Documentation of statistics for
The Monthly Labour Force Survey (LFS) 2016 Month 05

1 Introduction

The purpose of the monthly Labour Force Survey (LFS) is to supplement the quarterly survey with monthly numbers on the overall attachment of the population to the labour market. It is based on a monthly sample between 7-8,000 Danish persons aged 15-74.

In the monthly LFS this will be publicized on an aggregated level for the series employment and unemployment divided by sex and two age groups aged 15-24 and 25-74.

The monthly LFS was started October 2013. The time series have been made back to January 2007, and in Eurostat's databases they will also be revised back to 2007.

Like the quarterly survey the monthly LFS follows international guidelines from the International Labour Organization (ILO) governing statistics on the labour market status of the population.

2 Statistical presentation

Like the quarterly survey the monthly LFS analyses the population's attachment to the labour market. The population in the monthly LFS is the Danish population aged 15-74. In the quarterly survey numbers are only published for the population aged 15-64. This is due to the fact that Eurostat publicizes the monthly numbers on this population. The monthly LFS primarily focuses on the overall numbers for unemployment and employment. These numbers are also published on the sup-groups sex and the age groups 15-24 and 25-74 years. These divisions correspond to the divisions made by Eurostat. More finely divided divisions on sub-groups will not be made as a result of too large margins of uncertainty.

As a result of the smaller sample and the larger margins of uncertainty the numbers of the monthly LFS will be made on the basis of a three month sliding average, where two of the months consist of collected data and the last month consists of a forecast. This will have consequences for the way in which the numbers can be interpreted and published (see Analyse - Overall accuracy and Data revision - practiced).

2.1 Data description

The main variable in the Labour Force Survey is the labour market status of the population.

The survey classifies people into two main categories: people in the labour force and people outside the labour force. Furthermore, people in the labour force are categorized as either employed or unemployed. Conscripts are considered employed.

The classification of respondents is based on their labour market status and follows EU definitions and recommendations from the International Labour Organization (ILO) definitions: Every respondent is interviewed about one specific reference week. All questions on work, working hours, unemployment etc. relate to this specific week.

Employed are all people, who in the reference week worked for payment or worked as self-employed or family workers for at least one hour. People temporarily absent perhaps due to vacation, illness, or maternity leave are considered to be employed.

Unemployed are all people without employment, who have actively been looking for work in the past four weeks prior to the reference week and who are able to begin a job within two weeks after the reference week ends. Active job-search methods include contact with a public employment office, applications to employers, contact with friends, relatives or trade unions, or for example studying or answering advertisements in newspapers or journals. Looking for permits, licencs, financial resources, land, premises or equipment for potential self-employment are also considered as active job search.

Everyone else is categorized outside the labour force.

The labour market status of students follows these definitions. This means that students who are seeking jobs and are able to start within 14 days are defined as LFS-unemployed.

LFS questionaire

2.2 Classification system

Respondents in the monthly LFS are not classified regarding occupation, industry or education, which means that this is not relevant for the monthly publication.

See *Statistical concepts and definitions*

2.3 Sector coverage

Not relevant for these statistics.

2.4 Statistical concepts and definitions

Labour market status: The main variable in the Labour Force Survey is the labour market status of the population.

The monthly LFS is based on data collected for the quarterly LFS. This means that concepts and terminology are shared between the two statistics. All persons are interviewed about one specific reference week. All questions on work, working hours, unemployment etc. relate to this specific week.

The survey classifies people into two main categories: people in the labour force and people outside the labour force. Furthermore, people in the labour force are categorized as either employed or unemployed. Conscripts are considered employed.

The classification of respondents is based on their labour market status and follows EU definitions and recommendations from the International Labour Organization (ILO) definitions: Every respondent is interviewed about one specific reference week. All questions on work, working hours, unemployment etc. relate to this specific week.

Employed are all people, who in the reference week worked for payment or worked as self-employed or family workers for at least one hour. People temporarily absent perhaps due to vacation, illness, or maternity leave are considered to be employed.

Unemployed are all people without employment, who have actively been looking for work in the past four weeks prior to the reference week and who are able to begin a job within two weeks after the reference week ends. Active job-search methods include contact with a public employment office, applications to employers, contact with friends, relatives or trade unions, or for example studying or answering advertisements in newspapers or journals. Looking for permits, licences, financial resources, land, premises or equipment for potential self-employment are also considered as active job search.

Everyone else is categorized outside the labour force.

Read more about production, method, revisions and uncertainty The monthly labour Force Survey (Danish version).

Person: 15-74 year old

2.5 Statistical unit

The monthly LFS is based on data collected for the quarterly LFS.

The Danish LFS operates with individuals as the statistical unit, where many other European countries operate with the household as the statistical unit, and it diverts the individual-related variables such as employment status, working hours etc.

All persons are interviewed about one specific reference week. All questions on work, working hours, unemployment etc. relate to this specific week. Labour market status: The main variable in the Labour Force Survey is the labour market status of the population. Labour market status refers to whether persons are employed, unemployed or outside the labour force. Employment status refers to whether persons are employees, self-employed, contributing family workers etc.

