Documentation of statistics for
Register-Based Labour Force Statistics 2015

1 Introduction

The purpose of the RAS statistic is to provide a description of the Danish population's affiliation to the labour market. The affiliation is compiled at the end of November and is published annually. The first time RAS was published it concerned the populations connection to the labour market end November 1980.

2 Statistical presentation

RAS is an annually labour market statistic based on the populations connection to the labour market on the last working day in November. The connection to the labour market for the people resident in Denmark is divided into three socioeconomic main groups which are employed, unemployed and people outside the labour force. The statistic is among other things also distributed on information about demography, education and information about the work place for employees. The statistic is published in StatBank Denmark and data is also available trough the Division of Research Services in Statistics Denmark.

2.1 Data description

The register-based labour force statistic (RAS) is published annually with the main attachment to the labour market at the end of November for the people resident in Denmark at the time.

In RAS the population can be divided into three main groups:

- Employed persons
- Unemployed persons
- Persons outside the labour force

RAS is published with background information that are attached to either the person or the work place where the person is employed. Information about the person are:

- demographic information (gender, age, ancestry)
- educational information (status of education)

The information about the work place are among others:

- industry
- sector
- workplace address

Since RAS contains unique identification codes for both work place and the person additional information can be connected when needed.

In addition RAS is also used to compile commuting between home and workplace.

2.2 Classification system

RAS is compiled according to the international guidelines from ILO (International Labour Organization) for classification of the population's affiliation to the labour market. The classification is called ICSE (International Classification of Status in Employment). The ILO guidelines is focuses on survey based statistics. The guidelines are therefore operationalized to use for RAS since it is a register-based statistics. The ILO guidelines consist of e.g. a set of rules for prioritizing the main connection to the labour market. The guidelines prescribes that employment has higher priority

than unemployment, while unemployment has higher priority than activities outside of the labour force. On the basis of these guidelines the key variable in RAS *socioeconomic status* is thus formed.

Socioeconomic status

When dividing the population according to its attachment to the labour market a reference period of various length can be used. The reference period can be of longer duration like e.g. a year, where the persons primary activity regarding the labour market in the year determines whether or not the person will be classified as employed. When a longer reference period is used, the group of economically active is named *the normally economically active population*. Instead of a long period a shorter reference period on e.g. a day or a week can be used. De economically active are in this context named *the currently economically active population* or *the labour force*. In RAS a short reference period are used - the last week of November. This point of time is chosen partly because information about wage earner jobs historically has referred to the situation at the end of November, and partly because December is an atypical month from a employment related point of view. The following description is therefore limited to focus on a short period of reference.

Overall the population are divided into three groups:

- Employed persons
- Unemployed persons
- Persons outside the labour force

Employed persons are people who are working at least one hour in the week of reference. The employed are either employees, self-employed or assisting spouses.

Employees consists first of all of persons with a job. That means people who in the reference period are doing paid work for at least an hour. Second of all the group of employees includes persons who are temporarily absent from a job. That means persons who in the reference period are absent (temporarily absent less than 45 days or absent due to sickness, childcare or maternity leave), but have a permanent attachment to an employer.

The socioeconomic status for employees follows a level of ability that is based on the classification of occupation DISCO-08. Employees are thus divided into the groups:

- Top managers
- Employees - upper level
- Employees - medium level
- Employees - basic level
- Other employees
- Employees, not specified

The level of ability can be obtained by formal education as well as by training and practice. Information about level of ability for persons employed in central, regional or municipal government are gathered from the wage statistics for respectively the central and municipal sector. Information about private employees are either from the wage statistics for the private sector, or formed by imputation based on among others the highest completed education and the industry where the person is employed.

Self-employed and assisting spouses also consist of persons working at least one hour with pay in the reference period. Besides the group consists of self-employed and assisting spouses who are temporarily absent from the job. Self-employed are persons who owns a personally owned business, which is typically a one man-company or a partnership. Assisting spouses are persons who are getting surplus from the company transferred from the spouse. Assisting spouses with wage agreement are included as employees.

