STATISTICS DENMARK

**Documentation of statistics for
Labour Force Survey (LFS) 2023 Quarter 3**

1 Introduction

The purpose of the Labour Force Survey (LFS) is giving a description of the labour market status of the population. The LFS gives insight into how many people are employed, unemployed or outside the labour force (economically inactive). The LFS also manages to measure information like how many people are working part time; how many hours men in their 30s or 40s usually work; or how many elderly people outside the labour market would like to have a job. The LFS has been conducted yearly since 1984, and from 1994 the survey has been conducted continuously throughout the year.

2 Statistical presentation

The Labor Force Survey is a quarterly sample-based interview survey on the Danish population between 15 and 89 years. The survey sheds light on how many are employed, unemployed (LFS unemployed) or outside the labor force. The survey provides detailed data on e.g. hours worked, conditions of employment, job search, education by regions, age and sex. Consequently the survey can, among other things, estimate the number of employed people who work at home regularly; how many self-employed people who work during weekends; or how many people have have a part-time job.

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.

LFS questionaire

2.2 Classification system

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.

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.

Classification of industry groups: People in the Labour Force Survey are also classified into industry groups, i.e. based on the businesses they work in, for example in wholesale and retail trade, hotels and restaurants, or in manufacturing. From 1st quarter 2009 the Danish nomenclature Dansk Branchekode 2007 (Danish Industrial Classification of All Economic Activities), (DB07) has been applied to classify the industry group of the respondents. The nomenclature DB07 is based on the definitions of the European Union's nomenclature NACE rev. 2 from January 2008. From 2003 until 2008 Dansk Branchekode 2003 (Danish Industrial Classification of All Economic Activities), (DB03) was applied and from 1994 until 2002 Dansk Branchekode 1993 (Danish Industrial Classification of All Economic Activities), (DB93) was applied. Before 1994 the classification of industries of 1st April 1977 was used.

Classification of occupation: People in the Labour Force Survey are also classified into occupation: Statistics Denmark's Classification of Occupations (DISCO-08)(Danish). The classification is a tool for organizing jobs or occupational functions in clearly defined groups, in relation to the tasks performed in the job or occupation. The use of DISCO-08 makes it possible to compare people with the same job function - regardless of the employee's formal title and education. DISCO-08 is the official Danish version of the international professional classification, International Standard Classification of Occupations (ISCO-08), which is prepared by the International Labor Organization (ILO).

Classification of education: From 2014 the classification of education ISCED-2011 defined by UNESCO is applied. People in the Labour Force Survey are now classified by Classification of education (DISCED-15).

Read more here: Classifications.

2.3 Sector coverage

Not relevant for these statistics.

2.4 Statistical concepts and definitions

Person: 15-89 years old.

Employment rate: The employment rate is the number of employed persons compared to the number of persons in the same group of age in the population.

Unemployment rate: The unemployment rate is the number of unemployed persons compared to the number of persons in the same group of age in the labour force (employed and unemployed).

Activity rate: The activity rate (or the labour force participation rate) is the number of persons in the labour force, both employed and unemployed, compared to the number of persons in the same group of age in the population.

Labour force reserve: Labour force reserve The labour force reserve is made up of persons who are available to the labour market, i.e. employed persons, who wish to work more, and unemployed persons. The labour force reserve rises if more people become unemployed or the employed persons wish to work more. More people are unemployed if the employed lose their job or inactive persons start looking for one. The labour force reserve contains the number of hours that the employed wish to work more than their current weekly working hours, added to the number of hours the unemployed wish to work pr. week. This number is multiplied by the 52 weeks of the year and converted to full time equivalents of 1924 hours (the Danish standard full time equivalent). If the respondent is unable to give the number of hours he/she normally works per week, the contractual number of hours is used. For employees with flexi time systems, the contractual hours are always used, since overtime is expected to be compensated by reduced work in other weeks. Unemployed persons are divided depending on their wish for full-time or part-time work. Depending on the amount of work they look for, they are weighted according to the average hours worked by the corresponding employees in the current quarter. The labour force reserve is split into economic activity areas according to the following criteria: For the employed part of the reserve, the economic activity is taken from their main job. For the unemployed part, the economic activity is taken from the main job they had, when they were last employed.

Working time: The Labour Force Survey asks about three different types of working time in a specific reference week; usual, contractual and actual working hours.

Flexitime: Flexitime means that you can choose when to work within a fixed period of time. For example: You must be at work between 10:00 am and 3:00 pm but the rest of the working day is flexitime. You can completely decide your working time for yourself as long as you work for an agreed number of hours during a week or month. Typically, it's not a question of determining how much you work, but you can decide when to work. For example, if you have a contract to work 37 hours a week, you might work 35 hours in one week and 39 hours in the next week, but over time you still work the 37 hours a week, which is the agreement. Flexitime is basically part of one's working time agreement. Flexitime is also predominantly for people who have a working time contract. People without a contract may have a very varied working time, but it is not considered flexitime if there is no working time contract.

Reference week: The specific week that the respondent is asked about. Whether you are employed or LFS unemployed, how many hours you have worked during the week etc., is related to the specific reference week. The date of the interview can be up to four weeks after the reference week, typically 1-2 weeks after. There are 13 reference weeks per quarter.

