**Documentation of statistics for
Index of Production in Construction 2021**

1 Introduction

The purpose of Index for Production in Construction (IPC) is to b. The statistics are used to illustrate the business trends in the sector. These statistics have been compiled since autumn 2014, but is in its current form comparable from January 2000 and onwards.

2 Statistical presentation

IPC are a monthly measurement of the business trends in the sector stated in index. The statistics are grouped by total, building construction and civil engineering and covers Denmark.

2.1 Data description

The *Index of production in construction* is a monthly statistic that contains an overall production index for the building and construction sector in total, as well as two sub-indices for construction and civil engineering respectively. The indices show the cyclical developments in the sector and are based on hours worked in the construction and civil engineering sector from the [Working Time Accounts (ATR)](#).

The index for *Total construction* covers the entire section F, i.e. groups F41, F42 and F43.

The index for *Construction* covers the construction of buildings (F41) and construction, which require specialization (F43), i.e. implementation of construction projects, demolition and preparatory site works, electrical installation and plumbing, as well as other building installation activities, etc.

The index for *Civil engineering* covers construction work (F42), i.e. construction of roads and railways and construction of cable networks, etc.

2.2 Classification system

These statistics follow the industrial groupings in NACE Rev. 2 which is a statistical classification that categorize enterprises by their most important economic activity. The *Index of production in construction (IPC)* covers section F Construction which includes the divisions:

- F41: Construction of buildings
- F42: Civil engineering
- F43: Specialized construction activities

2.3 Sector coverage

Construction.

2.4 Statistical concepts and definitions

Construction: The sector consist of section F in NACE Rev. 2.

2.5 Statistical unit

Hours worked.

2.6 Statistical population

The population consist of firms in construction (section F in NACE) with employment in Denmark

2.7 Reference area

All regions of Denmark are covered.

2.8 Time coverage

These statistics covers the time period from January 2000 and onwards.

2.9 Base period

2015=100.

2.10 Unit of measure

Index.

2.11 Reference period

Monthly

2.12 Frequency of dissemination

Monthly.

2.13 Legal acts and other agreements

Section 8 of the Act on Statistics Denmark secures the legal ground for collecting the data.

The statistics fall under the following regulations:

Council Regulation (EU) no. 1165/98 of 19 May 1998 concerning short-term statistics

Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2.

2.14 Cost and burden

These statistics are based on administrative data. There is thus no direct response burden, in relation to the compilation of these statistics.

2.15 Comment

For further information contact Statistics Denmark.

3 Statistical processing

These statistics are based on hours worked in the construction sector from the Working Time Accounts (WTA). The hourly figures are indexed and corrected for productivity and number of working days.

3.1 Source data

The IPC is based on WTA, which are exclusively based on existing data sources, which are subsequently converted to the concepts used in the WTA. WTA is a quarterly statistics, but there are made monthly extracts of the hours worked of employees for the month between the quarters.

3.2 Frequency of data collection

Quaterly for total and monthly for employees.

3.3 Data collection

The data is collected from the Working Time Accounts

3.4 Data validation

The 3 series are seperately compared with the last month - and the rest of the serie - where the level of revisions and the developments are evaluated. There are not made any intra-dataset checks, but the plausibility are evaluated in proportion to knowledge about the construction sector.

3.5 Data compilation

The monthly data from WTA are divided into building, civil engineering and total for Construction, which is a sum of hours worked for building construction and civil engineering.

But only the quarterly figures consist of all the hours worked by employed employees, self-employed and assisting spouses. In the months between the quarters, the figures only consist of hours worked by employed employees. These months are extrapolated with the rate of increase for the month in question, calculated on basis of the whole serie.

After the hours worked is adjusted for productivity the figures are made by a simple volume index.

3.6 Adjustment

Calendar adjustment

The three data series are adjusted for calendar effects, using Tramo/Seats (Demetra v. 2.1). This also means that the calculation of the calendar adjusted total series is performed by a direct approach, and therefore there is not always consistency between the two subseries and the total.

The model is chosen automatically and re-estimated only annually. Parameters are re-estimated every month. For the calendar adjustment reg ARIMA is used, and the adjustment includes the effect of moving holidays (Easter), trading days and leap-year. The default calendar is used, and all three series have significant trading day effect, Easter effect and leap-year effect.

The series are also adjusted for productivity. The National Accounts calculation of productivity is used.

4 Relevance

The Index for Production in Construction illustrate the actual business conditions, which can be used to get a overview over the business trends in the sector.

4.1 User Needs

The objective with the statistic is to give interested users a quick overview of the cyclical trend in the construction sector.

4.2 User Satisfaction

The index is a requirement from Eurostat an has formerly only been send to Eurostat. After an improvement of the method is it decided to also published it in Denmark. This decision has been discussed in the contact group for construction and dwelling statistics, which had approved the project.

4.3 Data completeness rate

The Index for Production in Construction complied with the recommendations and demands i Council Regulation (EU) no. 1165/98 of 19 May 1998 and no. 1893/2006 of 20 December 2006 regarding short-term-statistics.

