

**Documentation of statistics for  
Labour Market Account 2016**

## 1 Introduction

New Labour Market Account concerning the population's labour market status have been developed by Statistics Denmark.

The primary purpose of the Labour Market Accounts (LMA) is to provide a complete overview of the population's labour market status compiled in terms of full-time persons, covering a given period of time or a given point-in-time.

## 2 Statistical presentation

The Labour Market Account is compiled annually and provides information on the population's labour market status, where labour-market related activities are given the highest priority. The statistics are compiled in terms of full-time persons.

Data on the population's labour market status are broken down by socio-economic groups i.e. persons in employment, students, unemployed persons and other persons receiving public benefits, children and young people and other people outside the labour force.

### 2.1 Data description

The Labour Market Account is compiled annually and provides information on the population's labour market status, where labour-market related activities are given the highest priority.

With the establishment of the LMA, it is possible for the first time to compile the population's labour market status in terms of full-time persons. This is because a standardization of hours is carried out, where a person of the population is incorporated with 37 hours per week. The total number of full-time persons in the LMA corresponds to the average Danish population.

At the same time, a far better analysis of the labour market is achieved by the LMA, than the previous analyses provided by the existing individual statistics, due to the circumstance that a great number of data sources is integrated and harmonized in one statistical system.

Data on the population's labour market status are broken down by socio-economic groups i.e. persons in employment, students, unemployed persons and other persons receiving public benefits, children and young people and other people outside the labour force.

The statistics are broken down by sex, age, origin and municipality.

The statistics are published in the news letter "Nyt fra Danmarks Statistik" (News from Statistics Denmark) and are also available from the database <http://www.Statbank.dk> and detailed microdata are also made available via Statistics Denmark's Division for Research Services.

## 2.2 Classification system

The LMA are compiled in accordance with the international guidelines laid down by the ILO (International Labour Market Organisation) concerning classification of the population in relation to labour market status. The classification is called ICSE (International Classification of Status in Employment).

The ILO guidelines are aimed at survey-based statistics. In connection with compiling the LMA, an operationalization of the guidelines has been conducted on the basis of the possibilities opened up by the sources when they are register-based.

## 2.3 Sector coverage

The statistics cover all sectors.

## 2.4 Statistical concepts and definitions

**Full-time persons:** The compilation of full-time persons is based on the existing hourly standard, i.e. 37 hours per week. A full-time person corresponds to 37 hours, and a person can at maximum contribute with 37 hours in the LMA.

This implies that if a person has more than 37 hours, a reduction/redistribution is conducted of the hours on the basis of the validity assessed to be inherent in the information. When the information is assessed to be equally valid, employment is given the highest weight.

**Socio-economic status:** Socio- economic status is the core variable in the LMA. The variable is constructed by classifying the population on the basis of the ILO recommendations with regard to concepts and definitions concerning labour market statistics.

**NEET:** NEET stands for *Not in Employment, Education or Training*, and is an indicator for the share of young people of a given age group that is not in employment or education. The indicator is traditionally calculated in Eurostat and OECD, and both are using the international interview based Labour Force Survey (LFS) as data foundation.

Since the LMA is a longitudinal register it is possible to follow the populations attachment to the labour market from day to day. Therefore it is also possible to calculate a NEET-indicator that is based on the same method and definition as the traditional indicators based on survey data from the LFS. The indicator is calculated on the basis of the LMA and includes young people at the age of 16 to 24. The young people are defined as NEET if they are out of employment in the time of reference (last week of November) and haven't been in education within the last four weeks (the last week of November and the previous three weeks).

In April 2017 the register based NEET-indicator based on the LMA is first published and covers the years 2008 to 2015. The LMA covers in contrary to the LFS, which is a sample, the whole population and is published with several background information about the population. Therefore it is with the register based NEET-indicator possible to break down the indicator on other variables such as age, education or geography.

## 2.5 Statistical unit

Full-time persons.

## **2.6 Statistical population**

The population in the LMA is the Danish population.

## **2.7 Reference area**

Denmark.

## **2.8 Time coverage**

The statistics are compiled for the first time. The statistics cover the period 2008 to 2016.

## **2.9 Base period**

Not relevant for the statistics.

## **2.10 Unit of measure**

Full-time persons.