Weighting method: The way in which the sample is weighted to the entire population, in order to make the results as representative as possible. It is always weighted figures that are being published. The method of weighting practically means that each person participating in the LFS gets his or her own weight and hereby represents a specific sample of the population with regards to sex and age. The method of weighting has been revised several times over the years (read more under *Documentation on methodology*.

2.5 Statistical unit

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.

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 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.

2.6 Statistical population

The population is the resident population in Denmark aged 15-89.

2.7 Reference area

The LFS covers all persons aged 15-89 who live permanently 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 Danish Labour Force Survey has been conducted yearly since 1984, and from 1994 the survey has been conducted continuously throughout the year. In January 2007 the survey was expanded considerably and the data collection process was outsourced. In November 2011 a revised weighting method was implemented and data going back to 2007 were revised. The data series in StatBank Denmark were updated, applying the revised weights (see *Comparability - over time*). From 2021 the LFS is adapted to a new EU framework regulation and population has changed to include the age group from 75-89 years. The weighting method has also been changed to include the age group 75-89 years. For both the age group 65-74 year olds and 75-89 year olds it applies that so far they are only reported to (and published by) Eurostat and are not included in the national dissemination via http://www.Statbank.dk.

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure
- The LFS is measured by number of persons. Because of confidentiality all published figures are rounded to nearest thousands.
- The LFS is published both in number of persons and in percentage.

2.11 Reference period

01-07-2023 - 30-09-2023

2.12 Frequency of dissemination

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

- Quarterly results are published 1.5 months after a quarter has ended.
- The European-publications are published 3.5 months after the quarter has ended.
- Yearly-results are published at the same time as the Quarterly-News for Q4.

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 organisation 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.

From January 1st 2021 the LFS is adapted to a new EU framework regulation Regulation 2019/1700.

The definitions in the LFS comply with the guidelines as laid down by the ILO, the international labour market organization of the UN. 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

The Labor Force Survey (LFS) has three different subject pages:

- Labour force participation
- Employment
- Unemployment

Other documentation on The quarterly LFS.

Read more about The monthly LFS and the Methodology (Danish).

Changes in variables for Q2 2023: In the second quarter of 2023 changes have been made to the questionnaire which simplifies the way information on desired working hours is collected. From Q2 a person is asked directly whether they want to work more, less or an unchanged number of hours compared to the time they normally work. The transition from Q1 to Q2 2023 will thus be affected by data break.

Changes in variables for Q1 2023: ABSREAS: As a result of the new maternity legislation, there is no longer an explicit distinction between maternity leave and parental leave. This has meant that information about this has to be collected in a different way. A question has been introduced in the LFS about the child's age, specifically whether the child has not yet been born, is under ten weeks old or over ten weeks old. If the child is not born or is less than ten weeks old, the parent is automatically classified as being employed if the person was otherwise employed before the maternity leave. If, on the other hand, the child is over ten weeks old, the parent is employed if he or she receives wages during maternity leave or if the length of the maternity period does not exceed three months.

Changes in variables for Q3 2022: REGISTER is now produced only using register information. In the past, we asked everyone if they were registered at the unemployment center – in order to capture people that were registered and not receiving benefits. This was unnecessary, as only persons receiving benefits are registered at the unemployment office. This change leads to a better cohesion between the actual registers and the LFS variable REGISTER.

WANTREAS is now automatically coded as 6 for pensioners. In order to reduce the burden on respondents, we do not ask persons receiving age-related pensions about the reason for not wanting to work. Instead, we automatically assign the value '6 – Retirement'.

3 Statistical processing

The Labour Force Survey is the most comprehensive continuous survey in Denmark based on approx. 72,000 participants on an annual basis. The interviews are conducted by online interview or telephone. The survey is based on a stratified sample of the population. In drawing the sample administrative resources are used to obtain various background information on the people interviewed. The sample is weighted to measure the entire population in Denmark.

3.1 Source data

The Labour Force Survey is quarterly based on a stratified sample. The sample was reduced in the 1st quarter of 2016. The reduction will be implemented successively and the sample size will be reduced from 40,532 individuals to 34.320 persons aged 15 to 74 years in the 1st quarter of 2017 when the reduction is fully implemented. Until the year 2020 the LFS has been collected at the individual level for 15-74-year-olds. From 2021 the population has changed to also include the age group from 75-89 years. On a quarterly basis the sample has thus increased from 34,320 people to 36,020 people.

In 2022q1, a new stratification was introduced in the LFS. Register data on employment and register unemployment are utilized to a greater extent, in order to obtain a greater number of responses in some of the groups that suffer from low response rates. For starters, the population is divided into four groups: 1) in stable employment, 2) in registered unemployment, 3) neither in stable employment nor registered unemployment and 4) persons aged 75 to 89. In addition, groups 1 and 3 are divided into the age groups 15-29, 30-64 and 65-74. This results in eight different strata, which are used in the sample selection from 2022q1 onwards. As the LFS consists of four panels, each appearing for six quarters, there will be a gradual implementation of the new stratification until 2023q2.