The survey classifies people into two main categories: people in the labour force and people outside the labour force. Furthermore, people in the labour force are categorized as either employed or unemployed. Conscripts are considered employed. The classification of respondents is based on their labour market status and follows EU definitions and recommendations from the International Labour Organization (ILO) definitions).

Employed are all people, who in the reference week worked for payment or worked as self-employed or family workers for at least one hour. People temporarily absent perhaps due to vacation, illness, or maternity leave are considered to be employed.

Unemployed are all people without employment, who have actively been looking for work in the past four weeks prior to the reference week and who are able to begin a job within two weeks after the reference week ends. Active job-search methods include contact with a public employment office, applications to employers, contact with friends, relatives or trade unions, or for example studying or answering advertisements in newspapers or journals. Looking for permits, licenses, financial resources, land, premises or equipment for potential self-employment are also considered as active job search.

Everyone else is categorized outside the labour force. The persons outside the labour force will not be published on a monthly basis.

The labour market status of students follow these definitions. This means that students who are seeking jobs and are able to start within 14 days are defined as LFS-unemployed.

Read more about production, method, revisions and uncertainty The monthly labour Force Survey (Danish version).

2.6 Statistical population

The population is the resident population in Denmark aged 15-74.

The LFS is basically a quarterly statistics, which means that the production system will continue to be optimized for a quarterly survey.

The monthly LFS is supplementary to the quarterly statistics and is published in selected aggregated series. Respondents in the the monthly LFS will also be the basis for the quarterly LFS.

Approximately 22,000 interviews are conducted in the LFS per. quarter. On a monthly basis it is approximately 7-8,000 interviews aged 15-74.

The survey classifies people into two main categories: people in the labour force and people outside the labour force. Furthermore, people in the labour force are categorized as either employed or unemployed. Conscripts are considered employed.

The classification of respondents is based on their labour market status and follows EU definitions and recommendations from the International Labour Organization (ILO) definitions: Every respondent is interviewed about one specific reference week. All questions on work, working hours, unemployment etc. relate to this specific week.

Employed are all people, who in the reference week worked for payment or worked as self-employed or family workers for at least one hour. People temporarily absent perhaps due to vacation, illness, or maternity leave are considered to be employed.

Unemployed are all people without employment, who have actively been looking for work in the past four weeks prior to the reference week and who are able to begin a job within two weeks after the reference week ends. Active job-search methods include contact with a public employment office, applications to employers, contact with friends, relatives or trade unions, or for example studying or answering advertisements in newspapers or journals. Looking for permits, licences, financial resources, land, premises or equipment for potential self-employment are also considered as active job search.

Everyone else is categorized outside the labour force.

2.7 Reference area

The LFS covers all persons aged 15-74 with permanent residence in Denmark. They are able to work in either Denmark or abroad, as long as they permanent live in Denmark.

2.8 Time coverage

The monthly LFS has been published since October 2013. The time series starts in January 2007.

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

- The LFS is measured by number of persons (1000 persons). Because of inaccuracy all published figures are rounded to nearest thousands.
- The LFS is published both in number of persons and in percentage.

2.11 Reference period

01-05-2016 - 31-05-2016

2.12 Frequency of dissemination

The figures for The Monthly Labour Force Survey are published at the end of the following month with the Register-based labour force in News from Statistics Denmark Registered unemployment (Danish version).

The Labour Force Survey is published quarterly in News from Statistics Denmark in the series * Quarterly *, * Theme *, * European * and in a yearly news * Year * .

Scheduled Releases.

2.13 Legal acts and other agreements

The Act on Statistics Denmark.

The processing of data must be approved by the Danish Data Protection Agency, which is responsible for the general supervision and administration. The LFS follows the Act on Processing of Personal Data. All employed with connection to the LFS must beforehand sign a statement of privacy.

The Council Regulation (EC) No 577/98 of 9 March 1998 on the organization of a labour force survey in the Community.

Regulation (EC) No 2257/2003 of the European Parliament and of the Council of 25 November 2003 amending Council Regulation (EC) No 577/98 on the organisation of a labour force survey in the Community to adapt the list of survey characteristics.

The definitions in the LFS comply with the guidelines as laid down by the ILO. The operationalization of the concepts is made by Eurostat, who coordinates the common European Labour Force Survey. The operationalization is hereby recommended by ILO and Eurostat.

International definitions.

2.14 Cost and burden

Response burden is not calculated.

2.15 Comment

More documentation on The Monthly labour Force Survey.

Read more about the quarterly Labour Force Survey (LFS) and the subject pages regarding Labour force participation, Employment and Unemployment Labour, earnings and income.

More documentation on the quarterly LFS.

3 Statistical processing

The monthly Labour Force Survey is based on sample with interviews. The figures are therefore weighted with administrative resources.

