

# The Swedish Occupational Register with statistics (YrkesReg) 2009

AM0208

*First of all, this description provides administrative and legal information on the survey and states its purpose and historical background. The survey's content and reliability is then presented along with how it is implemented and how you can access the results. Clicking on a heading in the table of contents takes you directly to the relevant section.*

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## A General information

### A.1 Subject area

*Subject area* Labour market

### A.2 Statistical area

*Statistical area* Employment, gainful work and working hours

### A.3 SOS- classification

*Belongs to (SOS)* Yes



*Special rules apply for surveys that are included in the official statistics of Sweden concerning quality and availability. Please see the Official Statistics Ordinance (2001:100).*

### A.4 Statistics coordinator

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## **A.6 Obligation to provide information**

The majority of the occupational data is collected from enterprises and organisations, all of whom have a legal obligation to provide data in accordance with the Official Statistics Act (2001:99). The statistics are also regulated by the Official Statistics Ordinance (SFS 2001:100) and Statistics Sweden's regulations (SCB-FS 2010:6).

## **A.7 Confidentiality and rules for handling personal information**

*Chapter 24, Section 8 of the Swedish Secrecy Act (2009:400) governs confidentiality regarding the authority's specific task for the production of statistics. The rules laid down in the Personal Data Act (1998:204) apply to the automatic processing of personal information. Within the area of statistics, there are also specific rules on the handling of personal data in the Official Statistics Act (2001:99) and the Official Statistics Ordinance (2001:100).*

## **A.8 Archiving regulations**

Forms and data media received as part of the Statistic Sweden business survey are saved for two years. Whether the register information needs to be retained or not will be assessed. None of the data is currently filtered

## **A.9 EU- regulations**

There are no EU regulations.

## **A.10 Objectives and background**

The Swedish Occupational Register replaces the occupational data previously collected as part of the population and Housing Census (FoB). Another important aspect is how to handle the occupational data for persons who were previously classified by occupation but no longer work. Examples of such groups include pensioners and unemployed persons.

Data are retrieved from, among other sources, the Wages and salaries statistics and a questionnaire survey to private employers. The aim is to produce statistics on occupations and occupational trends within different industries and social sectors. Work on developing an occupational register was started at the end of the 1990s and in 2003, data from the first register relating to 2001 were published. Between 2001 and 2004, statistics on the three-digit SSK level were presented. From 2005 onwards, the Swedish Occupational Register began presenting its statistics on the four-digit SSK level although not for engineers,

the data for whom were not presented on a four-digit SSYK level until the register relation to 2007, when the four-digit level was considered to be of adequate quality. Since 2007, single-employee enterprises have been included in the sample, improving the statistics for this group as well.

Occupational data is used for many diverse purposes, such as education and labour market planning, occupational medicine and social science research and when studying occupational safety, work environment and gender equality.

### **A.11 Use of the statistics**

The major users of the statistics are government ministries, central and regional authorities, municipalities, county councils, organisations, research institutes and the International Labour Organization (ILO). The general public and entrepreneurs also have a major interest in the statistics.

### **A.12 Design and implementation**

The register is based on occupational data from about 20 different sources, the most important ones being:

- Salary structure statistics, private sector
- Salary structure statistics, municipal sector
- Salary structure statistics, public sector
- Salary structure statistics, county council sector
- Occupational survey to employers, private sector
- The Longitudinal Individual Database (LINDA), business survey
- Short-term business statistics, salaries in public sector
- Salary statistics from various employer organisations

Furthermore, the Statistics Sweden Farm Register (LBR), Total Population Register (RTB), Employment Register (SREG), Register of Jobs, Studies and Other Activities (AREG) and the Register of the Educational Attainment of the Population (UREG).

Apart from in a few individual sources, the data are provided by *employers*. In *the public sector*, mostly separate total population surveys are carried out. When collecting data, Statistics Sweden cooperates with the Swedish Association of Local Authorities and Regions and the Swedish Agency for Government Employers. Most of the data from the government sector refer to *1 September*, while the data for services in county councils and municipalities refer to *1 November*. Employees in municipality-owned foundations and companies, government-owned companies and business-driven public utilities are counted as private sector employees.

The wage and salary structure statistics for *the private sector* (SLP) are based on negotiated agreement statistics produced by different employer organisations

and a supplementary survey carried out by Statistics Sweden. When collecting data, Statistics Sweden cooperates with the Confederation of Swedish Enterprise (previously Swedish Employers' Confederation (SAF)) and six other employer organisations. The survey is mainly sample-based, a total population survey is only carried out among enterprises with at least 500 employees. The sample includes just over 11 000. Most of the occupational data refers to *1 September* 2001 and thereafter. At the request of the Church of Sweden Parish Association, Statistics Sweden performs a comprehensive survey of employees in the Church of Sweden, which has belonged to the private sector since 2000. The Church's measurement period is *1 November*.