## **2.11 Reference period**

01-01-2016 - 31-12-2016

## **2.12 Frequency of dissemination**

The statistics are published annually.

## **2.13 Legal acts and other agreements**

Section 6 of the Act on Statistics Denmark.

## **2.14 Cost and burden**

No response burden.

## **2.15 Comment**

You can read more about the LMA [Labour market accounts](#).

### **3 Statistical processing**

The primary statistical data for the LMA is a newly developed register called the AMR-UN (LMA without standardization of hours).

The AMR-UN is composed of administrative data, which are integrated and harmonised in a statistical system.

On the basis of the AMR-UN, the LMA is constructed by means of an hourly standardization of the population's labour market status, where a person can at maximum contribute with 37 hours per week, corresponding to the existing hourly standard.

#### **3.1 Source data**

The primary data are obtained from a range of sources, including the e-income register, central business register, income statistics, statistics on persons receiving social benefits and the central population register.

#### **3.2 Frequency of data collection**

The statistics are compiled annually, but data for the statistics are continuously collected.

The reason why the statistics are only published annually is due to the circumstance that the LMA is, e.g. compiled on the basis of the statistics on incomes, which are compiled annually.

#### **3.3 Data collection**

The primary statistical data for the LMA is a newly developed register called AMR-UN (LMA without standardization of hours).

The AMR-UN is composed of administrative data, which are integrated and harmonised in a statistical system. Further information on the LMA and the AMR-UN is available [here](#).

### **3.4 Data validation**

There is uncertainty attached to the information on self-employed persons. This is due to the circumstance that the hourly information for the self-employed is imputed. The information is considered to be correct at a general level in relation to the variables on which the information is imputed upon, but the information – especially at detailed level – must be interpreted with caution.

The information on paid hours of work is obtained from the statistics on employees in employment, where paid hours of work are, in some cases, imputed and consequently the information is uncertain.

Employers are legally obliged to report information on the workplace at which the individual job is performed. However, there are a number of employees, especially within the public sector whose reports are insufficient in this respect. By means of, e.g. Statistics Denmark's central business register, the data reported for these workplaces are subjected to editing, and the job is attached to a workplace, which is Statistics Denmark's statistical unit for job attachment.

On the basis of the LMA, it is possible to compile the population's labour market status at arbitrary points-in-time during the course of the year. However, Statistics Denmark has only tested the compilation of labour market status by the end of November during the different years. This implies that there may be some degree of uncertainty linked to the compilation of labour market status at other points-in-time during the course of the year, and uncertainty can especially be linked to the statistical compilations in December.

### **3.5 Data compilation**

Data processing in the LMA is performed in several stages. They are as follows:

1. Input of data in the source database
2. Data subject to processing of overlaps 1
3. Data subject to processing of overlaps 2
4. Various linkages, etc.

Below, a short description is given of these 4 stages.

#### *1) Input of data in the source database*

The first stage of the data processing involves data from different sources are processed and entered into a coherent and homogeneous source database.

For example, data are entered from the statistics on peoples receiving public benefits, statistics on employees in employment, data for recipients of sickness benefits and maternity benefits and data for person receiving education and training, including course participants.

Data on self-employed persons and assisting spouses are also entered, where the data are obtained from various data sources. At the same time, data on paid hours of work for self-employed persons and assisting spouses are also imputed on the basis of a range of background variables. This information is also entered into the source database.

#### *2) Data subject to processing of overlaps 1*

In this stage, the various data sources from the source database are subjected to processing of overlaps. During the processing of overlaps, so-called "illegal overlaps" are corrected by deleting or reducing the various states or correcting the to- and from-dates. In this way, a better periodicity of the various states of the population is thus achieved.

An example of an illegal overlap is if a person receiving unemployment benefit and at the same time is registered as being in employment. In this context, it has been decided that the information on unemployment benefit is considered to be the most valid. In order to rectify this overlap, attempts are made to find periods during the month in which the person could, alternatively, have been employed, so that the to- and from-dates for the job can be changed. If there are no periods, where the person could, alternatively, have been employed, the number of hours of the employment is reduced.

A number of linkages of the various states are also performed. For example, the states are linked with subsidized employment to the job held by the person. This same also applies to, e.g. persons who are temporarily absent, so that the job from which the person is absent is known and whether the person is absent from employment or unemployment.

Furthermore, a selection of self-employed persons and assisting spouses is also performed on the basis of a wide range of information on these persons.

