

**Documentation of statistics for
Indices of Service Production 2018**

1 Introduction

These statistics shows the cyclical development in the volume output for service industries. The statistics are compiled based on turnover indices from the statistic Purchases and Sales by Enterprises and on price indices from Producer Price Index for Services (SPPI) and the Consumer Price Index (CPI).

2 Statistical presentation

These statistics consist of a number of monthly volume indices, where indices on turnover are divided by indices on prices. The indices are divided by service industries that follows the definitions in NACE rev. 2. The indices are disseminated both with and without seasonal adjustment.

2.1 Data description

The statistics contain monthly indices that show the development of the service industries' volume production. The development in the companies revenue over time may be due to a change in the volume of services sold and / or a change in the price of the same services.

The indices show the development in discounted turnover, by dividing revenue from the statistics [Purchases and sales by enterprises](#) with price index from [Producer price index for services](#) and from [Consumer price index](#). In this way, it is possible to compare the pure amount of services sold in the service industries over time.

We produce the Service production Indices for the following industries [NACE Rev. 2](#):

- Land transport and transport via pipelines (H49)
- Water transport (H50)
- Air transport (H51)
- Warehousing and support activities for transportation (H52)
- Postal and courier activities (H53)
- Accommodation (I55)
- Food and beverage service activities (I56)
- Publishing activities (J58)
- Motion picture, video and television program production, sound recording and music publishing activities (J59)
- Programming and broadcasting activities (J60)
- Telecommunications (J61)
- Computer programming, consultancy and related activities (J62)
- Information service activities (J63)
- Legal and accounting activities and Management consultancy activities (M69 and M70,2) (M6970)
- Architectural and engineering activities; technical testing and analysis (M71)
- Advertising and market research (M73)
- Other professional, scientific and technical activities (M74)
- Employment activities (N78)
- Travel agency, tour operator reservation service and related activities (N79)
- Security and investigation activities (N80)
- Services to buildings and landscape activities (N81)
- Other administrative, office support and other business support activities (N82)

2.2 Classification system

The industry groupings are based on [Danish Industrial Classifications \(DB07\)](#). DB07 is the Danish national version of the EU nomenclature [NACE rev.2](#).

2.3 Sector coverage

The service sector.

2.4 Statistical concepts and definitions

Indices of Service Production: Turnover divided by price indices as an estimate of production volumes in service industries.

2.5 Statistical unit

Services.

2.6 Statistical population

The Indices for service production consists of a number of industry specific indices. This means that the population includes all companies in those industries. Each industry therefore has each individual population and sample.

2.7 Reference area

Denmark, excluding Faroe Islands and Greenland.

2.8 Time coverage

These statistics cover the time period from 2009 and onwards.

2.9 Base period

2015=100.

2.10 Unit of measure

Indices.

2.11 Reference period

Months.

2.12 Frequency of dissemination

Monthly.

2.13 Legal acts and other agreements

The Act on Statistics Denmark, as subsequently amended by Act no. 599 of 22 June 2000.

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

2.14 Cost and burden

There is no response burden as the data are supplied by existing statistics.

2.15 Comment

The statistic of Indices for Service Production is based on statistic with the following documentation of statistics: Purchases and Sales by Firms (<https://www.dst.dk/en/Statistik/dokumentation/documentationofstatistics/purchases-and-sales-by-firms>) Consumer Price Index (<https://www.dst.dk/en/Statistik/dokumentation/documentationofstatistics/consumer-price-index>) Producer Price Index for Services (<https://www.dst.dk/en/Statistik/dokumentation/documentationofstatistics/producer-price-index-for-services>)

3 Statistical processing

Indices of Serviceproduction are a divisions based on Purchases and Sales by Enterprises and on price indices from Producer Price Index for Services (SPPI) and the Consumer Price Index (CPI).

3.1 Source data

The Service Production Index statistics are based on existing statistics: Purchases and sales by enterprises. Producer Price Index for Services. Consumer Price Index.

3.2 Frequency of data collection

Monthly and quarterly.

3.3 Data collection

The sources are the statistics covering Purchases and sales by enterprises, Producer Price Index for Services and Consumer Price Index.

3.4 Data validation

Error detections are made at the industry and enterprise level.

3.5 Data compilation

Indices on Service Production consists of a number of indices calculated as Index on Service Production = Index on observed monthly revenue (from Purchases and Sales by Firms) / Index on monthly Price (from Producer Price Index for Services or Consumer Price Index)

The indices of monthly turnover are from the statistic Purchases and Sales by Firms grouped by the business groups: H49, H50, H51, H52, H53, I55, I56, J58, J59, J60, J61, J62, J63, M69_70.2, M71, M73, M74, N78, N79, N80, N812 (as an estimate for N81).

For index prices, both the Producer Price Index for Services or Consumer Price Index.

The Producer Price Index for Services contribute with business groups: H494 (an estimate for H49), H501_H502 (an estimate for H50), H51, H5224 (an estimate for H52), H531 and H532 (estimated for H53), J61, J62, J63, M69_70.2, M71, M73, N78, N80, N812 (an estimate for N81). Producer price index is produced quarterly data. We calculate quarterly indices into monthly indices.

The Consumer Price Index contribute with business groups: 11.2.0.1 (an estimate for I55), 11.1.1.1 (an estimate for J56), 09.4 (an estimate for J58), 09.4.2 (an estimate for J59), 09.4.2.3 (an estimate for J60), 09.4.2 (there is an estimate for M74), 09.6 (an estimate for N79)

Subsequently, the Production Index for the service industry is calculated and grouped on NACE rev. 2, 2 digit on the 36th group of the service industries.