Employment data from enterprises not included in the salary structure statistics, mainly smaller enterprises and organisations with 1-19 employees, are collected on a continuous basis by Statistics Sweden using a special occupational survey during the spring and autumn. About 47 000 enterprises are surveyed every year on a rolling schedule, according to which all enterprises are surveyed every four to five years.

Over 500 000 enterprises and organisations have either directly or indirectly submitted occupational data to the register.

### **A.13 International reporting**

There is no international reporting

### **A.14 Planned modifications in future surveys**

New supplementary sources may be of interest to use to reduce non-response. There are plans to begin presenting occupational statistics for sole proprietors in the future.

## **B Quality declaration**

### **B.0 Introduction**

The Swedish Occupational Register provides the basis for up-to-date annual occupational statistics, in which occupations are initially presented on the Swedish Standard Classification of Occupations (SSYK) three-digit and four-digit level. Since these are basically total population statistics, they can be presented on a low regional level.

The occupational statistics are primarily based on data that have already been collected in various statistical registers and then supplemented by an occupational survey chiefly among smaller enterprises and organisations. The quality

of the occupational register therefore depends to a large extent on the quality of the other sources. For more detailed data on the quality of each source, please see the individual descriptions of the statistics.

The occupational variable is classified in accordance with SSYK (Swedish Standard Classification of Occupations 1996) on the four-digit level.

Each sub-sector in the *public sector* has its own occupational terminology. To be able to present comparable statistics, the different occupational data must be translated to SSYK using special translation keys.

The picture is rather fragmented in the *private sector*. Some employer organisations, enterprises and areas covered by agreements use their own occupational terminology that must be translated into SSYK on the four-digit level using the various translation keys, while others use the SSYK code from the beginning.

## **B.1 Contents**

### **1.1 Statistical target characteristics**

#### *1.1.1 Units and population*

The objects in the register are individuals. The population in the register is the entire registered population aged 16 and over on 31 December each year.

The annual official occupational statistics from the register only cover employed (gainfully employed persons or professionally active persons) persons aged 16-64 years with a maximum of one piece of occupational data per person.

#### *1.1.2 Variables*

For persons classified as either gainfully employed or professionally active, the register contains information both on the work that generates the highest earned income, and, where appropriate, on the second-highest earned income.

A list of the statistical variables in each original source is given below:

#### **Variables that originate from the Total Population Register (TPR):**

The person's gender

The person's age in years at the end of the year

The person's domicile: County, municipality

Citizenship

The person's country of birth

#### **Variables that originate from AREG (Register of Jobs, Studies and Other Activities) or SREG (Employment Register):**

The person's employment status

The person's occupational status

Which sector the enterprise belongs to  
The workplace's industrial classification in accordance with the Swedish Industry Classification (SNI)  
The workplace's location: County and municipal code  
The person's gross salary or entrepreneurial income

**Variables that originate from UREG (Register of the Educational Attainment of the Population):**

Highest level of education achieved, level according to SUN (Swedish Education Nomenclature)  
Highest level of education achieved, subject/specialisation according to SUN (Swedish Education Nomenclature)

**Variables that originate from RPU (Register of Participation in Education):**

Persons in education during the autumn

**Variables that originate from other sources:**

Occupational data in accordance with SSYK (Swedish Standard Classification of Occupations)

*1.1.3 Statistical measures*

Number of individuals in each professional group respectively plus percentages.

*1.1.4 Study domains*

Occupations of gainfully employed persons or professionally active persons are reported in terms of:

The person's gender, age, country of birth, education, occupational status, location of the person's domicile, where each workplace is located, its industry and which sector it belongs to.

Two different study domains can be distinguished in the register, firstly gainfully employed persons during November in accordance with the definition used in the labour statistics based on administrative sources (RAMS), and secondly active persons who have been professionally active at some point during the year. The latter study domain includes all those who have received an aggregate salary or entrepreneurial income during the year of at least one price base amount.

*1.1.5 Reference times*

The register is based on the registered population on 31 December, since this is the date the variables that originate from the RTB refer to. Data from AREG and SREG refer to conditions during the reference year, whereas the data from UREG refer to education completed prior to and including the spring term of the

reference year.