Activated persons who are in supported employment and receive payment (A-income) are also calculated as employed. That is e.g. persons in wage subsidies, flex jobs, sheltered jobs or rehabilitation. Persons, who are working as trainees, are not receiving wages and are therefore not calculated as employed.

The main attachment to the labour market is determined from the international guidelines from ILO (the International Labour Market Organization). The guidelines consist e.g. of a set of rules for prioritizing. These rules determines that employment are prioritized higher than unemployment and other states outside the labour market. Persons who have what is equivalent to one hour of paid work in the reference week, and at the same time have other activities not relating to work (like education or unemployment), are therefore classified as employed.

Employed persons represents together with unemployed persons the economically active population - the labour force.

Unemployed persons include persons who in the reference period are:

- without a job
- available to the labour market
- seeking employment.

Similar to the official unemployment statistics unemployed persons in RAS are calculated as gross unemployed. Gross unemployed consists of *activated* recipients of unemployment benefits or social assistance, who are considered available for work, and net employed, who are *unemployed* recipients of unemployment benefits or social assistance considered available for work.

Gross unemployed who are activated in a paid job are calculated as employed in RAS.

Persons outside the labour force consists of various sub groups. A great share of this category is people support supported by social benefits. The larges sub groups are:

- persons receiving disability pension
- persons receiving passive cash benefit - passive meaning not available to the labour market
- persons receiving early retirement pay

If a person is receiving various types of social benefits the type with the most weekly hours are chosen as the primary attachment to the labour market. Besides from these groups persons outside the labour force also includes old-age pensioners; persons enrolled in education; children and youth; and the group "others outside the labour force". This is a residual group of people that can not be places in a socioeconomic category based on the information available in the registers in Statistics Denmark. Others outside the labour force can e.g. be: stay-at-home woman and men; young people financially supported by their parents; persons who at the time of reference are living of undeclared work; dishearten unemployed who have given up on seeking employment and are not registered as unemployed.

Conditions outside the labour force are prioritized based on the certainty about the underlying information, and on the degree of potential attachment to the labour market. The prioritized order is thus:

1. Persons receiving social benefits (persons in subsidized employment without salary; guidance and activities upgrading skills; rehabilitation; unemployment benefits; maternity or sickness absence from unemployment; parental leave; cash benefit; cash benefit for foreigners; partly unemployment; early retirement pay and flex benefit)
2. Persons enrolled in education
3. Children and youth
4. Persons receiving old-age pensions or other pensions

5. Others outside the labour force.

Industrial Classification DB07

The statistic follows the Danish Industrial Classification of all Economic Activities 2007 DB07 (NACE rev. 2/ISIC rev. 4). A description of the classification is available in Danish [here](#).

A conversion into DB07 codes has been made back to 2000.

- In the period Nov. 2003-Nov. 2007 the statistic follows the Danish Industrial Classification of All Economic Activities 2003 (NACE rev. 1.1./ISIC rev. 3.1.)
- In the period Nov. 1992-Nov. 2002 the statistic follows the Danish Industrial Classification of All Economic Activities 1993 (NACE rev. 1/ISIC rev. 3).
- In the period Nov. 1980-Nov. 1992 the statistic follows the Danish Industrial Classification of All Economic Activities DSE77 (ISIC rev. 3).

Sector

RAS can be distributed on sectors according to ESA (November 1994-November 2012) and ESA2010 (November 2008-November 2014).

Municipalities

RAS is published at municipality level in StatBank Danmark. From November 2006 the statistic is published on municipalities as they are after the structural reform which was implemented January 2007. In the period November 1980-November 2006 RAS is published on municipalities as they were before the structural reform. In November 2006 the statistic can both be distributed on municipalities as they were before the structural reform or municipalities as they are after the structural reform.

2.3 Sector coverage

The statistic covers all sectors.

2.4 Statistical concepts and definitions

Commuting: RAS contains information about residential address and workplace address, and therefore provides the background for calculating commuting between residence and workplace. A commuter is defined by a person who has paid work on an address that differs from the residential address. Thus only persons with differing addresses are included in the calculation of average commuting distance. The commuting distance is calculated as the shortest road distance between the employed persons residential address and workplace address, and the way home is not included. The calculations does not contain information about the frequency of commuting or the means of transport.

