

In English

1 Introduction SSYK 2012

1.1 Background

The Swedish Standard Classification of Occupations 2012 (SSYK 2012) is a system for classifying and aggregating data about occupations in administrative registers or statistical surveys. An example of the use of SSYK is to classify people by the work they do and, as regards employment agency services, to classify job vacancies and job-seekers.

SSYK 2012 is an update of the previous classification of occupations SSYK 96, which it also replaces. SSYK 2012 is based on the International Classification of Occupations 2008 (ISCO-08), which is an update of its predecessor ISCO-88 and ISCO-88COM¹ which in turn formed the basis of SSYK 96.

1.2 ISCO-08

The structure of ISCO-08 was established in December 2007 at a meeting of experts organised by the International Labour Organization (ILO) attended by employer, employee and governmental representatives. The update has been performed in accordance with the mandate adopted at the 17th International Conference of Labour Statisticians (ICLS), arranged by the ILO in 2003.

Globalisation of the labour market has increased the demand for internationally comparable data about occupations for both statistical and administrative purposes. ISCO-08 aims to meet this need by:

- providing an up-to-date and relevant basis for international reporting, comparisons and exchange of information about occupations
- serving as a model for the development of national and regional classifications of occupations
- being applicable to countries that are not developing their own national classifications of occupations.

Much the same as ISCO-88, ISCO-08 is a hierarchical classification on four levels; 436 *Unit groups* comprise the most detailed level, which can be aggregated into 130 *Minor groups*, into 43 *Sub-major groups* and 10 *Major groups*. The classification is based on similarities as regards skills and specialisation. The changes made to the classification, despite being entitled an 'update' and not a 'revision', are relatively substantial and affect many categories. It has focused on clarifying ambiguities in the previous version and on adding new occupations to the classification, which has also been adapted to today's labour market. This applies in particular to occupations related to the environment, information and communication technology (ICT) and jobs in the healthcare sector.

¹ISCO-88(COM) is the European Union's version of ISCO-88

Some of the most important changes in brief are:

- *Major group 1 (Managers)* has been reorganised. The categories for specialist managers have been redefined while new categories for e.g. managers in the trade sector and in the hotel and restaurant business have been added. The classification of managers into large/mediumsized enterprises and into small enterprises has been removed as has the strict classification by industry. Greater importance is instead attached to the functional role of managers.
- In *Major group 2 (Professionals)*, the number of categories has increased, which depends both on the fact that the occupations have been upgraded and moved from *Major group 3*, and on the fact that new occupations have been added. For example, all teachers, nurses, physiotherapists, occupational therapists, opticians and musicians now belong to this professional group. New occupations in ICT and the environment have been added.
- *Major group 4 (Clerical support workers)* and *5 (Service and sales workers)*, both of which include occupations that in many countries are dominated by women, have been given a more detailed level of classification. Jobs in *Major group 8 (Plant and machine operators, and assemblers)*, that are often dominated by men, have on the other hand been allotted a less detailed level.
- New categories for *supervisors*. According to ISCO 88, supervisors are reported together with subordinate staff, on the assumption that they often participate in operative tasks. In ISCO 08, the fact that certain supervisor jobs include entirely or partly different working tasks has been considered. In order to differentiate these, separate occupational groups have been created for supervisors in the mining industry, manufacturing, building and construction, offices, retailing and hotels and housekeeping. Other supervisors are, as previously, classified together with subordinate staff.

ISCO-08 is not primarily intended as a replacement for existing national classification systems. A standard classification of occupations should preferably reflect the various jobs available on the labour market of the country in question. A country that has a classification of occupations that is closely associated with ISCO-08 in contexts and structure, will on the other hand obtain statistics that are easier to compare internationally. Many countries, including Sweden, have chosen to develop a new classification of occupations based on ISCO-08, but there are also examples of countries with classifications that have a different structure and apply different basic principles. Such countries have instead devised a conversion key to ISCO-08.

1.3 EU regulations

The European Commission recommends the Member States to use ISCO-08 in their reporting from all the surveys included in the European Statistics System (EC No 824/2009) For the *Labour Force Survey (LFS)*, *Survey on Income and Living Conditions (EU-SILC)*, *Structure of Earnings Survey* and other surveys, there is a mandatory regulation (EC 1022/2009). International statistics reporting is normally done on the two- or three-digit level.