For employees aged 16-64, most of the employment data (about 70 percent) refers to conditions during the reference year and in particular during the autumn. Employment data collects the year before or the year after the reference year together make up about 12 percent. The remaining data refer to one of the three years prior to the year before the reference year.

## **1.2 Comprehensiveness**

Self-employed persons are not currently included in any survey and there are therefore as yet no employment data available for them. Furthermore, there are few employment data for persons employed onboard ship, pieceworkers, temporary employees, fixed-term (project) employees, employees receiving income support, elected representatives and persons under 18 or over 64 since these categories are not included in the salary structure statistics. Neither does our own survey adequately cover these groups.

## **B.2 Accuracy**

### **2.1 Overall accuracy**

The variable values in the occupational statistics from the Swedish Occupational Register are based on a number of different sources and total quality depends on the quality of these statistical sources. For more detailed data on the quality of each source, please see the “Description of the statistics” sections of the various surveys.

A project to analyse the coding process in the occupational register has been performed. This project also drew a comparison between the coding in the Swedish Occupational Register and in the Labour Force Survey (LFS). See the final report by *Rahm F et al (2007)*. “*Kodningsprocessen yrkesregistret, SCB*” [*The coding process in the Swedish Occupational Register, Statistics Sweden*] that can be downloaded from the Occupational register’s website.

### **2.2 Sources of inaccuracy**

Since the occupational statistics are based on a number of different registers, concepts such as poor coverage, non-response, measurement error etc have been defined differently depending on the source. Please refer to the “Description of the statistics” section of each survey for a more detailed description of the quality of the various registers included.

#### *2.2.1 Sampling*

The occupational statistics are to all intents and purposes total population statistics. The Swedish Occupational Register collects occupational data from around 20 different registers and surveys, the largest source being the salary

structure statistics for the public and private sector. Employment data from enterprises not included in the wage and salary structure statistics, mainly smaller enterprises and organisations with 1-19 employees, is collected on a continuous basis by Statistics Sweden using a special employment survey during the spring and autumn. About 47 000 enterprises are surveyed every year on a rolling schedule, according to which all enterprises are surveyed every four to five years.

### 2.2.2 *Frame coverage*

The Total Population Register (RTB) is used to delimit the registered population as of 31 December. There is undercoverage of those who moved into Sweden and overcoverage of those who emigrated or who died before 31 December but too late for the changes to be registered in the RTB. For more information, please see “Description of the statistics” for the Population Statistics (BE0101).

### 2.2.3 *Measurement*

For more detailed data on the quality of each source, please see the separate “Description of the statistics” sections in each source.

Measurement error occurs, for example, when determining the workplace and associated data on industry and location. The method of using data on salaries and entrepreneurial income to determine whether a person has been gainfully employed during November or not produces a number of misclassifications.

Occupation is a multifaceted concept that is difficult to define. To satisfy different needs, several classification systems have been developed, based on separate criteria. Regarding salary statistics, for example, there are a number of occupational terms that only concern certain occupational areas and whose use is very narrow and specific. So that the occupational data in the various sources can be compared, data that is not classified in accordance with the Swedish Standard Classification of Occupations (SSYK) must be translated using different translation keys. Depending, among other things, on the degree of detail of the original terminology and similarities with SSYK, such a translation can be more or less complete.

To facilitate occupational coding, brief information about the SSYK is enclosed with the Statistics Sweden surveys, including a short description of each occupational group and an index of the different occupations. Respondents are also directed to a website where more information and a search function for all the occupations are available. Despite these technical aids, occupational data classified in accordance with SSYK by the respondent may lack quality. The respondent doesn't always have time or the opportunity to study the classification system in any great detail. Furthermore, many jobs are complex and cover vastly different working tasks.

#### 2.2.4 *Non-response*

The occupational statistics for 2009 lack data for 3.6 percent on the 3-digit level and 4.3 percent on the 4-digit level of the study domain “Employed persons aged 16-64”. This is because certain types of enterprise are not surveyed, because certain categories of employee are not included in the pay statistics survey population or because the enterprises that are selected fail to submit data.

Enterprises in the private sector chosen as data providers in the pay and occupation surveys are legally obliged to submit data. To minimise non-response, the selected business operators are reminded both in writing and by telephone. Enterprises that despite several reminders still fail to reply may be fined for non-compliance.

#### 2.2.5 *Data processing*

In most cases, the employer has classified his or her employees into occupations, only in a small number of cases has Statistics Sweden coded employees based on an occupational term. Occupations are determined based on the individual’s working tasks at the time the measurement is taken and do not necessarily have a direct association with the person’s education/vocational training. A person can in principle change occupations in connection with each new employment and may even have several occupations simultaneously. Submitted data are primarily registered by scanning them. They are then reviewed and respondents are contacted by telephone if supplementary information is required.