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) · Education classification (DISCED)

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Changes in variables for Q1 2023: As a result of the new maternity legislation, there is no longer an explicit distinction between maternity leave and parental leave. This has meant that information about this has to be collected in a different way. A question has been introduced in the LFS about the child's age, specifically whether the child has not yet been born, is under ten weeks old or over ten weeks old. If the child is not born or is less than ten weeks old, the parent is automatically classified as being employed if the person was otherwise employed before the maternity leave. If, on the other hand, the child is over ten weeks old, the parent is employed if he or she receives wages during maternity leave or if the length of the maternity period does not exceed three months.

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. This implies that half the sample is renewed each quarter.

3.3 Data collection

The interviews are conducted by online interview or telephone.

Every respondent is interviewed about one specific reference week (Monday to Sunday) and the interviews are conducted every day all year. The survey is conducted quarterly and is based on a sample of the population. The interviews are conducted by online interview or telephone. From 2017, all the invitation letters to the survey will be sent via E-box, with the exception of those who are not enrolled in E-box. These people will receive a normal letter.

Sample size: The Labour Forces Survey is based on a quarterly sample. 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.

New regulation in the LFS from 2021 From January 1st 2021 the LFS is adapted to a new EU framework regulation Regulation 2019/1700. The new regulation applies to all EU countries and is introduced simultaneously throughout the EU by the 1st of January 2021. The new regulation entails changes in definitions of some variables and in the order in which the questions are asked. In addition a number of new variables are included at the same time as other variables are removed. One of the more significant changes concerns temporary / long-term absence, which means that persons who, for certain reasons of absence are completely absent from work and where the absence has lasted or will last for three months or longer and are not receiving a salary or unemployment benefit beyond the three months are not counted as employed.

Questionnaire 2021 Until the year 2020 the LFS has been collected at the individual level for 15-74-year-olds. From 2021 the population has changed to also include the age group from 75-89 years. On a quarterly basis the sample has thus increased from 34,320 people to 36,020 people.

The new weighting scheme has also been changed to also include the age group 75-89 years. For both the age group 65-74 year olds and 75-89 year olds it applies that so far they are only reported to (and published by) Eurostat and are not included in the national dissemination via http://www.Statbank.dk.

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 number of people that actually can be interviewed. This is 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 in Q2 2017 when the reduction is fully implemented. A series of tests on this show, however, that it does not appear to have influenced the figures for the labor market participation.

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 survey: - Central Population Register (CPR) - Population Register - The Register of Labour Market Statistics (RAM) - Register based-labour force statistics (RAS) - Education classification (BUE)

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.

- Questionaire
- Dokumentation and Concepts
- International definitions.
- Codification

3.4 Data validation

In the Labour Force Survey 'depending interviewing' is used , which means that previous answers are used to reduce the response burden and to limit the amount of time used to manually seek out errors. The interviewed persons validate previous answers.

All interviews are auto-encoded by computer and then manually encoded and corrected. The respondents will be asked about occupation and industry, and it is these data, which is used from previous rounds of interviews. Some of these codes of occupation and industry will be encoded automatically. The remaining fields are manually encoded.

All data are aggregated and the weighted and not weighted data are compared with data from the previous quarter and to the same quarter the year before.

3.5 Data compilation

Each quarter a sample 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 population used to for enumeration of sample data, usually has its reference two quarters prior to the stated quarter.

Stratified sampling and weighting: 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.

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.

3.6 Adjustment

The main figures of the LFS are seasonally adjusted: Employed, unemployed, persons outside the labour market.

Since employment and unemployment are now only somewhat affected by the special circumstances caused by COVID-19, the whole COVID-19 period can now be treated more comprehensively in the seasonal adjustment. Therefore, the time series for seasonally adjusted employment, unemployment and persons outside the labor force have been reviewed, in order to improve on the treatment of outliers in the seasonal adjustment. The review of the seasonal models affects the seasonally adjusted figures in the Statbank from 2019q1 onwards.

The seasonally adjusted series in Statbank Denmark are revised three whole calendar years plus the current year. Older data are basically final.

4 Relevance

The Danish Labour Force Survey (LFS) is the contribution to the European LFS and data are delivered quarterly to the European Statistical office.

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.

4.1 User Needs

The LFS is used for monitoring the labour market and is especially suited to make studies on the behavior 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 LFS is compilet using the same guidelines in all EU countries and several other countries and is therefor the best source for international comparisons, see Eurostat.

Statistics Denmark has received co-funding from the EU in order to implement changes and for the work related to the transition of the Labour Force Survey (LFS) into the IESS resolution in the years 2021 and 2022.

The Labour Force Survey is used mainly for studies on detailed behavior on the labour market. This is not possible in the registry-based sources. This can include:

- How many hours you work during the reference week, overtime or absence and the reasons for absence.
- How unemployed seek jobs, and if they are not seeking a job, what is the reason for this.
- Reasons for working part-time rather than full time, and if they would prefer to work full time.

This would be typical examples of queries that the Labour Force Survey are particularly useful to illuminate.

The Labour Force Survey also annually asks questions about undeclared work for both employed and unemployed. The Labour Force Survey is the only source of undeclared work and is also used in the national accounts.

Customers can buy access to the survey with additional questions that have relevance to the labour market.

4.2 User Satisfaction

Customers can buy access to the survey with additional questions that have relevance to the labour market. In addition there is also the option to buy a special data extract with more detailed LFS data. In connection with the above mentioned services the customer will be invited to join a survey on customer satisfaction, which is used exclusively for internal use. We ask the customers whether they are satisfied with our work, if we can do better, and if they have any suggestions.

