extent of participation in education.

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<sup>1</sup>On 14 February 2013 the Labour Force Surveys (LFS) in Sweden updated all estimates for 2010 to 2012 due to an improved calculation method. These changes had not yet been made at the time of excerpting data from the Eurostat database for this report. Thus there will be a marginal difference between the figures for Sweden as reported here compared with the data published in the Eurostat database. However, the differences do not alter the description of the Swedish labour market.

<sup>2</sup>Eurostat (2011). Labour Force Survey in the EU, candidate and EFTA countries. Main characteristics of the national surveys 2009. *Methodologies and Working papers*. Luxembourg: European Communities // Eurostat (2012). Quality report of the European Union, Labour Force Survey 2010. *Methodologies and Working papers*. Luxembourg: European Communities, and the documentation which the countries sent to Eurostat in the form of quality reports and self-assessments.

## **1.4 Outline of the report**

### **1.4.1 A brief description of the Labour Force Survey (LFS)**

Before this report examines more closely the comparability of the statistics, concepts and definitions used in the labour force surveys are presented as well as how the study is structured. This is described in Chapter 2.

### **1.4.2 Quality and comparability of the LFS between countries**

In carrying out a sample survey, there are a number of differences in approach and implementation that can affect comparability, including differences in definitions, target population, sampling frame and non-response. These methodological issues are described in more detail in Chapter 3.

### **1.4.3 Labour market programmes**

The classification of employment for people in active labour market programmes can affect comparability. For example, two countries could use different principles for determining which conditions are applicable for classifying a person in a labour market program as employed. The scope of the active labour market programmes is also presented in this report. Although the scope may not affect comparability, it may help explain differences in unemployment levels between the countries.

Some labour market policy interventions are structured in such a way that they do not affect how people are classified in the labour force surveys. However, they can explain differences in the levels of unemployment. One example could be the matching programmes and the like. Since such programmes do not affect the comparability of the statistics, these are presented only briefly in the report.

Labour market programmes are described in Chapter 4.

### **1.4.4 Education and training**

The structure of the educational system can also affect the comparability of statistics if the countries have different principles for classifying the employment status of people in training and education.

There are also factors within the educational system that do not affect the classification of educational participants, but which may nonetheless explain differences in unemployment levels. Examples of this could be the number of years of compulsory schooling, or whether the student receives financial aid during the summer months. As these factors do not affect the comparability of the statistics, but may well explain levels of unemployment, they will be presented only briefly in the report.

The educational area is described in Chapter 5.

### **1.4.5 The labour market situation for youth**

Following the review of differences that may affect comparability of the statistics, a general picture is provided of the labour market situation for youth in the countries. The report shows, for example, how the unemployment rates differ between countries as well as the variation in the unemployment rate between different subgroups.

It is also important to take into account the composition of unemployment in order to understand the labour market situation for youth and be able to provide fair interpretations of youth unemployment. Factors affecting the analysis include how much young people want to work, how much employed youth are working, and how long young people are unemployed. Chapter 6 provides a picture of this.

## 2 A brief description of the Labour Force Survey (LFS)

The purpose of the Labour Force Survey is to describe the situation on the labour market. This is done by developing a variety of indicators, which includes statistics on the number of employed and unemployed and how many are outside the labour force. All the countries in the study present quarterly and annual estimates.

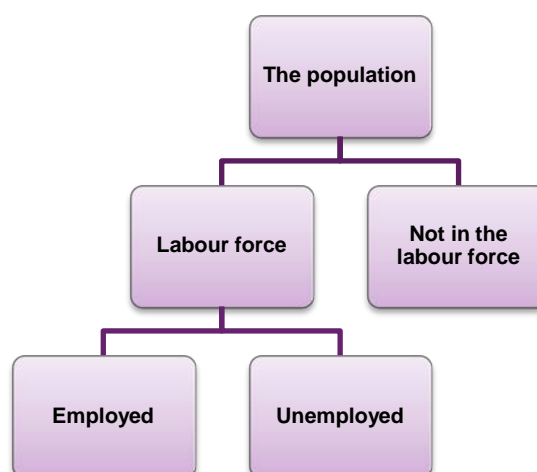
The statistics produced by the LFS are subject to international coordination and are based on the International Labour Organization's, ILO, Convention of labour market statistics<sup>3</sup>. Hence, the survey is adapted to international requirements.

Labour force surveys are carried out in all the relevant countries of the study. Surveys carried out within the European cooperation (ESS) go under the name Labour Force Survey, LFS. Eurostat and member states work together to continuously improve harmonisation of European statistics through directives and ESS agreements. The statistical cooperation includes the EU member states, candidate countries and the EFTA countries which include Norway and Iceland. The legislation aims to achieve a common application of ILO concepts.

### 2.1 Concepts and definitions

The LFS classifies individuals in the sample as either employed, unemployed or not in the labour force – three groups that are mutually exclusive.

**Figure 1**  
The population broken down by labour force status



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<sup>3</sup>ILO (1982) Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, adopted by the Thirteenth International Conference of Labour Statisticians. *The Thirteenth International Conference of Labour Statisticians*. October, 1.

The requirement for being classified as employed is that the person must have performed at least one hour of work during the reference week, either as a paid employee, self-employed or unpaid helper in companies belonging to a spouse or other member of the same household. Employed persons include persons who were temporarily absent from such work during the reference week, whether the absence was paid or not.

The requirement for being classified as unemployed requires that the person was not employed during the reference week. In addition, he or she must have looked for work during the last four weeks (the reference week and three weeks back) and had been able to work during the reference week or begin within 14 days of the end of the reference week. Unemployed persons include persons who are not actively looking for work but have received work that will begin within three months, on the condition that they could have worked during the reference week or have begun within 14 days from the end of the reference week.

Persons who are neither employed nor unemployed are classified instead as not in the labour force. In other words, the questionnaire has a hierarchical structure that first determines if a person is employed. If the requirement is not met, the person proceeds to see if they are unemployed. If the person does not meet these conditions as well, then they are classified as not in the labour force.

The employment rate is calculated as the proportion of employed in the population, while the unemployment rate is the number of unemployed in relation to the number of persons in the labour force, i.e. the employed and unemployed.

$$\text{Unemployment} = \frac{\text{Number of unemployed}}{\text{Number of employed} + \text{Number of unemployed}}$$

Thus, the unemployment rate depends mainly on the number of unemployed, but also on the number of persons in the labour force. This means that the distribution within the labour force also plays a role in the level of unemployment. Given that there are factors in a country's educational system that cause people to be classified as employed due to their participation, the size of the labour force as well as its internal composition are affected. People who might otherwise not have worked or looked for work, i.e. were outside the labour force, as well as people who have sought work but failed to find a job end up in the group employed because of their participation in such an activity. This could be an explanatory factor for why unemployment rates differ between countries.

Since the unemployment rate does not depend on the total number of people in the population, but the number of people in the labour force, it is incorrect to say that one in five young people is unemployed when unemployment is 20 percent. Instead, one in five young people in the labour force is unemployed.

## **2.2 National definitions**

Contacts with the countries have shown that the LFS in nearly all the countries studied have chosen to comply with the unemployment measure prescribed by the ILO and Eurostat at the national level as well. The



Netherlands is the only country that has chosen at the national level to use a different definition, which differs from the accepted definition in two respects. Firstly, the Netherlands asks the sample persons if they want to have a job before they are asked questions regarding whether they have applied for work or can take a job. If they answer no when asked if they want a job, they are not classed as unemployed according to the Dutch definition. Secondly, the Netherlands also has two measures for employment and unemployment. The first measure is based on a person having worked at least one hour or looked for work at least one hour to be classified as employed or unemployed respectively, exactly as prescribed by the ILO criteria. However, the second measure, which is also the definition used in the most important statistical publications in the Netherlands, requires that a person must have worked at least 12 hours during the reference week to be classified as employed. This results in fewer employed than with the ILO definition. The 12-hour requirement also affects the unemployed. People who worked less than 12 hours and are looking for work and are willing and able to work more are classified as unemployed. At the same time, people who are looking for a job with less than 12 hours per week are not classified as unemployed.

Sweden and the United Kingdom have chosen to present the number of full-time students who are unemployed and Denmark has chosen to present the number of people in regular education who are unemployed in connection with their national unemployment figures. However, this does not affect the unemployment figures.

This report focuses on the ILO/Eurostat definition of unemployment, and the comparability of the figures supplied to Eurostat by the different countries.

### **2.3 Students in the LFS**

The role of students in the measurement of youth unemployment has been a subject of discussion. Because the definitions of unemployment and employment do not depend on whether a person is a student or not, a student can be classified as employed, unemployed or outside the labour force. What determines the classification instead is if the sample person has performed work or if the sample person has sought work, just as it is for those who are not in education.

The LFS can provide statistics on how many people are in regular education<sup>4</sup>. This includes studies in the regular educational system, such as primary and secondary schools, university/college, and more. It is possible to differentiate between people who are on school holiday and people who pursued studies during the specific reference week or three weeks earlier. In this report, students have been defined to include people who are on school holiday. Apprentices are included among students in regular education but cannot be reported separately.

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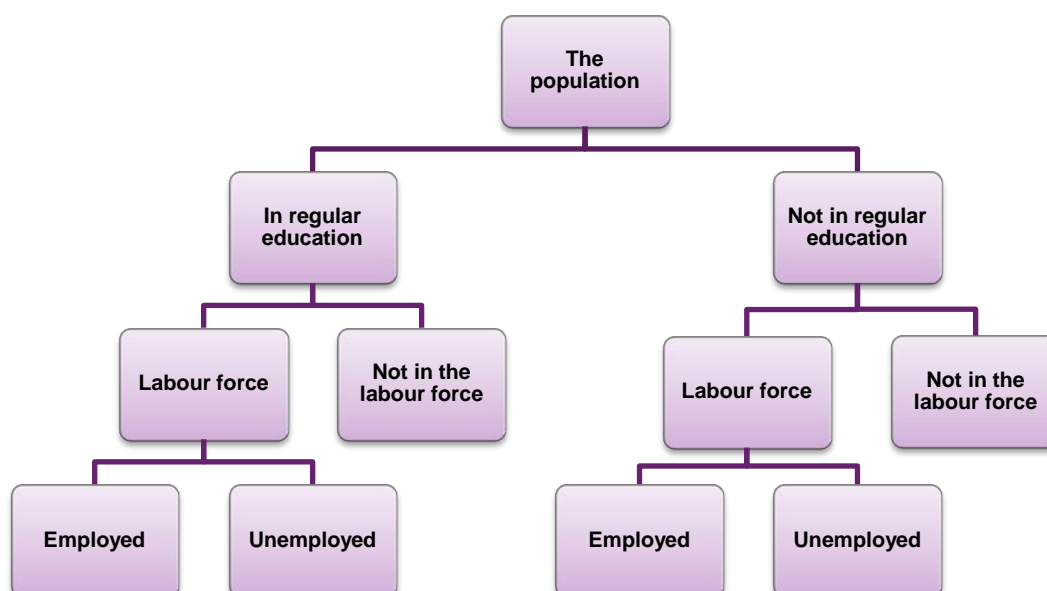
<sup>4</sup> Eurostat (2010). EU labour force survey explanatory notes (to be applied from 2011 Q1 onwards). *Directorate F: Social Statistics and Information Society, Unit F-2: Labour market Statistics*. Luxembourg.

Measuring the share of the population who are full-time students is not obvious in the LFS, since there are no regulations and directives governing this. Whether a country has chosen to measure this or not depends instead on its own practices and preferences. In this report, we have used the number of people in regular education instead of the number of full-time students in order to assess if students differ from other youth.

Sweden has traditionally chosen to measure the number of full-time students. Up to October 2007, Sweden deviated from the ILO definition of unemployment by not including full-time students who sought work as unemployed. Since then, they have been included as unemployed. However, the number of unemployed who are engaged in full-time studies is still reported. Only a few countries in this study measure full-time students. This includes the United Kingdom, which also publishes data on the number of full-time students in relation to unemployment rates on a national level. The Netherlands also asks about full-time or part-time studies but does not publish these figures in relation to the unemployment rate.

Since students comprise a large share of the youth group, the tree in Chapter 2.1 (Figure 1) can be considered to be somewhat imprecise in the description of youth unemployment. Students have a completely different labour market situation than people who do not study. In order to provide a more nuanced picture of the labour market situation for youth, the reporting of employed, unemployed and not in the labour force will also be broken down by whether they are students or not, when justified, as shown in Figure 2. In this way, a better understanding is provided of the youth group's situation and how the countries differ in this respect.

**Figure 2**  
**The population broken down by in regular education/not in regular education and labour market status**



## **2.4 Implementation of a statistical survey and possible sources of error**

To understand the design of a sample survey and which aspects of this that can affect comparability and quality, a brief review is provided here of how this is done. At the same time, a picture is also provided of the sources of error associated with the various stages. Chapter 3 then describes how these affect the comparability of statistics between the selected countries.

The goal of a statistical survey is to provide a comprehensive measure of the properties of the objects in a certain target population. The objects can be individuals, households or companies, for example.

The process of carrying out a sample survey begins by defining a target population whose properties you want to describe using the survey. If countries use different target populations, then different populations are described in different countries, which in turn make the statistics less comparable.

The next step involves the choice of sampling frame that reflects the target population as much as possible. Some type of register is often used. For example, this can be a population, housing or mail register. If the frame does not capture the intended target population, this can lead to over-coverage or undercoverage, the so-called coverage error.

The next step involves drawing a probability sample from a certain proportion of the target population. These objects then become the survey's sample units. Sampling errors occur because only the properties of the sample objects are registered and not those of the entire target population. These are managed by including uncertainty figures and confidence intervals in connection with weighting up to the target population.

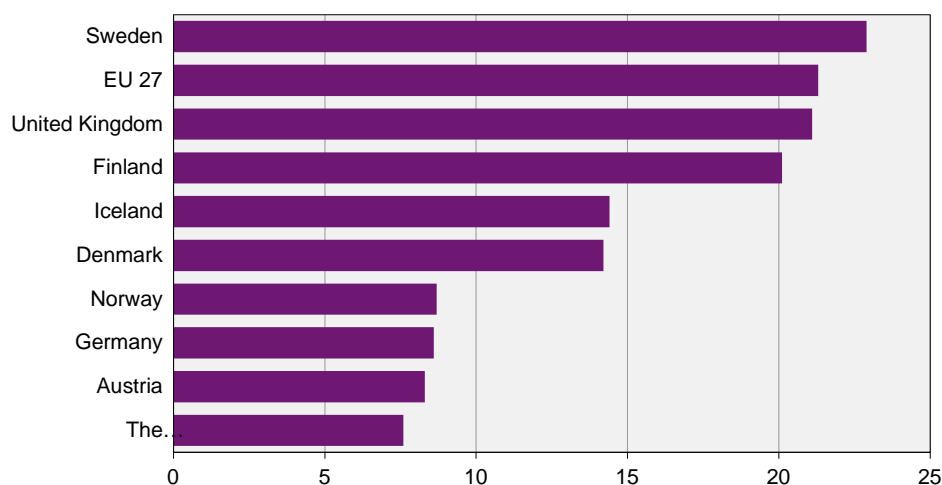
The data collection method may vary depending on, for example, the type of object you want to survey and the survey's scale and frequency. This may involve personal visits, telephone interviews, web questionnaires, self-administered forms, etc. The data collection method always involves a balance of quality and costs, where the goal is to keep non-response and measurement error as small as possible given the survey budget. For example, a decision to allow proxy interviews is a method to reduce non-response error at the cost of introducing a possible measurement error. There are several aspects during the data collection stage that can affect how well the survey captures what is intended. If the study has a large non-response and the distribution of properties among the group that responds appears to be different compared to the group that does not respond, then the estimates are affected. This is known as non-response error. In addition, different types of measurement error may occur, i.e. when the survey fails to correctly capture the survey object's properties. Measurement error may be due to questions that are not sufficiently well-formulated to enable accurate measurement; the interviewer may lack training and therefore risks influencing the sample person's responses; the sample person may be mistaken or the interview does not take place directly with the sample person, but with for example a family member who is not fully aware of the sample person's conditions.

Following completion of data collection, the data need to be processed in most cases before they can be analysed. This can involve coding, editing and any imputations (missing values are replaced with derived values). There is a risk of processing errors occurring here.

## 2.5 Results of the survey (LFS) in terms of youth unemployment

In 2011, the organisation and implementation of the LFS survey in the countries resulted in the unemployment rates reported in Figure 3. The youth unemployment rate in 2011 differed significantly between the countries studied. Sweden with its 22.9 percent was the only country in the survey that was above the EU27 average, which was 21.3 percent. Among the other countries, the comparison shows that the Netherlands, Austria, Germany and Norway all had relatively low youth unemployment. In the Netherlands, youth unemployment was as low as 7.6 percent. The United Kingdom and Finland, on the other hand, were relatively close to Sweden (21.2 and 20.1 percent respectively). The figures presented in Figure 3 were on par with unemployment levels in the relevant countries in previous years as well. However, it should be noted that unemployment rates in the United Kingdom have increased every year since 2004 (see Appendix 2, Figure 1).

**Figure 3**  
**Unemployment rates among persons aged 15–24, annual average 2011.**  
**Percent**



Source: Eurostat, LFS.

## 3 Quality and comparability of the LFS between countries

All countries carry out the LFS survey as a sample survey of individuals or households, where people are interviewed and classified according to agreed concepts. There are a number of factors in a sample survey that may affect the comparability of results between countries, as described in Chapter 2.4. The countries in the study have slightly different traditions and circumstances, which means that there are differences in the structure and implementation of the survey. The extent to which these methodological differences can be a contributing cause of differences in unemployment levels for the different countries is reported here; that is, whether there are any deficiencies in comparability of the LFS. The study was based on how the countries relate to Eurostat's recommendations and how they have applied them in their surveys.

### 3.1 Measurements and definitions

The key measurements of the labour force survey are the number of employed, number of unemployed, number of people in and outside the labour force, employment rate, unemployment rate, and relative labour force rate. The bases for the measurements are the definitions and which variables are to be surveyed. Thus, we need harmonisation in these areas to be able to compare unemployment between the countries.

Every country is obliged to comply with the directives and definitions of variables in EU legislation<sup>5</sup> for the main variables in the LFS. The definitions, in turn, follow the ILO recommendations.

In particular, the definition, wording of the questions and question order to produce unemployment data are regulated in detail; while work is still ongoing to further harmonise the measurement of employment, including the development of a recommended standard questionnaire. However, it should be emphasised that the measurement of employment is also well harmonised. Because the unemployment rate is a ratio between the number of unemployed and the number of people in the labour force (employed and unemployed), the unemployment rate can also be affected by deviations in how the number of employed is measured. The definitions are described in more detail in Chapter 2.1.

#### 3.1.1 Sweden

The definitions in the Swedish LFS comply with EU regulations. The regulations are not completely clear in certain detailed aspects regarding how participants in labour market programmes should be classified; see Chapter 4. However, the assessment is that through its delimitations, Sweden makes distinctions that are in line with current European practice.

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<sup>5</sup>The framework is regulated by Council regulation (EC) No 577/98, definitions of variables are regulated by Commission Regulation (EC) No 377/2008, and the definition of unemployment and the principles for construction of questionnaires are regulated by Commission Regulation (EC) No 1897/2000.

### 3.1.2 Other countries

Two countries, Germany and the Netherlands, have stated that they deviate in some way from the agreed definition or order of questions.

Germany uses the ILO definitions, but has chosen to deviate in one aspect from the order of questions proposed by Eurostat. Germany has shown that an alternative order of questions it has used was found to better capture extra work and similar activities, thereby providing better estimates of employment.<sup>6</sup> The new way of measuring was introduced in 2011 and led to a marginal increase in employment. However, it had no clear impact on unemployment and there were no significant changes in the trend of youth unemployment. The groups affected by the change are mainly people with a loose attachment to the labour market, in other words, people who have short temporary jobs or who are looking for that kind of job.

The Netherlands is the only country that has announced that it deviates from the definitions. The Netherlands requires that a sample person should want to work to be classified as unemployed, in addition to the usual conditions. This means that fewer are classified as unemployed than would otherwise have been the case. According to the Netherlands, this means that the number of unemployed youth is underestimated by 3 000 to 4 000 persons (2011), or that the unemployment rate is underestimated by about 0.3 percentage units compared with if it had complied fully with the definitions.

### 3.1.3 Conclusions

The legislation for the labour force surveys makes this one of the most harmonised areas, and Eurostat finds that, in particular, the number of unemployed (aged 15–74), the share of unemployment (aged 15–74) and the share of employed (aged 15–64) are directly comparable. Thus, the improvement work to increase harmonisation is about making subgroups more comparable and harmonising more variables.

In the dialogues with the different countries, only Germany and the Netherlands have disclosed that they deviate from the order of questions or definitions. In the case of Germany, however, this does not affect the estimates to any great extent. In the case of the Netherlands, the deviation results in slightly fewer unemployed than would be the case if it had complied fully with the regulations. However, the Netherlands intends to transition to the conventional definition.<sup>7</sup>

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<sup>6</sup> Gauckler, Britta. & Körner, Thomas. (2011). Measuring the Employment Status in the Labour Force Survey and the German Census 2011: Insights from Recent Research at Destatis. *Methoden, Daten, Analysen*.

<sup>7</sup> The Swedish questionnaire also contains a question on whether the sample person wanted to work. However, it is located in a different place than in the Dutch questionnaire. If the "want condition" had been used in Sweden in the Swedish questionnaire, about 26 000 fewer people would have been classified as unemployed, which would have caused unemployment to fall by 3.2 percentage points to 19.7 percent in 2011. The effect of having the "want-condition" is thus much lower in the Netherlands than what it would have been in Sweden if we had the corresponding conditions.

### **3.2 Target population/objects**

When a statistical survey is implemented, a target population is defined first, i.e. the population of individuals or households whose conditions are to be described using the survey. Eurostat's guidelines for the target population stipulate that the survey must be made for persons residing in the economic territory of the country at the time of the survey. According to the Commission Regulation (EC) 377/2008, questions on unemployment are to be asked of people in the sample aged 15–74 and questions about employment are to be asked of all people in the sample aged 15 or older.

The guidelines further stipulate that the principle scope of the survey consists of persons residing in private households in each country. If survey conditions in the country permit, this main population of persons living in private households is supplemented by persons living in collective households. If it is only possible to use private households, persons living in collective households who continue to have an association with a private household are included in the household.<sup>8</sup> Military conscripts (including persons who do community service) are generally excluded from the dissemination of the results, but are still generally included in the target population (at least when they are living in private households).

According to the definition of a private household in Eurostat's Explanatory Notes, 2011, there are two types of private households, one-person households and multi-person households. A one-person household consists of a person living alone in a separate housing unit or who occupies, as a lodger, a separate room in a housing unit but does not join with any of the other occupants. A multi-person household consists of a group of two or more people who combine to occupy the whole or part of a housing unit and who provide themselves with food and possibly other essentials for living. Members of the group may pool their incomes to a greater or lesser extent. These households also include persons absent for short periods (less than a year) due to studies, holidays, illness, business trips or similar. An institutional household consists of persons whose need for shelter and subsistence are provided by an institution.<sup>9</sup>

As previously noted, the principle scope of the survey consists of persons residing in private households. Data collection for collective/institutional households is therefore not compulsory, and some countries are unable to deliver these data. Thus, Eurostat does not have data for collective households for all countries. Since Eurostat emphasises comparability in particular, it has therefore chosen to only publish data on individuals who have been coded by the countries as residing in private households. Table 1 shows the types of households for which the different countries collect data and send to Eurostat. The table is commented on in more detail in Chapters 3.2.1 and 3.2.2.

Since boarding schools are included as collective households, the estimate of youth unemployment can be affected by whether the collective households are included in the target population or not, particularly since the presence of boarding schools differs in the investigated countries.

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<sup>8</sup>Council Regulation (EC) No 577/98

<sup>9</sup>European Commission, Eurostat (2010). EU labour force survey explanatory notes (to be applied from 2011 Q1 onwards).