The monthly LFS is based on a smaller data basis compared to the quarterly LFS. As a result of this the monthly LFS is based on a three months moving average, where the last month is based on a forecast. The figures are revised twice. The first time the forecast is replaced with collected data and finally the monthly results are revised when the whole quarter is collected and disseminated. This is done by benchmarking the monthly results to the quarterly results.

The choice of method, the three month moving average, also has the consequence that it is best practice to compare three months back if months are to be compared.

3.1 Source data

The monthly Labour Force Survey is based on data from the quarterly LFS. The interviews are conducted by telephone.

Different administrative resources are used to select the sample. Administrative sources are also used to obtain various background information on the people interviewed, for example, on educational level or workplace.

These registers (among others) are being used for the Labour Force Survey:

- Central Population Register (CPR)
- Population Register
- The Register of Labour Market Statistics (RAM)
- Register based-labour force statistics (RAS)

The monthly weighting scheme is a simplification of the quarterly weighting scheme, since the amount of auxiliary information as well as the number of subgroups is reduced. It has been necessary to simplify the model due to the monthly sample being much smaller than the quarterly sample. If the model is too complex for a smaller sample size, the model would simply collapse.

More documentation on The Monthly labour Force Survey.

Before 2016 , individuals who had research protection were not interviewed, but this protection has been removed from the first quarter of 2016. This effectively means an expansion of the sample for which compensated by reducing the number of people who are drawn out to the first panel from 10,133 persons to 8,580. The total quarterly sample will in the long term be reduced from 40,532 to 34,320 people. A series of tests on this show, however, that it does not appear to have influenced the figures for the labor market participation.

Statistics Denmark
Sejrøgade 11
DK 2100 København Ø

3.2 Frequency of data collection

Every respondent is interviewed about one specific reference week and the interviews are conducted daily all year round. Respondents are surveyed four times. First two quarters in a row and after a break for two quarters the respondents are interviewed again for two quarters in a row. The purpose of the design is to have a theoretical overlap of 50 percent in order to be able to measure both quarterly and yearly changes of employment and unemployment, but the monthly LFS does not have the same overlap and this decreases the accuracy on the monthly estimates.

3.3 Data collection

The monthly Labour Force Survey is supplementary to the quarterly statistics. The quarterly LFS is the most comprehensive continuous survey in Denmark. Every respondent is interviewed about one specific reference week (Monday to Sunday). All questions on work, working hours, unemployment etc. relate to this specific week. Interviews are conducted every day all year. The survey is conducted quarterly and is based on a sample of the population.

Sample size - quarterly LFS: The Labour Forces Survey is based on a quarterly sample of 40,532 people aged 15 to 74. The sample is divided into 13 sub-samples of equal size, one for each week in the interview quarter, and people are interviewed with reference to one of the reference weeks.

Before 2016 , individuals who had research protection were not interviewed, but this protection has been removed from the first quarter of 2016. This effectively means an expansion of the sample for which compensated by reducing the number of people who are drawn out to the first panel from 10,133 persons to 8,580. The total quarterly sample will in the long term be reduced from 40,532 to 34,320 people. A series of tests on this show, however, that it does not appear to have influenced the figures for the labor market participation.

Data collection - quarterly LFS: The survey is a rotating panel survey including four waves each quarter. Due to the design respondents participate in the survey several times. During one and a half years respondents participate four times. First in two quarters in a row, then an interval of two quarters and then participations in two quarters again. The purpose of the design is to have a theoretical overlap of 50 percent in order to be able to measure both quarterly and yearly changes of employment and unemployment, but the monthly LFS does not have the same overlap and this decreases the accuracy on the monthly estimates.

More documentation on:

- The Monthly Labour Force Survey.
- Questionnaire (quarterly).
- Dokumentation and Concepts (quarterly).
- International definitions(quarterly).

3.4 Data validation

The monthly LFS data is not validated to the same extend as the quarterly LFS. The only published figures of the monthly LFS are labour market status, gender and age, where it is assumed that the respondents quite unproblematic can answer. The data validation is therefore limited to the most general mechanical checks to assure the inconsistency of these variables. This is also necessary to meet the timeliness of the publication. The final validation is done by comparing with previous figures and comparable statistics.

3.5 Data compilation

Each quarter a sample size of 40,532 people is selected from the Population Register. The sample is divided into 13 sub-samples of equal size, one for each week in the interview quarter, and people are interviewed with reference to one of the reference weeks. However, around 15 per cent of the sample size cannot be contacted either because they have passed away, or have emigrated. Of the remaining group the response rate is usually between 63 to 68 per cent.

The monthly LFS is based on a narrow data basis as a figure based on a three-month average. This means, that figures for e.g. September contains data from both August and September. The last month (here October) in the average is based on a forecast, which means that information from the entire time series is used to predict the development in the last month, which is not yet collected. The forecast means, that there will be several revisions of the monthly LFS. The monthly figures are revised again when the quarter is collected and published. Then all the figures are benchmarked to correspond to the quarterly figures. The revisions are typically a few thousands for the employed and the unemployed for both the seasonally adjusted and not seasonally adjusted series. When the trends change the revisions can be larger. This is because the forecast uses the already collected information, and therefore has a more conservative suggestion for the development, which not always is good at capturing very drastic changes in the series.

