STATISTICS DENMARK

Documentation of statistics for
Number of Persons Employed in the Construction Industry
2017

1 Introduction

The purpose of the statistic is to show trends in the number of employed within the private construction industry by kind of activity and type of work (new buildings, repair and maintenance of buildings, civil engineering, etc.). The first sample survey of employment in the construction industry was conducted in 1961.

2 Statistical presentation

The statistic provides information on trends in the number of employed within the private construction industry. Employment is analyzed by kind of activity and type of work (new buildings, repair and maintenance of buildings, and other).

2.1 Data description

The statistic shows the development in the number of employed in the private construction sector. The employment is categorized in 8 construction industries and 6 types of construction work. The numbers are seasonally adjusted for each industry as a total and each type of work as a total, but not for the combination of industry and type of work. The seasonal correction takes into account the number of working days in the quarter. The statistic is based on data from questionnaires. All major construction companies, and a sample of the rest of the construction companies, are are asked about their number of employees on a specific date, the Wednesday in the quarter.

2.2 Classification system

The division of industries in the statistic is based on the Danish Industrial Classifications DB07

The industry groups are:

- 41000 Construction of buildings: 411000,412000
- 42000 Civil engineering: 421000,422000,429000,421100,421200,421300,422100,422200,429100,429900
- 43201 Electrical installation ect.: 432100,432900
- 432200 Plumbing, heat and air-conditioning installation: 432200
- 43301 Joinery installation ect..: 433100,433200,433300
- 43302 Painting and Glazing ect.: 433410,433420,433900
- 439910 Bricklayers: 439910
- 43003 Other specialized construction activities: 431100,431200,431300,439100,439990

In the statistics the number of of employees are categorized in a group corresponding to the type of work. The types of work are:

- Total
- New buildings and extensions
- Repair and maintenance
- Civil engineering
- Other occupation
- Clerical work
- Not at work because of bad weather, holiday, illness, instruction ect.

2.3 Sector coverage

The construction sector.

2.4 Statistical concepts and definitions

Industry: A description of a companies activity. To determine the industry of a company Danish Statistics use Danish Industry Code, a 6-digit code based on EU's industry code NACE.

Professional Unit: Workplaces within the same company with the same industry.

Counting Day: Day on which the professional units count their number employees. If possible, the day is set as Wednesday in the middle of the quarter.

2.5 Statistical unit

The units in the statistic employment in the construction industry are professional units. A professional units consists of work places in the same company, that are in the same construction industry

2.6 Statistical population

The population, that the statistic covers, are professional units, for which the main industry is in construction.

2.7 Reference area

The statistic covers employment in Danish construction companies. Foreign companies, that do construction work in Denmark, are not included.

2.8 Time coverage

The statistic covers the period of 2000 an onward. Older time series are described in the section *Comparability over time*.

2.9 Base period

Not relevant for this statistics.

2.10 Unit of measure

Number.

2.11 Reference period

Employment in the construction industry is compiled 4 times every year on a specific day. The date of compilation is called the census date. The census date is as far as possible scheduled for a Wednesday in the middle of the quarter.

2.12 Frequency of dissemination

The statistics are published 4 times annually. Media January, April, July and October. The statistics are published about 9 weeks after the census date.

2.13 Legal acts and other agreements

EU Regulation on Short-Term Statistics: RF 1165-98.

2.14 Cost and burden

The burden for the respondents have been estimated to 655,000 dkk.

2.15 Comment

Employment in the construction industry has a subject page.

3 Statistical processing

The reported data is scaled to the total population of professional units with main activity in construction. No numbers are imputed. The total employment in each construction industry and each type of construction work is seasonally adjusted. The cross between construction industry and type of construction work is not seasonally adjusted.

3.1 Source data

The statistic is bases on a questionnaire among construction companies. The sample is approximately 1.500 professional units. The professional units are chosen with the aid of registry information. In the sample all professional units with at least 39 registry employees have been chosen. The rest of the sample is based on random stratified sampling. There are 4 size groups, defined by the intervals 5-9 employees, 10-19 employees, 20-39 employees and at least 39 employees. The limit of 5 employees, under which no professional units are selected, has been set to reduce the burden placed on small companies.

3.2 Frequency of data collection

Data is collected each quarter.

3.3 Data collection

The employment numbers are gathered by online reporting from the professional units in the sample. The survey is mandatory.

3.4 Data validation

The reported numbers are controlled for errors. they are compared to reported numbers from earlier periods. If the reported employment numbers are substantially different from what is expected, the company is contacted to confirm the numbers. It is likely that not all errors are discovered. Therefore the statistic has some uncertainty connected to wrong reports. However, the magnitude of this problem is believed to be small.

3.5 Data compilation

The reported data is scaled to the total population of professional units with main activity in construction. The population, to which we scale, include professional units with less than 5 employees, event though these are not in the sample. For scaling a method called ratio estimation is used. The method uses employee information from the Danish Business Register from the preceding 4 quarters.

3.6 Adjustment

The total employment in each construction industry and each type of construction work is seasonally adjusted. The cross between construction industry and type of construction work is not seasonally adjusted. The season adjustment corrects for holidays(Easter) and the number of days in the quarter. The seasonally adjusted population totals are constructed as the sum of the seasonal adjustment for the individual construction industries. The seasonally adjusted employment numbers for the different types of work are normalized to sum to the population total.

4 Relevance

Interest in the statistic is high among users. Users of the statistics are trade associations, banks, politicians, public authorities, international organizations, private business enterprises and the news media. The statistics are a supplement to the other short-term statistics relating to this area.