On the basis of the first processing of overlaps, the so-called AMR-UN register is set up, which constitutes a non-hourly standardized longitudinal register storing information on the population's labour markets status.

### *3) Data subject to processing of overlaps 2*

In the processing of overlaps 2, an hourly standard rate of the population is performed, implying that the population's labour market status can be compiled in terms of full-time persons.

This hourly standard is based on the existing hourly standard, i.e. 37 hours per week. Subsequently, a full-time person corresponds to 37 hours and a person can at maximum contribute with 37 hours in the LMA. This implies that if a person, who is, e.g. receiving early retirement pay and who is at the same time holding a job, the person will, e.g. be included as a 0.9 full-time person in relation to the recipient of early retirement pay and a 0.1 full-person in relation to being in employment.

If a person works for more than 37 hours, a reduction/redistribution of the hours is performed on the basis of the validity that the information is assessed to have. When the information is considered to be equally valid, employment is given the highest weight.

In connection with the compilation of full-time persons, a range of special conditions apply, depending on the person's labour market status:

- Persons in employment are included with the number of hours in which they normally work, i.e. independent of whether the persons are temporarily absent from their job. However, there is a limit that hours above 37 are not included. If a person has several jobs, where the number of hours worked together exceeds 37 hours, the jobs are proportionally written down.
- For some types of temporary absence from employment, there are no data reports on the jobs. This applies to, e.g. temporary absence, due to sickness or maternity leave. In these cases, both jobs and hours worked are imputed. This implies that the persons, who are absent from work, are included on the basis of this state, together with the number of hours that they normally work.
- Persons in subsidized employment receive in some cases payment for more hours than they have actually worked. However, persons in subsidized employment in the LMA will only be included with the number of hours they have worked in the subsidized employment.
- A person can receive various types of public benefits at the same time. When the various types of public benefits are weighted, the number of hours is reduced in the LMA in accordance with the same principles as those applied in the statistics on persons receiving

public benefits. This implies that in the case of an overlap, e.g. between an employee job, guidance and activities upgrading skills and social assistance (passive), a reduction of the number of hours is first conducted concerning social assistance.

#### *4) Various linkages, etc.*

There is no indication of the hours in the various states for persons outside the labour force, who are not included in the statistics on persons receiving public benefits. This applies to children, young people, persons receiving education and training and old-age pensioners.

In this stage, these hours are fixed in such a way that the persons are included as being in the state applying with 37 hours. If a person appears in several categories, a priority is conducted among these categories in accordance with the order of priority below.

1. The state in the data subjected to processing of overlaps
2. Children and young people
3. Old-age pensioners
4. Receiving education and training
5. Recipients of educational grants
6. Course participants
7. Students at production schools
8. Other persons outside the labour force

A wide range of person- and workplace-related information on the population obtained from other data sources is also linked to the register.

On the basis of this, the LMA are compiled, which constitute hourly standardized longitudinal register containing information on the population's labour market status.

### **3.6 Adjustment**

Only corrections described under the section "Data processing" and "Quality assessment" are performed to the data.

## **4 Relevance**

Over a number of years Statistics Denmark has carried out work on developing the LMA. Several users have indicated their great interest in and expectations with regard to the statistics/register.

Users of the LMA are typical ministries, organisations and research institutes, etc.

### **4.1 User Needs**

Users: Municipalities, regions, ministries, organisations, private business enterprises and private individuals.

Areas of application: The statistics are used for purposes of analyses and research as well as for public and private purposes of planning, etc.



## **4.2 User Satisfaction**

The statistics are published for the first time. Consequently, we have no knowledge of user satisfaction with the statistics.

## **4.3 Data completeness rate**

Not relevant for the statistics.

## **5 Accuracy and reliability**

In the LMA, a wide range of data sources are subjected to data editing and harmonisation in one statistical system. This implies that the LMA can conduct far better analyses of the labour market than the analyses that can be conducted by each individual statistic. At the same time, the LMA constitutes a census of the population and consequently, the statistical uncertainty is reduced compared to statistics compiled on the basis of sample surveys.

Against this background, the quality of the statistics is considered to be relatively high. Despite this, there is still some degree of uncertainty linked to the statistics.