2.5 Statistical unit

The statistical unit is persons.

2.6 Statistical population

The population is the people resident in Denmark at the end of November with information about the primary connection to the labour market.

2.7 Reference area

Denmark.

2.8 Time coverage

The end of November 1980-

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

Persons.

2.11 Reference period

RAS is calculated at the last working day in November - that means November 30 2015.

2.12 Frequency of dissemination

RAS is an annual statistic.

2.13 Legal acts and other agreements

§6 in Law about Statistics Denmark.

2.14 Cost and burden

RAS is exclusively compiled on the basis of administrative and statistical registers. Therefore there is no response burden.

2.15 Comment

More information about RAS can be located on the sites Labour force participation and Employment.

3 Statistical processing

RAS is based on the Labour Market Account (LMA) which is a longitudinal register. RAS is done by taking a status (on the populations primary attachment to the labour market) on the last working day in November based on LMA. However with LMA it is also possible to take a status on arbitrary days in the year, and AMR can also be used for various process analysis etc.

3.1 Source data

Since April 2015 Labour Market Account (LMA) is the data foundation for RAS. In connection to the publication RAS was revised back to November 2008. In the same context the dating of the statistic was changed so that its now dated according to the time of reference at the end of November. That means that the latest count is called end November 2015, where it would previously have been called 2016. The data sources in LMA are various internal and external registers, e.g.:

- eIncome register
- The central business register
- The register with information about persons receiving public benefits
- The educational register
- The employment classification module
- The income register
- The population register
- The register for persons receiving maternity or sickness benefit

3.2 Frequency of data collection

RAS is a yearly statistic.

3.3 Data collection

The data collection is done by separate processing of each source register. After that a transverse data processing is done (also called treatment of overlaps) where information in the various registers are compared, and corrected when needed. Finally data are linked to other registers to add background information and form the population.

3.4 Data validation

The data foundation for RAS has since April 2015 been The Labour Market Account (LMA). LMA is produced both with and without an hourly standardization. The non-hourly standardized longitudinal register (LMA-UN) is the data foundation for RAS, and therefore the data validation takes place in LMA-UN.

In connection to the production of LMA a comprehensive validation of each input data is done. The most important ones are:

1. The data source for wage earner jobs are the eIncome register. The wage earner jobs contains information about which workplace the job is at. The workplace is the foundation for the information about industry, sector and geography. In some cases the reporting from the employer are incorrect. In that case a correction of the errors are conducted. The eIncome register contains information about work function (DISCO-08) for persons employed at workplaces covered by the wage statistic. If the workplace is not covered by the wage statistic the information about work function comes from the work classification module when it's available here. In addition other errors are corrected by the eIncome register.

2. The data source for information about self-employed is the business register, the income statistic, the eIncome register and the unemployment statistic. These sources are individually validated at the formation of information about self-employed.

3. The data source for information about absence due to sickness and maternity leave is the statistic of maternity leave and sickness benefits. Data is processed a great deal compared to e.g. a temporary determination of whether the absence is from employment or unemployment.

Transverse data treatment/data validation

The purpose of the transverse treatment/validation of data is to erase, correct or create labour market conditions in cases where the various data sources do not coincide. This is done by a so called treatment of overlaps. The rules used for the treatment are complex. Here some of the most important areas are mentioned:

*   Selection of jobs for self-employed on basis of a series of criteria
*   Determination of whether the absence due to sickness or maternity leave is from employment or unemployment
*   Harmonizing information about subsidized employment

After that data is connected to other registers etc.

3.5 Data compilation

The data compilation in LMA takes place in several steps. The first step in the data processing is to identify and correct errors in data from various sources, and put data in one joint and homogenous source data base. From different statistics data on public benefits, wage earners, self-employed, assisting spouses, persons in education, maternity leave and sickness benefits are joint. An imputation of the paid hours for self-employed and assisting spouses are also done. Afterwards 'illegal overlaps' between conditions are being corrected, and connections between various conditions are made.