1.4 Revision work

To facilitate the implementation of ISCO-08, the Statistical Office of the European Communities, Eurostat, gave the Member States the option of applying for financial support. In October 2009, Statistics Sweden was granted funding to perform a pre-study on how Sweden could best implement ISCO-08, whereupon a project group was formed. The project was divided into several stages, the first of which involved translating the structure and definitions in ISCO-08 into Swedish. The second stage was to classify all occupational titles in Statistics Sweden's Swedish index in accordance with ISCO-08 and to create a conversion key between SSYK 96 and ISCO-08. In addition, two seminars were held with colleagues from the national statistics offices in Norway and Finland. The project came to an end in November 2010.

Parallel to this work, there was an ongoing dialogue with various users and other stakeholders. In February 2010, an initial letter was sent out to external users, asking them for their opinion on whether the SSYK should be revised and if so, when? The responses gave a uniform picture; Much of SSYK 96 was seen as obsolete, ISCO-08 reflected the current labour market much better. The majority of users were also very keen to see a prompt revision of SSYK, as national adjustments were seen to be necessary.

During the first six months of 2010, a report was compiled on the consequences for Sweden of updating ISCO-88 (Statistics Sweden 2010). This report, intended to serve as a basis for an update of SSYK, was also sent to the relevant employer and employee organisations, agencies, researchers and analysts.

In September 2010, Statistics Sweden and the Swedish Public Employment Service launched a joint project to update SSYK. A joint project group and steering group were set up. During the course of the project, a large number of stakeholders have had the opportunity to submit comments and proposals for improvement.

A first draft of a new structure was presented in May 2011. The draft explained which considerations had been made and which requests could not be met (Statistics Sweden 2011). Work on the structure, names of categories, definitions, indices and conversions keys has continued up until March 2012 after further contact with experts and stakeholders.

1.5 National adjustments

The objective of the SSYK update has been to create a classification of occupations that reflects the Swedish occupational structure, while attempting to satisfy the requirements for international reporting and comparability as far as possible. So as not to lose the comparability with ISCO, the aim has been to avoid moving occupational groups to another skill level. Occupational categories primarily intended for developing countries have been excluded. To ensure the classification is as close to ISCO-08 as possible, the numerical series have followed the international structure as far as possible. This means that occupational groups on the three-digit level, empty as a result of Swedish adjustments, have been deleted and constitute gaps, instead of the series being filled in.

ISCO-08, which forms the basis of the SSYK update, is primarily designed so that it reports occupational statistics on an overarching level from population censuses and labour force surveys. The Swedish version, however, also currently covers:

- wage and salary structure statistics and other statistical studies
- classification of job vacancies and job seekers
- registration of occupational accidents, injuries or illnesses
- application for work permits in Sweden.

More applications like this also put various requirements on the classification, which means that the end-result has to be a compromise between different needs.

The Swedish adjustments are based on both experience gained from the application of SSYK 96 and the comments received from various stakeholders in connection with the revision work or on an earlier occasion. The changes made to SSYK are warranted primarily for statistical reasons (pay differentials, gender equality), better job matching and international reporting requirements.

It has not been possible to satisfy all the requests received from various stakeholders. There is little point in having a greater level of detail in the classification, for example, if it is achieved at the expense of quality. The working group has based these considerations on the following criteria:

- If it is not possible to create a clear distinction between different occupations so that it is obvious how interviewers, employers and jobseekers are to classify the occupation, the preconditions will not be in place to create occupational statistics of acceptable quality.
 - From a matching point of view, it is not relevant to create as many and as detailed occupational categories as possible.
 - An occupational group or an occupation performed by very few people cannot be reported separately in Statistics Sweden's sample surveys, e.g. the labour force surveys or wage and salary structure statistics.
- The adjustments to the Swedish labour market (in relation to ISCO-08) mainly consist of:
- more categories of managers, including an additional breakdown into two different levels of responsibility
 - more categories in Sub-major group 21 (Occupations requiring an advanced level of higher education in science and engineering)
 - more categories in healthcare, mainly for nurses and for health and care personnel in Major group 5 (Service, care and shop sales workers)
 - more categories for university and higher education teachers
 - more categories in the legal field
 - more categories in the social field
 - a rearrangement of the categories in Major group 4 (Service and administration clerks)
 - fewer categories in Major group 6 (Agricultural, horticultural, forestry and fishery workers)

- fewer categories in Major group 7 (Building and manufacturing workers)
- more categories in Major group 8 (Mechanical manufacturing and transport workers, etc.)
- fewer categories in Major group 9 (Elementary occupations).