According to the EU guidelines, persons living in collective households are not included in the main population (private households). However, some countries are unable to differentiate collective and private households. The number of unemployed and employed young people is thus overestimated if persons residing in collective households are included in the target population. However, it is more difficult to state what the impact is on the ratio estimates. Since the unemployment rate is based on both the employed and unemployed, the unemployment rate among young people in private households can be both higher and lower than the estimate based on what both private and collective households show. This assumes, however, that young people in private households and collective households have a different distribution of employed and unemployed.

**Table 1**  
**Type of households covered in the collection of data and published by Eurostat**

Country	Collected data by type of household		Published data by type of household	
	Only private	Private and collective	Only private	Private and collective*
Sweden		x		x
Denmark		x		x
Norway		x		x
Finland		x		x
United Kingdom		x**	x**	
Iceland		x	x	
Germany		x	x	
The Netherlands	x		x	
Austria	x		x	

\* Collective households excluding conscripts

\*\* For the United Kingdom, students at boarding schools for example are included through their parents' homes and nursing personnel in residences provided by hospitals are also included, but retirement homes, prisons, hostels and the like are not included.

Table 2 shows the number of people in the population based in part on the population register and in part on the LFS, as well as the relative difference between the data sources. A large part of the difference between these two can be due to the exclusion of collective households (including conscripts) in the LFS population in those countries that can differentiate between private and collective households. The table provides an indication of how large is the share of collective households for those countries that exclude collective households (see Table 1). However, conscripts are excluded in the LFS population in all cases. The table shows that there are relatively small differences between countries that include and exclude collective households respectively. The difference between the population statistics and the LFS population may also be due to other factors, for example, the population statistics do not specify an average for the year and instead provide the population as at 1 January 2011, or different definitions are used. Comments on the individual countries are found in Chapters 3.2.1 and 3.2.2.



**Table 2**  
**Number of people in the population aged 15–24 years according to the population register and the LFS respectively, and the relative difference between the data sources, 2011. Thousands and percent**

Country	Population 1 Jan 2011	LFS population, annual average	Relative difference, %
Sweden	1 250.6	1 247.8	-0.2
Denmark	693.9	688.2	-0.8
Finland	659.9	639.4	-3.1
Iceland*	42.4	40.9	-3.6
The Netherlands	2,041.5	2,010.3	-1.5
Norway	642.6	641.8	-0.1
United Kingdom	8,207.5	7,778.5	-5.2
Germany	9,136.4	9,027.6	-1.2
Austria	1,019.9	986.5	-3.3

\* For Iceland, refers to age group 16-24.

Sources: Eurostat, LFS and demo\_pjan (Demographics). Excerpts 2013-01-27

### 3.2.1 Sweden

The LFS in Sweden cannot differentiate between private and collective households. Sweden's target population is based on the Total Population Register, TPR. Thus, the target population is the registered population and not those residing in Sweden. However, this is a marginal problem in terms of comparability.

In Sweden, private as well as collective households are included because the survey is based on a sample of individuals that does not take into account the type of housing. However, all sample persons are coded as living in private households, which means that in its processing of data, Eurostat is unable to exclude the sample of persons living in collective households. Eurostat, however, is able to exclude conscripts, of which there are very few in Sweden. This is also shown in Table 2, where the difference between the population register and the LFS population is very small. Statistics Sweden finds that the inclusion of collective households has only a marginal impact on the comparability of the statistics.

In the Swedish LFS, all questions are asked of individuals aged 15–74.

### 3.2.2 Other countries

The other Nordic countries, except Iceland, include collective households in the target population. The combination of the fact that the survey in these countries (except Norway) is based on sample individuals and that no specific question is asked regarding the type of household in which the individuals live means that all sample individuals are coded as living in a private household. Eurostat processes the material and excludes individuals who are conscripts prior to publication. However, other types of collective households cannot be excluded. But none of these countries judge that this will have any significant impact on comparability.

The United Kingdom includes certain types of collective households. For example, people who attend boarding schools are included if they are linked to another private households (representing approximately 1.9 percent of all young people). Residential nurses accommodation provided to them by the hospital are also included. These are very few (about three

responding households per quarter) which means that they should not have any effect on the estimates. However, other private or collective households such as caravans, prisons, hotels or accommodation for exchange students are not included.

For other countries (see below), Eurostat publishes data only for private households, and the numbers of unemployed and employed young people are therefore not overestimated in these countries.

In Germany and Iceland, data are collected for both collective and private households, as in the other Nordic countries. However, collective and private households are coded differently; thus Eurostat is able to exclude institutions (including conscripts) in its processing of the material. In doing so, it is possible to see in the case of Germany if there is any difference when the entire population is included or just only private households. The impact on the level of unemployment is very small. The published unemployment rate in Germany for people aged 15–24 was 8.6 percent in 2011. If you measured unemployment for both private and collective households it would instead be 8.5 percent. The difference in the level of unemployment between the general population and households was thus very marginal.

In the Netherlands and Austria, institutional households are not included in the target population. Only a very small share of Austrian youth belong to institutional households (less than 1 percent of people aged 15–24 in the most recent measurement in 2009).

For all countries that measure only private households, the exclusion of collective households has in general a relatively small impact on the population size as a whole, as shown in Table 2. Since part of the difference consists of conscripts who are removed by Eurostat for those countries that do not remove them, the difference between the countries becomes even less.

The United Kingdom and Iceland exclude 15-year-olds. However, the United Kingdom's own assessment is that this should have a relatively small effect on the estimates because school age in the UK is up to 16 years, and these individuals are therefore likely to be outside the labour force. If 15-year-olds had been included, the number of employed would have increased slightly, while the share of employed would have decreased because labour force participation is low in this age group. The number of unemployed would have also increased, while the impact on the level of unemployment is more difficult to judge, as this also depends on the distribution of employed and unemployed in the labour force. Iceland's assessment is that the effects of excluding 15-year-olds lead to a slight underestimation of youth unemployment. Iceland has started collecting data for 15-year-olds as well, and statistics for the entire group (aged 15–24) will be published when it has a sufficiently long time series.

### **3.2.3 Conclusions**

Private households are the main population of the LFS. For those countries that include collective households, the overall assessment is that the inclusion of collective households should only have a marginal effect on the estimates of youth unemployment. This is also reinforced by data for Germany, which show that the unemployment rate is barely affected by the inclusion of collective households. As noted from the United Kingdom,

however, there may be some effects on subgroups, for example foreign-born, who perhaps live to a greater extent in certain types of collective households.

In addition, there might be some effects on the group of students, as not all people at boarding schools are linked to a private household. For those countries that cannot distinguish between households, such as the Nordic countries, the numbers for unemployed and employed are thus slightly higher than in other countries. However, the difference should be rather small since boarding schools are relatively rare in the Nordic countries.

If Sweden had excluded 15-year-olds, as Iceland and the United Kingdom do, and only looked at persons aged 16–24, the number of unemployed would have decreased from about 150 000 to about 145 000 in 2011. At the same time, the number of employed would have decreased from about 506 000 to about 499 000. This would have represented a youth unemployment of 22.5 percent for persons aged 16–24. That can be compared with 22.9 percent for the age group 15–24. Thus the relative unemployment rate would fall slightly, but since there are relatively few employed at age 15, the effect of excluding 15-year-olds is not so great. However, if the distribution of labour status among 15-year-olds is different in the countries where they are excluded, there may be a different effect there. The assessment from the United Kingdom and Iceland, however, is that the effect is small – a picture that is confirmed by the Swedish results.

### **3.3 Sampling frame**

The LFS in different countries is based on a random sample from a sampling frame, i.e. a register or its equivalent. As described in Chapter 2.4, the quality of the sampling frame is judged on how well it reflects the target population for the survey, and problems with this can lead to overcoverage of individuals who do not belong to the target population, for example if the deceased or emigrants are included. The opposite problem is undercoverage, i.e. if individuals belonging to the target population are not included, for example immigrant individuals who intend to reside in the country for more than one year.

Access to registers is different for different countries. A sample of individuals can only be made if there is a reliable register of individuals, which many countries lack. A sample of households, however, can be based on registers of individuals and registers of addresses or dwelling units. Commonly used frames are population registers or the latest census or the list of addresses used in the latest census. There are also countries that use postal databases. The design of sampling frames in turn affects the ability of countries to collect data for collective households as well.

**Table 3**  
**Sampling frame and sample units**

Country	Sampling frame	Sample unit
Sweden	Population register	Individuals
Denmark	Population register	Individuals
Finland	Population register	Individuals
Iceland	Population register	Individuals
The Netherlands	Postal addresses and population register	Households
Norway	Population register	Households
United Kingdom	Postal addresses, telephone numbers (northern Scotland), housing (Northern Ireland)	Postal addresses, telephone numbers and housing
Germany	The census from 1987 for the old West Germany, the population register of the old East Germany, supplemented by the register of new dwellings.	Clusters (sample districts) of dwellings, households and individuals
Austria	Population register	Dwellings and addresses

### 3.3.1 Sweden

Sweden's sampling frame, the Total Population Register (TPR), is generally considered to be good. The assessment of overcoverage and undercoverage is made in relation to Sweden's target population. Sweden's estimated overcoverage is about 0.3 percent and undercoverage is estimated at about 3 percent of persons aged 15–24.

The overcoverage is mainly due to the presence of individuals who have left Sweden without informing the authorities and therefore remain in the population register (TPR). These cannot be reached and are classified as non-response. The overcoverage is judged to have a marginal significance since so few people in the 15–24 age group are involved.

As regards undercoverage, most of these should belong to one of two groups. The first group consists of people who have not yet been registered when drawing the sample but are registered at the time of measurement. The reason is that the sample is drawn once a year, and the sample persons are interviewed eight times during a two-year period. During this time, no additional samples are drawn to update the sample with people who immigrated during that period. The second group consists of persons who are not registered at the time when the sample is drawn and the time of measurement, but who intend to stay in Sweden for more than one year. This may concern people without a residence permit, for example. Undercoverage is also judged to have an insignificant effect on the estimates because the group is small relative to the population. The majority of these people would have likely belonged to the category Not in the labour force if they had been included in the sampling frame.

It is important to emphasise that in preparing the estimates, the most current register of the total population is used in the compilation, and the total population is not affected by people who are registered in the interval between the time of sampling and time of measurement not being included

in the sample. Overall, the effect of overcoverage and undercoverage should have a marginal impact on the relative unemployment rate.

### **3.3.2 Other countries**

When the countries were questioned regarding limitations in the sampling frame and what effects they might have, the vast majority stated that they consider their sampling frames to have good quality. Austria, however, noted the same problems as Sweden, namely that the sample is drawn earlier and that people who intend to stay in the country for more than one year did not have a chance to be selected for the sample. However, this problem is considered to be marginal.

The United Kingdom which has the postal register as its the primary sampling frame, points out that there are some limitations involved with caravans, hostels and the like which are not captured. There are no registers of how many young people this involves, but the LFS in the United Kingdom makes the assessment that this limitation is likely to mainly affect foreign-born.

In Germany, the homeless or those living in caravans are not included in the frame. Germany also notes that its sampling frame for the old West Germany is the population and housing census that was conducted in 1987 (and the population register for East Germany, discontinued in 1991). Even though the frame is constantly updated with newly built properties, it cannot safely say whether the frame introduces a bias in the population structure in terms of age. However, it concludes that it is unlikely that these problems with the frame would have a significant impact on youth unemployment, especially regarding the unemployment rate.

### **3.3.3 Conclusions**

None of the countries in the study believe that the sampling frame would have an impact on the estimates of youth unemployment. However, there is a risk that the estimates for certain subgroups, such as foreign-born, could be affected.

## **3.4 Measurement error**

As described in Chapter 2.4, measurement error can be caused by the interviewer's questions or a misunderstanding of the respondent's answers.

To find out what measurement errors look like in a survey requires a measurement error study. This can be accomplished in a number of ways. Possible methods include, for example, register studies or re-interviews. These types of studies are relatively rare, as they are costly and Eurostat does not require their implementation. Thus, this is up to the individual countries. This subchapter presents findings from countries that have chosen to conduct such studies. However, since the studies are of a different nature and often quite old, conditions can have changed since the studies were made, which also renders their results less relevant.

### **3.4.1 Sweden**

The last measurement error study in Sweden was made in 1994. It showed that the effect of measurement error resulted in an underestimation of the number of employed by 3 000 persons or 0.6 percent. The number of unemployed was also underestimated; the effect of measurement error for

this group resulted in an underestimation of just over 3 000 persons or 2.2 percent. These figures refer to the whole population (aged 16–64), and no further analyses were made specifically for young people. At the time of writing, a new measurement error study has been carried out and the results will be published in 2013. Preliminary results from this study confirm the picture from the previous study that the measurement errors are small also for youth aged 15–24.

### **3.4.2 Other countries**

When enquiries were sent to countries regarding whether they had implemented any measurement error studies, it was found that a large proportion of countries had not done so.

Denmark writes that it conducted only some minor measurement error studies in connection with the introduction of a new system for weighting.

Norway writes that it has conducted studies on how measurement error affects the estimation of employment. It showed that the total effect of non-response, proxy interviews and other measurement errors was an underestimation of employment by about 4 percentage points<sup>10</sup>. No similar study has been made of how the number of unemployed is affected by these factors. Thus, no estimate can be made of the effect on the unemployment rate.

Iceland has made some small studies that have not been published. These show small effects of measurement error on employment and unemployment.

### **3.4.3 Conclusions**

The majority of countries have not carried out any measurement error studies and therefore cannot comment on the question of what possible effects measurement errors have on youth unemployment. The only countries that have published some studies on this topic are Norway, Denmark and Sweden. For the first two countries, no results of the effect of measurement error on the unemployment rate could be established; while the case of Sweden suggests that youth unemployment was slightly underestimated.

## **3.5 Proxy interviews**

In the Labour Force Survey, interviews are sometimes carried out as proxy interviews, that is, an adult family member responds for the sample person. This could have an effect on the levels, as the responding person might not have full information about whether the sample person had sought work in the last four weeks, or whether the person had worked at least one hour during the reference week or not. The share of interviews that are proxy interviews varies greatly between countries, and also between different age groups. In general, the share of proxy interviews is higher in the youth group than in the rest of the population.

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<sup>10</sup>Villund, Ole. (2010). Evaluating employment classification: A quality study linking survey data and register data. *Methods and documentation*. Statistics Norway, 15

**Table 4**  
**Share of proxy interviews in the 15–24 age group, 2011. Percent**

Country	Percentage of proxy interviews
Sweden	<3
Denmark	12
Finland	8
Iceland	4
The Netherlands	84
Norway	32
United Kingdom*	30–80
Germany	56
Austria*	40–70

\* The share of proxy interviews varies within the age group

Sources: NSI countries, own data collection

### 3.5.1 Sweden

Sweden conducts relatively few proxy interviews; in 2011 they were less than 3 percent. In other words, the risk of biases in the estimates due to proxy interviews is almost non-existent.

### 3.5.2 Other countries

All the countries in the study had a higher proportion of proxy interviews among young people than Sweden. However, Iceland also had few proxy interviews, 4 percent of the interviews of persons aged 15–24 were proxy interviews.

Other Nordic countries had higher proportions of proxy interviews. In Norway, proxy interviews were 32 percent in the age group. In Finland, 8 percent of youth interviews were proxy interviews, whereas in Denmark the figure was 12 percent. None of the Nordic countries considered that proxy interviews would affect the estimates.

There was a significantly higher share of proxy interviews in other countries that did not make use of an individual sample, but instead used the household sample or a sample of postal addresses or dwellings. In Austria, 70 percent of all interviews among young people aged 15–19 were proxy interviews, while the corresponding figure was 43 percent for persons aged 20–24. However, they have no idea whether the proxy interviews risk leading to an overestimation or underestimation of unemployment. In Germany, 56 percent of interviews of young people were proxy interviews. Similarly, Germany has seen no signs that this could affect the estimates of employed or unemployed, but at the same time it finds that the possibilities for detailed analysis are limited based on the LFS data. In the Netherlands, 84 percent of the interviews of youth are proxy interviews. The Netherlands writes that unemployment is lower for proxy interviews than for other interviews. In the United Kingdom, between 70–80 percent of interviews among youth aged 16–17 were proxy interviews and among 18–19 year-olds proxy interviews were 50–60 percent. For people over 20, the share of proxy interviews was 30–35 percent. The United Kingdom believes that the high proportion of proxy interviews can have an impact. A 1997 study on the differences between direct and proxy interviews showed that 93 percent of the proxy interviews gave the same answer as in a direct interview

with respect to an individual's employment status<sup>11</sup>. The net difference between the methods was 1 percentage point of the unemployment rate.

### 3.5.3 Conclusions

The proportion of proxy interviews varies widely between countries, and the difference in level coincides largely with whether a country uses a survey of households or a survey of individuals. There are only a few countries that state that proxy interviews have an impact on unemployment or employment. The Netherlands believes that there are slightly fewer unemployed among the proxy interviews compared with the direct interviews. However, it is unclear whether this is due to the proxy respondent in practice has different labour market conditions, or whether it depends on the interview being carried out as a proxy interview. The United Kingdom has found in its studies that employment and unemployment are marginally underestimated. Norwegian studies also show a certain underestimation of employment. Based on available studies on the subject, the conclusion ought to be that a high proportion of proxy interviews could lead to a greater failure in capturing persons employed in smaller jobs or temporary jobs as well as those seeking jobs compared with direct interviews. However, there is no evidence that proxy interviews would cause significant biases<sup>12</sup>.

## 3.6 Non-response and estimation

Since the LFS is a sample survey, non-response is one of the factors that may affect comparability of results. Non-response here refers to the collection of no data at all for a sample person. Partial non-response, i.e. missing data for only certain query variables, is not addressed here since it is not allowed for key variables, such as employment status.

Non-response in a survey is problematic. A high non-response leads to increased uncertainty in the estimates. However, the uncertainty figures provide information for this and they do not affect comparability. Instead, it is more important if the distribution between the unemployed and employed differs between the non-response and the respondents, as this could lead to bias in the estimates. If there are such biases in the non-response, comparability can be affected. The surveyed countries have had the opportunity to assess how estimates are affected by any biases in the non-response.

Table 5 presents the share of non-response. It should be noted that the levels of non-response are not entirely comparable since non-response calculations are made in different ways. The Nordic countries calculate their non-response at the individual level, while other countries make use of the household unit.

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<sup>11</sup> Dawe, Fiona & Knight, Ian (1997). Section 11- Reports on proxy response study based on LFS questions. In Volume 1: LFS Background and Methodology. *Labour Force Survey User Guide*. Office for National Accounts.

<sup>12</sup> Eurostat (2009) Task force on the quality of the Labour Force Survey: Final report. *Methodologies and Working papers*. Luxembourg: Publications Office of the European Union, 39 ff.



**Table 5**  
**Share of non-response among persons aged 15–24, 2011. Percent**

Country	Ages 15–24
Sweden	28.6
Denmark	40.3
Finland	26.4
Iceland	13.6
The Netherlands*	55–60
Norway**	16.8
United Kingdom***	52.2
Germany****	<5
Austria*****	..

\* Own calculation with Swedish method for calculating non-response. The figure refers to the population aged 15–74.

\*\* Fourth quarter.

\*\*\* First Quarter.

\*\*\*\* Germany cannot produce non-response broken down by age group; for ages 15–74 non-response is 2.1 percent.

\*\*\*\*\* Austria cannot produce non-response broken down by age group; 7.3 percent of households in Austria's are non-response.

### 3.6.1 Sweden

In Sweden, non-response was 28.6 percent among young people aged 15–24.

The most recent non-response study in Sweden was made in 1992. The study showed that the non-response effect on the number of employed was up to 1 percent overestimation, while for the unemployed it was up to 3 percent underestimation. This applied to ages 16–64 and no assessments were made specifically for the youth group. A number of changes have occurred since the non-response study, including a significant increase in non-response. Thus there are indications that there may have been changes since the study was done.

Assuming that the results from the 1992 study still hold and that the same effect applies to the youth group as well as to the entire population, this would imply an underestimation of the unemployment rate in the 15–24 age group in the range of 0.5 to 1 percentage point. For subgroups with larger non-response, such as foreign-born persons, the underestimation could be larger.

### 3.6.2 Other countries

The Netherlands, United Kingdom and Denmark had high non-response figures in the youth group. The Netherlands showed that they also had a higher non-response rate among the foreign-born. To avoid an excessive random error in the reporting for youth, the Netherlands has chosen to draw a relatively larger proportion of youth in their sample. However, they do not state what effects the non-response could have on the estimates. A study was made in the United Kingdom on the effects of non-response in 2001<sup>13</sup>. The study showed that no bias occurred in the estimates as a result

<sup>13</sup> Office for National Accounts (2001) Section 9: Non-response. In Volume 1: LFS Background and Methodology. *Labour Force Survey User Guide*. 2007. Office for National Accounts. 42 ff.

of the high non-response, but at the same time it was noted that the youth group had significantly higher non-response than the rest of the population. However, the conclusion is that any biases would have little impact on the youth group because the individual age groups are weighted up. Denmark had high non-response levels for youth, partly because people have the opportunity to register in the population register that they do not want to participate in surveys. However, Denmark cannot state what the effects of the non-response have on the status distribution within the group, but believes that the impact of non-response on the estimates is reduced through the use of auxiliary information.

Finland had a non-response on par with Sweden, 26.4 percent. Just like Denmark, they find that the use of auxiliary information such as register data of job seekers enables correction of any bias caused by the non-response.

Iceland and Norway had a slightly lower non-response than the other Nordic countries. Iceland informs that non-response was 13.6 percent and states that it was higher among foreign-born persons than others, which means that the latter are under-represented (non-response was 46 percent among foreign-born aged 15–74). The LFS in Iceland says that they have no assessment of what effect this might have on the estimates of youth unemployment. For Norway, the non-response for youth was 16.8 percent. They find that this leads to an overestimation of employment and that unemployment is likely to be slightly underestimated.

Germany has relatively low non-response rates for the entire population, which means that they do not believe that unemployment among young people is affected by non-response. Austria also has low non-response levels; however, they cannot make any statements about any biases. Both countries measure non-response at the household level and thus cannot break down the non-response into different age groups. However, Germany does not find that there is any reason to believe that it would be higher for young people. Austria is implementing a project to review the effects of non-response and the results will be presented in 2013.

### **3.6.3 Conclusions**

Most of the countries that were contacted could not comment on the effects of non-response on youth unemployment. Those who conducted studies state that the problem of any biases due to non-response is small, but that unemployment may be slightly underestimated. Norwegian and Swedish studies also show that employment is slightly overestimated. Nonetheless, the conclusion is that these are marginal effects. At the same time, it should be kept in mind that the higher the non-response, the greater the risk of bias.

## **3.7 Reference weeks**

Since 2005, all countries have had continuous measurement weeks, that is, all weeks of the year are surveyed. However, the countries differ in that some countries have chosen to link respondents to specific reference weeks, while in other countries the respondents are instead allowed to answer questions from the week before the interview. The consequence of the latter procedure can be that poorer estimates are obtained for months that contain weeks when it is difficult to reach the sample individuals. Youth unem-

ployment can vary for certain periods when holidays and breaks can affect people in education, which could have an effect on the estimates. For yearly estimates, however, this difference should not affect the comparability of unemployment to a great extent. On the other hand, other variables such as persons in employment and hours worked could be more affected.

### **3.7.1 Sweden**

In Sweden, the respondents are evenly distributed across all weeks of the year and they are also linked to a specific reference week.

### **3.7.2 Other countries**

In all countries except Germany and the Netherlands, the respondents are linked to a specific reference week. There the questions are instead asked about the week before the interview. However, Germany believes that this has no effect on unemployment levels, but it could affect measurements that have distinct variations over the years, such as hours worked. The Netherlands has not commented on the issue.

### **3.7.3 Conclusions**

The respondent's link to a specific reference week is different in some cases between the countries. However, communication with the various statistical agencies has not revealed any indications that this would affect comparability. The link to reference weeks is not considered to have any significant impact on the classification of labour force status.