Processing errors occur in connection with the scanning, data registration and review processes, but are considered to be minor in relation to other sources of error.

If possible, all the persons in the register have been assigned occupational data that are connected with each job respectively. If there are no occupational data for the job in question or if the person hasn’t worked at all, the latest available data are entered into the register.

The risk of processing error when matching the data against the Population Register, Register of Jobs, Studies and Other Activities, Employment Register, Register of educational attainment in the population (UREG) and Register of persons in education in order to retrieve background variables seems to be minimal since the populations in all the registers have been reconciled with the Population Register. Processing errors can however occur when these registers are created separately, see the “Description of the statistics” section of each respective source for more information.

#### 2.2.6 *Model assumptions*

The classification of persons who have been gainfully employed or not during November is based on model assumptions. Please refer to the labour statistics based on administrative sources (RAMS) for details.

### **2.3 Presentation of accuracy measures**

Numerical accuracy measures are not presented.

## **B.3 Timeliness**

### **3.1 Frequency**

The statistics are compiled annually.

### **3.2 Production time**

The statistics are normally produced between January and March two years after the reference year, i.e. 13-15 months after the reference year. The timing depends primarily on the production of AREG and SREG for the reference year in question.

### **3.3 Punctuality**

The Swedish Occupational Register is currently ready in March, 15 months after the end of the measurement year. Publication has gone according to plan.

## **B.4 Comparability and coherence**

### **4.1 Comparability over time**

Previous total population occupational statistics were produced in connection with the Population and Housing Census of 1990 (FoB 90). They were based on occupational data submitted by every person in work. The occupational data were then classified centrally by Statistics Sweden in accordance with the applicable Nordic Classification of Occupations (NYK 83) at that time.

The occupational statistics from FoB 90 and from the Swedish Occupational Register differ in several ways. The NYK classification system has been replaced by SSYK, which is based on the international classification of occupations, ISCO-88. The data providers in FoB 90 were private individuals whereas the data in the Swedish Occupational Register are based on employers' classifications. A translation key between NYK and SSYK has been created to allow historical comparisons.

Comparisons between the annual versions in the Swedish Occupational Register should be made with the utmost caution as changes have occurred in the underlying terminology that have affected the statistics. For further information on the changes, please visit [www.scb.se/YRKE](http://www.scb.se/YRKE)

### **4.2 Comparability between domains**

Statistics Sweden performs labour force surveys (LFS) in order to follow short-term changes in the labour market. These take the form of interview surveys

with a sample of about 29 500 persons each month. Questions are asked about occupations and main working tasks, which are then classified in accordance with SSYK.

When comparing occupational data from LFS and the Swedish Occupational Register, attention should be paid to the fact that employed persons and self-employed persons are classified differently. Occupational data in LFS are submitted by every individual person, while the data in the Swedish Occupational Register are based on employers' classifications. It is now known whether there are any systematic differences between an employee's and an employer's way of describing an occupation or job.

#### **4.3 Coherence with other statistics**

RAMS provides annual information on employment, commuting, etc. The occupational statistics from the Swedish Occupational Register as regards gainfully employed persons relates to RAMS.

Statistics on pay, pay trends, wage spread and pay structure broken down by, among other things, by occupation (SSYK) are presented as part of the official pay structure statistics, which also source the Swedish Occupational Register.

### **B.5 Availability and clarity**

#### **5.1 Dissemination forms**

The official occupational statistics are published annually in the Statistics Sweden "Statistical database" on the Statistics Sweden website and in a statistical report (SM). Occupational statistics from the Swedish Occupational Register have been published in the Statistical Yearbook since 2004.

#### **5.2 Presentation**

The statistics are presented using tables, diagrams and text.

#### **5.3 Documentation**

The occupational register statistics are documented according to Statistics Sweden's documentation system; The quality of the statistics is described in the "Description of the statistics" section, known as BaS (this document). The production of the statistical register and the statistics is described in "Documentation of the statistics", known as SCBDOK. Detailed information on microdata in the register is described in the "Microdata documentation", known as MetaPlus. All this documentation is available on the Statistics Sweden website adjacent to the published statistics.

#### **5.4 Access to microdata**

Statistics Sweden will process the primary material upon request. Researchers,

investigators, etc., may in some cases be given access to de-identified material for further processing. Due consideration is given before doing this, however.

### **5.5 Information services**

E-mail: yrkesregistret@scb.se.

You can also call the Swedish Occupational Register on: +46 19-17 65 10.