After the processing of overlaps a classification of the population's attachment to the labour market are made on the basis of the international guidelines from ILO, which is further described in item 2.2 Classification system. The guidelines consist among others of a set of rules for prioritizing the primary attachment to the labour market. The guidelines dictates that employment is prioritized higher than unemployment, while unemployment is prioritized higher than conditions outside the labour force. Data is also linked the business register to get background information (industry, sector, address for the work place) concerning the work places where the employed persons work. Linking to the population register is also made with the aim of deciding whether the person is resident in Denmark at the time of reference.

From this processing of data the so called LMA-UN is made, and this non-hourly standardized longitudinal register with information about the populations connection to the labour market is the data foundation for RAS. In RAS the populations primary attachment to the labour market are calculated at the end of November, but on the basis of LMA-UN it is possible to calculate the attachment to the labour market at arbitrary times in the year.

LMA is also done in a hourly standardized variant (LMA-TN). In this register every person always has an attachment to the labour market on 37 hours per week. Some of the hours can e.g. be as employed while other hours can be in education, or simply hours where it's not possible to determine a socioeconomic category. Learn more about statistical processing in LMA.

3.6 Adjustment

No corrections of data besides what is described under data validation and data compilation.

4 Relevance

The register based labour force statistic (RAS) is primarily been used to structural analysis of the labour market, because the statistic has a very detailed level of information. Many external as well as internal users are using the statistic.

4.1 User Needs

RAS is widely used by many external users. That is e.g. municipalities, counties, government departments, the news media and private organizations and enterprises. RAS is primarily used to analyze labour market structures, because it contains very detailed information. Information from RAS are also widely used in other statistical registers and databases maintained by Statistics Denmark. LMA, which RAS is based on, is part of the data foundation for the Working Time Account (WTA). The WTA is a data source for employment in the National accounts.

4.2 User Satisfaction

There has not been conducted any analysis of the user satisfaction with the statistic. However, many external as well as internal users are using the statistic, and a number of users committees are set up by Statistics Denmark with the purpose to support the dialog with the users, and involve them in the development of the statistics. There is thus also a user's committee pointed out for labour market statistics, which is involved in the work with RAS.

4.3 Data completeness rate

There is no regulation in the field. RAS is, in the extent possible with register-based data, following the international guidelines from ILO (International Labour Organization). ILO is an UN organization that among other things determines the international guidelines on how to specify the population main connection to the labour market. The ILO guidelines are primarily pointed towards survey-based inquiries (Labour Force Survey), where the person itself provides the information about the connection to the labour market. Since RAS is based on register-data the requirements from ILO is adjusted to use for RAS. The ILO guidelines consist among other things of a set of rules for prioritizing the main connection to the labour market. The guidelines dictate that employment has a higher priority than unemployment, while unemployment has higher priority than activities outside the labour force.

5 Accuracy and reliability

RAS is a register based total count of the people resident in Denmark, and the statistic uses the Labour Market Account (LMA) as data source. That first of all means that RAS doesn't contains the same uncertainties as statistics based on surveys. Second of all the data foundation for RAS provides a better opportunity to illuminate the labour market than before. RAS consists of a series of data sources which are integrated, corrected, and harmonized, and can therefore illuminate the populations attachment to the labour market significantly better than the single statistics can.

5.1 Overall accuracy

RAS is a register-based total count of the people resident in Denmark, and is used to illustrate he populations attachment to the labour market. The accuracy with the statistic is high. Regarding sources of uncertainties it's mainly the following:

- *Determination of the primary attachment to the labour market for a person with more than one job at the end of November:* In these cases the primary job is determined by the number of hours worked. The job with the most hours is defined as the primary. For self-employed and assisting spouses the information about working hours is always imputed, and in some cases that goes for employees as well. For employees the imputed part is though decreased from 14 pct. in 2008 to barely 4 pct. in 2013. The imputation can in some cases mean that the wrong job is pointed out as the primary.