The Labour Force Survey is based on telephone interviews and is conducted every day, every week, all year. The survey is a rotating panel survey including four waves each quarter. Due to the design respondents participate in the survey several times. During one and a half years respondents participate four times. First in two quarters in a row, then an interval of two quarters and then participations in two quarters again. The purpose of the design is to have a theoretical overlap of 50 percent in order to be able to measure both quarterly and yearly changes of employment and unemployment. This also means that it is possible to have an overlap of 50 percent, which reduces the quality of the monthly Labour Force Survey.

The results from the sample are supplemented with a number of register-based background variables. Furthermore, in weighting the following distributions are taken into account: gender, age, registered unemployment, income, socio-economic status, education, immigration, region and mobility. Because of the smaller database in the monthly LFS the weighting model is more simple compared to the one used in the quarterly LFS.

In order to measure unemployment adequately, former unemployed people are selected with a higher probability than others. The sample e.g. of earlier registered unemployed is disproportionately increased, due to the coherence between people registered as unemployed in an earlier quarter and in the present one. The purpose is to ensure a sufficient number of observations of unemployed people to be able to make proper analysis of them. This stratification is taken into account in the weighting of the results. Furthermore, in weighting the following distributions are taken into account: gender, age, registered unemployment, income, socio-economic status, education, immigration, region and mobility.

3.6 Adjustment

The results will be publicized as three months averages, publicizing the middle month in the average. The three month average includes a forecast, a prognosis for the last month. The results for the last forecasted month will be finally collected the following month. As a result the numbers will be changes. Finally the numbers will be revised relative to the quarterly numbers when these are publicized.

Read more in the paper on The Monthly LFS.

4 Relevance

The monthly LFS supplements the quarterly LFS. Due to the smaller sample size only aggregated series on employment and unemployment with sub groups on sex and age groups 15-24 and 25-74 are published. The monthly results give a quick on going update on the development in the employment and unemployment. The monthly results are used by different users e.g. ministries, international organizations, journalists and curious citizens.

4.1 User Needs

The monthly LFS is supplementary to the quarterly statistics, which is used by a number of users, e.g. by ministries, research institutes, international organizations, journalists, and citizens. The monthly LFS can be used for monitoring and analysing the labour market, in research projects, public debate and contributes to Denmark always having updated knowledge on labour market issues.

The monthly LFS is the Danish contribution to the European Labour Force Survey and data are delivered on a monthly basis to the European Statistical Bureau, Eurostat.

Because of the smaller data basis, only a few selected variables are published monthly. This means that the analytical possibilities in the monthly data are limited compared with the quarterly data. This means that the amount of users are limited for the monthly data.

4.2 User Satisfaction

The LFS is used for monitoring the labour market and is especially suited to make studies on the behaviour of persons on the labour market.

Users are often interested in e.g. unemployed persons who are not entitled to claim social benefits, youth unemployment (15-24-year-olds), specifications on working time and international comparisons.

The data from the Danish contribution to the European Labour Force Survey (LFS) are delivered quarterly. Labour Force Surveys are carried out in every European country as well as in many other countries around the world following common concepts and guidelines. This makes the Labour Force Survey the best Danish survey for international comparisons on labour market statistics.

4.3 Data completeness rate

The Danish LFS meets Commission Regulation 430/2005, which makes data complete.

5 Accuracy and reliability

The monthly LFS is of a good quality and is a markedly improvement compared with the formerly Eurostat produced monthly results.

As a result of the smaller sample size and the lack of persons overlapping over between months the quality is lower on the monthly results compared to the quarterly results. This means that only selected key numbers on employment and unemployment on the sub-groups sex and the two age groups 15-24 and 25-74 are published.

The register-based unemployment is disseminated together with the monthly LFS, so potential differences can be addressed.

5.1 Overall accuracy

The monthly numbers from the Labour Force Survey are generally reliable. The quality compared to the former monthly numbers from Eurostat has been improved.

The quality of the quarterly LFS is higher compared to the monthly LFS. This is due to the larger sample size and the overlap of respondents between quarters that do not exist between months.

To ensure that the quality is as high as possible the LFS has chosen in consultation with the methodological department of Statistics Denmark to publish the monthly LFS as a three month sliding average. This means that a monthly number on, e.g. September is made by taking the average of the months; August, September and October. Since October is not yet collected, a forecast is used for the month of October. The forecast is based on the previous development of the time series.

The forecast uses information from the whole time series back to 2007 and is used for forecasting the development in the third month of the three month sliding average.