4.3 Data completeness rate

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

5 Accuracy and reliability

The Labor Force Survey (LFS) has a relatively large sample and there are continuous improvements in enumeration methods. This provides reliable statistics for the population's connection to the labor market, although there is uncertainty linked to the selection of the sample and the structure of the non-response.

In Q1 2016, the response rate was exceptionally low, creating greater uncertainty about the figures. Furthermore, web interview (CAWI) has been introduced as a new data collection method. The two factors created breaks in the time series. The breaks are corrected on the main series.

5.1 Overall accuracy

There is always a certain degree of uncertainty connected to the LFS due to the sampling error that is always connected to surveys (see Sampling error). The response rate was 45 pct. in the 1st quarter of 2016. This is significantly lower than for the period 2007-2015.

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 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. On the contrary persons who are overrepresented will get a lower weight, which adjusts the numbers of persons downwards. An example on bias in the non-response is educational level, where persons with a higher educational level are more likely to participate compared to persons with lower educational level. Other biases are age, where young persons aged 15-24 and persons with another ethnic background and unemployed are underrepresented.

The so-called Gi-weights are the calibration factors. This is the weight that adjusts the non-response. The mean of the Gi-weights for the Danish LFS is 0.99. This is very close to 1, which means that our Gi weights calibrates in a correct manner. The Standard deviation on the Gi weights is 0.36. This means, assuming a 95 pct. confidence interval, 95 pct. of the Gi weights would be placed between 0.27 and 1.71, meaning that the weights typically upgrades with a weight on 171 pct. in the high end of the confidence interval and downgrades with 73 pct. in the low end of the confidence interval. This means that 95 pct. of the respondents will get a weight that will adjust them downwards with 73 pct. or adjust them upwards with 171 pct. An example is that young persons with a low educational level having another ethnic background who are unemployed will get a high weight and will be adjusted upwards with many percentages. On the contrary persons who are having a Danish background, aged 35-44 with a higher level of education and employed will be adjusted downwards since they are overrepresented.
Outside the 95 pct. confidence interval the maximum weight is 3.87, an upgrade with 387 pct. and the minimum weight is 0.0879, which means a downgrade with over 99.9 pct. This would either be persons extremely rare, since they are upgraded that much in pct. or they are extremely common since they are downgraded with such an amount of pct.

Even though the auxiliary information handles a lot of bias, the possibility of systematic bias can't be excluded. However, this would only impact the level and not the development. Due to low response rate for the first quarter 2016, it is possible that the systematic bias has changed and affected data and thus the historical development. This could contribute to the break in time series that occurs in the 1st quarter of 2016.

The earliest data from the Danish LFS from 1994-1999 is of a lower quality than data from 2000 and onwards, which among other things is due to the lack of a personal identification number.

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.

This 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.

Another measure of sampling error is coefficient of variation (CV) that reflects standard deviation as a share of the estimate. The response rate was unusually low in the 1st quarter of 2016 which will increase the sampling error. However the research protection was removed in the 1st quarter of 2016 and persons that earlier had research protection could thereby be interviewed. This could be expected to lead to a decrease in the sampling error. The CV's were however in general marginally higher than normal in the 1st quarter of 2016. The CV's were 0.0041 and 0.0351 for respectively employment and unemployment and the intervals of confidence were +/- 22.000 for employment and +/- 13.000 for unemployment. This can be compared with the 4th quarter of 2015, which had a normal non-response rate and where the CV's were 0.0038 and 0.0328 for respectively employment and unemployment which gave an interval of confidence of +/- 20.000 for employment and +/- 11.000 for unemployment.

Due to the sampling errors the published figures are not under 4000 weighted persons quarterly and not under 2000 persons yearly.

Sampling error - indicators

Coefficient of variation (CV): The coefficient of variation shows the result of the variability of data divided by the mean. The variability of data tells how far the values   are from the mean. The coefficient of variance is thus an estimate of the size of the variability - a method of presenting statistical confidence.

The Labor Force Survey publishes coefficients of variance for employed and unemployed.

5.3 Non-sampling error

Every quarter a sample is drawn from the population register.

From January 1st 2021 the LFS is adapted to a new EU framework regulation. Until the year 2020 the LFS has been collected at the individual level for 15-74-year-olds. From 2021 the population has changed to also include the age group from 75-89 years. On a quarterly basis the sample has thus increased from 34,320 people to 36,020 people. The weighting scheme has also been changed to also include the age group 75-89 years.

The research protection was removed in the LFS in 2016. Around 13 pct. of the sample had research protection and could therefore not be contacted. The removal of the research protection has led to that a larger share of the sample can be contacted which in itself will reduce the unreliability. Each quarter a sample size of 40,532 people is selected from the Population Register. Since the first quarter of 2016, the sample is reduced and will therefore go from 40,532 persons to 34.320 persons aged 15-74 years in the 2nd quarter of 2017, when the reduction is fully implemented. Equivalent to other surveys based on sample sizes the results of the survey have some sampling errors attached. The sampling errors are related to the sample selection and the patterns of non-response. Non-response occurs when an interview with a selected person is not carried out. Non-response increases the inaccuracy rate because the probability of conducting an interview with all selected people is uneven. In other words, it is the same kind of sections of the populations where interviews are not being carried out at the same extent as other sections of the population. Consequently the level of representativeness is affected. The non-response in the Danish LFS is relatively large. This is handled by an advanced weighting scheme drawing on auxiliary information from registers (see our paper on our theory behind the weighting scheme here). One should be aware of four revisions in the method of weighting: 2003, 2007, 2011 and 2015. In connection with the method of weighting in 2011, data going back to 2007 were revised. The present method of weighting was implemented in Q3 2015 and the method now includes a weighting method based on the panels. The new weighting method led to marginal changes in the data , and therefore the data were not revised back in time. This latest revision is used in analyses of changes of levels caused by the method of weighting.