As regards *police officers*, it has not been possible to follow ISCO's intentions to distinguish between 3355 (*Police inspectors and detectives*) and 5412 (*Police officers*). The educational and skills requirements for the majority of Swedish police officers are very similar. In the Swedish version, all police officers are therefore categorised (excluding managers) under Major group 3.

According to ISCO, all work in the armed forces belongs to *Major group 0 (Armed forces occupations)*. According to SSYK 2012 jobs in the armed forces that have a civilian equivalent are to be moved to their respective category in Major groups 2-9.

The overview of the classification structure in English follows ISCO-08 as far as possible but is not a direct translation of the Swedish headings.

1.6 Relationships to others standards and occupational systems

SSYK 2012 is an update of SSYK 96. The changes are significant; categories have been added, aggregated, divided up, moved or been deleted. The content of many categories remains unchanged, however, but the categories themselves may have been given a new code and/or name. To facilitate comparisons over time, Statistics Sweden has developed conversion keys between SSYK 2012 and SSYK 96 (See Appendices 1 and 2). The conversion key in Appendix 3 can be used for international reporting in accordance with ISCO-08 on the three-digit level. The conversion keys can also be found online at: www.scb.se/ssyk.²

In order to satisfy the needs of the labour market parties to shed light on the wage and salary structure, occupational terminologies that follows the various sectors and the agreements drawn up between employers and workers representatives have been used on the Swedish labour market for a long time. Each nomenclature covers only those occupations or employment positions that are in the relevant labour market sector, albeit significantly more detailed than SSYK. Concerning data collection for the salary statistics and the occupational register, the classification has been performed in accordance to a relevant occupational nomenclature, which is then converted to SSYK using a conversion key.

²Only in Swedish.

2 Structure and fundamental principles:

The structure and underlying principles in SSYK 2012 are to all intents and purposes unchanged compared to SSYK 96. The number of categories on each level is shown in the following table:

Level/Code	SSYK 96	SSYK 2012	ISCO 08
Major group/Single-digit level	10	10	10
Sub-major group/Two-digit level	27	46	43
Minor group/Three-digit level	113	147 ³	130
Unit groups/Four-digit level	355	429 ⁴	436

Example:

Major group: 5 Service and shop sales workers

Sub-major group: 53 Personal care workers

Minor group: 531 Child minders and teachers aids

Unit group: 5311 Child care workers

The fundamental concepts on which the classification is based are *job* and *qualifications*. These are essentially defined in the same way as in ISCO-08.

2.1 Definition of job and occupation

A *job* is defined as a set of tasks and duties performed or meant to be performed by a person who is employed or self-employed.

The concept of occupation refers to the type of work performed. A number of different jobs with similar tasks and duties constitutes an occupation.

Example: A job can consist of driving a bus between airport terminals and aircraft, another of driving a coach between the airport and the city centre, while a third might be driving a school bus. Three separate jobs with slightly different conditions but the occupation is the same - bus driver.

The same person can be associated with an occupation through the job he or she has at present, has had previously or is seeking to have in the future.

The classification attaches no or little weight to a person's formal education, his or her employment status (employed/self-employed) or the enterprise's industry and size.

2.2 Skill level and skill specialisation

Skills, defined as the knowledge and expertise needed to perform the tasks and duties attached to a given occupation, have two dimensions: skill level and skill specialisation. Skill level is mainly used as the criterion on one-digit level, while specialisation is often the guiding principle on the more detailed sub-levels.

³The categories for Nurses comprise two minor groups.

⁴The number of unit groups is based on the proposed recommendation for a breakdown into two levels of managerial responsibility.