The forecast method is an exponential smoothing with seasonal effect. This consists in making a weighted average of the levels and seasonal patterns of the past and the future. When the forecast is made all previous data points are used. Depending on the size of the changes in seasonal patterns and levels of the series, there will be a difference between how much emphasis will be put on the past, respective, the future. As a result changes in both level and seasonal patterns are allowed when the forecast is applied. The chosen method is a smoothing with additive seasonal patterns without trend. This method was chosen since it produced the smallest errors on the forecast.

This method has improved the quality, since the sample is a three month sliding average contains two collected months. This means that the sample size is doubled compared to a 'pure' monthly number based on only one month. The forecast is included since it ensures that the latest development is included. A monthly number based only on two collected months would lack the latest development in the series.

The chosen method means that it is difficult to make comparisons of estimates between two following months. This is due to the fact that these months share part of the same data. This makes it difficult to make a clear assessment on whether the change between months is due to real changes or just a result of different months has been applied to the three month sliding average. A comparison should therefore be made three months back in the time series. As an example, a result from September could be compared with a result from June. This will be the way in which comparisons are made in the publications 'News from Statistics Denmark' on the monthly LFS.

There will be ongoing revisions of the monthly results. The latest published number, which will also be published in 'News from Statistics Denmark, will be a preliminary result, since it is partly composed by a forecast. For example a number for September will on the first publication be a preliminary number. The following month this number will be revised for the first time. This is due to the fact that September is now collected. This means that a revision can be made between the forecasted and collected number. A further revision will be made on the monthly results when the quarterly results from the quarter in question, and in this example the third quarter will be published. To follow the way in which Eurostat publishes the results on the monthly LFS, the results will be corrected against the quarterly results. In this example the third quarter is published at the end of November. After this correction, which can lead to revisions of the results again, the non-seasonally adjusted numbers will be published as final results. As mentioned previously, there will be an ongoing revisions of the seasonally adjusted series.

5.2 Sampling error

Sampling errors are a matter of concern especially for small observations. Consequently published results are always disseminated rounded to the nearest 1,000 persons. Furthermore, some of the results are based on annual averages to increase the number of interview responses and from that derive more reliable results.

Besides this some of the results are complemented with information of the corresponding standard errors, illustrated by intervals of confidence in the following way: +/- sampling error (interval of confidence). The sampling error is calculated as 1.96*standard error and 1.96 corresponds to the 95th percentile in the standardized normal distribution. The sampling error depends on the sample size. For example, the sampling error for estimates is approximately halved when the sample size is doubled by four. Therefore in several cases it will be an advantage to use data from the last four quarters instead of only the present one.

Information on the sampling errors is important, because it enables the user to assess to what extent, e.g. a change in the level of employment is merely a result of the corresponding sampling error, or a significant decrease or increase. To give a description of the corresponding sampling error for small or large groups in a survey, intervals of confidence are often applied rather than standard errors of variances. In the Danish Labour Force Survey it has been decided to apply intervals of confidence at a 95 significance level. This means: if the survey was repeated 100 times, in 95 out of 100 cases the estimate would be bounded by this interval, while only in 5 cases the estimate would range above or beneath these limits.

The interval of confidence for e.g. the employed persons normally is +/- 22,000, while for the unemployed it is +/- 13,000.

5.3 Non-sampling error

The non-response in the Danish LFS is relatively large, typically at a level around 35 pct. This is handled by an advanced weighting scheme. The weighting scheme in the monthly LFS is not as complex as the quarterly weighting scheme. The LFS operates with a weighting scheme where the incoming survey results are weighted before being published, so they state results for the whole population aged 15-74. There is drawn on registers as auxiliary information on, e.g. age, gender, region, educational level and status and socio-economic status. In addition, the register-based unemployment is also a part of the weighting scheme.

The monthly weighting scheme is a simplification of the quarterly weighting scheme, since the amount of auxiliary information as well as the number of subgroups is reduced. It has been necessary to simplify the model due to the monthly sample being much smaller than the quarterly sample. If the model is too complex for a smaller sample size, the model would simply collapse.

Only the variables labour market status, gender and age are used in the monthly LFS, and therefore the measurement errors are very limited.

Read more about production, method, revisions and uncertainty The monthly labour Force Survey.

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

The quality of the LFS is good but since the LFS is a survey there is an uncertainty (see Sampling error). As a result of the lesser data and the lack of overlap between months, the quality of the monthly LFS is lower compared to the quarterly LFS. The response rate is 65 pct. which is reasonable compared to other Danish surveys. However compared to other European Labour Force Surveys the response rate is lower. This is due to the fact that the Danish LFS is collected on individuals and not households, which is the most common method in the other European countries. On the other hand this means, that Denmark has a much lower share of so-called proxy interviews. They are interviews where one person of the household answers the survey on the behalf of another household member. This is a quality issue which is not very significant in Denmark. The share of proxy in Denmark is in total around 5-6 pct. It is worth noting that for the persons aged 15-24 the proxy share is much higher around 10-15 pct.