- *Number of self-employed and assisting spouses:* The period of jobs for self-employed and assisting spouses is more uncertain than for employees. A series of information is used to validate whether the person actually is active in a job as self-employed/assisting spouse. There will however be a more significant uncertainty about the number of self-employed and assisting spouses than with employees.

- *Employed distributed by industry:* There are some uncertainties concerning which workplace the specific employee job is situated, because a number of reports from the employers are insufficient. The insufficient reports causes a necessary search for and correction of errors regarding the workplaces, but even though the errors are corrected in the best possible way there will continuously be uncertainties about parts of the information about workplaces - especially on a detailed level. The uncertainties are especially linked to the detailed distributions of employment on industries in the public sector, and particularly on the municipal area. In that area the distributions on industries within "residential care activities" (industry 87) and "social work activities without accommodation" (industry 88) are uncertain on a more detailed level, but also between the two industry. Detailed distributions on "Education" (industry 85) are also combined with uncertainties.

Before 2008 the data sources for RAS was more uncertain. Especially the data source for information about employee jobs: the central register for information notes from the tax office (in Danish: det centrale oplysningsseddelregister). The employer should on the note indicate whether the employee has been employed at the end of November. This information was exclusively used for statistical purposes, and Statistics Denmark did not have the chance to control whether the reports where correct or not. The central register did not have information about wage hours. As a replacement an extent of working hours where calculated on the background of the yearly labour market supply (ATP) and the length of the employment, though the length of the employment was considerably uncertain. The calculated extent of working hours was used at the classification - that means when the primary connection to the labour market, for a person with more than one job, is specified. From 2008 the information about working hours are significantly more precise, which has also improved the precision of the classification significantly.

5.2 Sampling error

Not relevant for this statistic.

5.3 Non-sampling error

Inadequate or conflicting reports are corrected. Among others the information about working hours is imputed for persons with no information reported.

A selection of self-employed and assisting spouses is done on basis of a series of information about the person and the job.

If a person has more than one job at the time of reference, the primary job is determined as the job with the highest assumed number of working hours.

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

RAS is a total count of the people resident in Denmark and the data foundation is the Labour Market Account (LMA). In LMA various data sources are integrated, corrected and harmonized in one joined system. With RAS there are thus improved possibilities for studying the labour market compared to the solitary statistics. Since RAS is a total count of the population there is not the same uncertainties as with statistics based on surveys. There are however other uncertainties connected to the statistic:

- *Determination of the primary attachment to the labour market for a person with more than one job at the end of November:* In these cases the primary job is determined by the number of hours worked. The job with the most hours is defined as the primary. For self-employed and assisting spouses the information about working hours is always imputed, and in some cases that goes for employees as well. For employees the imputed part is though decreased from 14 pct. in 2008 to barely 4 pct. in 2013. The imputation can in some cases mean that the wrong job is pointed out as the primary.

- *Number of self-employed and assisting spouses:* The period of jobs for self-employed and assisting spouses is more uncertain than for employees. A series of information is used to validate whether the person actually is active in a job as self-employed/assisting spouse. There will however be a more significant uncertainty about the number of self-employed and assisting spouses than with employees.

- *Employed distributed by industry:* There are some uncertainties concerning which workplace the specific employee job is situated, because a number of reports from the employers are insufficient. The insufficient reports causes a necessary search for and correction of errors regarding the workplaces, but even though the errors are corrected in the best possible way there will continuously be uncertainties about parts of the information about workplaces - especially on a detailed level. The uncertainties are especially linked to the detailed distributions of employment on industries in the public sector, and particularly on the municipal area. In that area the distributions on industries within "residential care activities" (industry 87) and "social work activities without accommodation" (industry 88) are uncertain on a more detailed level, but also between the two industry. Detailed distributions on "Education" (industry 85) are also combined with uncertainties.

The division of employees into level of skills (top managers, employees at upper levels, employees at medium levels, employees at basic levels, other employees and employees not further specified) is done by means of information about work function, which is reported to the wage statistic or otherwise imputed. That happens when the employees work in smaller firms in the private sector (less than 10 full-time employed), which are not obliged to rapport to Statistic Denmark's wage statistic. In these cases the quality of information about the skill level is of lower quality.