2.2.1 Skill level

Skill level reflects the type of working tasks and their complexity. It is applied operationally by considering one or more of the following aspects when classifying an occupation:

- The tasks involved in the occupation compared with those described under different Major groups with their associated skill level.
- The length of formal education that is normal for the occupation, defined in accordance with the International Classification of Education ISCED-97.⁵
- The working life experience and amount of informal training required in the occupation.

To facilitate international comparisons, the first of these three criteria weighs heavier than formal education and working life experience. Formal education is only to be seen as one of several components that indicate a skill level; knowledge and expertise needed in an occupation may also have been gained through professional experience. As the length of formal education tends to be extended, it may also be difficult to clarify what is normal for an occupation.

It should be observed that what is referred to here are the skills that are normal for an occupation, which do not necessarily tally with the skills possessed by the employee who is performing the job.

Since SSYK 2012 is based on an international classification, only four broad skill levels have been defined:

- Level 1 corresponds to ISCED 97.-97 Level 1, which covers elementary education at primary school level. Translated into a Swedish context, this means no or a low formal education requirements.
- Level 2 corresponds to ISCED 97.-97 Level 2–4, which covers education programmes at upper secondary and tertiary level of no more than 2 years in length.
- Level 3 corresponds to ISCED 97 Level 5b, which covers practical or vocational tertiary education programmes of 2-3 years in length.
- Level 4 corresponds to ISCED 97 Level 5a-6, which covers theoretical or research-oriented tertiary education programmes and third-cycle programmes of at least 3 years, normally 4 years or longer in length.

⁵International Standard Classification of Education, UNESCO 1997.

The Major groups in SSYK 2012 are associated with the following skill levels:

Major group/ Sub-group	Name	Skill level
1 (excl. 17)	Managers	4
17	Operations managers in service industries	3
2	Occupations requiring advanced level of higher education	4
3	Occupations requiring higher education qualifications or equivalent	3
4	Administration and customer service clerks	2
5	Service, care and shop sales workers	2
6	Agricultural, horticultural, forestry and fishery workers	2
7	Building and manufacturing workers	2
8	Mechanical manufacturing and transport workers, etc.	2
9	Elementary occupations	1
01	Commissioned officers	4
02	Non-commissioned officers	3
03	Other ranks (privates. etc.).	2

2.2.2 Specialisation

The more detailed levels in SSYK 2012 are primarily based on the similarities in the specialisation required for a job. The following aspects have been considered:

- the required subject knowledge
- the tools, equipment and machines used
- the type of material processed
- the type of product or service produced.

3 Description of the standard

SSYK 2012 is intended to cover all jobs on the Swedish labour market for which salary or other compensation is paid. Voluntary work is excluded, but it should be possible to classify unpaid work in the family business. In principle, it should only be possible to classify any given job in one way.

The classification covers the following ten broad occupational fields (Major groups):

- 1 Managers
- 2 Occupations requiring advanced level of higher education
- 3 Occupations requiring higher education qualifications or equivalent
- 4 Administration and customer service clerks
- 5 Service, care and shop sales workers
- 6 Agricultural, horticultural, forestry and fishery workers
- 7 Building and manufacturing workers
- 8 Mechanical manufacturing and transport workers, etc.
- 9 Elementary occupations
- 0 Armed forces occupations

3.1 Level of responsibility for managers

One request during the development of SSYK 2012 has been for Swedish use to reflect levels of responsibility for managers.

The highest executive manager level, Sub-major group 11, in organisations with managerial hierarchies follow the international proposal. A matrix model has been developed for other managers for Sub-major groups 12-17. Three-digit codes are used to identify four-digit categories in accordance with ISCO-08 and Swedish adjustments. The fourth digit is used purely for:

- 1 = Department managers, or intermediate-level managers. Reporting to the managing director (MD) or equivalent.
- 2 = Line managers reporting to intermediate managers or managing director (MD) or equivalent. Highest manager in enterprises with no managerial hierarchy.

For certain categories, where there is reason to believe that no breakdown into different levels of responsibility is necessary or possible, the fourth digit is set to 0. In individual surveys, it is possible to choose beforehand not to divide up managers into different levels of responsibility. In such cases, the fourth digit for sub-major groups 12-17 is always set to 0.

The matrix model makes it possible to use the nomenclature without dividing up into skill levels and still fulfil the requirements for international reporting.