## **3.8 Monthly and quarterly estimates**

All the reviews in Chapter 3 concern deficiencies in comparability or quality in the annual data. The same conditions apply to quarterly data as well. However, there is a risk in monthly data for other deficiencies in comparability than those previously mentioned. Eurostat has been responsible for the production of monthly estimates with varying participation from the countries. A common way to produce these figures has been to make use of quarterly data in combination with the register-based unemployment from each country (where available).

According to Eurostat, the countries can be divided into three categories according to the type of monthly indicators delivered to Eurostat. In the first category, only figures on registered unemployment (i.e. not LFS data) are transmitted to Eurostat, which in turn produces monthly non-seasonally adjusted data as well as seasonally adjusted data and trend estimates according to the ILO definition by making use of register data as an indicator for temporal disaggregation of the quarterly LFS. The second category consists of countries that produce the non-seasonally adjusted data, but let Eurostat produce the seasonally adjusted and trend data. Countries in the third category carry out all the production themselves and deliver original data, seasonally adjusted and trend estimates to Eurostat. However, these data can have been produced in different ways.

The share of countries that produce their own unemployment figures each month based on ILO definitions is increasing. The use of quarterly LFS data as a benchmark ensures a conceptual consistency between the countries. However, since there are no specific guidelines for monthly data, the countries may vary in the methods used. Within the framework of statis-

tical cooperation, work is underway for more countries to transition to their own production of monthly data and to ensure that these data will be harmonised to the same extent as the quarterly production.<sup>14</sup>

**Table 6**  
**Type of data in the monthly publication, 2011**

	LFS estimates	LFS, moving average	Administrative data+LFS
Sweden	x		
Finland	x		
Iceland	x		
Austria	x		
The Netherlands	x		
Germany	x		
Norway		x	
United Kingdom		x	
Denmark			x

### 3.8.1 Sweden

Sweden produces its own monthly data according to the same principles as the quarterly or annual estimates. The starting point for the estimation process in the Swedish LFS is to estimate totals and ratios for a given month. Estimates for the quarter and year are then based on the constituent months of the relevant period.

### 3.8.2 Other countries

Finland, Iceland, Austria and the Netherlands produce their own monthly data based on LFS data in the same way as Sweden. For Austria, however, the most recent month as published by Eurostat is based on fewer observations than previous months.

Germany proceeds in the same way in the production of non-seasonally adjusted data, but Eurostat produces seasonally adjusted data and trend series.

The United Kingdom delivers non-seasonally adjusted data, seasonally adjusted data and trend estimates. However, these are not consistent with the quarterly data. Therefore, Eurostat processes the material so that it is in line with the quarterly estimates. The United Kingdom figures are based on a three-month rolling average. Norway also delivers its own monthly data, but in its case the data are based on a three-month moving average.

Eurostat produces monthly data for Denmark. The monthly estimates consist of forecasts based on the last quarter's data, where Eurostat then uses administrative data in the form of registered unemployment as auxiliary information.

Eurostat publishes a press release each month that uses seasonally adjusted figures for all countries except Germany, Finland and Austria, where trend estimates are used instead. This is in line with what the countries publish nationally. This may affect the comparability of the monthly changes since seasonally adjusted series might be more volatile than trend series.

<sup>14</sup> Eurostat/F3/LAMAS/48/12, Monthly unemployment.

### **3.8.3 Conclusions**

For monthly estimates, the fact that quarterly data are used as a benchmark ensures a good degree of cross-country comparability. Comparability between Sweden, Iceland, Germany, the Netherlands, Finland and Austria is as good as for the quarterly and annual data because the same methods are used. The fact that Austria does not base the most recent published month on as many observations results in a higher sampling error, but should not lead to a lack of comparability. However, some comparability deficiencies can occur compared with those countries that use other methods to make monthly estimates compared with the quarterly or annual estimates. But these deficiencies in comparability should primarily affect the changes between months rather than the level of youth unemployment.



## 4 Labour market programmes

Within the LFS, participants in certain labour market programmes are classified as employed. Since Eurostat definitions regarding how labour market programmes should be classified are open to interpretation in some respects, this chapter uses instead the interpretation that Sweden has made as the benchmark for comparisons.

This chapter discusses the principles used by the countries in classifying individuals in labour market programmes and the consequences for the comparability of employment and unemployment. In addition, there is a presentation of the scale of labour market programmes in each country.

According to the Swedish principle, a respondent who participates in a labour market programme is classified as employed only if they participate in the production of goods and services at the workplace. A further requirement is that the participant also receives a wage or salary from the company where they work. This condition is also met if the company does not pay the full cost of wages, but receives some form of financial support from the government. Start-up grants for starting a business is the only programme where the individual receives the activity support, but is still considered employed.

Other labour market programmes are classified as studies in the LFS, but not as regular education. The respondent is required to actively participate in the activity at the Swedish Public Employment Service; it is not sufficient just to be enrolled. In these cases, participants do not receive any wage from the "employer"; instead, their income consists of activity support from the Swedish Social Insurance Agency<sup>15</sup>. Whether these people are classified as unemployed or not depends on whether they have sought work and can take work in exactly the same way as for other unemployed persons. In other words, participation in a labour market programme does not automatically mean that a respondent is classified as unemployed.

To find out how participation in labour market policy interventions affect employment and unemployment in each country, the countries were asked to specify the principle used in the classification of individuals in labour market programmes. In addition, some countries have responded regarding how the various interventions are classified in their respective LFSs.

In this chapter, the Eurostat Labour Market Policy Database (LMP database) is used to present the number of participants in different types of programmes. This database includes all the countries in the study except Iceland. The presentation is based on three main groups of labour market interventions: Services, Measures and Supports, which in turn are divided into nine categories. This chapter will mainly concern the main Measures group, or categories 2–7, as these are active labour market interventions that can affect the classification in the labour force surveys. However, a more general review will be made of the main group Services, or category

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<sup>15</sup>LFS interview instructions.

1, which refers to services for job seekers, for example coaching, preparation of action plans, etc. The third main group, Supports, such as early retirement or similar, will not be reviewed.

Because the database is updated slightly more than two years after the end of the reference year, the data from 2010 (2009 for the United Kingdom) are used in this chapter. When these data are related to LFS data, the same reference year is used. Programmes implemented by government agencies as well as programmes implemented by regional or local authorities and social security funds are presented in the database. Data are typically supplied to the database by government ministries and agencies in the various countries; in the case of Sweden, however, they are supplied by the Swedish Public Employment Service.

The LMP database reports the average number of persons who participate in an activity at any given time during the year. The number is usually based on administrative data that refer to the average at the end of each month<sup>16</sup>. The data for quantities or percentages presented in this chapter refer to the average for the whole year. The database divides the individuals in two age categories, under age 25 and age 25 and older. In comparisons with the population, the population is limited to the age group 15–24. However, this difference between boundaries should have negligible effects on the comparisons that are made, since there are likely to be very few people under age 15 who participate in labour market interventions.

Table 7 indicates the share of the population who were in the respective labour market interventions in 2010 and the total number in the table refers to the sum of the active labour market measures (categories 2–7)<sup>17</sup>.

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<sup>16</sup> According to the Eurostat methodology description of databases *Labour market policy database – Methodology (2006)*.

<sup>17</sup> According to Eurostat's reporting of data from the LMP database for 2009 (*Labour market policy – expenditure and participants 2009*) the following clarifications were made regarding the data: In Germany, the federal states (Bundesländer) are responsible for certain measures which are subsidised by the ESF (European Social Fund). Eurostat's reporting of the data shows that these measures could not be reported in recent years due to the lack of expenditures and number of participants for the activities that were carried out independently by the states. In 2006, these measures (categories 2-7) represented nearly 30 percent of the participants. This could cause the share of employment involved in the labour market programmes to be underestimated. The United Kingdom notes that there are uncertainties in the division between various categories of labour market measures and that these are based on structures from 2006.



**Table 7**  
**Percentage of the population aged 15–24 who participated in a labour market intervention, 2010. Percent**

No.	Category	DE	AT	FI	DK	NO	SE	NL	UK*
1	Labour market services	0.6	1.2	0.0	0.0	0.1	3.4	1.1	1.6
2	Training	5.2	5.6	2.0	1.9	0.6	0.2	0.1	0.1
3	Job rotation and job sharing	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
4	Employment incentives	0.5	0.3	0.3	0.7	0.7	0.9	0.1	0.0
5	Supported employment and rehabilitation	0.2	0.3	0.4	0.3	0.4	0.2	0.7	0.0
6	Direct job creation	0.4	0.2	0.3	0.0	0.1	0.0	0.0	0.1
7	Start-up incentives	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	Total 2–7	6.5	6.4	3.2	2.9	1.8	1.3	0.9	0.3

\* For the UK, data from 2009.

Source: Eurostat (LMP database and LFS), own processing.

#### 4.1 Active labour market measures

The following active labour market measures are included in the following categories in the LMP database (Categories 2–7):

- Training
- Job rotation and job sharing
- Employment incentives
- Supported employment and rehabilitation
- Direct job creation
- Start-up incentives

Both the scale and focus of active labour market interventions vary widely from country to country. The different categories consist of various programmes in the countries, but they are of a similar type. For deficiencies to arise in the comparability of the LFS attributable to labour market programmes would require that the countries have chosen different principles to classify people who participate in the same type of measure that is organised in a similar way. That is, the participants in measures with the same content-related activity and with the same type of financial compensation would be classified differently because the countries have different principles for classifying labour force status.

However, no deficiencies in comparability arise if programmes that are similar purely in terms of content are nonetheless organised differently. This can cause participants to be classified with different labour force status, even though the countries have the same principles for classification, because the participants in one country receive a wage while in the other country they receive no wage, but receive other forms of financial compensation. However, it is important to note that even if there is no deficiency in comparability in the LFS, it may partly explain the differences in the level of both the number and the percentage of the employed and unemployed. It should also be noted that the scope of the labour market programmes in which participants are classified as employed in the LFS can affect the levels.

In order to assess how the organisation of the active labour market measures affect employment, Statistics Sweden has conducted a review of the measures in each country based on the quality reports that the countries have submitted to Eurostat<sup>18</sup>. The starting point has been the Swedish principle that the participant has performed some work and as such received a wage from the employer. The results are presented in Table 8<sup>19</sup>. The table presents the participants in those measures that have been judged to be based on employment and the results are presented as a percentage of total employment. A more detailed discussion of the table is in Chapters 4.1.1 and 4.1.2.

**Table 8**  
**Share of employed persons aged 15–24 who were classified as employed through their participation in a labour market measure, 2010. Percent**

Category	DE	AT	FI	SE	NL	DK	NO	UK*
Training	4.2	2.2	0.7	0.0	0.0	0.0	0.0	0.0
Job rotation and job sharing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment incentives	0.5	0.4	0.7	0.6	0.1	0.4	0.2	0.0
Supported employment and rehabilitation	0.0	0.6	0.1	0.2	0.7	0.2	0.1	0.0
Direct job creation programmes	0.9	0.3	0.7	0.0	0.0	0.0	0.0	0.2
Start-up incentives	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total	5.8	3.6	2.3	0.9	0.8	0.7	0.3	0.2

\* For the UK, data from 2009.

Source: Eurostat (LMP database and LFS), own processing.

#### 4.1.1 Sweden

As described previously, Sweden's principle is that participants in labour market programmes who perform work for which the employer pays wages are classified as employed. However, participation in a labour market programme does not lead to automatic classification as unemployed.

In Sweden, 1.3 percent of the population aged 15–24 participate in some form of active labour market intervention according to Table 7. Over a quarter of these were classified as employed in the Swedish LFS. This means that 0.9 percent of employed young people were employed through their participation in a labour market programme according to Table 8. Wage subsidies (category Employment incentives) was the predominant

<sup>18</sup> Eurostat Labour market policy statistics, Qualitative report 2010, for each country. The reports are available on the Eurostat website.

<sup>19</sup>The purpose of the Eurostat LMP database is to provide a comparable picture of labour market measures/programmes between countries. However, based on the data presented in Table 8, it is important to point out some of the difficulties in doing this kind of quantification which is based on data in the LMP database and associated documentation. Many of the labour market measures are aimed not only at the unemployed but also people who are already employed or outside the labour force. For example, there is a significant measure of this type in the category education/training in Germany. The table contains all activities considered to fully affect the share of employed. Some measures may include different phases where compensation can come from various sources, from employers or benefits. However, the assessment based on the documentation is that this is not a significant factor in any of the countries. Nonetheless, the data in Table 8 give an indication of the impact of labour market programmes on employment among individuals aged 15–24.

measure whereby a person was classified as employed because of their participation. In addition, other measures including Special recruitment incentive, Security Employment and Entry recruitment incentive were other interventions that led to the participants being classified as employed.

Sweden lacks one measure in the LMP database, New-start job. According to the Swedish Public Employment Service, 7 000 people participated in this measure at some time during 2010. This measure extends to a maximum of one year for young people, and these people are classified in the Swedish LFS as employed. This measure had probably counted as either a Direct job creation programme, a group in which Sweden otherwise did not report any measure in 2010, or as Employment incentives. If everyone in this measure had been classified as employed in the LFS, it would have corresponded to 1.5 percent of the total number of employed young people. If new-start jobs had been included in the database, the share of employed persons classified as employed because of their participation in labour market programmes would have totalled 2.4 percent in the table above.

#### **4.1.2 Other countries**

When asked what principle was used in the classification of participants in labour market programmes, all the Nordic countries and Austria have responded that they used a principle that is very similar to the one in Sweden. In the Nordic countries, the prevailing principle for classification as employed is work for wages from the employer. For Austria, the corresponding principle for being classified as employed is instead formulated that the person has social insurance coverage through the workplace.

In Germany and the Netherlands, the principle that payment must come from an employer is not formulated as clearly. The sample person is asked if he or she has performed paid work during the reference week. If the person answers yes, he or she becomes classified as employed. No further questions are asked about whether the person participated in any programme, and if the money comes from employers or directly from the government. Thus, the classification concerns how the sample person interprets paid work. If it does not matter where the payment comes from, more people will be classified as employed because payment can then also come from social insurance, for example. In Statistics Sweden's assessment, the effects of a change in the classification principle in these countries is negligible for the share of employed and thus also for the rate of unemployment. Given that all individuals who perform work but are not paid by the employer are now classified as employed in Germany and the Netherlands, Statistics Sweden estimates that their level of employment is 0.3 percentage points higher (in both countries) than what it would have been had the Swedish principle of classification been used instead. However, it is likely that the difference is even smaller since all the sample persons probably have not answered that they have performed paid work. The fact that these countries proceed differently to some extent than other countries should not have any noticeable impact on unemployment.

In the United Kingdom, the classification of persons in labour market measures is based on what the sample person does in the programme. People who work for an employer, are temporarily absent from a job or

participate in a project that provides work experience are classified as employed. People who started their own businesses and receive support are also classified as employed. However, the classification of persons who participate in measures is currently being reviewed in the United Kingdom in order to improve harmonisation. It should be noted in this context that the United Kingdom was the country with the lowest percentage of the population in some form of labour market intervention, which means that this is unlikely to affect the estimates to any significant extent.

No country has stated that participation in a labour market programme by itself would qualify someone to be classified as unemployed.

Table 8 shows the proportion of the employed who were employed in a labour market measure, with Austria and Germany appearing at the top. In these countries, the share of employment through participation in a programme was 3.6 and 5.8 percent, respectively. Among the other countries, only Finland, with its 2.3 percent had more than 1 percent of those employed as employed because of their participation in a labour market measure. It is worth emphasising that the people in these measures, in addition to being unemployed, may also have been recruited from other employment or had been outside the labour force. Thus it is not possible to say how great the impact they would have had on employment and unemployment if these countries had less extensive programmes of this type. The scope of labour market programmes does not affect the comparability of labour statistics, but it can, however, contribute to an explanation of the levels of employment and unemployment.

### 4.1.3 Conclusions

The basic principle of how the LFS classifies people in labour market programmes is similar across countries. However, there is no explicit requirement that programme participants must receive compensation in order to be classified as employed in the United Kingdom. The extent that other countries proceed to find out the source of payment varies. However, the fact that the approach differs somewhat between the countries appears to have only a marginal impact on the distribution of labour force status. The conclusion is that there is no support for the claim that the handling of labour market measures in the LFS leads to deficiencies in comparability.

The scope of labour market measures has not been shown to contribute to an explanation that levels of employment and unemployment differ between countries to any great extent. Only in Germany and Austria have labour market measures had a certain impact on employment.

## 4.2 Labour market services

Labour market services include measures such as counselling, vocational and educational guidance and job coaching. People who are enrolled in these types of activities are not classified as employed, because they do not perform any work at a workplace and therefore are not involved in the production of goods and services. Thus, comparability cannot be affected by this type of labour market programme.

### 4.2.1 Sweden

Sweden invests in activities in the category Services for job seekers to a greater extent than other countries, which also makes the investments large

in relation to other measures. About 3.4 percent of the population aged 15–24 participated on average in this type of measure in 2010. The majority of participants belonged to the Youth job programme, but there were also participants from the Job and development programme. Young people who have received or have a job respectively have the right to remain in the Youth job programme. This means that a certain percentage of those who are enrolled in the Services category should be classified as employed in the LFS, but not because they are enrolled in the programme. There is no information regarding how many people this involves.

#### **4.2.2 Other countries**

Norway, Denmark and Finland make significantly smaller investments than Sweden in Services to job seekers. Denmark reported no participants at all in this type of activity. For Norway, this involved 0.1 percent of the population, and even fewer were involved in Finland.

Other countries in the study also had a lower proportion of participants in this type of programme than Sweden – between 0.6 and 1.6 percent of the population participated in these types of activities in the countries.

#### **4.2.3 Conclusions**

Sweden stands out in terms of investment in Services to job seekers. A significantly larger proportion of the population participated in this type of activity than in any other country in the study. However, as noted above, this had no impact on comparability in the LFS.



## 5 Education and training

This chapter describes the countries' education systems and their structures. The parts of the education system that will be treated are the apprenticeship system, the school term and funding system and the length of compulsory schooling. Lastly, the chapter presents the percentage of people in regular education according to the LFS in order to show how the countries differ in this respect.

As will be seen in this chapter, factors related to the education system can only affect the comparability of statistics if two countries classify apprentices with pay differently and thereby classify them into different labour force statuses. Factors that do not affect comparability but nevertheless may serve as an explanation for differences in the youth labour market situation are also discussed.

### 5.1 Apprentices

According to Eurostat's recommendation, "People in vocational training (apprenticeship or internship) are considered as employed if they receive a wage. Unpaid apprentices and trainees must not, however, be regarded as employed."<sup>20</sup> This means that an apprentice labour force status in the LFS is determined by whether the person receives a wage from the employer or not, and not by the work duties performed. Therefore, it is important to compare how countries apprenticeship systems are designed and if they are treated the same way in the respective LFSs.

It is also important to look at whether countries differ in terms of pay to apprentices, as well as the extent of apprentice training. Although these factors do not affect comparability, they can explain why the levels of youth unemployment differ.

Table 9 summarises how each country relates to Eurostat's recommendation that apprentices with a salary are to be classified as employed in the LFS. The table also shows whether apprentices receive a wage or not, as well as the extent of apprenticeship training in the countries. Since there are no combined and consistent statistics on the number of apprentices and because the concept of apprenticeship lacks a uniform definition for all countries, the statistical agencies have been contacted to obtain information on the number of apprentices aged 15–24 at the upper secondary school

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<sup>20</sup> European Commission, Eurostat (2010). EU labour force survey explanatory notes (to be applied from 2011 Q1 onwards). 22 f.

level and in total.<sup>21</sup> Table 9 presents the share of apprentices in upper secondary education among the total of upper secondary students as well as the share of apprentices of all students. Note that these numbers are independent of whether the apprentices receive a wage or not. To answer the question regarding the size of the share of students who are classified as employed in the LFS due to their participation in studies, the last three columns of the table must be taken into account.

**Table 9**  
**Classification of employed apprentices in the LFS, employment contracts for apprentices, and the share of upper secondary school apprentices of all students, aged 15–24, 2010. Percent**

	Apprentices with wage, classified as employed in LFS	Apprentices are employees and receive a wage	Percentage of upper secondary school students with apprenticeship training (%)	Percentage of the total number of students who were apprentices (%)
Denmark	Yes	Yes	40.5	20.6
Finland	Yes	Yes	3.4	1.9
Iceland	Yes	Yes	n	8.2
The Netherlands	Yes	Partially	29.7	14.1
Norway	Yes	Yes	14.4	8.3
Sweden	Yes	Optional for employer	0.9	0.5
United Kingdom	Yes	Yes	10.9	6.6
Germany	Yes	Yes	44.3	24.8
Austria	Yes	Yes	39.9	23.1

Source: NSI countries, own data collection

To gain an idea of how much the apprentices affect employment in each country, Table 10 presents the percentage of employed young people who were employed because they were apprentices.

<sup>21</sup>Since these figures have been specially developed and are not part of the countries' official statistics, they should only be used as a benchmark for the share of apprentices. The starting point for the countries has been the documentation that was used for the OECD report *Education at a Glance 2012* (see Appendix 4), i.e. a table on the students in vocational education with more than 25 percent of the study time located at the workplace. The documentation for this has been further qualified and divided into age categories. We then compared the collected figures with the estimate of the number of apprentices in the table. The two sources give a relatively consistent picture of the share of apprentices in the countries. A number of assumptions were made for the Netherlands. These included that the training time for BOL students is considered as a unit and not spread out over all the weeks of the year. Apprentices in these reported figures consist of all BBL students and 30 percent of BOL students. For more information, see Chapter 5.1.2.



**Table 10**  
**Percentage of employed students and of total employees aged 15–24, who were classified as employed because they were apprentices, 2011 \*. Percent**

	DE	AT	DK	NL	IS	NO	UK	FI	SE**
Share of apprentices of employed students	68.5	56.0	36.4	22.7	17.7	18.9	24.7	7.2	-
Share of apprentices of total employed	34.7	24.1	23.9	15.5	10.4	9.7	7.6	3.5	-

\* For practical reasons, the apprentice percentages in Table 9 have been applied to the LFS figures from 2011

\*\* Since most apprentices in Sweden do not receive a wage and therefore are not classified as employed, no percentage is listed here for Sweden.

Sources: NSI countries and Eurostat (LFS), own processing

### 5.1.1 Sweden

The LFS classifies an apprentice who receives a wage from the employer as employed. This means that Sweden complies with the Eurostat recommendations. Hence, apprentices who through the educational programme are offered a position with a wage in the company where apprenticeships are located should be considered as employed. However, only a very small percentage of Swedish apprentices receive a wage.

Sweden has primarily school-based vocational education with a limited amount of workplace-based training rather than apprenticeships. This vocational training is not dependent on the existence of an employment relationship between the student and the workplace, which means that students are not classified as employed by participating in this form of education.

In 2008, there was a trial introduction of upper secondary school apprenticeship training. When upper secondary school education was reorganised in 2011, apprenticeship training was made permanent. The upper secondary apprenticeship training is an alternative course of study in the vocational programmes, where students perform at least one-half of their training at one or more workplaces. The training leads to the same vocational degree as a school-based vocational programme and is as long as the mainly school-based vocational course, i.e. three years.

In the trial introduction, the employer could offer employment to the apprentice, but it was quite unusual for this to take place<sup>22</sup>. In the permanent apprenticeship training, it is also possible to employ an apprentice through a so-called general fixed-term employment or through a collectively negotiated form of employment. The Government of Sweden is currently preparing a proposal for a new form of employment for upper secondary school apprentices. In 2010, there were about 4 100 students<sup>23</sup> who were enrolled in upper secondary school apprenticeship training. As a percentage of young students aged 15–24 years, this represented 0.5 per cent.

<sup>22</sup>Some apprentices received an apprentice wage during the pilot programme, about 16 percent of men and 8 percent of women.

<sup>23</sup> Register of students in post-secondary education.