### **5.1 Overall accuracy**

As the LMA constitutes a census of the population the statistical accuracy of the statistics is considered to be relatively high. There is, however, still some degree of uncertainty linked to the statistics.

There is uncertainty attached to the information on self-employed persons. This is due to the circumstance that the hourly information for the self-employed is imputed. The information is considered to be correct at a general level in relation to the variables on which the information is imputed upon, but the information – especially at detailed level – must be interpreted with caution.

The information on paid hours of work is obtained from the statistics on employees in employment, where paid hours of work are, in some cases, imputed and consequently the information is uncertain.

Employees are legally obliged to report information on the workplace at which the individual job is performed. However, there are a number of employees, especially within the public sector whose reports are insufficient in this respect. By means of, e.g. Statistics Denmark's central business register, the data reported for these workplaces are subjected to editing, and the job is attached to a workplace, which is Statistics Denmark's statistical unit for job attachment.

On the basis of the LMA, it is possible to compile the population's labour market status at arbitrary points-in-time during the course of the year. However, Statistics Denmark has only tested the compilation of labour market status by the end of November during the different years. This implies that there may be some degree of uncertainty linked to the compilation of labour market status at other points-in-time during the course of the year, and uncertainty can especially be linked to the statistical compilations in December.

### **5.2 Sampling error**

Not relevant for the statistics.

### **5.3 Non-sampling error**

There is uncertainty attached to the information on self-employed persons. This is due to the circumstance that the hourly information for the self-employed is imputed. The information is considered to be correct at a general level in relation to the variables on which the information is imputed upon, but the information – especially at detailed level – must be interpreted with caution.

The information on paid hours of work is obtained from the statistics on employees in employment, where paid hours of work are, in some cases, imputed and consequently the information is uncertain.

All employees are legally obliged to report information on the workplace at which the individual job is performed. However, there are a number of employees, especially within the public sector whose reports are insufficient in this respect. By means of, e.g. Statistics Denmark's central business register, the data reported for these workplaces are subjected to editing, and the job is attached to a workplace, which is Statistics Denmark's statistical unit for job attachment. Data editing has only been conducted at the same level as that of the statistics on employees in employment. This implies that the information at a more detailed level can be subject to uncertainty.

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### **5.4 Quality management**

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

### **5.5 Quality assurance**

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

## 5.6 Quality assessment

In the LMA, a wide range of data sources are subjected to data editing and harmonisation in one statistical system. This implies that the LMA can conduct far better analyses of the labour market than the analyses that can be conducted by each individual statistic. At the same time, the LMA constitutes a census of the population and consequently, the statistical uncertainty is reduced compared to statistics compiled on the basis of sample surveys. Against this background, the quality of the statistics is considered to be relatively high. Despite this, there is still some uncertainties linked to the statistics:

There is uncertainty attached to the information on self-employed persons. This is due to the circumstance that the hourly information for the self-employed is imputed. The information is considered to be correct at a general level in relation to the variables on which the information is imputed upon, but the information – especially at detailed level – must be interpreted with caution.

The information on paid hours of work is obtained from the statistics on employees in employment, where paid hours of work are, in some cases, imputed and consequently the information is uncertain.

There is used a constant full-time standard for all employees, namely 37 hours per week (160.33 hours per month). This is equivalent to full-time norm for most tenured functionaries. However, there may be groups who have another full-time norm e.g. hourly paid employees or newly hired salaried employees who have a full-time norm of less than 160.33 hours per month, as these groups typically will not receive wage when on temporary absence such as holiday.

This has implications for the levels and the interpretation of the number of full-time employees. However, it is not possible based on e-income register to divide the population according to various groups of employees with different full-time standards. One advantage of having the same full-time norm for all employees is that it is simple to convert the number of full-time employees to hours paid for, providing an indicator of trends in employment volume for employees. This enables users to easily develop alternative splits (with varying full-time standards) based on their needs and the groups they want to compare.

Employers are legally obliged to report information on the workplace at which the individual job is performed. However, there are a number of employees, especially within the public sector whose reports are insufficient in this respect. By means of, e.g. Statistics Denmark's central business register, the data reported for these workplaces are subjected to editing, and the job is attached to a workplace, which is Statistics Denmark's statistical unit for job attachment. Data editing has only been conducted at the same level as that of the statistics on employees in employment. This implies that the information at a more detailed level can be subject to uncertainty.