Every quarter a sample of 40,532 persons is drawn based on the CPR-register. Around 15 pct. of this sample can not be contacted either because they are dead or migrated. From the remaining group the typical response rate is between 63-68 pct. As is the case with all survey based statistics there is some uncertainty. This is due to the way the sample is selected and the structure of the non-response. Non-response is when an interview is not completed with a selected person. Non-response increases the uncertainty of the survey since the probability to attain an interview with all is not equal. In other words, some groups are more likely to be non-respondents, which make an impact on the representativeness in the survey. This is the case for groups like unemployed persons, persons with a shorter education, ethnic minorities and young person aged 15-24. This is handled to a large extent through the weighting and the use of register-based auxiliary information. These are used for the weighting and calibration, where persons, who are typically underrepresented in surveys, will get a higher weight.

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

There will be ongoing revisions of the monthly results. The latest published result will also be published in 'News from Statistics Denmark', and this will be a preliminary result since it is partly made by a forecast. As an example, a result from a specific month will be published for the first time as a preliminary result. The following month this result will be revised since all data for this specific month are now collected. A revision between the result containing a forecast and the collected result can now happen.

A further revision will happen on the results of the specific month, when the results from the quarter in question are published and there will be a correction of the monthly results against the quarterly results. This correction is a way of following the Eurostat published results. After this correction, which can lead to revisions of the results as well, non-seasonally adjusted results will be published as final. As mentioned, there will be an ongoing revision of the seasonally adjusted results.

The data collection for May 2016 is based on collected data for April and May as well as a forecast for June. Figures which were published for April included a forecast for May. Figures which were published for May 2016 included a forecast for June. In the May publication a revision of the unemployment figures for April has been made, and the number of unemployed persons has decreased with 2,000 in the seasonally adjusted series as well as in the non-seasonally adjusted series. The number of employed persons has decreased with 15,000 in the seasonally adjusted series and 14,000 in the non-seasonally adjusted series.

Read more about Revisions.

6 Timeliness and punctuality

The Monthly Labour Force Survey is published at the end of the following month, and there has never been any delays.

6.1 Timeliness and time lag - final results

The results of the monthly LFS are published at the end of the following month. As an example the monthly number for September will be published at the end of October. The Monthly LFS results will be published along with the results of The Register of Labour Market Statistics in a common publication. There will be short comments in the publication regarding differences in development and levels between the two statistics.

6.2 Punctuality

The statistics are usually published without delay in relation to the scheduled date.

7 Comparability

In Eurostat's database the Monthly LFS exists back to 1983. This series, however, has a starting point in January 2007. This constitutes a break in series, which must be taken into consideration if long time series are constructed.

Data is delivered to the Statistical Office of the European Union Eurostat monthly, where data for all EU countries can be found. Concerning this one has to be aware of the methodological differences in producing the monthly data.

In order to obtain the largest possible comparability with the monthly results for Denmark published by Eurostat, there will be revisions of the monthly results when the quarters are closed. The monthly results are simply benchmarked up against the quarterly results.

7.1 Comparability - geographical

The Labour Force Survey is the Danish contribution to the European Labour Force Survey. Topics, categories, definitions and so on are laid down by the European Union which makes the surveys suitable for both overall and very specific international comparisons of labour market issues. Lots of countries outside the EU also carry out similar Labour Force Surveys. This means that the Danish Labour Force Survey is the best Danish survey for international comparisons of labour market statistics.

In order to obtain the largest possible comparability with the monthly results for Denmark published by Eurostat, there will be revisions of the monthly results when the quarters are closed. The monthly results are simply benchmarked up against the quarterly results.

Read more about revisions.

International definitions.

7.2 Comparability over time

1984 was the first time Denmark started a large survey of the population's labour market status. Though, it was conducted only once a year during spring time. In 1994 the Labour Force Survey was established as a quarterly survey. From this time the survey has been conducted continuously every day all through the year. The monthly LFS was published for the first time in October 2013 with numbers for September 2013. The monthly series has been produced back to January 2007.

The reason that 2007 is chosen as the starting year is due to a conversion of the quarterly LFS. This conversion meant, among other things, a significant expansion from around 40,000 interviews yearly to around 89,000 interviews yearly.

But in order to reduce sampling errors of survey results it was chosen to more than double the number of conducted interviews. Since then the survey is based on approximately 89,000 interviews. Besides this, the rotation pattern was changed from three to four waves and the weighting scheme was revised. Furthermore, the data collection process which Statistics Denmark had been in charge of so far was outsourced.

To ensure that the quality is as high as possible the LFS has chosen in consultation with the methodological department of Statistics Denmark to publish the monthly LFS as a three month sliding average. This means that a monthly number on, e.g. September is made by taking the average of the months; August, September and October. Since October is not yet collected, a forecast is used for the month of October. The forecast is based on the previous development of the time series.

The comparability between months is, as mentioned, affected by the chosen method; the three month sliding average. This means that it is difficult to compare following months as a result of consequentially shared data. The safest way to compare estimates is to go three months back in the time series from the published month.