Apprenticeships are also available at the post-secondary level. These courses vary in length, but are usually between one to two years. As with apprenticeships at the upper secondary level, apprenticeships at the post-secondary level are only a small part of the vocational training.

### **5.1.2 Other countries**

Representatives from all the countries have stated that they classify apprentices who receive a wage as employed. These are classified in the same way as all other respondents who answer that they worked for payment during the reference week, which thus complies with the Eurostat recommendations.

In all countries except the Netherlands, it is mandatory for employers to offer apprentices employment that also includes a wage for the participants. In the case of the Netherlands, there are two types of apprenticeship programmes – BBL and BOL. The majority of the training time for BBL students is based at the workplace, where they are employed by the company where the training takes place and thus receive a wage. BBL students represent about one-third of the total number of apprentices in the Netherlands. However, for companies that offer training positions for BOL students, it is not mandatory to employ or pay a wage to the apprentice, although the possibility exists. In addition, only 20–40 percent of the training time is based at the workplace. This means that only a portion of the students in BOL are classified as employed in the LFS.

In Norway, the first two years of vocational education usually consist of basic education. Thereafter, the workplace-based training begins, which often lasts for two years. Thus, this is when training becomes an apprenticeship.

However, there is a great difference between the countries regarding the scope of apprenticeship programmes, as shown in Table 9. In Germany, Denmark and Austria, a high percentage of upper-secondary school students were apprentices (44.3, 40.5 and 39.9 percent respectively). For other countries, the share in 2010 was between 3.4 and 29.7 percent. If the total number of students who were apprentices (regardless of education level) is studied instead, then the same three countries, Germany, Denmark and Austria, had the largest share of apprentices (24.8, 20.6 and 23.1 percent respectively). For other countries, the share was between 1.9 and 14.1 percent.

### **5.1.3 Conclusions**

Since all the countries in the study have responded that they classify apprentices who receive a wage in the same way, the comparability of the statistics is not affected.

However, the presence of apprentices and differences regarding whether they receive a wage or not explain in part the difference in unemployment levels for young people between countries. Take the following example: In one country, apprentices are offered, as part of their training, employment with the company where the apprenticeships are located. In another country, the corresponding apprentice is not offered employment. The apprentice in the first country will be classified as employed because of their participation in the apprenticeship programme, while the other

apprentice will not. Whether an apprentice receives a wage from the employer or not thus determines the labour status in which the individual should be classified.

In all countries except Sweden, and to some extent in the Netherlands, the practice is that apprentices are employed at the company where they receive their training. The apprentices in these countries are classified as employed through their participation. This contributes to keeping the unemployment rate down in two ways. Firstly, the apprentice who is classified as employed cannot at the same time be classified as unemployed, even if he or she is looking for extra work on weekends, holidays and the like. Secondly, this has an impact on the size of the labour force. Since the unemployment rate is a ratio between the number of unemployed and the number of people in the labour force, this contributes to holding down the unemployment level.

In Sweden, but also to some extent in the Netherlands, where it is less common for apprentices to receive employment with a wage, an apprentice who is seeking work and is able to work is classified as unemployed if they do not have an apprentice employment. Thus, the impact on unemployment levels from apprentices is less. This holds especially in Sweden, where only 0.5 percent of young students were enrolled in apprenticeship training (2010), and among them an employment contract was unusual.

The scale of the above noted effects is mainly dependent on the percentage of apprentices in a country. Since this differs significantly between countries, the difference in unemployment levels also becomes very large. As noted above, Germany, Austria and Denmark have a relatively high proportion of apprentices, which in turn has a major effect on the unemployment level. In Germany and Austria, more than one-half of the employed students are employed because they are apprentices. However, it is important to reiterate that the scale of apprenticeship programmes does not affect comparability in the LFS, but that this is a reason why the unemployment level differs between countries.

In summary, we can conclude that when a country has laws that apprentices shall receive an apprenticeship contract and thus a wage and at the same time it has an extensive apprenticeship system, the country will have a lower level of youth unemployment than would otherwise be the case. Scenario calculations of what Swedish youth unemployment would have looked like with the apprenticeship levels of Germany, Denmark and Austria can be found in Appendix 1. These calculations show that with the same proportion of apprentices as in these countries, the unemployment rate in Sweden would have been between 9.6 and 21.8 percent with the apprenticeship levels in Germany; between 9.8 and 22.2 percent with the apprenticeship levels in Austria; and between 10.1 and 22.9 percent with the apprenticeship levels in Denmark. The lower unemployment level applies if *all* unemployed students would have become apprentices, while the higher level applies if all the employed students had become apprentices. However, this would require changes in legislation in Sweden to provide all apprentices with employment.

## **5.2 Student financial aid**

How the countries have organised the school term system, payments of student financial aid, etc. has no effect on the comparability of the statistics, since this does not affect how countries classify students in the LFS. However, it can have an effect on labour force participation and thus on unemployment among young people. High student financial aid can reduce the incentive for students to seek employment. High student financial aid that is disbursed throughout the whole year can also lead to a more even distribution of job search activities over the year, while students in countries where financial aid is not disbursed during the summer are more likely to seek holiday work. Thus, there are incentives for labour force participation to be more seasonal in the latter type of countries.

This subchapter examines student financial aid for post-secondary school studies<sup>24</sup>. Financial support for young students in upper secondary school or its equivalent has not been investigated in detail, particularly because the payment systems for this age group is considered to be difficult to compare – in some countries the support goes to the parents, in other countries it is means tested, and so on.

All the countries in the study, regardless of term system, have a long summer break. This should mean that the term system is not a factor that can explain the different job seeking behaviours in different countries.

Since the design and size of student financial aid does not affect comparability of the statistics, but may possibly offer explanations for the differences between countries, only a brief picture of the systems and level of student aid is provided<sup>25</sup>.

Statistical agencies in the countries have answered enquiries regarding the percentage of students in post-secondary education who receive financial aid and for how many months per year the aid is normally disbursed. However, the countries have chosen different approaches to this – some countries have responded on a total level, while others have divided the material into grants and loans. The statistics should therefore be used with caution, but they provide an overview of the proportion of students in the countries that have financial aid. Table 11 is analysed in more detail in Chapters 5.2.1 and 5.2.2.

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<sup>24</sup>Post-secondary studies refer to university education and graduate education (ISCED 5 and 6), unless otherwise indicated.

<sup>25</sup>For those interested, there is more information on the Eurydice website. [http://eacea.ec.europa.eu/education/eurydice/index\\_en.php](http://eacea.ec.europa.eu/education/eurydice/index_en.php) and in the report National Student Fee and Support systems 2011/2012.

**Table 11<sup>26</sup>**  
**Student financial aid system, proportion receiving student aid and the average amount, 2010 \***

	Percentage of students in post-secondary education who receive financial aid (grant/loan)	Of these who receive financial aid (grant/loan), amount received per month	Share of students in post-secondary education who receive study grant	Of those receiving study grants, how much do they receive per month **	Percentage of students in post-secondary education who receive a study loan	Of those receiving study loans, how much do they receive per month **	How many months per year a student can receive study loans
FI	56%	EUR 570	..	..	..	..	9 months
AT***	22%	EUR 400	..	..	..	..	12 months
DE***	26%	EUR 440	..	..	..	..	12 months
SE	65%	EUR 850	..	..	..	..	9 months
NO	..	..	56%	EUR 400	70%	EUR 1 130	10 months
NL	..	..	73%	EUR 370	33%	EUR 250	9 months
DK	..	..	75%	EUR 720	28%	EUR 370	12 months
UK	..	..	62%	EUR 210	77%	EUR 650	up to 12 months
IS	..	..	..	..	..	..	9 – 12 months

\* For Sweden, column 1 for 2011, and column 2 for spring 2012.

\*\* Annual amount has been divided by the number of months given in the last column.

\*\*\* This does not include training that is of a more practical/vocational nature (ISCED 5b).

Source: Own data collection (NSI countries)

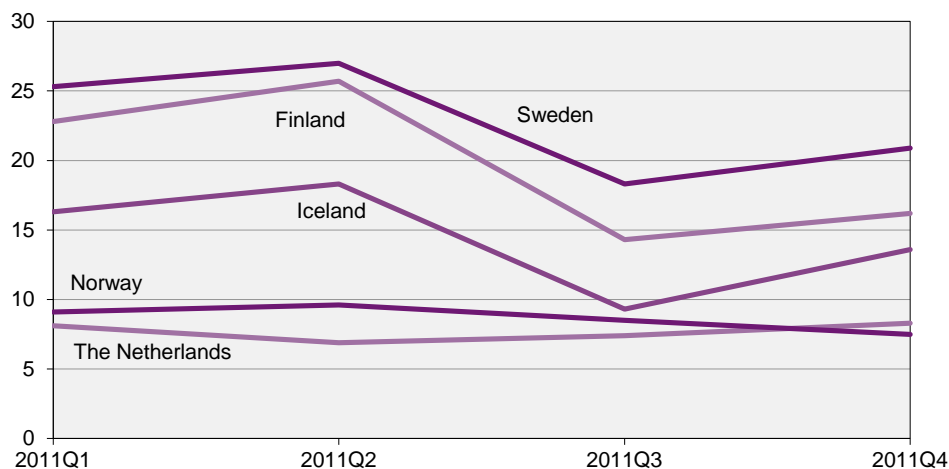
Looking at unemployment in the countries divided quarterly, there are clear indications that there is a stronger seasonal pattern in countries where student financial aid is not disbursed in the summer. Figure 4 shows unemployment by quarter in the countries where student aid is not disbursed during the summer. Figure 5 shows unemployment by quarter in those countries where student aid is disbursed throughout the year. In Sweden, Finland and Iceland, where student aid is not disbursed during the summer, you can see that unemployment is significantly higher during the first two quarters compared to the last two. The Netherlands and Norway, which like Sweden, Finland and Iceland, do not disburse student financial aid during the summer do not follow the same pattern. Instead of showing a strong seasonal pattern over the year's four quarters, unemployment is rather quite similar between quarters.

In countries which disburse student financial aid during all twelve months of the year, i.e. Denmark, Germany, Austria and the UK, there are no clear seasonal variations. The unemployment level in these countries is instead relatively stable over the year.

To obtain an estimate of the effect of disbursing student financial aid in 9 and 12 months a year respectively, we can make a comparison between Finland and Denmark. This comparison shows that the differences in youth unemployment that exist during the first two quarters of the year (around ten percentage points higher in Finland) completely disappear during the last two quarters, when both countries have a youth unemployment rate of about 15 percent in 2011.

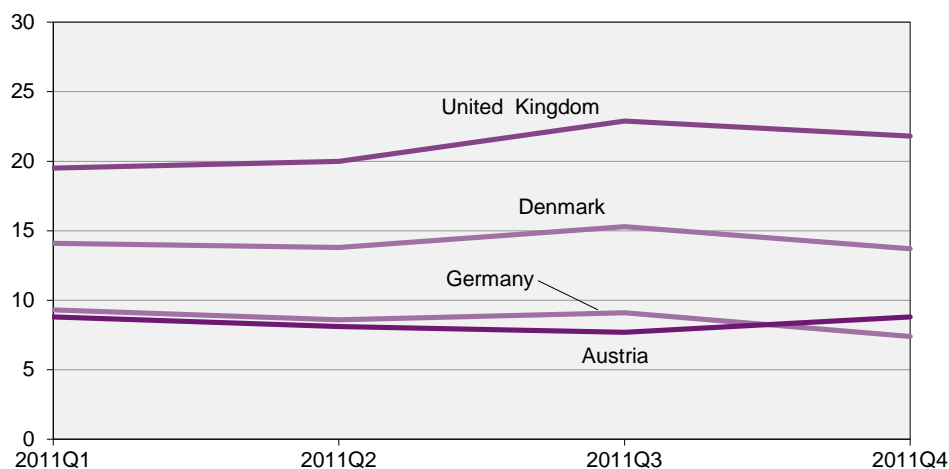
<sup>26</sup>Exchange rates used (dated 15 March 2013): SEK/EUR=8.37, DKK/SEK=1.12, NOK/SEK=1.11, EUR/GBP=0.86.

**Figure 4**  
**Unemployment among people aged 15–24 in countries where student financial aid is not disbursed throughout the year, Q1 2011 – Q4 2011. Percent**



Sources: Eurostat, LFS.

**Figure 5**  
**Unemployment among people aged 15–24 in countries where student financial aid is disbursed throughout the year, Q1 2011 – Q4 2011. Percent**



Sources: Eurostat, LFS.

### 5.2.1 Sweden

Student financial aid in Sweden consists of grants and loans, and disbursements normally correspond to 40 weeks of studies per year, assuming that the student does not participate in special summer courses. Grants and loans are not affected by the financial situation of parents and the like; however, they are affected by income. There is an exempt amount of income, which means that the student cannot earn more than a certain amount to qualify for full financial aid. Thereafter, the amount of aid is gradually reduced depending on income. A long summer break, when no student aid is disbursed, can affect the incentive to seek work during this period. In Sweden, about 65 percent of students receive some form of student financial aid.

### **5.2.2 Other countries**

The student financial aid systems in Finland and the Netherlands are quite similar to the Swedish system. This applies to the period when student financial aid is disbursed as well as the amount, even though the Netherlands has a higher percentage of grants in the total amount. In Finland, the loan component is also slightly lower than the Swedish, which is compensated by a grant for 80 percent of accommodation expenses up to a certain maximum level for students living away from home.

Norway has a slightly longer period for the disbursement of student financial aid, but it is limited to ten months per year. Student financial aid in Norway is also higher. However, the amount is limited if the student's income or assets exceed certain levels.

In Iceland, the time period for disbursement varies between nine months and throughout the year depending on the educational programme. The country provides only loans; there are no student grants. Iceland has been unable to provide data on the percentage of students receiving loans and the average size of loans.

Denmark, Austria and Germany have student financial aid systems where by student aid is disbursed throughout the year. This can lead to a decrease in the impetus to seek holiday jobs, which is supported by the graphs in Figures 4 and 5. About one-third of the Danish students utilise the possibility of receiving a student loan and nearly three-quarters accept grants. For Germany and Austria, the amount a student can receive per month varies, depending on income, family situation, accommodation and more. Less than 30 percent of German and Austrian students receive some form of student financial aid.

Student financial aid in the United Kingdom is disbursed up to 12 months per year. The amounts do not differ much from other countries. However, the grants are primarily to students from low-income families.

### **5.2.3 Conclusions**

As previously noted, student financial aid and the disbursement period do not affect the comparability of unemployment statistics. However, these factors partly explain the difference in unemployment levels between countries. In countries where student financial aid is disbursed throughout the year, it can be assumed that there is a reduced incentive among students to seek vacation work for their subsistence during the study-free period in the summer.

Student financial aid in Denmark, Germany and Austria is disbursed throughout the year, and in certain circumstances in the United Kingdom. In contrast, student financial aid in Sweden, Iceland, Finland, Norway and the Netherlands is not normally disbursed during the summer break. As shown in Figures 4 and 5, youth unemployment in Sweden, Finland and Iceland are clearly higher during the first two quarters. This also has an effect on annual estimates of youth unemployment and can thus help explain differences in unemployment levels between countries.

Based on this general review of the size of student financial aid and proportion of students receiving aid, this study found that these factors do not explain the levels of youth unemployment. For example, a relatively small

proportion of the students in Germany and Austria (two countries with relatively low youth unemployment) receive student financial aid.

### 5.3 Compulsory schooling

The length of compulsory education similarly does not affect the comparability of statistics because it does not affect the classification of labour market status in the LFS. However, if the age at which compulsory education ends varies between countries, this could serve as a partial explanation for why youth unemployment in the countries differs. Labour market participation of students and non-students differs, which is presented in more detail in Chapter 6.

Table 12 shows the age at which compulsory education ends, the percentage of students at that age, and the proportion of students aged 18, 20, 22, and 24. Data in this table are based on data from Eurostat's education statistics, and since figures for 2011 are not yet available for all countries, data for 2010 are used instead.

**Table 12**  
**Share of population who studied (ISCED 1–6) at different ages, 2010. Percent**

	Compulsory age	Share of students at the compulsory age	Share of 18-year olds who studied	Share of 20-year olds who studied	Share of 22-year olds who studied	Share of 24-year olds who studied	Share of 15–24-year olds who studied
Denmark	16	93.1	83.1	49.4	51.6	45.1	67.8
Germany	15/16	97.1	87.6	59.5	43.7	31.8	65.6
The Netherlands	18	84.6	84.6	66.0	47.2	29.1	69.0
Austria	15	93.8	72.3	39.4	33.1	27.6	55.5
Finland	16	95.3	93.6	48.9	56.9	48.3	70.0
Sweden	16	99.8	95.4	42.8	46.2	41.5	65.9
United Kingdom	16	95.2	57.5	44.2	23.3	14.4	50.9
Iceland	16	95.8	80.9	61.0	49.9	40.0	69.7
Norway	16	94.6	87.5	51.0	42.2	31.0	64.6

Source: Eurostat, UOE

#### 5.3.1 Sweden

Sweden has compulsory education up to the year the student becomes age 16. As shown in Table 12, nearly all, 99.8 percent, youth aged 16 attended school in 2010. The share that continued through upper secondary school was very high, and over 95 percent of 18-year-olds were still students. Among 20-year-olds, significantly fewer were still students, 42.8 percent.

#### 5.3.2 Other countries

In all countries except the Netherlands, Austria and a number of regions (states) in Germany, schooling is compulsory up to age 16. For Austria and other German states, schooling is only compulsory up to age 15. In the Netherlands, schooling is compulsory up to age 18.

In all countries except the Netherlands, over 90 percent studied at the age when it is compulsory. The Netherlands was the country that had by far the lowest proportion in studies, 84.6 percent. However, this could be partly explained by the fact that the Netherlands has age 18 and not 15 or



16 as the last year of compulsory school. If we look instead at the share of 18-year-olds who studied, it is primarily the United Kingdom that stands out, with only 57.5 percent who studied. Austria also had relatively few 18-year-olds who studied, 72.3 percent. In other countries, more than 80 percent were students, and in Finland it was 93.6 percent.

Looking at youth aged 22 and 24, the United Kingdom was lower than the other countries (23.3 and 14.4 percent respectively). Together with Austria, the United Kingdom had a lower share of students than the other countries in the study. Conversely, Denmark and Finland were the countries with the highest percentage of students in these age groups. In Finland nearly one-half of all 24-year-olds were students.

### **5.3.3 Conclusions**

Even if the compulsory school age and participation in studies have no effect on the comparability of the statistics, they can still serve as a partial explanation for why countries differ in the level of unemployment. Sweden and Finland were the countries with the highest percentage of students aged 18. While Sweden has converged with the older age groups in the other countries, Finland continues to be high. All the Nordic countries had a relatively large proportion of students among the oldest youth.

The United Kingdom stood out most from the other countries, as participation in education declined rapidly after school stopped being compulsory. Among 18-year-olds in the United Kingdom, already more than 40 percent did not study.

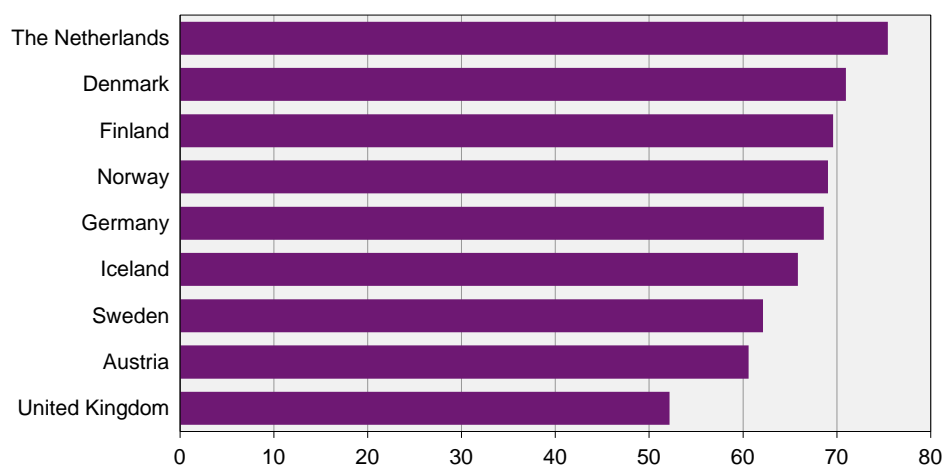
Labour force participation is lower among students than among non-students, which means that the levels of unemployment and employment are affected by the percentage of students. The distribution within the labour force between the employed and unemployed varies significantly between countries. This is described in more detail in Chapter 6.2.

## **5.4 Participation in regular education**

In the next chapter, labour market participation is reported by various study domains. Two of these domains are students/non-students and the age groups 15–19 and 20–24. Because Chapter 6 is based on LFS data, a picture is provided here of what study participation looks like in the countries according to the labour force surveys. Note that some figures are slightly different from those in Table 12, last column. This is partly because another source was used there, and because the figures are taken from different years. The share of young people who study is defined here as persons active in some form of regular education.

Figure 6 illustrates that the Netherlands had the highest percentage of students, 75.4 percent, followed by Denmark and Finland. However, the corresponding percentage among young people in the United Kingdom was only 52.2 percent. In Sweden, 62.1 percent of young people participated in some form of regular education. This means that Sweden was one of the countries with the lowest share of young people in studies.

**Figure 6**  
**Share of students in the population aged 15–24, 2011. Percent**

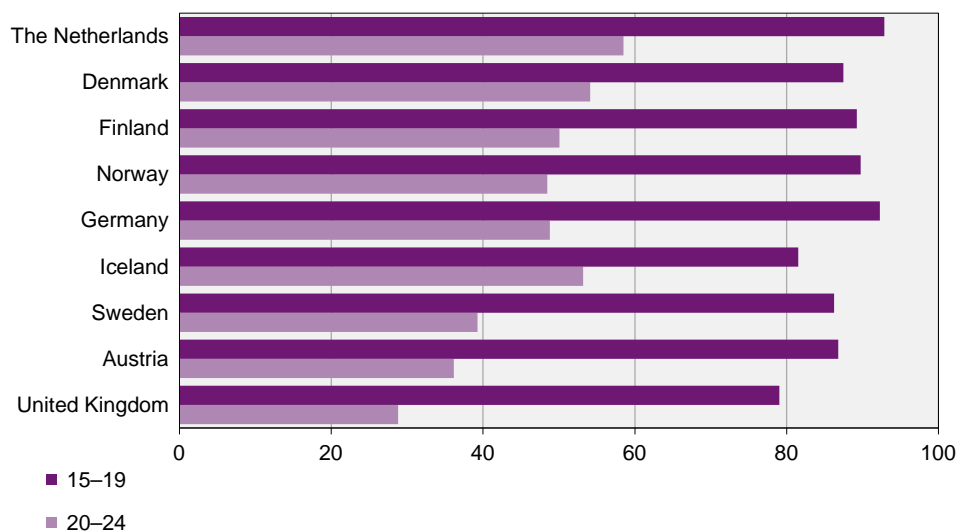


Sources: Eurostat, LFS, own processing.

A division of the group into younger youth (aged 15–19 years) and older youth (20–24) shows two things. The first is that the share in education was higher among persons aged 15–19 than among those aged 20–24, which applied to all countries. The second is that the differences between the countries appeared to be greater among the older than among the younger youth.

Figure 7 shows that all countries except the United Kingdom had a share of students among younger youth of over 80 percent. In two countries, the Netherlands and Germany, the proportion was above 90 percent. The Netherlands was also in the top among the older youth (58.5 percent), followed by Denmark and Iceland. In the United Kingdom, the corresponding share was 28.8 percent, which was clearly the lowest among the comparison countries. In Sweden, the proportion who studied was 86.2 percent among persons aged 15–19 and 39.3 percent among those aged 20–24. This means that Sweden had the third lowest percentage of students in both age groups.

**Figure 7**  
**Share of population aged 15–19 and 20–24 in studies, 2011 Percent**



Sources: Eurostat, LFS, own processing.