See more about weighting methods [here] (https://www.dst.dk/en/Statistik/dokumentation/metode/aku-arbejdskraftundersoegelsen).

Even though the weighting scheme handles bias, there will still be bias on a few sub-groups, for example it is known that we overestimate the employment rate of persons with another ethnical background Some variables can be hard to collect through surveys, since respondents are not necessarily aware of their objective position, especially when it comes to know ones occupation and industry. Due to low response rate for the first quarter 2016 there are changes in the none response rate, which increases the uncertainty.

Non response

Based on the unweighted quarterly sample, the rates of response and non response are calculated quarterly. The non response consists of persons with whom it has not been possible to obtain contact with, who were too ill or disabled to participate, and persons who refused to participate.

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 unusually low response rate in the 1st, 2nd, and 3rd quarter of 2016 makes the quality lower than usual.

As is the case with all survey-based statistics there is 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.

Even though the auxiliary information handles a lot of bias, the possibility of systematic bias can't be excluded. However this would only impact the level and not the development.

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.

The earliest data from the Danish LFS from 1994-1999 is of a lower quality than data from 2000 and onwards, which among other things is due to the lack of a personal identification number.

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 Labour Force Survey for Q4 2020 and Q2 2021 has the 26th of November been revised. The revision is due to an interviewer's irregularities at the external data provider for Statistics Denmark. The employment rate for Q4 2020 changes for the 15-64-year-olds with the revision from 74.7 to 74.8 per cent, and for Q2 2021 from 75.4 to 75.6 per cent. With the revision, the LFS unemployment rate is unchanged for the two quarters, while the group of 15-64-year-olds outside the labour force for Q4 2020 is revised from 20.6 to 20.5 per cent and for Q2 2021 from 20.8 to 20.6 per cent.

Only final figures are published.

6 Timeliness and punctuality

The Labour Force Survey is published quarterly in the series Quarterly, Theme, Europe and Year.

Quarterly data are published 1.5 months after a quarter has ended. Theme is published two months after the end of the quarter and European is published about 3.5 months after the quarter has ended. Year is published 1.5 months after the end of Q4.

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

6.1 Timeliness and time lag - final results

The LFS only publishes final figures.

The Labour Force Survey is published quarterly in the series Quarterly, Theme, Europe and Year.

Quarterly data are published 1.5 months after a quarter has ended. Theme is published two months after the end of the quarter and European is published about 3.5 months after the quarter has ended. Year is published 1.5 months after the end of Q4.

6.2 Punctuality

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

7 Comparability

The Labor Force Survey (LFS) has been conducted since 1994 and tables can be found at StatBank Denmark from 1996 onwards. A new enumeration method has been introduced, where the sources only go back to 2008. The new series therefore only go back to 2008 in comparable form. LFS is made according to the same guidelines in all EU countries and several other countries and is therefore well suited for international comparisons.

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.

Many 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.

- International definitions

Harmonized overview of variables used for reporting data: - Codification

7.2 Comparability over time

In the second quarter of 2023 changes have been made to the questionnaire which simplifies the way information on desired working hours is collected. From Q2 a person is asked directly whether they want to work more, less or an unchanged number of hours compared to the time they normally work. The transition from Q1 to Q2 2023 will thus be affected by data break.

In 2022q1, a new stratification was introduced in the LFS. Register data on employment and register unemployment are utilized to a greater extent, in order to obtain a greater number of responses in some of the groups that suffer from low response rates. For starters, the population is divided into four groups: 1) in stable employment, 2) in registered unemployment, 3) neither in stable employment nor registered unemployment and 4) persons aged 75 to 89. In addition, groups 1 and 3 are divided into the age groups 15-29, 30-64 and 65-74. This results in eight different strata, which are used in the sample selection from 2022q1 onwards. As the LFS consists of four panels, each appearing for six quarters, there will be a gradual implementation of the new stratification until 2023q2.

New regulation in the LFS from 2021 From January 1st 2021 the LFS is adapted to a new EU framework regulation Regulation 2019/1700. The new regulation applies to all EU countries and is introduced simultaneously throughout the EU by the 1st of January 2021. The new regulation entails changes in definitions of some variables and in the order in which the questions are asked. In addition a number of new variables are included at the same time as other variables are removed. One of the more significant changes concerns temporary / long-term absence, which means that persons who, for certain reasons of absence are completely absent from work and where the absence has lasted or will last for three months or longer and are not receiving a salary or unemployment benefit beyond the three months are not counted as employed.