3.2 Descriptions of occupations

A category is defined using an associated description. General descriptions have been developed for each major group, sub-major group, minor group and unit group. These descriptions do not however claim to describe all the tasks and duties that may be included in an occupation. An associated

occupation may include all or just some of the enumerated tasks and duties. Examples of occupations that belong or don't belong to the category have been stipulated in order to clarify the boundaries between different categories.

Compared to SSYK 96, the descriptions of occupations for many of the remaining categories have been updated. New definitions for newly added occupations have been developed.

Occupations that do not belong to a specific unit group are classified in a residual group (as and when appropriate). The name of a residual group always starts with the word "Other", while the code finishes with a "9".

3.3 Index of occupational titles

To facilitate classification, Statistics Sweden provides a list (index) of occupational titles with their associated SSYK codes (see documents under www.scb.se/ssyk⁶). The index is regularly updated, but makes no claim to include all existing occupational titles. Since the same occupational title can be used to denote entirely different jobs depending on e.g. industry or sector, such an index must always be used with a certain amount of caution. Information on main tasks and duties often improves the chances of a correct classification. Occupational titles cannot be used to define the content of a category, but are only to be seen as an aid to coding.

3.4 Some application issues

3.4.1 Managers and supervisors

In the Swedish update, which follows the international update, the top manager is to be coded as 1120 Managing directors, etc., in enterprises that are large enough to have a managerial hierarchy. For enterprises that do not have a managerial hierarchy, the top manager is to be coded in submajor group 12-17 by business activity.

Differentiating between managers and supervisors can be problematic. Both managers and supervisors plan, organise, coordinate, control and lead work performed by others. A crucial difference is that supervisors are only responsible for activities performed by other employees, whereas managers classified under Major group 1 must have an overarching responsibility for a department/organisational unit in an enterprise. Furthermore, most managers are responsible for and take decisions on:

- a) the overarching strategic and operative management of an enterprise or organisational unit (e.g. type of product or service, quantity and quality),
- b) budget (how much money that is to be used and for what purposes),
- c) selection, hiring and firing of personnel.

It is not necessary for managers to be responsible for all three of these areas, as the degree of autonomy may vary.

Supervisors may give advice in these issues, especially when it comes to personnel issues, but don't have authority to take decisions. They often have work experience of one of more of the jobs they supervise.

⁶Only in Swedish.

Both ISCO-08 and SSYK 2012 have taken into account the fact that supervisors don't always perform the same tasks as their subordinate staff. The following separate unit groups have therefore been created for supervisors in SSYK 2012:

3121 Construction, plant and mining supervisors
3122 Manufacturing supervisors
3341 Office supervisors
4321 Stock and warehouse supervisors
5151 Cleaning supervisors and head housekeepers
5221 Shop sales and shop department managers

Other supervisors are to be classified in the same category as subordinate staff. Relevant tasks and duties in addition to coordination and control of work performed may include instructing new employees and sometimes taking part in day-to-day work.

3.4.2 Jobs with diversified working tasks

The following general rules may be applied where necessary:

- a) If the working tasks require skills that are not normally obtained via a long education or through work experience, the job shall be classified according to the tasks that have the highest skill level.
- b) *Example:* A job that consists of driving a delivery van and loading/unloading goods, is to be classified as "delivery van driver".
- c) If the working tasks can be attributed to both the production and distribution of goods, the job shall be classified as the former.
- d) *Example:* A job that consists of both baking and selling bread shall be classified as "baker", not as shop assistant/salesperson.
- e) If the various tasks and duties can be attributed to production and the skill level is the same, consideration is to be taken of which tasks require the most time.

Example: A job that consists of both assembling doors and door-frames and of installing electric door-closers is to be classified as a joiner.

3.4.3 Trainees and apprentices

Students, apprentices and trainees are to be classified in accordance with their *future* job. This may apply to trainee doctors, legal advisors, carpenters and other handicraft workers.

3.4.4 Doctoral students

Doctoral students constitute their own group in SSYK. Their main task is to study and in cases where teaching and other tasks occur, these are deemed to constitute such a small proportion of their time as to set them apart from other occupational groups working in higher education.

Industrial doctoral students shall primarily be included in the job within the field in which the research is performed.