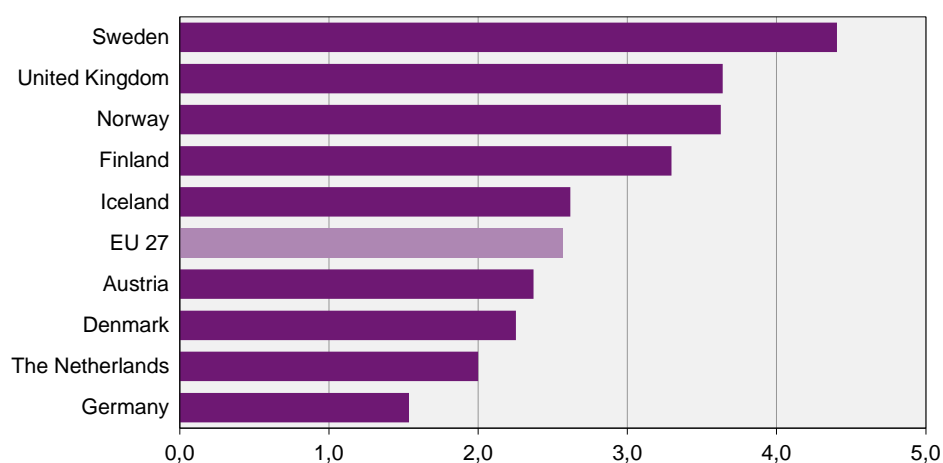


## 6 The labour market situation for youth

To understand the labour market situation for youth in the countries studied, more parameters than just the unemployment rate should be taken into account. This chapter presents a general picture of labour market conditions in the countries and how the unemployment rate differs between, for example, students and non-students. It also highlights factors such as how much young people want to work, how much employed youth are working, and how long young people are unemployed. These aspects may help to explain differences in levels between the countries and provide a more nuanced picture.

The fact that youth unemployment is a general problem in all countries is evident when comparing youth unemployment with unemployment in the general population. One way to describe this is to show how many times greater youth unemployment is compared to unemployment for the population over age 25. This also provides a picture of the extent to which young people in a country have higher unemployment compared with older people and whether the countries differ in this respect. Figure 8 shows that unemployment for those aged 15–24 was 4.4 times higher than for the general population in Sweden in 2011. This made Sweden the country where youth unemployment was highest in relation to the unemployment in the group aged 25–74. This contrasts with Germany, where unemployment was 1.5 times higher for young people than for the rest of the population. This was despite the fact that unemployment in the older age group did not differ so much between countries, 5.2 percent in Sweden and 5.6 percent in Germany. However, unemployment was higher among the young than in the rest of the population for all countries.

**Figure 8**  
Unemployment among young people aged 15–24 relative to unemployment among people aged 25–74, 2011



Sources: Eurostat, LFS, own processing.

The labour market situation of young people is very different from that for the older population and may be due to several reasons. In particular, this is a group that is entering the labour market, but it is also a group that has engaged in studies to a greater extent than the rest of the population.

As described in Chapter 2.1, unemployment is calculated as a ratio between the unemployed and the labour force. To understand the difference in the levels of unemployment between countries, it is therefore particularly interesting to consider the size of the labour force.

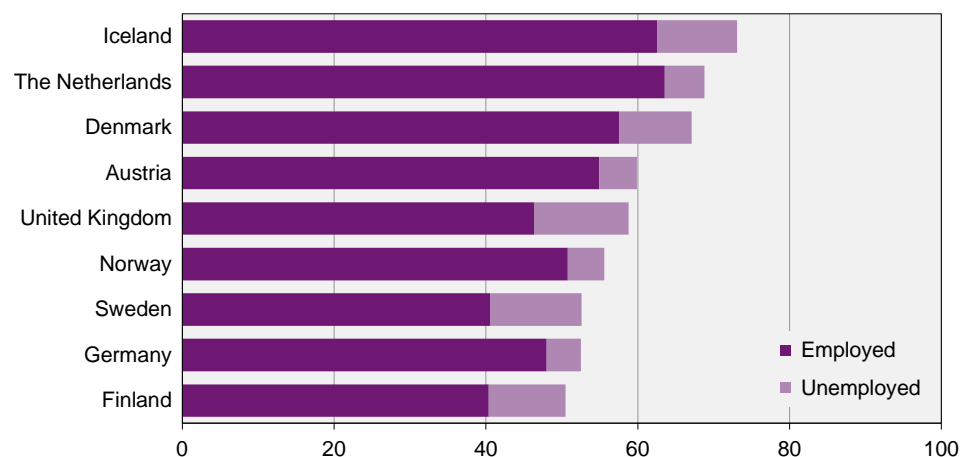
Labour force figures are illustrated in Figure 9, i.e. the number of persons in the labour force relative to the population. It also provides a general picture of what the labour market situation looks like for young people in particular. Here, the labour force is broken down into employed and unemployed in the countries.

Labour force participation among young people varied significantly between the different countries. Iceland (73.1 percent), the Netherlands (68.8 percent) and Denmark (67.1 percent) all had a fairly high labour market participation in the youth group. In Sweden, Germany and Finland, however, there were significantly fewer young people who were active labour market participants. These countries had low labour force figures of just above 50 percent in 2011.

Finland and Sweden also stand out as the two countries with the lowest percentage employed, only just over 40 percent of the youth population were employed. In Iceland and the Netherlands, instead, more than 60 percent of young people aged 15–24 were employed. Iceland, however, had a greater proportion of the population than the Netherlands who were unemployed. This also meant that Iceland was the country with the lowest percentage of the population that was outside the labour force compared with other countries.

The figure also shows that the composition of the labour force varied in the different countries. In Sweden, Finland and the United Kingdom, less than 80 percent of the labour force were employed. However, more than 90 percent of the labour force were employed in the Netherlands, Austria, Germany and Norway.

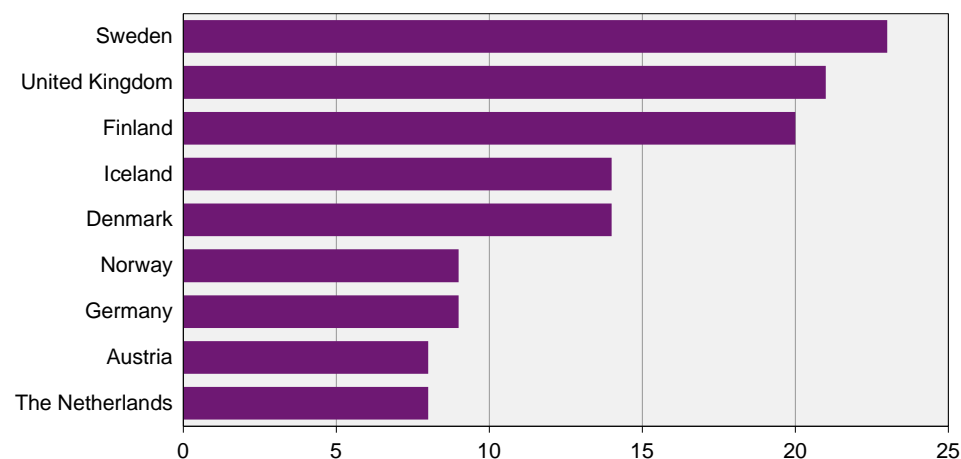
**Figure 9**  
Relative labour force rate, broken down by employed and unemployed, among people aged 15–24, 2011. Percent



Sources: Eurostat, LFS, own processing.

Figure 10 shows the unemployment rate for the countries in the study. Here it is clear that the countries can be divided into three categories. Unemployment was relatively high, between 20 and 23 percent, in Sweden, the United Kingdom and Finland. Iceland and Denmark, which are placed in the middle layer, both had an unemployment rate around 14 percent. In contrast, the Netherlands, Austria, Germany and Norway had a relatively low youth unemployment of between 7 and 9 percent.

**Figure 10**  
**Unemployment rate among people aged 15–24, 2011. Percent**



Source: Eurostat, LFS.

## 6.1 The age groups 15–19, 20–24 and 25–29 years

Within the group aged 15–24, differences are large in terms of the conditions and circumstances that may affect the individual's labour market participation. Therefore it may be interesting to break down the age group into younger and older age categories and compare the labour market situation for persons aged 15–19 with those aged 20–24. In order to assess if the significant differences in unemployment levels between countries remain for the older age categories, data are also presented here for the age group 25–29 years.

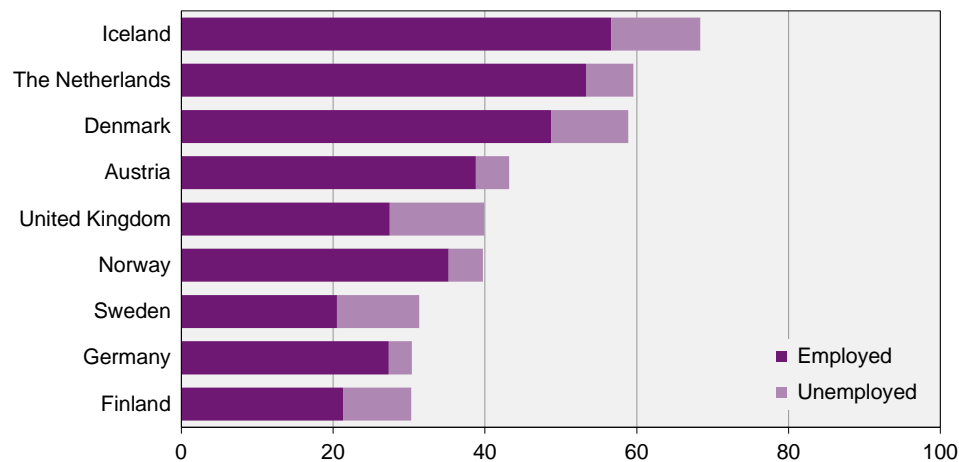
### 6.1.1 The labour force and its composition

Figures 11 and 12 show the labour market participation of the younger age group (aged 15–19) and the older age group (aged 20–24). The labour force in the figure is broken down into employed and unemployed. A comparison of the two figures shows that the percentage of persons in the labour force was higher among older people than younger people. It also shows that the differences between the countries were small regarding the size of the labour force for the groups aged 20–24, while there were significant differences between the groups aged 15–19. The countries differ to a greater extent among 15–19 year-olds, which can be partly explained by the fact that a large proportion of these young people are students (see Chapter 6.2.1).

Figure 11 shows that Iceland, the Netherlands and Denmark had the highest labour force participation among the youngest age group. Between 59 and 68 percent of 15–19 year-olds were in the labour force in these countries. In

contrast, only about 30 percent of this age group were part of the labour force in Sweden, Germany and Finland.

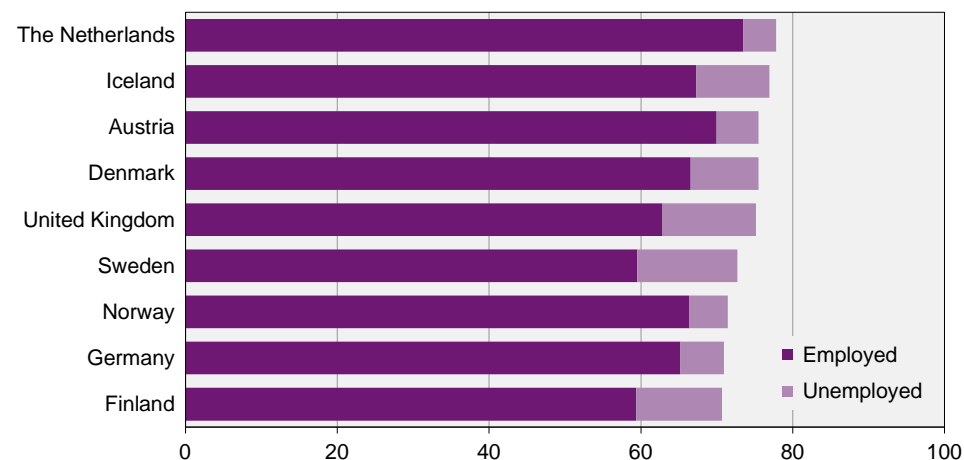
**Figure 11**  
**Relative labour force rate, broken down by employed and unemployed, among people aged 15–19, 2011. Percent**



Sources: Eurostat, LFS, own processing.

The same countries that were at the top and bottom, respectively, among 15–19 year-olds were also at the top and bottom, respectively, among 20–24 year-olds. Figure 12 shows that the Netherlands (78 percent) and Iceland (77 percent) had the highest labour force participation among older youth. It also shows that Finland, Germany and Sweden continued to be among the countries with the lowest participation rates. As noted above, however, the difference between the countries with the highest and lowest labour force rates was significantly lower among 20–24 year-olds than among 15–19 year-olds.

**Figure 12**  
**Relative labour force rate, broken down by employed and unemployed, among people aged 20–24, 2011. Percent**



Sources: Eurostat, LFS, own processing.



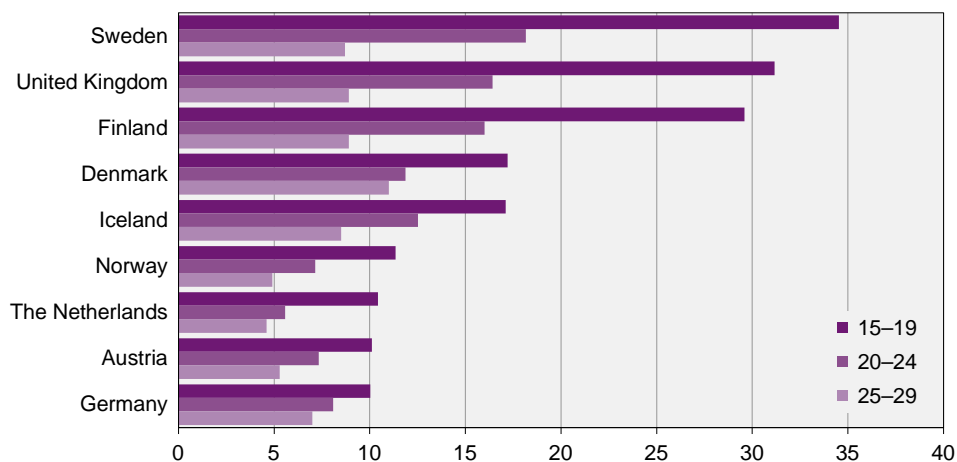
### 6.1.2 Unemployment and employment

As shown in Figure 10, there were large differences in youth unemployment across the countries. The differences can be illustrated even more clearly if the youth are divided into younger (aged 15–19) and older (aged 20–24) groups. It turns out that unemployment was higher among 15–19 year-olds than among 20–24 year-olds in all countries. Figure 13 shows that these differences between age groups were greatest in Sweden, the United Kingdom and Finland. These three countries also had the highest unemployment in the entire youth group (aged 15–24). For Sweden, unemployment was 34.5 percent among persons aged 15–19, while it was 18.2 percent among those aged 20–24. The countries that have more extensive apprenticeship programmes for upper secondary school students, such as Austria and Germany, had significantly smaller differences between the 15–19 year-olds and 20–24 year-olds. For Austria, unemployment was 10.1 percent among the younger group, compared with 7.3 percent for the older group. The corresponding figures for Germany were 10.0 percent and 8.1 percent, respectively.

A large part of the differences in unemployment between age groups was due to the majority of the younger age group still attended upper secondary school. This means that this age group has a higher share of students, which in turn leads to a significantly lower employment level. Since the unemployment rate is a ratio between the number of unemployed and the labour force (the number of unemployed and employed), this means that the unemployment rate will be higher.

Figure 13 also shows the unemployment levels for persons aged 25–29 because it is interesting to see if the differences in unemployment levels remain for this age group. The figure shows that the difference between the countries decreased further when the age group 25–29 is considered. One example worth noting is Germany, a country with extensive apprenticeships and low youth unemployment compared with Sweden. Unemployment levels for the age groups 15–19, 20–24 and 25–29 were 10.0 percent, 8.1 percent and 7.0 percent respectively. In Sweden, unemployment was significantly higher for the younger age groups, but only slightly higher than in Germany among persons aged 25–29 (34.5 percent, 18.2 percent and 8.7 percent respectively). Even though differences in unemployment decreased between countries as age increased, the same four countries nonetheless had the lowest unemployment rate among 25–29 year-olds – Germany, Austria, Norway and the Netherlands.

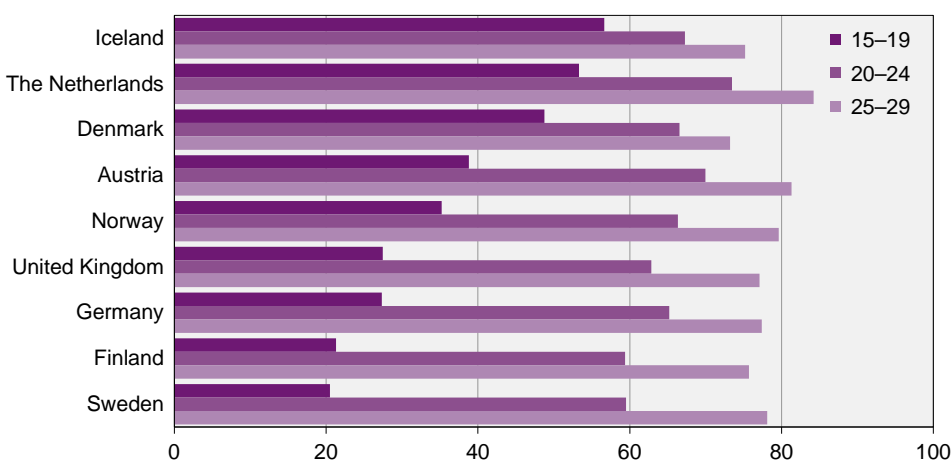
**Figure 13**  
**Unemployment rate among persons aged 15–19, 20–24 and 25–29, 2011.**  
**Percent**



Source: Eurostat, LFS.

Figure 14, which illustrates the employment rate for different age groups, shows the same pattern that existed for unemployment, i.e. that the differences between the countries decreases with increasing age. Sweden, which had the lowest employment rate among 15–19 year-olds, was among the four countries with the highest employment rate when looking at the age group 25–29 instead. This makes Sweden the country with the largest difference in employment between the age groups 15–19 and 25–29. In contrast, Iceland and Denmark had the least difference between the two age groups.

**Figure 14**  
**Unemployment rate among persons aged 15–19, 20–24 and 25–29, 2011.**  
**Percent**

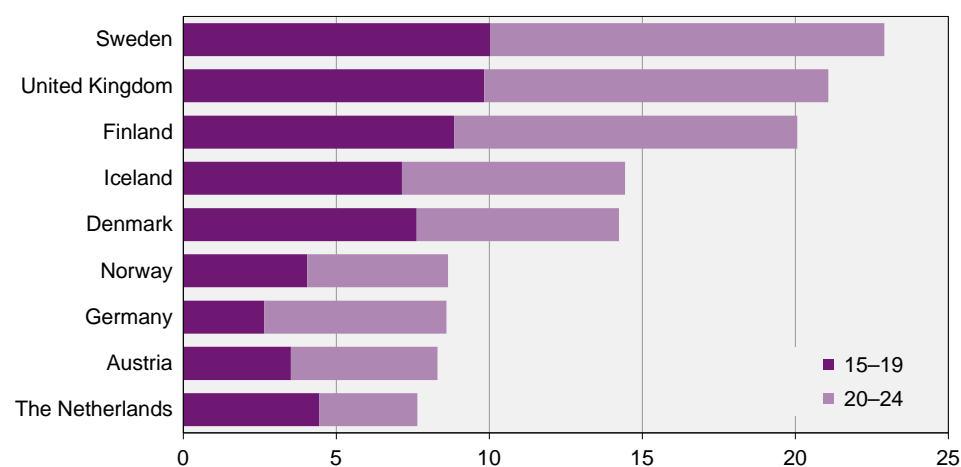


Source: Eurostat, LFS.

### 6.1.3 The distribution of unemployment among younger and older youth

Another way of considering unemployment and age is to examine the share of the unemployment of younger (15–19 years) and older (20–24 years) youth within the entire group of young people. This complements the picture and shows that although unemployment levels are higher in the younger age category in all countries; this does not mean this age group constitutes the majority of youth unemployment in the age category 15–24. On the contrary, Figure 15 shows that the older youth group, aged 20–24, accounted for a larger share of the group of unemployed in all countries except Denmark and the Netherlands. The differences in the level of unemployment were thus greatest among 15–19 year-olds, but it was still the 20–24-year olds who constituted the majority of the unemployed youth in most countries.

**Figure 15**  
Unemployment rate, broken down by age groups 15–19 and 20–24, among people aged 15–24, 2011. Percent



Sources: Eurostat, LFS, own processing.

### 6.1.4 Conclusions

In summary, the differences between countries were greater for the group aged 15–19 than for the group aged 20–24 in terms of both employment and unemployment. One important reason may be that a high proportion of the younger age group are students (see next subchapter). However, both unemployment and employment levels converged between countries when looking at 25–29 year-olds.

## 6.2 Students and non-students

As noted in Chapter 6.1, one of the main reasons why unemployment rates differ between the countries in the younger age category 15–19 is that they attend upper secondary school to a great extent, where a large share in some countries are apprentices. Whether a person is a student or not will affect the incentives and possibilities of participating in the labour market. Thus, the youth group is subdivided into students and non-students in this section to show that the labour market situation varies between these groups and between countries. As noted above, data are not collected regarding whether or not a student is full-time or part-time in the LFS. Instead, data

are collected on whether people are in some form of regular education, that is, if they are studying in the regular educational system or not.

It is also relevant to note here that the proportion of young people in regular education varies between countries. This has been reported in Chapter 5.4. The largest differences between countries were seen among people aged 20–24 years.

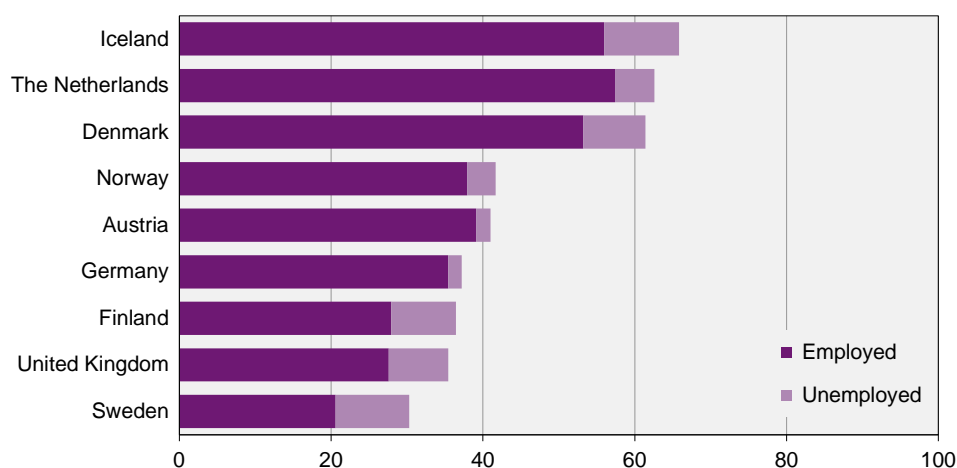
### 6.2.1 The labour force and its composition

Figures 16 and 17 show the labour market participation for the student and non-student population respectively. The graphs show the labour force for the two groups and are broken down into employed and unemployed. When compared, it is clear that the share of people outside the labour force was significantly higher in the student group than the non-student group. Differences between countries were also greater in the student group than in the non-student group.

The countries that had the highest labour force participation among students aged 15–24 were Iceland, the Netherlands and Denmark, as shown in Figure 16. In these countries, more than six out of ten people in regular education were either employed or unemployed. For the other countries, except Sweden, the labour force rate was between 35–42 percent. In the case of Sweden, however, only three out of ten students were part of the labour force.