5 Accuracy and reliability

The margins of statistical uncertainty associated with the IPC are related to the statistical uncertainty of WTA and the productivity calculations.

5.1 Overall accuracy

The margins of statistical uncertainty associated with the IPC are related to the statistical uncertainty of WTA and the productivity calculations.

In the long run (12 months), there is a good agreement with the National Accounts gross value added for the construction sector.

5.2 Sampling error

Not relevant for this statistics

5.3 Non-sampling error

For WTA some employees lack information on hours paid or the reported information has been found to be invalid. Therefore imputed (estimated) paid hours of work for these reports. Furthermore, the self employed has a tendency to overstate their reports more than employees do.

For the moment, there are no precise calculation of the productivity factor in Construction. Until it is done, the IPC use the Nationals Accounts estimated which is 1 % yearly.

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

There is carried out two controls of the quality in connection with making the index:

1. Did the development in the IPC comply with comparable statistics, especially Construction and Number of Persons Employed in the Construction Industry
2. The size of revisions in the last couple of years - should be under 1 pct.

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 Danish IPC is calculated on the basis of hours worked from the Working Time Accounts (WTA) statistics. These hours worked include employed employees, self-employed and assisting spouses. However, data on the hours worked of self-employed and assisting spouses for a given quarter is only available quarterly. This means that for the first publications of the production in the first and second month of any quarter, hours worked for these two categories are extrapolated by the growth rate(s) of the hours worked of employees. So, for every publication of data for the third month in a quarter, when all data is actually available, the published figures for the first two months of that quarter is revised.

These revisions are normally well below one percent for the total construction. For the sub-index of civil engineering it can be a little higher.

In addition to these quarterly revisions there are annual revisions on the hours worked from the WTA and they are also included as revisions in the IPC. These revisions are due to late available data from the annual statistics on the structure of earnings, which is used in the compilation of the WTA. The structural data is first available more that 15 months after the year of reference, and the revisions will therefore cause revisions to the WTA and hence the IPC over two years back in time.

Normally these annual revisions should be minor, compared to the quarterly revisions, but the revision in 2015 was extraordinary large, resulting in revisions to the IPC as big as 2 pct. Revision of this magnitude are not expected again in the near future.

There are no other benchmarking or the regular revisions.

6 Timeliness and punctuality

Data is transmitted to Eurostat and published i Statbank within two months after the reference month.

6.1 Timeliness and time lag - final results

Monthly data is published approximately two months after the end of the reference month. For both the quarterly figures (total) and the temporarily monthly figures (excluding self-employed and assisting apouses) for the month between are ready about 55 days after the end of the reference month.

6.2 Punctuality

Data is transmitted to Eurostat and published i Statbank within two months after the reference month.

7 Comparability

There is not carried out any comparisons with other statistics on national level. Eurostat makes international comparisons. The statistics have figures that can be compared from 2000.

7.1 Comparability - geographical

All EU member states are obliged to provide the IPC under the guidelines in Council Regulation (EC) No 1165/98 of 19 May 1998 on short-term statistics. These statistics can thus be compared internationally through Eurostat, where indices from the various EU member states are disseminated. However, international comparison must be made with that in mind, that there are two different recommended methods for compiling the statistics, which the EU member states can choose from.

7.2 Comparability over time

Until autumn 2014 the IPC was calculated on basis of the quarterly gross value added in Construction from the National Account. There are no major breaks in the series from 2001 until 2014. From autumn 2014 the IPC has been calculated on the basis of working time account - corrected for productivity. The time series is calculated back to January 2000 with the new method.

7.3 Coherence - cross domain

Since the indices are based on working hours from the Working Time Accounts (WTA), there is a high degree of coherence with these statistics.

In connection with the change of method there was a comparison with index for gross value added in Construction from National Account. In the long run (12 months), there is a good agreement with the National Accounts gross value added for the construction sector.

7.4 Coherence - internal

In the former method there has been few problems of coherence between CC1, CC2 and the total. These problems seems not existing in the new method.

8 Accessibility and clarity

The statistics are published in the StatBank under Index of production in construction (IPC). For further information go to the subject page.

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

Not relevant for these statistics.

8.5 Publications

Not relevant for these statistics.

8.6 On-line database

The statistics are published in the StatBank under [Index of production in construction (IPC)](#) in the following table:

- [BYGPRO](#): Index of production in Construction (IPC) by industry

8.7 Micro-data access

These statistics micro-data are not available.

8.8 Other

Data are transmitted to Eurostat monthly.

8.9 Confidentiality - policy

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

8.10 Confidentiality - data treatment

There is no need to apply confidentiality in the published figures since the IPC is based on aggregated data.

8.11 Documentation on methodology

There is no separate documentation on methodology for these statistics.

8.12 Quality documentation

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

9 Contact

The administrative placement of these statistics is in the division of Business Statistics. The person responsible is Paul Lubson, tel.: +45 3917 3542, e-mail: pal@dst.dk.

9.1 Contact organisation

Statistics Denmark

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Short term statistics, Business Statistics

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