Questionnaire 2021 Until the year 2020 the LFS has been collected at the individual level for 15-74-year-olds. From 2021 the population has changed to also include the age group from 75-89 years. On a quarterly basis the sample has thus increased from 34,320 people to 36,020 people.

The new weighting scheme has also been changed to also include the age group 75-89 years. For both the age group 65-74 year olds and 75-89 year olds it applies that so far they are only reported to (and published by) Eurostat and are not included in the national dissemination via http://www.Statbank.dk.

1984 was the first time Denmark started a large survey on 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 we know it today. From this time the survey has been conducted continuously every

day all through the year. In 2000 the questionnaire was changed significantly, however the changes did not affect the main indicators such as the number of employed, unemployed and outside the labour force. The slight adjustment in the weighting in 2003 is currently reviewed as to the possible effects on comparability.

In 2007 the survey was changed and expanded considerably, by expanding the quarterly sample size from around 20,000 to 40,532 in order to reduce sampling errors of survey results. Furthermore the rotation pattern was changed from three to four waves, and the data collection process which Statistics Denmark had been in charge of so far was outsourced. The changes in 2007 resulted in a break in series both on detailed sub-groups. As a result of this one should be aware of this when comparing results before and after the break.

In 2011 the weighting scheme was adjusted when auxiliary information on age and educational level was crossed in order to improve the estimates on educational level. All figures back to 2007 were revised. The central difference to all previous weighting schemes considering comparability is that the weighting now has a target population of 15-64 years. Before the target population was 15-66 years.

See more about weighting methods here.

Starting with Q3 2010 the main figures of the Danish LFS are seasonally adjusted. The main figures are: Employed, unemployed and persons outside the labour force, giving the general labour market attachment of the population. The series go back to Q1 1996, and the entire period is used for the seasonal adjustment. The program used is X-12-Arima, and logarithmic transformation is applied on all three series. Only aggregate levels are seasonally adjusted. The figures for the entire labour force are not directly seasonally adjusted. From Q1 2012 it has been decided in the series for unemployed to model Q1 2009 as a level change or outlier. This was due to the economic crisis. This has resulted in minor changes to the seasonally adjusted figures for the following quarters. The decision was taken based on our knowledge of the developments since Q1 2009 and on concrete statistical tests. Outlier-modelling is a technical adjustment that secures a better estimation of the seasonal pattern - the overall level of the seasonally adjusted series is unchanged.

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.

The LFS unemployment has been revised from Q3 2015 due to an error in the number of gross unemployed recipients of social assistance, but the error only has a minor effect on the LFS unemployment.

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 Break16(in Danish). The changes have an effect 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.

From the first quarter of 2017 the LFS was conducted by a different data collector and the response rate has increased. This change has resulted in a significant break which is explained here: Data Break17(in Danish).

Uninterrupted time series based on LFS data can generally be traced back to 2008, and time series longer back in time be traced back without break. The historical data for LFS for the period from 1996 to Q1 2019, with the old enumeration, can be found in archive tables. In these, there are data breaches between 2015 and 2016 and again between 2016 and 2017.

Read more about time series, that have been analyzed more in-depth, and short presentations of i.e. the employment series, unemployment series and the working time series and descriptions of the developments and breaks in the Time Series.

In 2022q1, a new stratification was introduced in the LFS. Register data on employment and register unemployment are utilized to a greater extent, in order to obtain a greater number of responses in some of the groups that suffer from low response rates. Employment and unemployment are now only somewhat affected by the special circumstances caused by COVID-19, so the whole COVID-19 period can now be treated more comprehensively in the seasonal adjustment. Therefore, the time series for seasonally adjusted employment, unemployment and persons outside the labor force have been reviewed from 2019q1 onwards. COVID-19 may have affected the composition of the respondents in the data collection for the Labor Force Survey (LFS), and it remains to be analyzed whether there is a need to methodologically correct for a possible bias in the figures under COVID-19.

Changes in variables for Q3 2022: REGISTER is now produced only using register information. In the past, we asked everyone if they were registered at the unemployment center – in order to capture people that were registered and not receiving benefits. This was unnecessary, as only persons receiving benefits are registered at the unemployment office. This change leads to a better cohesion between the actual registers and the LFS variable REGISTER.

WANTREAS is now automatically coded as 6 for pensioners. In order to reduce the burden on respondents, we do not ask persons receiving age-related pensions about the reason for not wanting to work. Instead, we automatically assign the value '6 – Retirement'.

Changes in variables for Q1 2023: As a result of the new maternity legislation, there is no longer an explicit distinction between maternity leave and parental leave. This has meant that information about this has to be collected in a different way. A question has been introduced in the LFS about the child's age, specifically whether the child has not yet been born, is under ten weeks old or over ten weeks old. If the child is not born or is less than ten weeks old, the parent is automatically classified as being employed if the person was otherwise employed before the maternity leave. If, on the other hand, the child is over ten weeks old, the parent is employed if he or she receives wages during maternity leave or if the length of the maternity period does not exceed three months.

7.3 Coherence - cross domain

The Register of Labour Market Statistics, Unemployment The most used unemployment statistics in Denmark is registerunemployment, which 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 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. 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.

Read more about the different unemployment concepts under Concepts. Read more about Unemployment.