The relative distribution of employed and unemployed within the labour force differed between countries especially among students. This can be explained in part by the structure of the education system and which countries have a high proportion of apprentices with wages, because these individuals are classified as employed in the LFS (see Chapter 5.1). In two countries, Austria and Germany, which were also the countries with the highest proportion of apprentices, labour force participation among the students consisted almost entirely of people who were employed. This also occurs in the Netherlands and Norway, although not to the same extent. The countries that instead had a relatively small proportion of employed in the labour force were Sweden, Finland and the United Kingdom.

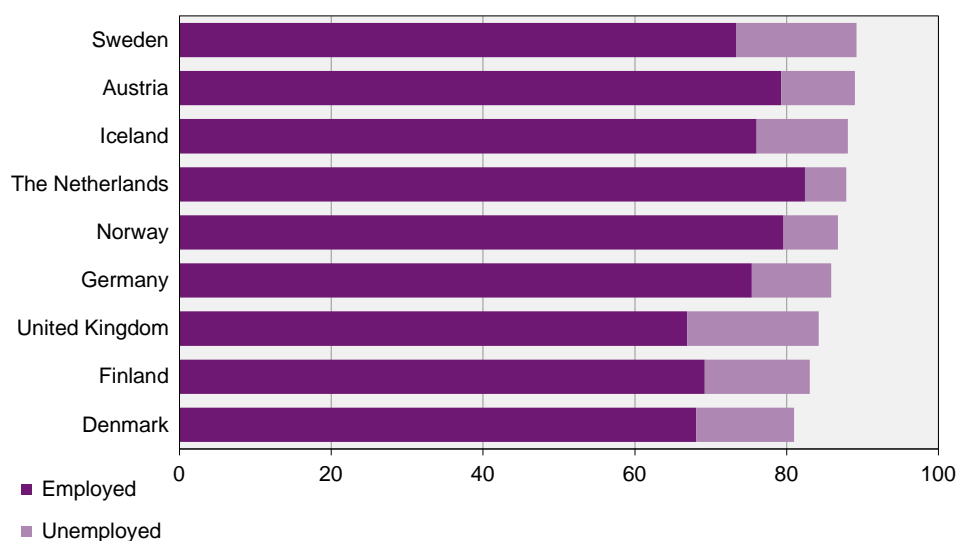
**Figure 16**  
Relative labour force, broken down by employed and unemployed, among people aged 15–24 who were *students*, 2011. Percent



Sources: Eurostat, LFS, own processing.

Figure 17, which presents non-students, shows that the differences between countries were significantly less. Participation in the labour force was between 80 and 90 percent in all countries. However, the distribution between employed and unemployed in the labour force differed across countries for non-students as well. In Norway, Austria and the Netherlands, non-students comprised only a small fraction of the unemployed in the labour force, while employment in those countries was highest as a proportion of the population. For other countries, however, employment rates were lower and the labour force consisted of the unemployed to a greater extent.

**Figure 17**  
Relative labour force, broken down by employed and unemployed, among people aged 15–24 who were *non-students*, 2011. Percent

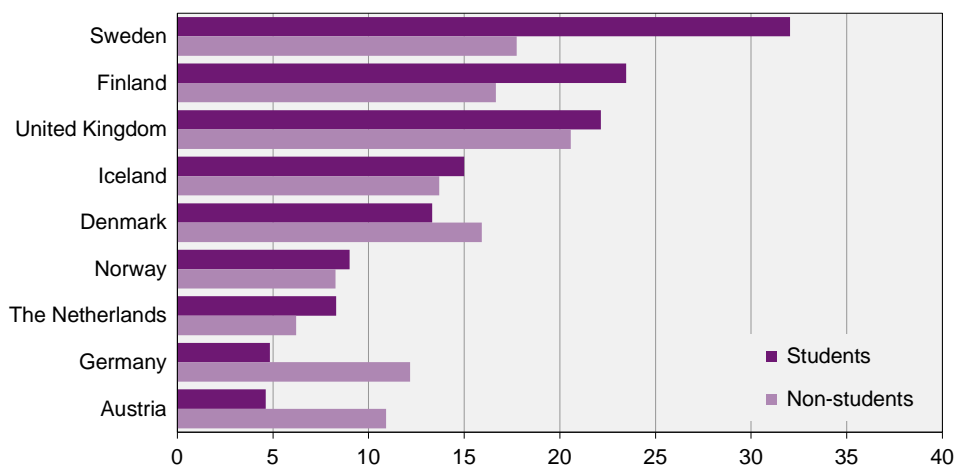


Sources: Eurostat, LFS, own processing.

### 6.2.2 Unemployment and employment

Another way of looking at the labour market among students and non-students is to compare the unemployment rate in the two groups. The difference in unemployment between students and non-students was small in most countries, except in Sweden, Germany, Austria and to some extent Finland. Figure 18 shows that unemployment was higher among students than non-students in Sweden and Finland, while the ratio was reversed in Austria and Germany. In Chapter 5.2 the unemployment rate in Sweden and Finland was shown to vary between quarters, likely because the search for holiday work was greater in these countries. This also has an impact on the annual estimates and can thereby help to explain why the unemployment rate is higher among students than non-students in these countries.

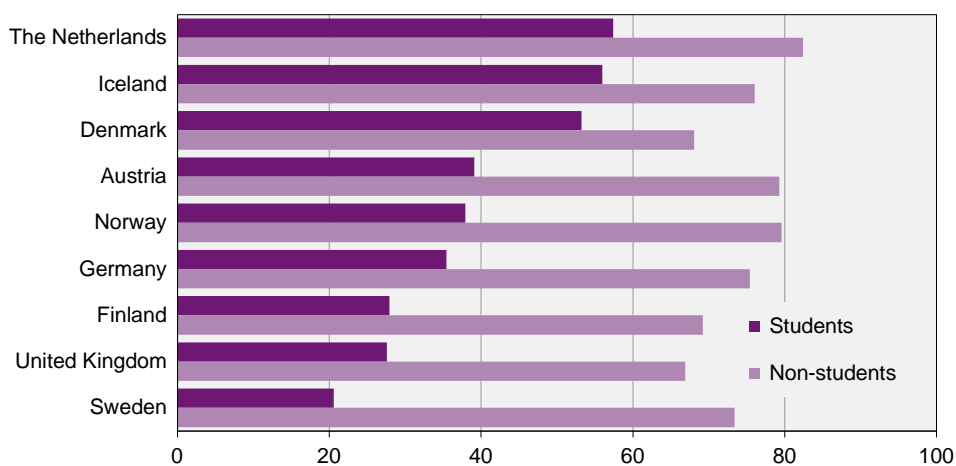
**Figure 18**  
**Unemployment rate among people aged 15–24 broken down into students and non-students, 2011. Percent**



Sources: Eurostat, LFS, own processing.

However, employment rates differed significantly in all countries between those who study and those who did not study, as shown in Figure 19. The employment rate among students also differed greatly between countries. Sweden, the United Kingdom and Finland were the countries where the lowest percentage of students worked. In Sweden, only 21 percent of the students were employed. The Netherlands, which was also the country with the lowest youth unemployment, was the country with the highest employment rate among students (57 percent). Sweden was the country where the difference was greatest when comparing employment between students and non-students. The employment rate here was more than 3.5 times higher among non-students than among students. The difference between the groups was least in Denmark.

**Figure 19**  
**Employment rate among people aged 15–24 broken down into students and non-students, 2011. Percent**

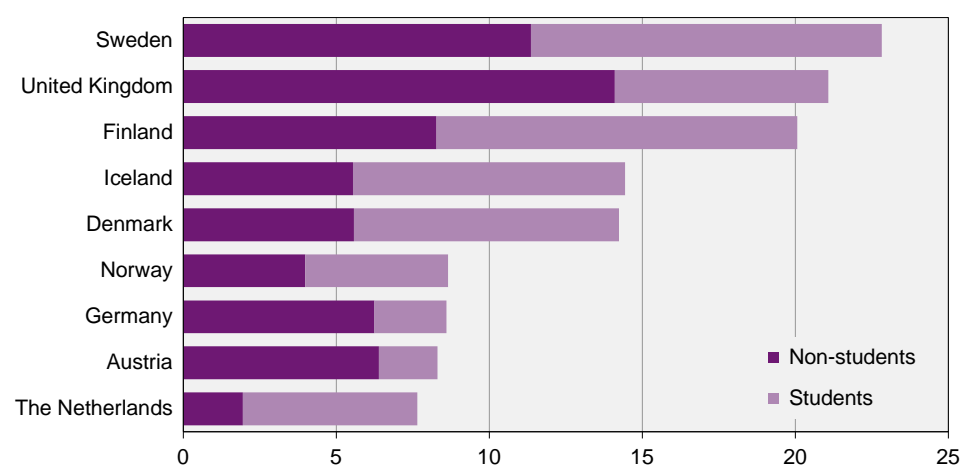


Sources: Eurostat, LFS, own processing.

### 6.2.3 Distribution of unemployment broken down by student and non-student youth

To complete the picture of unemployment in different countries with respect to regular education, Figure 20 shows the percentages of the unemployed who were students and non-students respectively. In Sweden, youth unemployment consisted of equal parts of students and non-students. In the United Kingdom, Germany and Austria, the majority of the unemployed youth were non-students, while in other countries, the majority of unemployed youth consisted of young students.

**Figure 20**  
Unemployment rates, broken down into students and non-students, among people aged 15–24, 2011. Percent



Sources: Eurostat, LFS, own processing.

### 6.2.4 Conclusions

The differences in employment as well as unemployment were greater among students than among non-students. In other words, the differences between the countries for the entire youth group aged 15–24 are explained in particular by the labour market situation for people who participated in regular education.

Iceland, the Netherlands and Denmark had a high labour force participation among students and a labour force that largely comprised of employed people. Sweden, the United Kingdom and Finland had instead a low labour force rate among students and a labour force that consisted of a relatively large share of unemployed persons. Austria and Germany were the countries where the labour force among students consisted primarily of employed persons, a pattern that was even more evident for the group aged 15–19.

The level of unemployment in Austria and Germany can be largely explained by the fact that they had a low labour force participation among students combined with a high percentage of students who were apprentices and who became employed through their participation in the training. In Sweden, however, a large part of the labour force consisted of unemployed students. In combination with a low labour force participation, this means that the unemployment rate was higher among students than among non-students.

### 6.3 The unemployment rate does not tell all

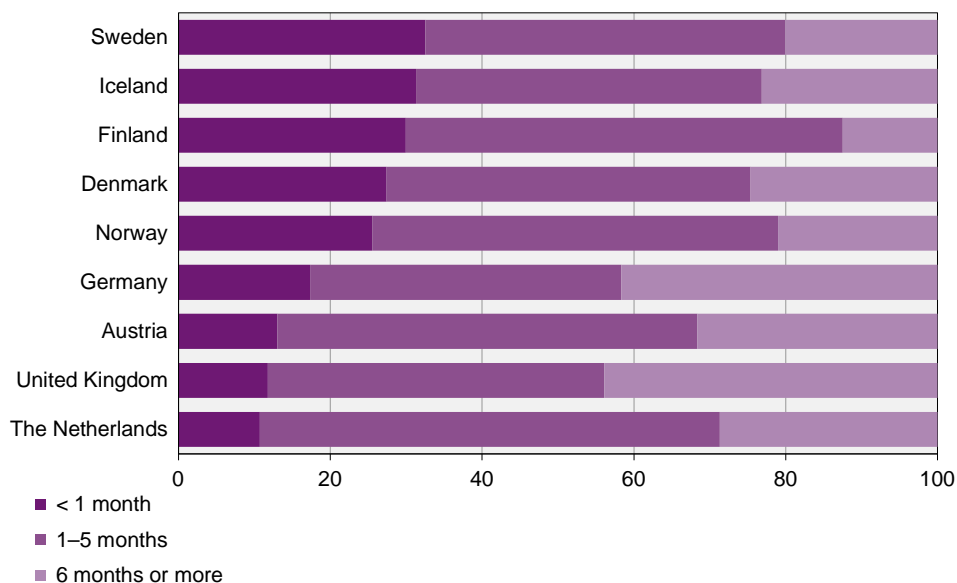
In order to interpret youth unemployment fairly and thereby gain a deeper understanding of the situation of young people on the labour market, additional aspects should be taken into consideration. For example, if the unemployment rate in a country mainly consists of long-term unemployment or frictional unemployment; or if individuals are seeking full-time work or extra work; and, what types of work do employed youth have? These aspects are discussed in this chapter as well as whether there are differences between countries in these respects.

#### 6.3.1 Length of unemployment

It was not just the percentage of unemployed persons that differed between countries. Figure 21 shows how the length of unemployment differed between countries, and the proportion of the unemployed who had sought work for less than a month (i.e. one to three weeks), one to five months and six months or more. Sweden was the country where the highest proportion of unemployed young people, 32 percent, had been unemployed for less than a month. At the same time, Sweden, together with Finland, were the two countries where the lowest share of youth unemployment consisted of long-term unemployed, i.e. unemployment for six months or more. In Finland, the figure was as low as 13 percent. Thus, a large proportion of the unemployed young people in Sweden were unemployed for a shorter period.

This was not the case in all countries, at least not to the same extent. In the Netherlands, the United Kingdom and Austria, between 10 and 15 percent of the unemployed young people had been unemployed for less than a month. At the same time in the United Kingdom and Germany, over 40 percent of the unemployed in the age group 15–24 had been unemployed for six months or more.

**Figure 21**  
Length of unemployment among unemployed people aged 15–24, 2011.  
Percent



Source: Eurostat, LFS.

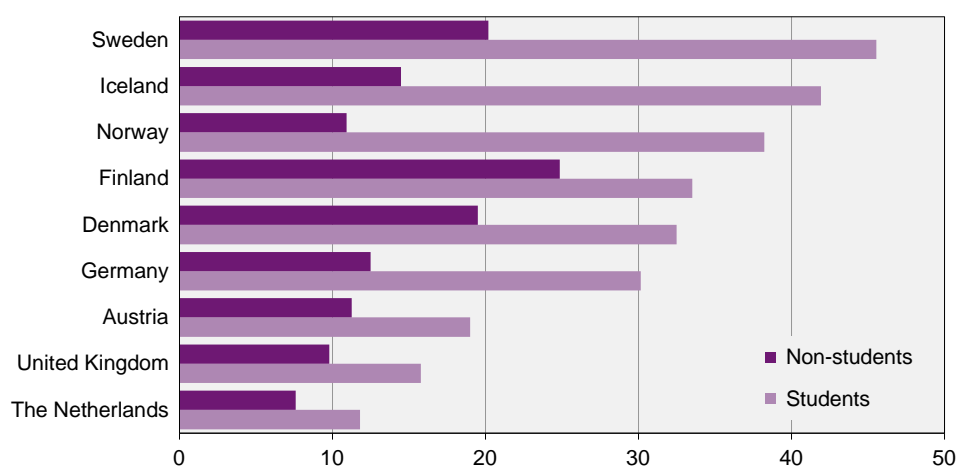


We can conclude that underlying the high levels of youth unemployment in Sweden can be found a relatively high proportion of short-term unemployed and a relatively low proportion of long-term unemployed.

Figure 22 shows the differences between the countries regarding whether the share of short-term unemployed was greater among students than non-students. Among unemployed students in Sweden, over 40 percent were unemployed less than one month, the corresponding share in the Netherlands; however, was only 12 percent. It should also be noted that Sweden was one of the countries with the largest share of short-term unemployed (less than one month) among the non-students.

**Figure 22**

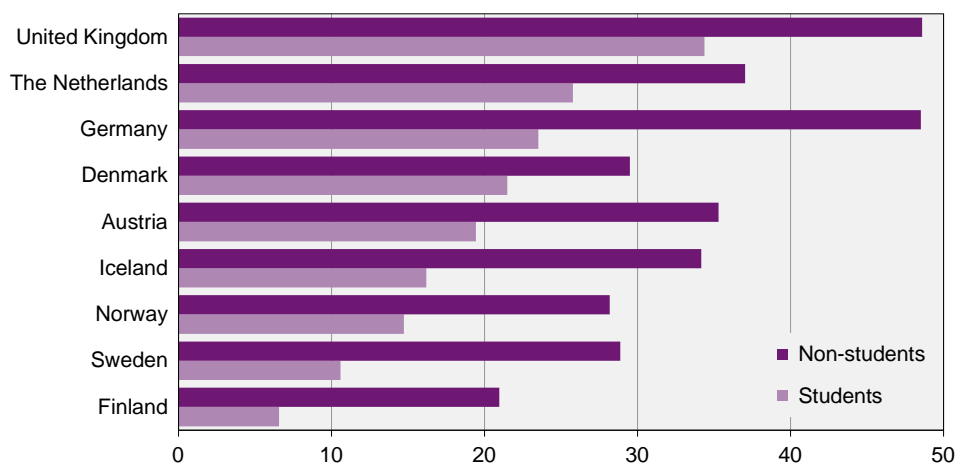
**Share of unemployed people aged 15–24 who had been *unemployed for less than one month* broken down by students and non-students, 2011. Percent**



Source: Eurostat, LFS.

If we instead look at the differences between the countries regarding the share of long-term unemployed (six months or more), Figure 23 shows a completely different picture. Among young students, Finland and Sweden were the countries with the lowest long-term unemployment. The United Kingdom and the Netherlands instead had the largest share of long-term unemployed among students (34 and 26 percent respectively). Among non-students, only Finland and Norway had a lower percentage of long-term unemployed than Sweden, while the United Kingdom and Germany had the highest percentage, 49 percent each. The percentage of unemployed was higher among non-students than among students in all countries.

**Figure 23**  
Share of unemployed people aged 15–24 who had been *unemployed more than six months* broken down by students and non-students, 2011. Percent

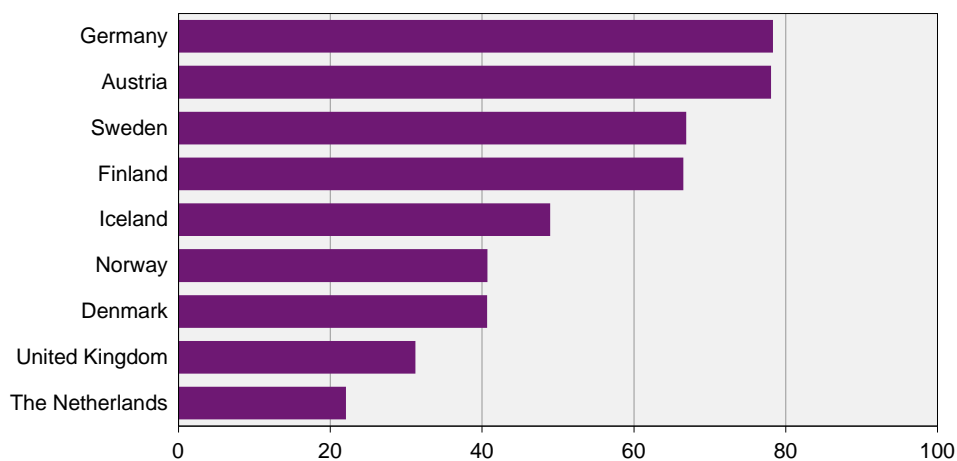


Source: Eurostat, LFS.

### 6.3.2 How much do the unemployed want to work?

How much unemployed young people wanted to work also differed between countries. This indicates that it was more common to find extra work while studying in some countries, while in other countries the unemployment rate reflected instead the lack of full-time work. However, it should be noted that if a student seeks full-time work, this can mean in some cases that this concerns summer jobs rather than full-time work while studying. Figure 24 shows the percentage of unemployed young people who wanted a full-time job. The percentage reflects people who just want to work full time as well as people who would like to work full time but will accept a part-time job if they cannot find a full-time job. In Germany, Austria, Sweden and Finland, between 65 and 80 percent searched mainly for full-time work. In the Netherlands, however, only about 20 percent of the unemployed young people wanted to work full time.

**Figure 24**  
Share of unemployed people aged 15–24 who wanted to work full time, 2011. Percent

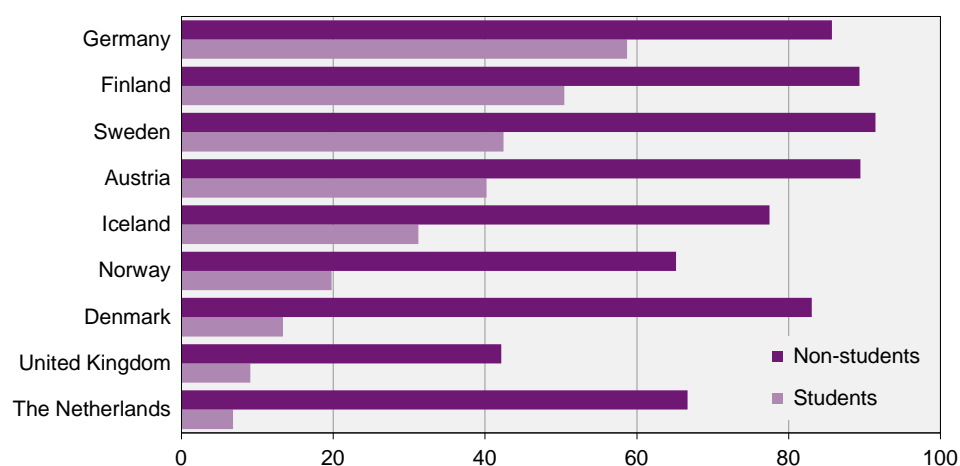


Sources: Eurostat, LFS, own processing.

A breakdown of the group seeking full-time work into students and non-students shows that the largest differences between the countries were among the students. Figure 25 shows that few of the unemployed students in the Netherlands and the United Kingdom wanted a full-time job, 7 and 9 percent respectively. In Germany and Finland, however, the majority of the unemployed young students sought full-time jobs, 59 percent and 50 percent respectively. Figure 25 also indicates that there were relatively few, 42 percent, of the unemployed non-students in the United Kingdom who wanted a full-time job. Sweden was the country that had the largest share of non-student unemployed youth who preferably wanted to work full time, 91 percent.

When interpreting the share of unemployed students who wanted a job, it is important to remember that this includes work during holidays. The desire to have a holiday job may be influenced by institutional factors such as whether the student receives financial aid for all or part of the year, and the like. This is something that has been discussed earlier in this report (Chapter 5.2).

**Figure 25**  
Share of unemployed people aged 15–24 who wanted to work full time, broken down by students and non-students, 2011. Percent

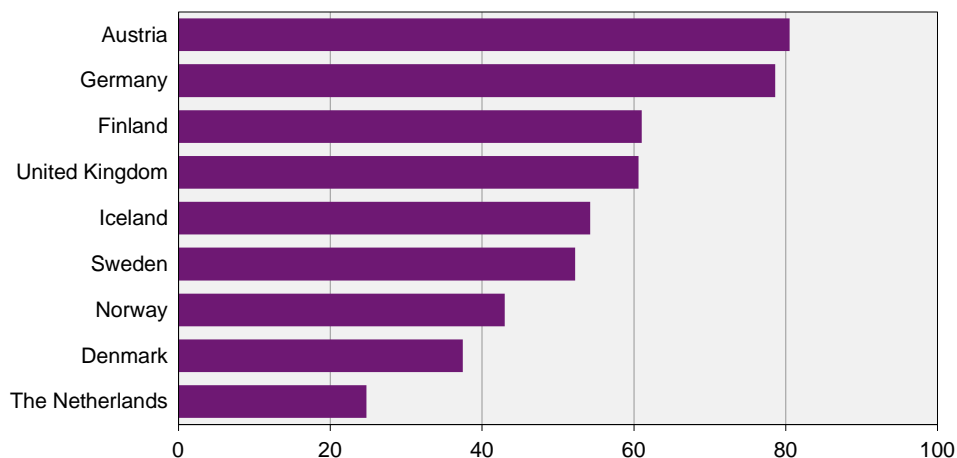


Sources: Eurostat, LFS, own processing.

### 6.3.3 How much do the employed work?

How much employed youth worked is another aspect that shows that the labour market for youth differs in the countries. Figure 26 shows the share of employed young people who were working full time. Here it appears that Austria and Germany are at the top. About 80 percent of employed young people worked full time in these countries. In Sweden, a majority of those employed, 52 percent, also worked full time. The Netherlands was instead the country that clearly had the lowest share of full-time workers, only 25 percent of those employed worked full time.