4.1 User Needs

Users of the statistics are trade associations, banks, politicians, public authorities, international organizations, private business enterprises and the news media. The statistics are a supplement to the other short-term statistics relating to this area. The statistics are also to be used in the national accounts statistics.

4.2 User Satisfaction

Users of the statistic are generally satisfied with the statistic.

4.3 Data completeness rate

Numbers are published in all construction industries and types of construction work.

5 Accuracy and reliability

The quality of the statistic is assessed as being high. There are no quantitative measures of the total uncertainty. The sample uncertainty for the total employment is estimated to be approximately 0.5 pct. The uncertainty that results from non-response, wrong reported numbers and misunderstandings has little effect on the numbers. The statistic is reliable in the sense that previously published numbers rarely are revised.

5.1 Overall accuracy

No quantitative measures of uncertainty have been calculated besides the sample uncertainty, which is 0.5 pct. for the total employment. For the construction industry totals the sample uncertainty is under 3.5 pct., while the totals for the types of construction work are under 5 pct. For the cross between industry and type of work, the sample uncertainty can be as high as 50 pct., but generally lies in the range 5-15 pct. The uncertainty of the quarterly changes, however, is far smaller, since the professional units in the sample are not replaced each quarter. The over coverage is estimated to be under 1 pct., un-weighted. The number has been estimated from the number of respondents that point attention to the fact that they have been placed in the wrong industry. The uncertainty that results from non-response, wrong reported numbers and misunderstandings has been sought minimized by control and re-contact with the companies. The variable that the companies are asked about is well defined, so misunderstandings are estimated to be few. The response rate is high.

5.2 Sampling error

Sample uncertainties for the scaled employment numbers have been calculated. For the total employment the sample uncertainty is approximately 0.5 pct. For the construction industry totals the sample uncertainty is under 3.5 pct, while the totals for the types of construction work are under 5 pct. For the cross between industry and type of work, the sample uncertainty can be as high as 50 pct, but generally lies in the range 5-15 pct.

5.3 Non-sampling error

The statistic has a number of sources of systematic errors. The systematic errors are estimated to be small. The over coverage is estimated to be under 1 pct., un-weighted. The number has been estimated from the number of respondents that point attention to the fact that they have been placed in the wrong industry. The uncertainty that results from non-response, wrong reported numbers and misunderstandings has been sought minimized by control and re-contact with the companies. The variable that the companies are asked about is well defined, so misunderstandings are estimated to be few. The response rate is high.

5.4 Quality management

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

5.5 Quality assurance

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

5.6 Quality assessment

The quality of the statistic is estimated as being high. For the total employment the sample uncertainty is approximately 0.5 pct. For the construction industry totals the sample uncertainty is under 3.5 pct, while the totals for the types of construction work are under 5 pct. For the cross between industry and type of work, the sample uncertainty can be as high as 50 pct, but generally lies in the range 5-15 pct. The over coverage is estimated to be under 1 pct., un-weighted. The number has been estimated from the number of respondents that point attention to the fact that they have been placed in the wrong industry. The uncertainty that results from non-response, wrong reported numbers and misunderstandings has been sought minimized by control and re-contact with the companies. The variable that the companies are asked about is well defined, so misunderstandings are estimated to be few. The response rate is high. By publication, around 90 pct. of the professional units have answered.

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

Only final numbers are reported. In case of changes in the statistical methods, revisions of earlier numbers are performed. The last time this happened was in the 3. quarter of 2013.

6 Timeliness and punctuality

The statistic is published four times a year, media January, April, July and October. Time from the census-date to publication is about 9 weeks. The statistic is normally published at the announced time.

6.1 Timeliness and time lag - final results

The statistic is published four times a year, media January, April, July and October. Time from the census-date to publication is about 9 weeks.

6.2 Punctuality

The statistic is normally published at the announced time.

7 Comparability

I the archive there are unemployment numbers dating back to 1994 Numbers from years before 2000 are not comparable to the new time series. The statistics on employment in the construction industry supplement the other short-term statistics relating to this area.

7.1 Comparability - geographical

No numbers are reported to the EU.

7.2 Comparability over time

I the archive there are unemployment numbers dating back to 1994. From 2003 the survey sample has been selected by using information from the Business Register. Numbers from years before 2000 are not comparable to the new time series.

7.3 Coherence - cross domain

The statistics on employment in the construction industry supplement the other short-term statistics relating to this area.

7.4 Coherence - internal

The seasonal adjustment is indirect, which ensures consistency between seasonally adjusted totals, and their components. Their are no other sources of inconsistency.

8 Accessibility and clarity

The newest numbers are published at [STATBANK](#).

8.1 Release calendar

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

8.2 Release calendar access

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

8.3 User access

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

8.4 News release

The newest numbers are published in a news-article in Danish.

8.5 Publications

The numbers are used in the Statistical Yearbook.

8.6 On-line database

All numbers are published at: Statistikbanken.

8.7 Micro-data access

Micro data is not made available.

8.8 Other

There is no other availability.

8.9 Confidentiality - policy

In the process of making the statistic Employment in the construction industry, The Danish Statistics data confidentiality policy is followed.

8.10 Confidentiality - data treatment

In the process of making the statistic Employment in the construction industry, The Danish Statistics data confidentiality policy is followed. In praxis this means that no numbers, based on fewer than 3 workplaces, are published.

8.11 Documentation on methodology

There are no publically available method documents.

8.12 Quality documentation

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

9 Contact

The administrative placement of these statistics are in the division of Short Term Statistics. The person responsible is Thomas Eisler, tel. + 45 39 17 32 49, e-mail: tme@dst.dk

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