The selection of self-employed and assisting spouses is done by means of defined demands and on the background of a series of information about the person and the job.

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

When RAS is published data is considered final. However data can be revised as a result of changes in methods or new information available. Since the data foundation for RAS changes to the labour market account (LMA) following changes have been made:

1. In connection to the publication of data for November 2013 data from 2008-2012 is revised, because the data foundation for RAS changes to LMA.
2. At the publication in April 2016 the data is again revised back to 2008, because more updated information about the population is available at the time. The revision reduces the number of persons outside the labour force with 12,000-14,000 (in 2013 the number is about 24,000). The reduction is partly due to knowledge about more emigrations, which reduces the population with 5.000-8.000. In addition to that au pairs are now considered employed, while foreign students are considered enrolled in education. Furthermore the group of people receiving early retirement pay is increased with 3.000-4.000 because of changes in the processing of data. Beside these changes smaller corrections of industries, work places and sector codes for employees are also made.

No further revisions are planned.

6 Timeliness and punctuality

The statistic is published approximately 16 months after the reference point in time. RAS is typically published at the scheduled date without delay, and is planned more than a year ahead.

From the publication of data for November 2015 and onwards data is published approximately 14 months after the time of reference.

6.1 Timeliness and time lag - final results

The statistic is published about 14 months after time of reference.

6.2 Punctuality

RAS is typically published at the scheduled date without delay.

7 Comparability

The first version of the RAS statistics includes the population resident in Denmark as of the 1 January 1981 and its attachment to the labour market at the end of November 1980. The statistic has been compiled once every year since. New and better data foundations and changes in the labour market have however caused a number of data breaks over time, which have influence on the possibility of comparing data over time. Since RAS is based on administrative registers with national distinctive marks, it is very difficult to compare the statistic in an international level.

7.1 Comparability - geographical

RAS follows the international guidelines from the International Labour Organization (ILO) for estimating the population main attachment to the labour market. The ILO guidelines are however pointed towards survey-based statistics (the Labour Force Surveys), where the person itself provides the information about the connection to the labour market. Since RAS on the other hand is based on register data, the ILO guidelines are adjusted for use for RAS. It is therefore recommended that the Labour Force Surveys (LFS) are used for international comparisons, while RAS is mainly used to illustrate national structures.

7.2 Comparability over time

RAS was first published in 1981 with data on the populations attachment to the labour market at the end of November 1980. The statistic has been compiled once every year since 1981. Over the years some changes have been done in the statisti, which have influence on the possibility to compare the statistic over time. Particularly the change of data foundation for RAS in 2008 means, that it's difficult to compare data from before and after 2008.

Data break

In 2003 (November 2002) there is a data break in the time series. Changes on the labour market had created a need for different alterations in the statistic. At the same time better data sources made the alterations possible. Therefore Statistics Denmark was able to publish an improved statistic. The alterations in the statistic caused among other things a change in the order of priority for persons in more than one condition. For example the priority for persons who receive early retirement pay and worked at the same time was changed.

Before 2008 the data source for employees was the Salary Information Register (COR). This register was based on reports from employers to the tax authorities. Here the employer had the possibility to report that the employee had been employed during the whole year. If that was not the case the employer should report the starting date and the ending date of the period in which the person had been employed. However, Statistics Denmark supposes that employers have reported that the person has been employed during the whole year in to many cases, which resulted in a employment level that was to high.

From November 2008 the eIncome-register replaced COR as the data source for employment for employees. That causes a larger data break. The eIncome-register is based on monthly information from employers. That implied that the information concerning the period of employment got a higher quality. It also implied that the level of employment got lower due to the transition to the eIncome-register.

When producing RAS November 2008 in 2010 Statistics Denmark's own version of the eIncome register was not yet ready. Therefore an early version of the eIncome-register based on the monthly reports made by the tax authorities was used for the statistic. When producing RAS November 2009 in 2011 Statistic Denmark's own monthly eIncome-register was ready. It was realized that there were relatively large differences between the yearly version from the tax authorities and the monthly register which made it necessary to revise the statistics for November 2008.