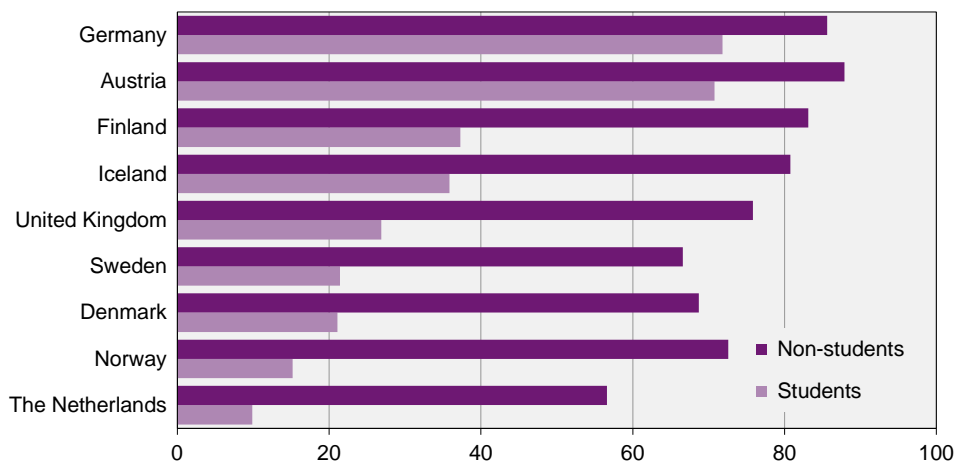
**Figure 26**  
**Share of employed persons aged 15–24 who worked full time, 2011. Percent**



Sources: Eurostat, LFS, own processing.

Figure 27 shows the corresponding data broken down into students and non-students. Looking at young people who were in education and training, there were two countries, Germany and Austria, which clearly differed by having a significantly greater proportion of full-time workers in both groups. This could be explained by the high proportion of apprentices in these countries. Over 70 percent of employed students in these countries were engaged in full-time work. In the Netherlands, however, the share of employees with full-time work was less than in other countries, particularly in terms of students where only 10 percent worked full time.

**Figure 27**  
**Share of employed people aged 15–24 who worked full time, broken down by students and non-students respectively, 2011. Percent**



Sources: Eurostat, LFS, own processing.

The patterns shown in Figure 27 become even clearer when limited to the younger age group of 15–19. In Austria and Germany, an even larger share of employed students worked full time, which in turn strengthens the hypothesis that this is likely explained by the extensive apprenticeship system. Looking instead at the age group 20–24, the countries were more

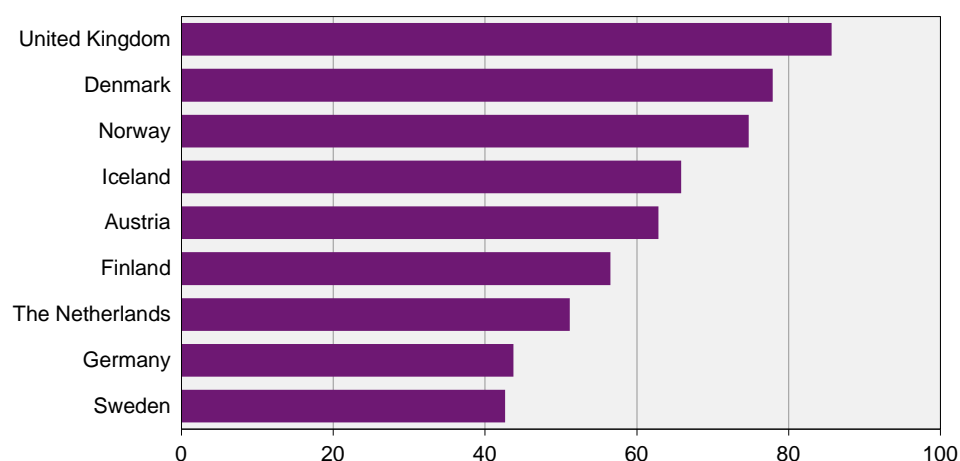
similar, with the exception of Germany, which in this age group as well had a clear majority of students who worked full time. (See Appendix 2, Figure 2).

### 6.3.4 Degree of attachment to the labour market

The breakdown between permanent and temporary employees also says something about how strong a connection employed young people have to the labour market. If the share of permanent workers is low, this means that a large share of those employed have jobs of a temporary nature, such as a temporary position, holiday work or apprenticeships. Figure 28 shows that the United Kingdom was the country with the highest share of permanent employees among employed young people, 86 percent. This can be compared with Sweden and Germany, where 43 and 44 percent had permanent employment.

**Figure 28**

**Share of employed persons aged 15–24 years who had permanent employment, 2011. Percent**

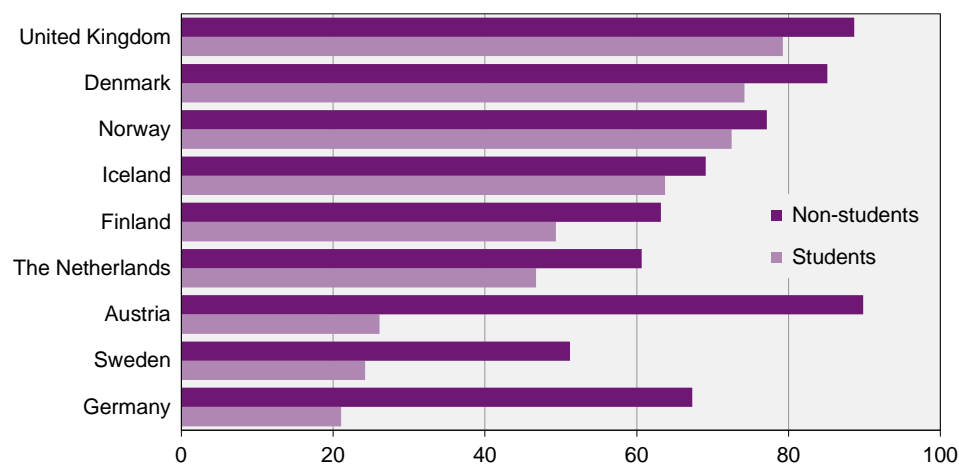


Sources: Eurostat, LFS, own processing.

The differences between countries become even clearer when broken down into students and non-students. The United Kingdom, Denmark, Norway and Iceland all had a high share of permanent employees among employed young people, both students and non-students. Figure 29 also shows that the share of permanent employees did not differ much between students and non-students. However, there were three countries, Austria, Germany and Sweden, which differed from other countries. In these countries, the share of permanent workers among employed was significantly lower among students than non-students. In Austria and Germany, this could be explained by the fact that a large share of the students are apprentices, which means that they have a temporary employment. In the case of Sweden, a country that does not have an extensive apprenticeship system, this could be explained instead by the employed students in many cases having temporary work in the form of holiday jobs and the like.

The corresponding comparison for the group aged 20–24 shows that the differences between the countries became less. However, Sweden was also different in this age category by having a smaller share of permanent employees among employed students (see Appendix 2, Figure 3).

**Figure 29**  
**Share of employed people aged 15–24 who worked full time, broken down by students and non-students respectively, 2011. Percent**



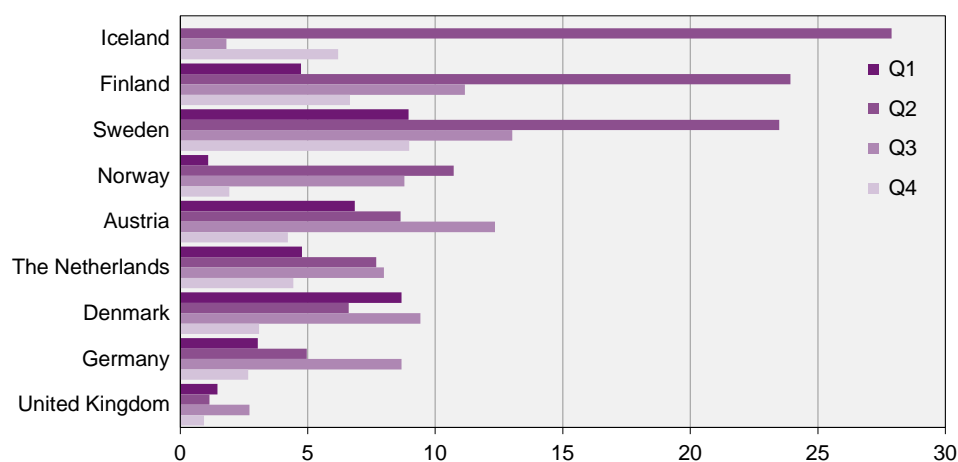
Sources: Eurostat, LFS, own processing.

### 6.3.5 Persons awaiting employment within three months

As noted above, classification as unemployed requires that the person lacks work and can start work within two weeks. It also requires that the person either has looked for work during the past four weeks, or is awaiting a job that will begin within three months. This section presents the share of the unemployed who are persons awaiting a job.

Chapter 5.2 showed how student financial aid can affect incentives to seek vacation work and that youth unemployment, in general, were more seasonal in the countries where students do not receive financial aid in the summer. Figure 30 shows the share of unemployed youth who awaited a job within three months, broken down by quarters. In Finland, Sweden and Iceland a clear seasonal pattern can be seen where the share awaiting a job rose sharply in the second quarter compared to the other quarters. In other words, the increase in unemployment in the second quarter of these countries is largely explained by the unemployed awaiting work. This in turn strengthens the hypothesis that this concerns summer jobs.

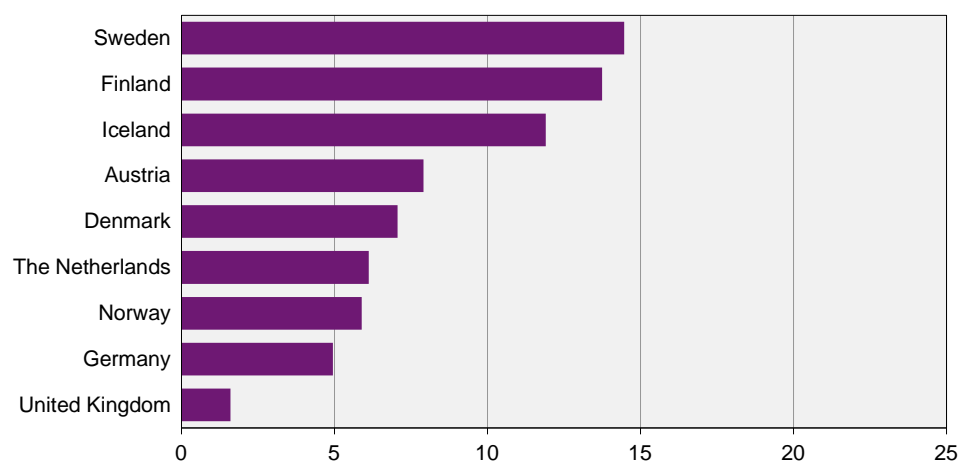
**Figure 30**  
Share of unemployed people aged 15–24 who were awaiting a job within three months, Q1 2011 – Q4 2011. Percent



Sources: Eurostat, LFS.

Sweden, Finland and Iceland also stood out in terms of full-year estimates. They had a higher share of the unemployed who were awaiting work than other countries, as shown in Figure 31.

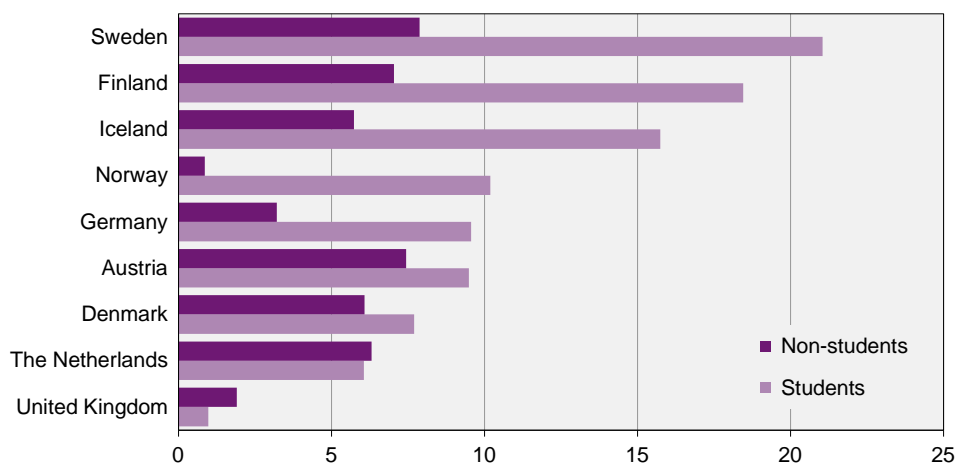
**Figure 31**  
Share of unemployed people aged 15–24 who were awaiting a job within three months, 2011. Percent



Sources: Eurostat, LFS.

This pattern becomes even clearer when the group is broken down into students and non-students. Figure 32 shows that students represented the explanation for most of the differences between the countries, i.e. the share of the unemployed who were awaiting a job within three months.

**Figure 32**  
**Share of unemployed people aged 15–24 who were awaiting a job within three months, students and non-students respectively, 2011. Percent**



Sources: Eurostat, LFS, own processing.



## 7 Summary and conclusion

The overall conclusion is that the comparability of statistics on youth unemployment is very good. The Labour Force Surveys (LFS), which are the surveys used to report youth unemployment in the countries in the study, are well harmonised and comply with ILO definitions and regulations. The review made by Statistics Sweden, supported by the statistical agencies in the countries concerned and Eurostat, shows that the deficiencies are negligible and do not affect the overall picture of the labour market. However, comparability may be limited for specific subgroups, such as foreign-born persons.

The differences in unemployment levels between countries must therefore be explained by factors other than deficiencies in the comparability of statistics. Institutional factors, especially the design of educational systems, can largely explain the differences in youth unemployment between countries. Extensive apprenticeship systems, where apprentices receive a wage, have a great effect on the level of youth unemployment. The level is also influenced by the disbursement of student financial aid during the summer months.

The design of the unemployment measure in accordance with the ILO definitions has specific consequences when applied to the group young people. Thus, to gain a deeper understanding of the labour market situation of young people more aspects than just unemployment should be taken into consideration. This is especially because young people are engaged in studies to a greater extent than the rest of the population, but also because they are making their entrance into the labour market.

### 7.1 Comparability regarding the measure of youth unemployment

The LFS is a well-harmonised survey, which results in very good comparability between countries. The most harmonised measurements in the LFS are the number of unemployed and number of employed. These measures are also the bases for the unemployment rate. The small deficiencies in comparability that still exist in the LFS have been identified especially in the definitions and target population.

As for definitions, the lack of comparability rests with the Netherlands, which has higher requirements for classifying someone as unemployed. The sampled individual must answer that he or she *wants* to work, in addition to the normal requirements of seeking work and being able to take a job. The difference in the target population is that Iceland and the United Kingdom do not include 15-year-olds. However, the study shows that these comparability deficiencies have a marginal impact on the level of youth unemployment and thus on comparability between countries. The countries also differ in the definition of the target population regarding collective and private households. This has also been shown to not have a significant effect on the estimates.

Eurostat does not require reporting in the LFS on how many of the unemployed are full-time students. Whether a country has chosen to do so or not depends instead on its own practices and preferences. Instead, European statistics report the number of people in regular education. However, whether a person is studying or not has no impact on the comparability of the level of unemployment, since the classification is determined by whether the person is performing work or seeking work, regardless of whether the person is engaged in studies. Among the compared countries, only the United Kingdom and Sweden report unemployed full-time students on a national level.

Contacts with the countries in the study have shown that they differ greatly in terms of the relative shares of proxy interviews and non-response. The consequences of this have not been fully investigated because studies in these areas are limited. However, the studies that exist indicate that these factors have only a minor impact on youth unemployment levels and therefore comparability.

If countries have different classification principles, for example, for persons in labour market programmes or apprentices, deficiencies may arise in comparability of the statistics. However, our review of the handling of labour market programmes and apprentices in the LFS has shown that the basic principles for the classification of these groups did not significantly differ between countries. The differences are related only to the classification of labour market programmes, but in this context it has been shown that these do not have any major impact on the estimates of employment and unemployment. Thus, there are no deficiencies in comparability between the surveys regarding the handling of the labour market programmes or the apprenticeship programmes.

All the countries in the study were asked to make an overall assessment of their own surveys, and where there was reason to point out any deficiencies in comparability for the users of the statistics. These assessments found that the figures on youth unemployment that they supplied are of good quality with regard to comparability. However, a number of countries indicated that comparability may be worse for subgroups such as foreign-born persons. In the case of the foreign born, this is due to such factors as a higher non-response, that the group lives in collective households to a greater extent, and factors related to the drawing of samples and the sampling frame. In addition, the measurement situation may become less certain if there are language difficulties. Finally, it should be noted that several countries have chosen not to report foreign-born persons separately as they are too small a group.

## **7.2 Explanations for differences in the level of unemployment rates**

Institutional differences can largely explain differences in the level of youth unemployment across countries. An analysis of labour force participation for young people divided into subgroups shows that there are large differences in all countries between younger (aged 15–19) and older (aged 20–24) youth and among those who study and those who do not study. A comparison between countries shows that the differences in labour force participation are mainly explained by the younger youth and the students.

These subgroups coincide to a large extent because a very large proportion of the younger youths are just students. Therefore, we find in these groups the main reasons why unemployment levels vary so much between countries.

The fact that the differences in unemployment rates between countries are so large for the student group can find its explanation in the countries' apprenticeship systems. If apprentices in one country are employed and receive wages through their apprenticeship and the country has an extensive apprenticeship system, this has a double effect on the unemployment rate. This is because apprentices who receive a wage are classified as employed, and a person who has been classified as employed, cannot be classified as unemployed. In addition, an apprentice automatically belongs to the labour force, and thus both the numerator and denominator of the unemployment rate are affected.

The group of apprentices with wages is large primarily in Germany, Denmark and Austria. This leads to more young people being classified as employed in these countries, which has a moderating effect on unemployment. Only Sweden, and to some extent the Netherlands, lack employment contracts and thus wages for apprentices.

To calculate what Swedish youth unemployment would have been if Sweden had an extensive apprenticeship training programme as in Germany, for example, requires far-reaching assumptions. These include changes in legislation that would require that all apprentices in Sweden receive an apprentice employment and thus a wage. The impact on the unemployment rate differs depending on the labour force status from which the prospective apprentices are recruited. However, it is possible to calculate extreme scenarios where either all unemployed students become apprentices and thus employed, or all employed students become apprentices and thus have unchanged labour force status. This results in a range of between 9.6 and 21.8 percent unemployed. More accurate calculations than this cannot be made.

Whether student financial aid is disbursed during the summer holidays or not appears to explain some of the differences in unemployment levels between countries. In countries where no student financial aid is disbursed during the summer holidays, unemployment increases in most cases in the second quarter. Incentives are likely to be higher to seek holiday work for the summer in these countries. In addition, a share of the unemployed persons in the LFS are awaiting a job within three months. In Sweden, but also in Finland and Iceland, this share is high compared to many other countries. This is especially noticeable in the second quarter, when many seek holiday work, which also has an impact on the unemployment rate on an annual basis. This seasonal pattern in youth unemployment does not appear in countries where student financial aid is disbursed throughout the year.

A similar review of the scale of labour market programmes shows that this does not provide a decisive explanation for why levels of unemployment and employment differ between countries.

### **7.3 The unemployment rate does not tell all**

As noted above, it is important to consider more aspects than just the unemployment rate in an analysis of the labour market situation of youth, especially when comparing different countries. Some measurements that complement the picture of the labour market situation of youth include the length of unemployment and the share of the employed who work full time or part time.

An analysis of the length of unemployment shows that this varied considerably between countries. Sweden and Iceland were the countries with the highest share of unemployed young people who were unemployed only for a shorter period. The lowest share of short-term unemployed was found in the Netherlands and the United Kingdom. If you reverse the approach and examine long-term unemployment instead, Sweden and Finland are the two countries with the lowest share of young people who have been unemployed for more than six months. However, in the United Kingdom and Germany, longer periods of unemployment were more common.

Finally, it is worth noting the share of young people who work full or part time in each country. The Netherlands in particular stands out here as the country in the study with the lowest youth unemployment, where a larger share of young people work part time than in other countries. It also had a greater share of unemployed young people seeking part-time work. The opposite relationship was found in countries with high youth unemployment, such as Sweden, where unemployed young people wanted to work full time to a greater extent and a greater share of employed youth did so.

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# Appendices

## Appendix 1 – Example of calculating apprentices

In the debate on youth unemployment, it is often claimed that the presence of apprentices with wages leads to lower youth unemployment. We present here an example of a calculation of what the impact would be on Swedish youth unemployment with a higher share of apprentices, given certain assumptions. The calculations should therefore be read with some caution.

- The first requirement is that this concerns apprentices with wages. Since there currently is no requirement that apprentices must be offered an apprenticeship contract with a wage, the assumption is made that legislative changes are made in Sweden requiring that apprentices receive a wage.
- Secondly, companies must provide a quantity of apprenticeships such that an investment in apprenticeships will result in more people becoming apprentices. The assumption here is that companies are willing to create apprentice positions to the same extent as in the country used for comparison.
- Thirdly, students must be interested in enrolling in apprenticeships. Therefore, the assumption is made that Swedish students would be equally interested in enrolling in an apprenticeship as students in the country used for comparison.
- Fourthly, an assumption is made that the introduction of apprenticeship positions has no impact on the labour market and that other job vacancies remain constant.
- Fifthly, it is assumed that the number of students is not affected by an increase in the number of apprenticeships.

Given that all of these assumptions are met, a calculation is made of the effect if Sweden had an equal share of apprentices as Germany, Austria and Denmark – countries in the study that have been identified as the main countries with apprenticeships. However, this calculation is very hypothetical.

The effect of the increased number of apprenticeships varies greatly depending on whether the people who "become" apprentices are recruited from the employed, unemployed or outside the labour force. Therefore, an interval is provided between two extreme values, i.e., the greatest and the least impact on the unemployment rate. The first case is where all employed students become apprentices, and the second case is where all unemployed students become apprentices (in the latter case there are no unemployed students at all). Others are recruited from Not in the labour force. The calculation is based on the percentage values in Table 9 in Chapter 5.1 which have been applied to LFS data for Sweden from 2011.

### Germany

In Table 9 in Chapter 5.1, the share of apprentices among student youth in Germany was 24.8 percent. Thus, 24.8 percent of the people in regular education aged 15–24 in Sweden represents 192 000 people who become

apprentices. When these are classified as employed, the unemployment rate would have landed in the interval from 9.6 percent (if all unemployed students had become apprentices and thus employed) and 21.8 percent (if all employed students would have become apprentices) for the entire 15–24 age group.

### **Austria**

When the same calculation is made for Austria based on the 23.1 percent of Austrian post-secondary school students who were apprentices, this would represent that Sweden would have had 179 000 apprentices. When these are classified as employed, the unemployment rate for the age group 15–24 would have landed in the interval from 9.8 percent (if all unemployed students had become apprentices and thus employed) and 22.2 percent (if all employed students would have become apprentices).

### **Denmark**

In Denmark, 20.6 percent of student were apprentices. If the same large share of young people in regular education in Sweden had been apprentices, this would have represented 160 000 apprentices. When these are classified as employed, the Swedish unemployment rate in this scenario lands in the interval between 10.1 percent (if all unemployed students had become apprentices and thus employed) and 22.9 percent (if all employed students would have become apprentices).

### **Summary**

Youth unemployment rates for the age group 15–24 in Germany, Austria and Denmark were 8.6, 8.3 and 14.2 percent respectively. In the extreme scenario where all unemployed students in Sweden would have become apprentices and thus employed, Sweden would have landed at corresponding levels. In the other extreme scenario, where mainly employed students become apprentices instead, the Swedish unemployment rate would have been nearly unaffected.