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 full time 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 the number of part-time employees who would like to work full-time; how many people work at home regularly; or how many people 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 [RAS]https://www.dst.dk/en/Statistik/emner/arbejde-og-indkomst/befolkningens-arbejdsmarkedsstatus/arbejdsmarkedsstatus-ras-register Read more about Employment. Read more about Concepts and Employment i LFS and other Danish statistics. 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 and therefore there is consistency in the questionnaire regarding the individual variable.

8 Accessibility and clarity

The LFS is published in the Danish press release:

[Arbejdskraftundersøgelsen (kvt.)](#) [Arbejdskraftundersøgelsen (år)](#)

Statistical estimates are available via [Statbank](#).

There are also subject pages connected to the statistics: - [Labour force participation](#) - [Employment](#) - [Unemployment](#)

More detailed LFS data is available for purchase via [Tailor-made analyses](#).

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

8.1 Release calendar

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

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.

8.2 Release calendar access

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

8.4 News release

The LFS is published in the Danish press release:

[Arbejdskraftundersøgelsen (kvt.)](#) [Arbejdskraftundersøgelsen (år)](#)

The Quarter News is published 1.5 months after the end of a quarter. The Year News is published 2 months after the end of a year.

[Scheduled Releases](#)

8.5 Publications

The figures are also published in Statistisk Årbog (Danish version) and Tiårsoversigten (Danish version)

In addition, the following Theme publications based on the 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

Since employment and unemployment are now only somewhat affected by the special circumstances caused by COVID-19, the whole COVID-19 period can now be treated more comprehensively in the seasonal adjustment. Therefore, the time series for seasonally adjusted employment, unemployment and persons outside the labor force have been reviewed, in order to improve on the treatment of outliers in the seasonal adjustment. The review of the seasonal models affects the seasonally adjusted figures in the Statbank from 2019q1 onwards.

For both the age group 65-74-year-olds and 75-89-year-olds, they are so far only reported to (and published by) Eurostat, with the exception of the quarterly tables AKU110K and AKU111K and the annual tables AKU110A and AKU111A, which contain data for the 15-4-year-olds. Other tables in the national dissemination via http://www.Statbank.dk contain data for the 15-64-year-olds.

Applicable for table AKU310K: Overtime for employees by status of salary and industry: The data shown in this table for 2021Q1 and 2021Q2 has been imputed based on data covering the period 2019Q4 – 2020Q4 and 2021Q3 – 2021Q4. This imputation was undertaken because respondents in 2021Q1 and 2021Q2 by a setup error only were asked whether they had worked overtime during the reference week, but not whether this overtime was paid or unpaid. The imputation of paid/unpaid overtime has been conducted in two steps. In the first step, data on paid/unpaid overtime is imputed directly from those respondents who have both participated in the Labor Force Survey (LFS) in 2021Q1/2021Q2 and in previous or subsequent quarters have stated that they have had paid/unpaid overtime. Direct imputation is not used if the respondent has changed both industry and occupation. In the second step, hot deck imputation is used to impute missing data on paid/unpaid overtime for the remaining respondents. Imputation is conducted using data from 2019Q4-2020Q4 and 2021Q3-2021Q4.

Applicable for table AKU530K: Full-time equivalents by employment status and sex: Full-time equivalents for ILO-unemployed uses data on whether the ILO-unemployed is seeking part- or fulltime employment. For 2021Q1 and 2021Q2 the data on whether the ILO-unemployed has sought part- or fulltime employment is imputed based on data covering the period 2019Q4 – 2020Q4 and 2021Q3 – 2021Q4. The imputation was necessary because respondents in 2021Q1 and 2021Q2 were only asked whether they had sought work and not whether this work was a part- or fulltime position. Additionally, in 2021Q1 and 2021Q2 the estimate of full-time equivalents for employed individuals does not include the amount of contractual hours worked in any secondary jobs as this data was not available. The imputation of whether ILO-unemployed have sought part- or fulltime employment has been conducted in two steps. In the first step, data on whether the ILO-unemployed have sought part- or fulltime employment is imputed directly from those respondents who have both participated in the Labor Force Survey (LFS) in 2021Q1/2021Q2 as well as in either previous or subsequent quarters and have answered the question on part- or fulltime employment. In the second step, hot deck imputation is used to impute missing data on part- or fulltime employment for the remaining respondents. Imputation is conducted using data from 2019Q4-2020Q4 and 2021Q3-2021Q4.

Quarterly figures in StatBank:

- [AKU100K](): Seasonally adjusted labour force status by employment status and time
- [AKU101K](): Seasonally adjusted labour force status in percentage by employment status and time
- [AKU110K](): Labour force status by employment status, age, sex and time
- [AKU111K](): Labour force status in percentage by employment status, age, sex and time
- [AKU120K](): Labour force status by employment status, region and time
- [AKU121K](): Labour force status in percentage by employment status, region and time
- [AKU210K](): Employed by professional status, age, sex and time
- [AKU220K](): Employed (in thousands) by industry (DB07 10-grouping), region, sex and time
- [AKU230K](): Employed (in thousands) by region, age, sex and time
- [AKU240K](): Employed (in thousands) by hours of work, age, sex and time
- [AKU250K](): Employed (in thousands) by desired working hours, age, sex and time
- [AKU310K](): Overtime for employees by status of salary, industry (DB07 10-grouping) and time
- [AKU510K](): ILO-unemployment composition by status for unemployment, sex and time
- [AKU520K](): Gross unemployment by type of benefits, employment status and time
- [AKU530K](): Full-time equivalents by employment status, sex and time