With the production of RAS concerning the population's attachment to the labour market November 2011 two changes was made in the statistic. The changes resulted in RAS being revised for the period November 2008 – November 2010. The changes implied that:

1) a number of persons, who are temporarily absent from the labour force and earlier had been classified as outside the labour force, became part of the labour force. The background for this was that a person should be classified as employed even though the person is temporarily absent from

work and the employer does not pay wages (if the absence is due to maternity leave or sickness leave with a duration of less than 3 months). Before the change to the eIncome-register, RAS was based on information from the Salary Information Register (COR). By using this data source a person on temporary leave would typically be classified as employed even though the person did not receive wages. This was because information about yearly salary was used and because the information concerning the period of employment had a lower quality. After the change to the eIncome-register the population is classified in accordance with information about whether any wages are paid in November or not, and therefore the person will not be classified as employed, unless supplementary information is used. Therefore Statistics Denmark developed an algorithm, which can decide whether the person is on leave from work or not. According to this 10,000 persons (primary persons on maternity leave) were reclassified from being outside the labour force to being employed.

2) gross unemployment was used instead of net unemployment. This meant that the labour force from there consisted of employed persons and gross unemployed persons. Net unemployment consists of persons receiving unemployment benefits or social assistance who are considered able to work. Gross unemployment consists of net unemployment and activated recipients of unemployment benefit or social assistance who are considered able to work. Taken together these two changes meant that the labour force was increased by roughly 50,000 persons compared to the old method.

New data foundation for RAS in 2015

In April 2015 the data foundation for RAS changed to be the Labour Market Account (LMA). In this context RAS was revised back to November 2008. In the same context the dating of the statistic changed, so that the time of reference from there is the end of November. That meant that the statistic now is called e.g. November 2013 whereas it would earlier have been called 2014. Learn more about LMA here. When publishing RAS (end November 2014) in 2016 the time series November 2008-November 2013 was revised. Hereafter the plan is to do no further revisions of the historical time series.

Changes in Danish Industrial Classifications

In 1993 the classification changes from DSE77 to DB93. In 2003 it changes to DB03, and ind 2008 to DB07. Read more about the changes and the classification here.

Changes in sector code

The statistic can be distributed on sector according to ESA (Novembe 1994-November 2012) and ESA2010 (November 2008-November 2013).

Changes in classification of occupation

The level of skills for employees are determined by DISCO-08, which is reported to the wage statistic. From 2010 the classification is changed, which means that the level for 2008-2009 are based on DISCO-88, while it from 2010 is based on DISCO-08. The changes are due to changes in the international classification behind: ISCO. The change causes the number of employees on highest level to increase with about 200,000 persons, while the number of employees on the middle level dropped proportional. The change had impact on among other large groups of employees all pedagogic work, some nursing work and some from the financial sector.

Municipal reform

RAS is published on municipal level in the StatBank. From November 2006 the statistic is published on the new municipals after the structural reform. In the period November 1980-November 2006 the statistic is made up on the municipals before the structural reform. November 2016 is therefore published with data from both before and after the reform.

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7.3 Coherence - cross domain

The number of people employed and unemployed in RAS deviates from other statistics. You can read more about the differences bellow:

Employment in Businesses (EiB)

The EiB and RAS have a common definition of the stock of employees at the end of November, but there are some jobs that are included in RAS and not in EiB and vice versa. First of all the person's primary connection to the labour market is calculated in RAS, while EiB includes both a person's most important job as well as other jobs the person may have at the end of November. Secondly persons, who are absent from employment (because of childcare leave, maternity leave or sickness benefit) at the end of November are considered to be employed in RAS, but not in EiB. Thirdly EiB only includes self-employed, who are liable to pay VAT or payroll tax or are employers, while RAS also includes employed who have the largest income during the year from self-employment. In the fourth place EiB only includes jobs in businesses with a certain minimum activity. Businesses with activities under a defined threshold are not included in the EiB.