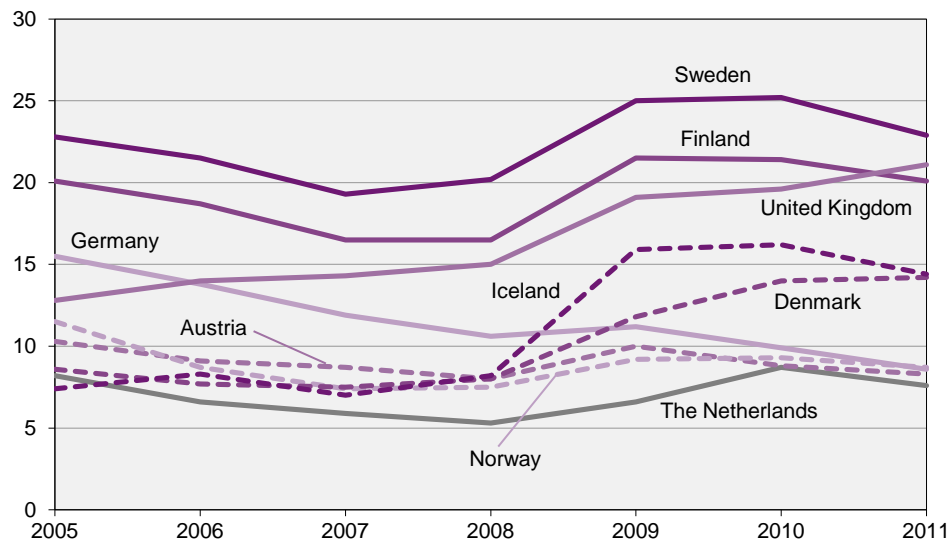


## Appendix 2 – Supplemental figures

The appendix contains details of figures presented in the report

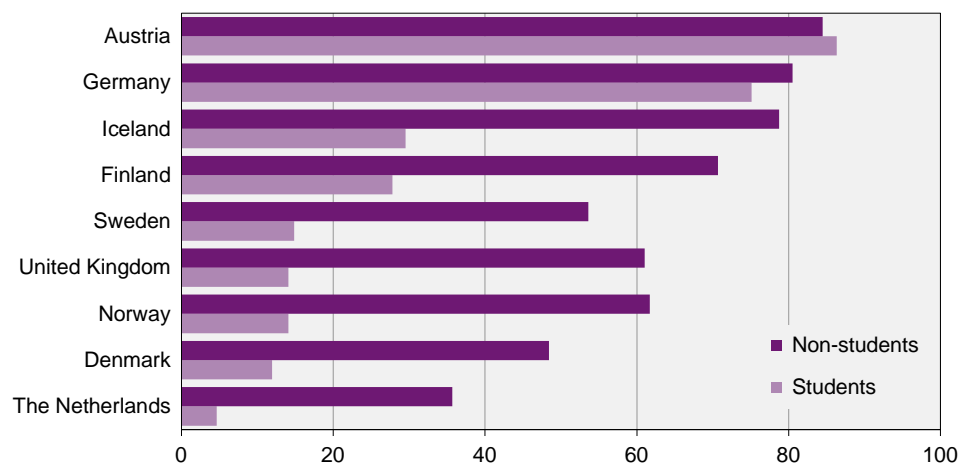
**Figure 1**

**Unemployment rate among people aged 15–24, 2005–2011. Percent**

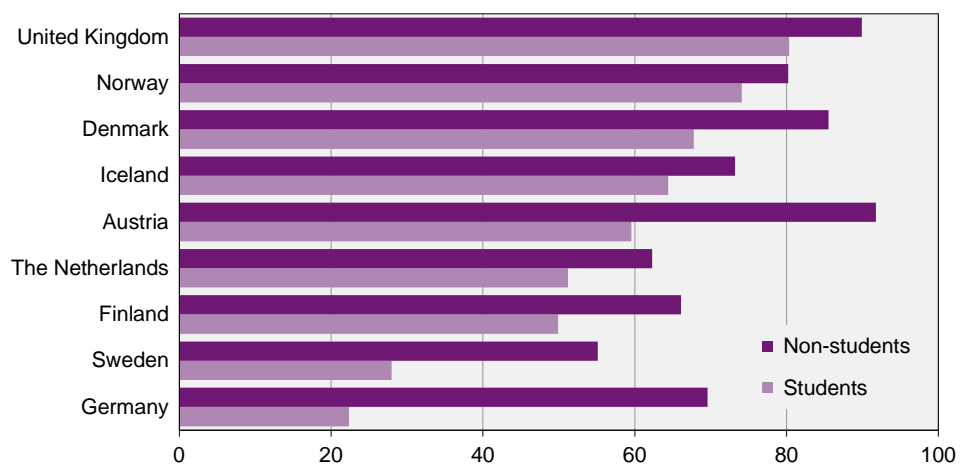


**Figure 2**

**Share of employed people aged 15–19 who worked full time, broken down by students and non-students respectively, 2011. Percent**



**Figure 3**  
**Share of employed people aged 20–24 who had permanent employment, broken down by students and non-students respectively, 2011. Percent**



## Appendix 3 – Tables for Chapter 6

The appendix contains tables that correspond to the figures presented in Chapter 6 of this report.

**Table 1**  
Relative labour force rate among people aged 15–24, broken down by age and students and non-students, 2011. Percent

	AT	DE	DK	FI	IS	NL	NO	SE	UK
Pop.	59.9	52.5	67.1	50.5	73.1	68.8	55.6	52.6	58.8
15–19	43.2	30.4	58.9	30.3	68.3	59.5	39.7	31.3	39.9
20–24	75.5	70.9	75.5	70.7	76.9	77.8	71.4	72.7	75.2
Stud.	41.0	37.2	61.4	36.5	65.8	62.6	41.7	30.3	35.4
15–19	37.9	26.7	57.5	25.2	65.2	58.4	34.9	23.2	29.4
20–24	47.8	53.8	67.9	56.4	66.6	69.1	54.0	45.2	50.0
Non-stud.	89.0	85.9	81.0	83.0	88.1	87.9	86.7	89.2	84.2
15–19	77.7	74.9	68.3	73.0	83.3	74.5	81.5	82.4	79.7
20–24	91.1	87.2	84.5	85.2	89.6	90.1	87.8	90.7	85.4

**Table 2**  
Employment rate among people aged 15–24, broken down by age and students and non-students, 2011. Percent

	AT	DE	DK	FI	IS	NL	NO	SE	UK
Pop.	54.9	47.9	57.5	40.4	62.5	63.5	50.8	40.5	46.4
15–19	38.8	27.3	48.7	21.3	56.7	53.3	35.2	20.5	27.5
20–24	70.0	65.2	66.5	59.4	67.3	73.5	66.3	59.5	62.8
Stud.	39.1	35.4	53.2	27.9	56.0	57.4	37.9	20.6	27.6
15–19	36.7	25.0	48.4	17.3	53.8	52.3	30.9	14.2	21.1
20–24	44.5	51.9	61.2	46.7	58.7	65.2	50.8	33.9	43.1
Non-stud.	79.3	75.4	68.1	69.2	76.0	82.4	79.6	73.4	66.9
15–19	52.8	55.7	51.0	55.2	70.2	66.0	72.7	60.1	51.5
20–24	84.4	77.9	72.8	72.2	77.9	85.1	80.9	76.2	70.8

**Table 3**  
Unemployment rate among people aged 15–24, broken down by age and students and non-students, 2011. Percent

	AT	DE	DK	FI	IS	NL	NO	SE	UK
Pop.	8.3	8.6	14.2	20.1	14.4	7.6	8.7	22.9	21.1
15–19	10.1	10.0	17.2	29.6	17.1	10.4	11.4	34.5	31.2
20–24	7.3	8.1	11.9	16.0	12.5	5.6	7.2	18.2	16.4
Stud.	4.6	4.8	13.3	23.5	15.0	8.3	9.0	32.0	22.2
15–19	3.3	6.4	15.8	31.4	17.5	10.3	11.5	38.7	28.2
20–24	7.0	3.6	9.8	17.2	11.9	5.7	6.0	24.9	13.7
Non-stud.	10.9	12.2	15.9	16.7	13.7	6.2	8.3	17.7	20.6
15–19	32.1	25.6	25.4	24.4	15.7	11.4	10.7	27.1	35.3
20–24	7.4	10.7	13.8	15.2	13.1	5.5	7.8	15.9	17.1

**Table 4**  
**Share of people aged 15–24 who were not in the labour force broken down by age, students and non-students, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
Pop.	40.1	47.5	32.9	49.5	26.9	31.2	44.4	47.4	41.2
15–19	56.8	69.6	41.1	69.7	31.7	40.5	60.3	68.7	60.1
20–24	24.5	29.1	24.5	29.3	23.1	22.2	28.6	27.3	24.8
Stud.	59.0	62.8	38.6	63.5	34.2	37.4	58.3	69.7	64.6
15–19	62.1	73.3	42.5	74.8	34.8	41.6	65.1	76.8	70.6
20–24	52.2	46.2	32.1	43.6	33.4	30.9	46.0	54.8	50.0
Non-stud.	11.0	14.1	19.0	17.0	11.9	12.1	13.3	10.8	15.8
15–19	22.3	25.1	31.7	27.0	16.7	25.5	18.5	17.6	20.3
20–24	8.9	12.8	15.5	14.8	10.4	9.9	12.2	9.3	14.6

**Table 5**  
**Length of unemployment among the unemployed aged 15–24, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
< 1 month	13	17	27	30	31	11	26	32	12
1 – 5 months	55	41	48	58	46	61	53	47	44
> 6 months	32	42	25	13	23	29	21	20	44
15–19									
< 1 month	12	18	31	31	40	11	34	41	13
1 – 5 months	52	45	49	62	44	63	51	49	48
> 6 months	37	37	20	7	16	26	15	10	39
20–24									
< 1 month	14	17	23	29	22	11	18	26	11
1 – 5 months	58	39	46	54	47	58	56	46	41
> 6 months	28	44	30	17	30	32	26	27	48

**Table 6**  
**Length of unemployment among the unemployed aged 15–24, who were students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
< 1 month	19	30	33	34	42	12	38	46	16
1 – 5 months	62	46	46	60	42	62	47	44	50
> 6 months	19	24	21	7	16	26	15	11	34
15–19									
< 1 month	24	24	33	34	47	11	40	49	14
1 – 5 months	54	47	47	61	41	63	46	44	51
> 6 months	22	29	20	5	11	26	14	7	34
20–24									
< 1 month	15	39	31	33	32	14	34	41	20
1 – 5 months	68	46	43	59	43	61	49	43	45
> 6 months	17	16	26	8	25	25	17	16	35

**Table 7**  
**Length of unemployment among the unemployed aged 15–24, who were not students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
<b>15–24</b>									
< 1 month	11	12	20	25	14	8	11	20	10
1 – 5 months	53	39	51	54	51	55	61	51	42
> 6 months	35	49	29	21	34	37	28	29	49
<b>15–19</b>									
< 1 month	8	12	24	19	14	11	10	23	11
1 – 5 months	51	43	56	68	54	62	70	59	44
> 6 months	41	45	20	13	33	27	20	18	45
<b>20–24</b>									
< 1 month	14	13	18	27	15	7	11	19	9
1 – 5 months	55	38	49	50	51	54	59	48	40
> 6 months	31	49	33	23	35	40	30	32	50

**Table 8**  
**How much did the unemployed want to work, share of unemployed aged 15–24, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
<b>15–24</b>									
Sought mainly full-time	8	22	30	49	45	0	38	63	26
Sought only full-time	70	56	11	17	4	22	3	4	5
Sought only part-time	18	13	55	23	24	74	25	24	22
Sought mainly part-time	3	2	4	10	7	0	5	7	4
Did not specify full-/part-time	0	4	0	1	8	3	26	1	41
Self-employed	1	3	0	0	0	1	1	1	1
No response	0	0	0	0	12	0	2	1	0
<b>15–19</b>									
Sought mainly full-time	6	15	16	41	35	0	20	48	21
Sought only full-time	77	63	6	14	2	8	1	3	3
Sought only part-time	15	15	72	31	37	88	38	38	35
Sought mainly part-time	2	2	5	13	9	0	4	9	5
Did not specify full-/part-time	0	3	0	1	4	3	36	1	36
Self-employed	1	2	0	0	0	0	1	1	0
No response	0	1	0	0	12	0	1	1	0
<b>20–24</b>									
Sought mainly full-time	10	26	45	56	54	0	54	75	31
Sought only full-time	65	53	17	19	6	41	4	5	6
Sought only part-time	21	12	35	17	11	54	14	13	11
Sought mainly part-time	3	2	3	7	4	0	6	5	3
Did not specify full-/part-time	0	5	0	0	12	2	18	0	47
Self-employed	1	3	0	0	1	2	1	1	2
No response	0	0	0	0	12	1	3	1	0

**Table 9**  
**How much did the unemployed want to work, share of unemployed aged 15–24, who were students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
Sought mainly full-time	6	11	8	34	29	0	18	40	8
Sought only full-time	35	47	5	16	2	7	2	2	1
Sought only part-time	54	32	82	36	39	90	44	45	56
Sought mainly part-time	5	2	4	12	7	0	5	9	6
Did not specify full-/part-time	0	3	0	1	7	3	29	1	28
Self-employed	1	3	0	0	1	0	1	1	1
No response	0	0	0	0	16	0	2	1	0
15–19									
Sought mainly full-time	4	10	5	33	25	0	11	33	6
Sought only full-time	47	56	4	14	3	3	1	1	1
Sought only part-time	42	26	86	38	47	93	46	52	62
Sought mainly part-time	5	2	5	14	8	0	4	10	6
Did not specify full-/part-time	0	4	0	1	4	3	37	1	25
Self-employed	2	2	0	0	0	0	1	1	0
No response	0	0	0	0	13	0	1	1	0
20–24									
Sought mainly full-time	7	13	14	36	37	0	35	52	14
Sought only full-time	25	35	8	19	0	15	4	3	2
Sought only part-time	64	42	74	34	24	82	38	34	40
Sought mainly part-time	4	2	3	10	5	0	8	7	6
Did not specify full-/part-time	0	3	0	0	10	3	11	1	37
Self-employed	0	4	0	0	2	1	1	1	1
No response	0	0	0	0	21	0	3	1	0

**Table 10**  
**How much did the unemployed want to work, share of unemployed aged 15–24, who were not students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
<b>15–24</b>									
Sought mainly full-time	9	26	63	71	70	0	61	86	36
Sought only full-time	81	59	20	18	8	67	4	5	7
Sought only part-time	8	5	12	4	0	27	4	3	5
Sought mainly part-time	2	2	5	6	6	0	4	4	3
Did not specify full-/part-time	0	5	0	0	11	3	23	0	48
Self-employed	1	3	1	0	0	3	1	1	2
No response	0	0	0	0	6	1	3	1	0
<b>15–19</b>									
Sought mainly full-time	6	19	57	72	75	0	55	85	38
Sought only full-time	87	70	15	13	0	54	4	6	6
Sought only part-time	6	3	20	4	0	39	5	2	4
Sought mainly part-time	0	1	7	9	15	0	4	6	4
Did not specify full-/part-time	0	3	0	1	3	5	30	1	47
Self-employed	1	2	1	1	0	1	0	1	1
No response	0	1	0	0	7	0	1	1	0
<b>20–24</b>									
Sought mainly full-time	10	28	66	71	68	0	63	87	34
Sought only full-time	77	56	22	19	11	70	4	5	7
Sought only part-time	9	6	8	4	0	23	4	3	5
Sought mainly part-time	3	2	4	5	3	0	4	4	3
Did not specify full-/part-time	0	5	0	0	13	2	21	0	49
Self-employed	1	3	1	0	0	3	1	1	2
No response	0	0	0	0	5	1	3	1	0

**Table 11**  
**How much did the employed work, share of unemployed aged 15–24, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
<b>15–24</b>									
Full-time	80	79	37	61	54	25	43	52	61
Part-time	20	21	63	39	46	75	57	47	38
No response	0	0	0	0	0	0	0	0	1
<b>15–19</b>									
Full-time	86	76	17	40	41	7	24	30	33
Part-time	14	24	83	60	59	93	76	69	65
No response	0	0	0	1	0	0	0	0	2
<b>20–24</b>									
Full-time	78	80	53	69	63	37	53	59	71
Part-time	22	20	47	31	37	63	47	40	28
No response	0	0	0	0	0	0	0	0	0

**Table 12**  
**How much did the employed work, share of employed aged 15–24, who were students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
<b>15–24</b>									
Full-time	71	72	21	37	36	10	15	21	27
Part-time	29	28	79	62	64	90	84	78	72
No response	0	0	0	0	0	0	0	0	1
<b>15–19</b>									
Full-time	86	75	12	28	30	5	14	15	14
Part-time	14	25	88	72	70	95	86	85	84
No response	0	0	0	1	0	0	0	0	2
<b>20–24</b>									
Full-time	42	69	33	44	43	16	16	27	42
Part-time	58	31	67	56	57	84	83	73	58
No response	0	0	0	0	0	0	1	0	1

**Table 13**  
**How much did the employed work, share of employed aged 15–24, who were *not* students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
<b>15–24</b>									
Full-time	88	86	69	83	81	57	73	67	76
Part-time	12	14	31	17	19	43	27	33	23
No response	0	0	0	0	0	0	0	0	1
<b>15–19</b>									
Full-time	84	80	48	71	79	36	62	54	61
Part-time	16	20	52	29	21	64	38	46	36
No response	0	0	0	0	1	0	1	0	3
<b>20–24</b>									
Full-time	88	86	73	85	81	59	75	69	79
Part-time	12	14	27	15	19	41	25	31	21
No response	0	0	0	0	0	0	0	0	0



**Table 14**  
**Degree of attachment to the labour market among the employed, aged 15–24, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
PA	63	44	78	56	66	51	75	43	86
TA	37	56	22	43	32	47	24	57	13
No response	0	1	0	0	2	2	1	0	1
15–19									
PA	20	23	80	48	61	44	69	23	80
TA	80	77	20	52	36	53	29	77	18
No response	0	1	0	0	2	3	2	0	2
20–24									
PA	84	51	77	60	69	57	78	49	88
TA	16	48	23	40	29	42	21	51	11
No response	0	1	0	0	2	1	1	0	1

**Table 15**  
**Degree of attachment to the labour market among the employed, aged 15–24, who were students, by age, 2011. Percent.**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
PA	26	21	74	49	64	47	72	24	79
TA	74	78	26	50	34	51	26	76	19
No response	0	1	0	0	3	3	2	0	1
15–19									
PA	8	19	79	48	63	43	71	20	78
TA	92	80	21	51	34	54	26	80	20
No response	0	1	0	0	3	3	2	0	2
20–24									
PA	60	22	68	50	64	51	74	28	80
TA	40	77	32	50	33	47	25	72	19
No response	0	1	0	0	3	2	1	0	1

**Table 16**  
**Degree of attachment to the labour market among the employed, aged 15–24, who were not students, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
PA	90	67	85	63	69	61	77	51	89
TA	10	32	15	37	30	38	22	49	11
No response	0	1	0	0	1	1	1	0	1
15–19									
PA	74	42	83	46	55	48	60	28	82
TA	26	57	17	54	43	50	38	72	16
No response	0	1	0	0	2	2	2	0	3
20–24									
PA	92	70	86	66	73	62	80	55	90
TA	8	30	14	34	26	37	19	45	10
No response	0	1	0	0	0	1	0	0	1

**Table 17**  
**Share of unemployed aged 15–24 seeking work or awaiting a job that would begin within three months respectively, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
Awaiting a job that begins within 3 months	8	5	7	14	12	6	6	14	2
Sought work	92	95	93	86	88	94	94	86	98
15–19									
Awaiting a job that begins within 3 months	8	8	7	17	12	5	6	18	2
Sought work	92	92	93	83	88	95	94	82	98
20–24									
Awaiting a job that begins within 3 months	8	4	8	11	12	7	6	12	2
Sought work	92	96	92	89	88	93	94	88	98

**Table 18**  
**Share of unemployed aged 15–24 years who were students and seeking work or awaiting a work would begin within three months respectively, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
Awaiting a job that begins within 3 months	9	10	8	18	16	6	10	21	1
Sought work	91	90	92	82	84	94	90	79	99
15–19									
Awaiting a job that begins within 3 months	11	11	6	19	13	5	7	21	1
Sought work	89	89	94	81	87	95	93	79	99
20–24									
Awaiting a job that begins within 3 months	8	7	12	18	21	8	18	20	1
Sought work	92	93	88	82	79	92	82	80	99

**Table 19**  
**Share of unemployed aged 15–24 years who were *not* students and seeking work or awaiting a job that would begin within 3 months respectively, by age, 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
15–24									
Awaiting a job that begins within 3 months	7	3	6	7	6	6	1	8	2
Sought work	93	97	94	93	94	94	99	92	98
15–19									
Awaiting a job that begins within 3 months	7	5	10	8	7	5	3	10	2
Sought work	93	95	90	92	93	95	97	90	98
20–24									
Awaiting a job that begins within 3 months	8	3	5	7	5	7	0	7	2
Sought work	92	97	95	93	95	93	100	93	98

**Table 19**  
**Share of unemployed aged 15–24 seeking work or awaiting a job that would begin within three months respectively, by age, Q1 2011 – Q4 2011. Percent**

	AT	DE	DK	FI	IS	NL	NO	SE	UK
Quarter 1									
Awaiting a job that begins within 3 months	7	3	9	5	0	5	1	9	1
Sought work	93	97	91	95	100	95	99	91	99
Quarter 2									
Awaiting a job that begins within 3 months	9	5	7	24	28	8	11	23	1
Sought work	91	95	93	76	72	92	89	77	99
Quarter 3									
Awaiting a job that begins within 3 months	12	9	9	11	2	8	9	13	3
Sought work	88	91	91	89	98	92	91	87	97
Quarter 4									
Awaiting a job that begins within 3 months	4	3	3	7	6	4	2	9	1
Sought work	96	97	97	93	94	96	98	91	99

## Appendix 4 – Other tables

The appendix contains data from the OECD report Education at a Glance 2012.

**Table 20**

**Share of students (regardless of age) who attended vocational training with at least 25 percent of study time at a workplace, 2010. Percent**

	Share of students who attended vocational training with at least 25 percent of study time at a workplace (%).
Denmark	45.3
Finland	13.4
Iceland	14.6
The Netherlands	20.9
Norway	15.3
Sweden	0/n
United Kingdom	No data
Germany	45.5
Austria	34.6



- 2007:1 Några väsentliga sysselsättningsbegrepp i den officiella statistiken
- 2007:2 Registerbaserad aktivitetsstatistik
- 2008:1 Ungdomar utan fullföljd gymnasieutbildning – en undersökning med många utmaningar
- 2009:1 Longitudinell Integrationsdatabas för Sjukförsäkrings- och Arbetsmarknadsstudier (LISA) 1990–2007
- 2010:1 Principiella grunder för Arbetskraftsundersökningarna (AKU) och arbetsmarknadsstatistiken
- 2010:2 Rekryteringsstatistik från AKU
- 2011:1 Basic principles for Labour Force Surveys (LFS) and labour market statistics
- 2011:2 Recruitment Statistics for the Swedish Labour Force Survey
- 2011:3 Arbetskraftsundersökningarna (AKU) 50 år. Fyra forskarperspektiv på arbetsmarknaden
- 2011:4 Longitudinell integrationsdatabas för Sjukförsäkrings- och Arbetsmarknadsstudier (LISA) 1990–2009
- 2011:5 Yrkesregistret med yrkesstatistik. En beskrivning av innehåll och kvalitet
- 2011:6 Urvals- och estimationsförfarandet i de svenska arbetskraftsundersökningarna (AKU)
- 2011:7 Konjunkturberoende i inflödet till och utflödet från högre studier
- 2012:1 Actual Hours Worked in the Swedish LFS. Four articles
- 2013:1 Ungdomsarbetslöshet – jämförbarhet i statistiken mellan ett antal europeiska länder
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