Yearly figures:

- [AKU110A](): Labour force status by employment status, age, sex and time
- [AKU111A](): Labour force status in percentage by employment status, age, sex and time
- [AKU130A](): Labour force status by employment status, level of education and time
- [AKU131A](): Labour force status in percentage by employment status, level of education and time
- [AKU210A](): Employed by professional status, age, sex and time
- [AKU260A](): Employed by working time arrangement, age, sex and time
- [AKU270A](): Employed by atypical working times, frequency, age, sex and time
- [AKU280A](): Employed with work at home by frequency, age, sex and time
- [AKU320A](): Employees by permanency of the job, age, sex and time
- [AKU330A](): Employees by working houres, age, sex and time
- [AKU340A](): Employees by working houres, industry (DB07) and time
- [AKU410A](): Average weekly hours of work in main job by hours of work, age, sex and time
- [AKU420A](): Average weekly hours of work in main job by hours of work, industry (DB07) and time
- [AKU610A](): Persons outside the labour force by self-percepted status, sex and time

8.7 Micro-data access

Data are based on individuals, and contain both survey and register variables.

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

8.8 Other

The definitions in the LFS comply with the guidelines as laid down by the ILO, the international labour market organization of the UN. 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. Data from the quarterly LFS is each quarter delivered to Eurostat and is published on Eurostat database. OECD and ILO collect their data mainly from Eurostat.

In the second quarter of each year questions on *undeclared work* is added to the LFS and data is delivered to National Accounts.

Find more information on the following subject pages:

-Labour force participation. -Employment. -Unemployment.

Read more about Documentation.

Read more about The monthly LFS and the Methodology (Danish).

The Labour Force Survey can be supplemented with additional questions, so-called "EU 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. From 2016 the respondents participate for only one out of four panels and now each quarter.

How can one use the EU 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 EU modules
- Link additional questions to forthcoming EU modules
- Get involved in the development of EU modules

For an overview of the EU modules: EU modules 1999-2025(Danish version).

It is possible to buy more detailed LFS data: Tailor-made analyses.

It possible to gain access to Micro-data through Statistics Denmark' registers: Research Services.

8.9 Confidentiality - policy

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

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.

- Quarterly figures under 4.000 persons (weighted figures) is not published
- Quarterly figures between 4.000-7.000 persons (weighted figures) can be published with caution that figures are subject to some uncertainty.
- Annual figures under 2.000 persons (weighted figures) is not published
- Annual figures between 2.000 – 4.000 persons (weighted figures) can be published with caution that figures are subject to some uncertainty.

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

8.10 Confidentiality - data treatment

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

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.

8.11 Documentation on methodology

The incoming results from the Labour Force Survey are weighted before publishing the results for the entire population. The method of weighting has been revised several times over the years, which can influence the development in the figures of employment and unemployment at the aggregate level, as well as the developments of figures for subgroups.

In 2022q1, a new stratification was introduced in the LFS. Register data on employment and register unemployment are utilized to a greater extent, in order to obtain a greater number of responses in some of the groups that suffer from low response rates. For starters, the population is divided into four groups: 1) in stable employment, 2) in registered unemployment, 3) neither in stable employment nor registered unemployment and 4) persons aged 75 to 89. In addition, groups 1 and 3 are divided into the age groups 15-29, 30-64 and 65-74. This results in eight different strata, which are used in the sample selection from 2022q1 onwards. As the LFS consists of four panels, each appearing for six quarters, there will be a gradual implementation of the new stratification until 2023q2.

From January 1st 2021 the LFS is adapted to a new EU framework regulation. Until the year 2020 the LFS has been collected at the individual level for 15-74-year-olds. From 2021 the population has changed to also include the age group from 75-89 years. On a quarterly basis the sample has thus increased from 34,320 people to 36,020 people. The weighting scheme has also been changed to also include the age group 75-89 years.

One should be aware of four previous revisions in the method of weighting: 2003, 2007, 2011 and 2015. In connection with the method of weighting in 2011, data going back to 2007 were revised. The present method of weighting was implemented in Q3 2015 and the method now includes a weighting method based on the panels. The new weighting method led to marginal changes in the data , and therefore the data was not revised back in time.

The actual effect of the latest revision in the method of weighting is described in the paper below. Here you can read about in which way the revision in the method of weighting has influenced the level of employment in general and additional the size of subgroups (i.e. age groups, part-time and fulltime employees, educational groups and employed/self-employed persons). Paper on the 2011 weighting-method (practically) (Danish version).

The theoretical considerations behind the changes in the method of weighting as well as the gains the revisions have led to on the LFS, are described in the following document. Here one can read about the background and the motivation for the revisions. Among other things, the revisions has led to a more precise age distinction and improved use of help information from several registers. Paper on the 2011 weighting-method (theoretically) (Danish version).

Prior to 2007 a method implemented in 2003 was used. This revision implemented a correction where sex is corrected according to secondary age groups. At the same time it is described how the register of unemployment (CRAM) was used to divide the LFS-unemployed in the survey. Paper on the 2003 weighting-method (Danish version).

Other information on methods in LFS.

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

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