Labour Force Survey (LFS)

LFS is an interview study. LFS uses the same by ILO internationally defined concept of employment as RAS. Since the ILO guidelines is pointed at survey-based statistics as LFS, the guidelines is adjusted to use for RAS. For that reason there are considerable deviations between LFS and RAS. If the socioeconomic status of employed persons is considered, there are relatively more self-employed and assisting spouses in LFS. The reason for this is among other things that people, who are share- or stockholders in the company where they are employed, are classified as an employee in RAS, while they often will describe themselves as self-employed when asked in the LFS. The same goes for assisting spouses with wage agreement, who in RAS are classified as employees. The distribution of the employees by skills also differs significantly between the two statistics.

Public Employment Statistic (PES)

The PES calculates the average number of jobs and the number of full-time employed persons each quarter within the public sector. The number of jobs includes all the jobs that the person has in the public sector at a given time. This means that the number of jobs is substantially higher than the number of persons employed in RAS.

Employment Statistic for Employees (ESE)

The ESE calculates the full-time employment and the number of employees on a quarterly basis. The calculation of full-time employment means that the level of employment in ESE will be lower than the level of employment in RAS. On the other side the number of employees is higher than in RAS. The reason is that some of the employees are classified as self-employed in RAS. That is the case when a person has a job as employee and at the same time is self-employed and the person works the most hours as self-employed.

Unemployment statistic

The average full-time unemployment in the unemployment statistic is generally higher than the unemployment in RAS. There are two reasons for this; firstly unemployment is calculated in full-time equivalents in the unemployment statistic. Secondly, a portion of the gross unemployed are calculated as employed in RAS. The reason for this is that they are activated in a measure, where they are receiving wages. In such cases, they are classified as employed according to the international guidelines for employment statistics. In addition, a portion of the gross unemployed are calculated as employed in RAS. The reason for this is that they are activated in a measure, where

they are receiving wages. In such cases, they are classified as employed according to the international guidelines for employment statistics.

Labour Market Account (LMA)

Since April 2015 the LMA has been the data foundation for RAS. In that context RAS was revised back to November 2008.

The Working Time Account (WTA) The estimation of employment in WTA is based on LMA. In WTA the employment is calculated

7.4 Coherence - internal

RAS is based on the Labour Market Account (LMA) which is compiled on a number of different sources. RAS is the result of an inventory at the end of November in LMA. Minor differences is however possible between the newest current version of LMA and RAS. That is because LMA is a more "lively" register where different improvements are done after the production of RAS. Improvements that have greater meaning to a longitudinal register (like LMA) than to a inventory (like RAS).

8 Accessibility and clarity

The statistic is published in a Danish press release. http://www.Statbank.dk and Statistical Yearbook. Unfortunately "Nyt fra Danmarks Statistik" and the statistical yearbook are only in Danish.

More detailed data can be purchased in Statistics Denmark's Customer Centre.

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

These statistics are published annually in a Danish press release.

8.5 Publications

The data are published in Statistical Yearbook.

Statistics Denmark
Sejrøgade 11
DK 2100 København Ø

8.6 On-line database

A large number of data from RAS are published in Statbank Denmark in 'Labour force' and 'Employment' under the subject 'Labour, income and wealth'. More detailed data can be purchased in Statistics Denmark's Customer Centre.

8.7 Micro-data access

RAS is an individual based register. RAS can be coupled with other individual based registers in order to make customized service tasks and RAS can also be accessed through Statistics Denmark's researcher arrangement (Forskningsservice) under consideration of the general rules of anonymity in Statistics Denmark.

8.8 Other

RAS is annually being delivered to Statistics Denmark's Customer Centre and Statistics Denmark's researcher arrangement (Forskningsservice).

8.9 Confidentiality - policy

Data Confidentiality Policy at Statistics Denmark.

8.10 Confidentiality - data treatment

Discretion is made according to Statistics Denmark's confidentiality policy. This means among other things that data cells with less than three observations are not published.

8.11 Documentation on methodology

N/A

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 the statistic is in the Labour Market division. The responsible person is Pernille Stender, tel. +45 39 17 34 04, e-mail: psd@dst.dk.

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