In Eurostat's database the Monthly LFS exists back to 1983. This series, however, has a starting point in January 2007. This constitutes a break in series, which must be taken into consideration if long time series are constructed.

Before 2016 , individuals who had research protection were not interviewed, but this protection has been removed from the first quarter of 2016. This effectively means an expansion of the sample for which compensated by reducing the number of people who are drawn out to the first panel from 10,133 persons to 8,580. The total quarterly sample will in the long term be reduced from 40,532 to 34,320 people. A series of tests on this show, however, that it does not appear to have influenced the figures for the labor market participation.

From the first quarter of 2016 the LFS was conducted by a different data collector and which caused a low response rate. From the first quarter of 2016 is it also possible to answer the survey online instead of just on the phone as before, so to improve the web-solution some changes were also made in the online version of the survey. In addition, the sample was changed since protection research is removed. These changes have resulted in a significant break. The employment is increased and the number of people outside the labourforce has decreased. The LFS unemployment is only affected to a lesser extent. Read more about the Data Break(in Danish). The changes have an affect on a large number of variables in the LFS, and one should be very careful to make comparisons between the figures for the first quarter of 2016 for previous quarters.

7.3 Coherence - cross domain

The Register of Labour Market Statistics, Unemployment (RAM)

The most used unemployment statistics in Denmark is RAM. RAM is based on the information from every public employment office and unemployment insurance funds in Denmark. The purpose is to measure the number of unemployed people who are receiving a social benefit. RAM measures the number of unemployed people in full-time equivalents (FTE's). This means that part-time unemployed for example a person with a small job, who also receives complementary unemployment benefit from the local job-centre under the Danish Social Assistance Act is calculated as a certain percentage of a full-time unemployed. A half-time unemployed person will for example count as ½ FTE unemployed.

In the Labour Force Survey, people are defined as employed if they have worked for at least one hour in the reference week. A person, who works 15 hours a week and who also receives supplementary unemployment benefit will be defined as employed in the Labour Force Survey. In RAM-unemployment statistics this person will be included in the group of unemployed people, because the supplementary unemployment benefit reflects registration as unemployed at a public employment office.

The difference between unemployment in the Labour Force Survey and the Register of Labour Market Statistics is described in detail here: www.dst.dk/unemployment

The issue whether or not a person has to be registered as unemployed at a public employment office to be considered unemployed or not is a distinct difference between the Labour Force Survey and RAM.

The Labour Force Survey does not require any payment of social benefits. This is because of the different labour market models around Europe. Not all countries have a policy, where people register themselves when unemployed. For the sake of international comparison, the important issue is therefore whether or not people have been working or not, not whether people are registered or not in the LFS.

According to the Danish Labour Force Survey, only around half of the unemployed persons are receiving unemployment benefit. The other half consists of students looking for work and people who are actively looking for a job and declare that they can start a job within two weeks, although they are not registered as unemployed. At the same time some of the persons included in the RAM unemployment statistics are not considered unemployed in the Labour Force Survey. For example people, who do not actively look for a job and/or who are not able to start a job within two weeks. If people do not meet these criteria they are defined as outside the labour force or employed regardless if they are registered at a public employment office or not. Due to the different definitions of unemployment, the results from RAM and the Labour Force Survey vary.

Find more information on registered unemployment RAM

Read more about the different unemployment concepts under Concepts. Read more about Unemployment in LFS and other Danish statistics (Danish version) and Unemployment overview (Danish version).

Other employment statistics

Register based-labour force statistics (RAS): Both the Labour Force Survey and RAS examine the population´s labour market status. The Labour Force Survey is based on interviews, while RAS is based on administrative sources - among others the e-income register, the work place register, the central business register, the register with information about persons without ordinary employment, the educational register and the population register. Due to the fact that it takes time to gather information from several of the administrative registers the data processing time is a bit more than a year for RAS. This means that information on people registered as fulltime unemployed in November 2005 will be published in the spring of 2007. The Statistics are scheduled to be published within 16 months after the end of the reference year. The degree of consistency between the Labour

Force Survey and RAS is usually high with respect to the key results, for example the number of employed and unemployed people in Denmark. However, for some variables for example - full-time/ part-time employees - significant differences appear. This is due to completely different compilation methods. Some information on the population's labour market relations is better collected by RAS than by the Labour Force Survey, because RAS's base is the total population, whereas the Labour Force Survey is based on a sample size of the population. In a sample, small groups - like immigrant groups - can be unreliable due to too high sampling error. In these areas RAS is a good substitute. However, if the wish for example is to know of how many part-time employees who would like to work full-time; how many people that work at home regularly; or how many people that have found their job with the help of a public employment office, the Labour Force Survey is the best statistics, because RAS does not measure the subjective wants and wishes of individuals.

Read more about Concepts and Employment i LFS and other Danish statistics and Employment overview (Danish version).

Read more about working time accounts ATR and full-time employees BFL.

7.4 Coherence - internal

Nothing to add, since the basic data of the LFS is collected through surveys similarly.