3.6 Adjustment

There are not made any corrections of data except for what is already described under data validation and data compilation. Indices on Service Production are calculated monthly. The index is produced as calendar adjusted (CA), seasonal adjusted (SA) and as gross. Further reading on seasonal adjustment can be found at [seasonal adjustment](#).

4 Relevance

The statistics are ordered by Eurostat.

4.1 User Needs

The statistic is used by Eurostat. The statistic will be interesting for those who follow the short term statistic, such as ministries, industry and interest organizations, private companies, researchers and students.

The statistic is new and the goal is to describe the rapidly expanding service industry. The statistics are ordered by Eurostat.

The main objective of the OECD Compilation Manual for an Index of Services Production is to fill a gap in existing international statistical standards for guidelines and recommendations on the compilation of output indicators for the services sector of OECD Member countries.

As the Introduction to the Manual notes, compilation of a production index to measure short-term economic activity in the services sector, an index of services production (ISP). An ISP would provide economic analysts with information that would complement an IIP on the short-term movements of an economy, and national accountants with relevant and timely information on the performance of the services sector that could be used to compile quarterly national accounts.

4.2 User Satisfaction

The statistics are delivered to Eurostat.

4.3 Data completeness rate

Indices on service production meets the requirements presented in Eurostat's work on [Guide on developing an Index of Services Production \(ISP\)](#) -008d-4f45-811e-1b547ed93277)

5 Accuracy and reliability

Revisions on the indices can occur three and a half years back in time, but usually major revisions occur in later periods. The reliability of the statistics increases updates on indices from Purchases and Sales by Firms, Producer Price Index for Services and Consumer Price Index. There are no calculations on uncertainty.

5.1 Overall accuracy

There are no calculations of uncertainty.

5.2 Sampling error

Not relevant to these statistics.

5.3 Non-sampling error

The uncertainty of the statistics covers: - Turnover based on corporate VAT reporting is used as approximation for revenue. - Forecast values are used for missing values of the Producer price index for services. - For the price indices approximations are used for the industry groups where there is no 1: 1 comparison.

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

Revisions: The reliability of the statistics increases updates on indices from Purchases and Sales by Firms, Producer Price Index for Services and Consumer Price Index. Estimates on business groups : When using estimates for industry groups gives uncertainty to precision. We do not know the extent of uncertainty associated with this model assumption.

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 revisions have been tested for the month of December 2015 (2016M12), and has been revised in November 2017 (2017M11). The conclusion of the test was that the revisions of the non-adjusted indexes were generally small and ranged between 0.5 and 1.5 per cent.

6 Timeliness and punctuality

The indices are published $t + 3M$, where t is the reference period.

6.1 Timeliness and time lag - final results

Forecast figures have been prepared for the months that have not been published.

6.2 Punctuality

The statistics have been published according to schedule every month.

7 Comparability

These statistics have been compiled since 2018 with comparable figures from 2009 and onwards. These statistics are compiled according to common European guidelines and are therefore comparable with statistics from other countries published by Eurostat.

7.1 Comparability - geographical

The statistics is made on the basis of Eurostat guidelines and is hence comparable to statistics from other EU countries under same regulation.

7.2 Comparability over time

The statistics have been prepared for the period 2009 and beyond.

7.3 Coherence - cross domain

The statistics combines an index of revenue from the statistics Purchases and Sales by Firms, as well as the price index price from Producer Price Index for Services or Consumer Price Index.

Indices of Service Production are indices for the service industries for the individual industries and are a calculation by dividing the turnover index by the price index.

The same statistics are the basis of the Production Index for the service industry are also included in the National Accounts for calculations of production in fixed prices.

7.4 Coherence - internal

The statistics Purchases and Sales by Firms calculates data on company level. Data is published monthly, quarterly and semi-annual. Data is estimated for the month or months with missing data. The statistics Producer Price Index for Services are a quarterly index. Data is converted into months with the statistical method spline, and values for the months that are not data are estimated. Data for both series is continuously revised as the figures are revised with the correct numbers.

8 Accessibility and clarity

These statistics are published in the StatBank under [Indices of Service Production](#).

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

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 [Indices for Service Production](#) in the following table:

- [ISP1](#): Indices of Service Production by seasonal adjustment and Industry (groups)

8.7 Micro-data access

Researchers and other analysts from authorized research institutions, can be granted access to the underlying micro-data by contacting [Research Services](#).

8.8 Other

These statistics are delivered monthly to Eurostat and are available through [Eurostats database](#). For further information, go to Eurostats webpage on [Index of Service Production](#).

8.9 Confidentiality - policy

[Discretion policy of Statistics Denmark \(in Danish\)](#).

8.10 Confidentiality - data treatment

If some cells in data cannot be shown due to discretion, then they are left out of the statistics, and a secondary discretion is carried out.

8.11 Documentation on methodology

These statistics are compiled in compliance with the OECD handbook [Compilation Manual for an Index of Service Production](#).

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 statistics is administratively placed in the Office for Short Term Statistics. The responsible persons for the statistics are Pia Cordsen, tel. +45 39 33 65 , e-mail: pco@dst.dk and Lina Maria Pedersen tel. 39 17 36 75 e-mail: lip@dst.dk

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