On the basis of the LMA, it is possible to compile the population's labour market status at arbitrary points-in-time during the course of the year. However, Statistics Denmark has only tested the compilation of labour market status by the end of November during the different years. This implies that there may be some degree of uncertainty linked to the compilation of labour market status at other points-in-time during the course of the year, and uncertainty can especially be linked to the statistical compilations in December.

## 5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

### **5.8 Data revision practice**

The statistics are compiled for the first time. Consequently, there is no data revision of the statistics.

## **6 Timeliness and punctuality**

The statistics are published approximately 16 months after the reference year.

### **6.1 Timeliness and time lag - final results**

The statistics are published approximately 16 months after the reference year.

The relatively long publication time is due to the circumstance that the LMA are, e.g. compiled on the basis of the statistics on incomes, which are available at a later time in relation to other data sources.

### **6.2 Punctuality**

The statistics are published approx. 15 months after the reference time. The figures for 2016 were published 15 months after the reference date.

## **7 Comparability**

The statistics cover the period 2008 to 2016, and during this period the development are comparable.

### **7.1 Comparability - geographical**

There are no international statistics, where the population's labour market status is compiled in terms of full-time persons. Consequently, the statistics are not internationally comparable.

### **7.2 Comparability over time**

The statistics cover the period 2008 to 2013, and during this period the development are comparable.

### 7.3 Coherence - cross domain

The LMA constitute a population account compiled in terms of full-time persons. Several of the data sources applied in the LMA are also compiled in terms of full-time persons. This applies to the statistics on employees in employment and the statistics on people receiving public benefits. However, the information in the LMA with regard to the number of full-time employed persons and people receiving public benefits will be at a lower level than is the case in the two statistics mentioned. The main reasons for this are that:

- The number of hours worked by full-time employed persons are reduced in the LMA, implying that a person can at maximum work for 37 hours. This hourly standard is not conducted with regard to the statistics on employees in employment. At the same time, some employees also have a job as self-employed, which can result in a further reduction of the number of hours worked by full-time employed persons. This is conducted because in such cases a proportionate reduction to 37 hours of both jobs is performed.
- A general reduction is performed for people receiving public benefits when the person is, at the same time, is working. This can, e.g. apply to a recipient of early retirement pay, who is, at the same time, working, and consequently a reduction of the number of hours that he/she is a recipient of early retirement pay is reduced.

### 7.4 Coherence - internal

There is complete internal consistency. The same types of background information are applied for the entire population.

## 8 Accessibility and clarity

The statistic is published in the statbank [Labour market accounts](#).

### 8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

### 8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

### 8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

### 8.4 News release

The most recent figures are published in an annual newsletter "Nyt fra Danmarks Statistik" (News from Statistics Denmark).

"Nyt fra Danmarks Statistik" can be accessed [here](#).

## 8.5 Publications

No recent analyses/publications have been made.

## 8.6 On-line database

Tables with data on the population's labour market status compiled in terms of full-time persons will be made accessible from Statistics Denmark's database <https://www.Statbank.dk>.

- [AMR1](#): The population's attachment to the labour market (full-time people) by region, socioeconomic status, sex and age.
- [AMR2](#): The population's attachment to the labour market (full-time people) by socioeconomic status, sex, age and ancestry.

## 8.7 Micro-data access

Researchers and other analysts from authorized research institutions can access the statistics' microdata through Statistics Denmark Research Scheme where data from AMR (AMR-TN) and the non-hourly standard AMR (AMR-UN) is provided.

## 8.8 Other

Microdata concerning the LMA and the AMR-UN (LMA without standardization of hours) are supplied annually to Statistics Denmark's Customer Centre.

## 8.9 Confidentiality - policy

[Data Confidentiality Policy](#) at Statistics Denmark.

## 8.10 Confidentiality - data treatment

Data are published at a relatively aggregate level in <http://www.Statbank.dk>. Therefore it is assessed that no discretion of data is needed.

## 8.11 Documentation on methodology

Not relevant for these statistics.

## 8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## 9 Contact

The statistics are administratively placed in the Labour Market Division. Pernille Stender is responsible for the statistics, tel.: 24 92 12 33, e-mail: [psd@dst.dk](mailto:psd@dst.dk).

### **9.1 Contact organisation**

Statistics Denmark

### **9.2 Contact organisation unit**

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