8 Accessibility and clarity

The figures for The Monthly LFS are published with the Register-based labour force in News from Statistics Denmark Registered unemployment (Danish version).

The difference between unemployment in the LFS and the Register of Labour Market Statistics is described in detail here Unemployment.

Further ocumentation is available on the homepage.

Statistical data are also available in Statbank Denmark (Table AKU105 and AKU125).

Data is every month and every quarter delivered to the Statistical Office of the European Union, Eurostat, where data for all EU countries can be found.

Find more information on:

- Labour force participation.
- Employment.
- Unemployment.

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 Calender can be accessed on our English website: Release Calender.

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 Monthly Labour Force Survey is published each month together with the Register-based unemployment in News from Statistics Denmark [Unemployment](#) (Danish version).

[Scheduled Releases](#).

The Labour Force Survey is published quarterly in [News from Statistics Denmark](#) in the series * Quarter *, * Theme *, * European * and furthermore, yearly results are published every spring.

- The LFS Quarter (kvt.) presents the newest quarterly main figures
- The LFS Theme (tema) presents a special theme in national context
- The LFS European (europæisk) presents comparisons with the other EU countries
- The LFS Year (år) presents the newest yearly main figures

8.5 Publications

Only the figures from the quarterly LFS are published in [Statistisk Årbog](#) (Danish version) and [Tiårsoversigten](#) (Danish version).

In addition, the following Theme publications based on the quarterly LFS are published:

- [Helbredsproblemer og arbejdsliv (2003)](#) (Danish version).
- [De ældre og arbejdsmarkedet (2004)](#) (Danish version).
- [Køn og arbejdsliv (2004)](#) (Danish version).

8.6 On-line database

Monthly LFS figures can be found in the Danish Statbank [LFS Unemployment](#) (Table AKU105 and AK125).

[Register-based unemployment](#).

See more information in the [Danish Statbank](#).

8.7 Micro-data access

The quarterly data are based on individuals, and contain both survey and register variables.

It is only possible to gain access to quarterly Micro-data through Statistics Denmark' registers [Research Services](#).

[Paper on additional guidelines to inform external users](#).

8.8 Other

Information on employment and unemployment can be found under Subject Pages.

Statistics Denmark publishes two unemployment figures:

- Concepts.
- Unemployment in LFS and other Danish statistics (Danish version).
- Unemployment concepts (Danish version).

Statistics Denmark publishes several employment figures:

- Concepts.
- Employment i LFS and other Danish statistics.
- Employment concepts (Danish version).

The quarterly Labour Force Survey can be supplemented with additional questions, so-called "Ad hoc modules". The main focus of the ad hoc modules changes yearly, but at the same time the construction "rotates" meaning that the same subjects are repeated regularly. In Denmark, all respondents participating in the survey during the second quarter are being asked the questions from the ad hoc modules.

How can one use the LFS ad hoc modules?

If your organization or firm is interested in the subjects from the ad hoc modules, it is possible to:

- Gain access to data from already completed ad hoc modules
- Link additional questions to forthcoming ad hoc modules
- Get involved in the development of ad hoc modules

For an overview of the ad hoc modules: Ad hoc modules 1999-2015 (Danish version).

8.9 Confidentiality - policy

The labour Force survey follows the guidelines of the Data Confidentiality Policy at Statistics Denmark: Data Confidentiality Policy.

Read more about production, method, revisions and uncertainty in The monthly labour Force Survey.

8.10 Confidentiality - data treatment

The labour Force survey follows the guidelines of the Data Confidentiality Policy at Statistics Denmark: Data Confidentiality Policy.

It is suggested that users who want access to the LFS data, should use quarterly data, as the quality and the possibilities are far better. Statistics Denmark has described some guidelines for the use of data from the LFS. The purpose is to assure quality in the analysis based on the LFS and furthermore inform external users of the LFS on e.g. sampling errors. It is possible to achieve knowledge about publishing limits on yearly and quarterly basis. Figures in the group that can be published subject to caution should only be published in special cases. Statistics Denmark recommends that this is discussed before figures are published with employees from the Labour Force Survey.

For further information:

- Paper on guidelines to inform external users.
- Paper on additional guidelines to inform external users.

8.11 Documentation on methodology
- Paper on the monthly LFS.
- Documentation on ther quarterly LFS.
- Unemployment and comparison with other unemployment statistics.
- Differences in employment 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 administrative placement of these statistics is in the Division of Labour Market. The person responsible is Michael Frosch, tel. +45 39 17 34 34, email: mif@dst.dk

9.1 Contact organisation

Statistics Denmark

9.2 Contact organisation unit

Social Statistics, Labour Market

9.3 Contact name

Senior Adviser Michael Frosch

9.4 Contact person function

Responsible for the statistics

9.5 Contact mail address

Sejrøgade 11, 2100 Copenhagen

9.6 Contact email address

mif@dst.dk

9.7 Contact phone number

+45 39 17 34 34

9.8 Contact fax number

+45 39 17 39 99