STATISTICS DENMARK

Documentation of statistics for Production and Turnover in Manufacturing Industries 2024

Statistics Denmark
Sejrøgade 11
DK 2100 København Ø

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1 Introduction

The purpose of the statistics Industry's production and turnover is to shed light on developments in the industry. It is primarily used for assessments of economic developments in industry in Denmark.

The statistics are part of the EU's common short-term statistics and date back to 1974, but in their current form are comparable from 1985 onwards for most industries.

2 Statistical presentation

The statistics are a monthly statement of the production and turnover index for the industry. The statistics are divided into five groups defined on the basis of the use of goods and services (eg production of durable and non-durable consumer goods) and the main groups mining and quarrying (B), manufacturing (C) and energy supply (D) and 12 main industry groups under main group C, which follow the Danish industry nomenclature DB07. The turnover index is also calculated by dividing a domestic market turnover index and an export turnover index. All figures are published both adjusted for seasonal fluctuations and in actual figures.

2.1 Data description

The statistics describe the development in the industry's monthly production and turnover using indices with base year 2021.

The revenue index is divided into domestic and export markets. Revenue on the domestic market includes deliveries to recipients within the Danish customs area as well as to the drilling platforms in the North Sea, while export revenue includes deliveries directly to recipients outside the Danish customs border, including also to the Faroe Islands and Greenland.

Revenue consists partly of sales of the industrial companies' own products and partly of services performed for others. These services cover i.a. work for others as well as repair work. On the other hand, the part of the companies' turnover that relates to the sale of merchandise purchased for resale without further processing is not included. Other forms of turnover, including the sale of know-how and the rental of equipment manufactured by the company, are also not included.

Revenue is calculated at current prices as sales or invoice values excluding VAT, excise duties and insurance expenses, but including price subsidies, for example export subsidies. Possibly. invoiced discounts are deducted. Production is the amount of own goods or services performed by others that the industrial companies have produced.

Both production and turnover figures are published in five sectors and three main groupings (B, C and D) as well as twelve main industry groups under main group C, and a seasonal adjustment of the figures is also made.

2.2 Classification system

The statistics follow the industry groupings in the Danish industry nomenclature, DB07. For Eurostat, the statistics are compiled according to the standard groupings in NACE Rev.2 on which DB07 is based. The relationship between DB07 and NACE rev. 2. You can read more about this on Statistics Denmark's website under Danish industry nomenclature - Danish industry code. Here is also a complete description of the individual industries.

The tables in the Statistics Bank publish indices for 12 industry groups under Manufacturing, as well as Mining and Quarrying and Energy supply. The groups are from the 36 grouping of DB07. In addition, indices are published for some of the industries on the more detailed [127 grouping of DB07](https://www.dst.dk/da/Statistik/dokumentation/nomenklaturer/dansk-branchekode-db07?tab=var, just as indices are published for the entire industry excluding "ships and other means of transport", "pharmaceutical industry and engines", "wind turbines and pumps", respectively. Finally, the companies are divided into five special groupings according to the use of the goods and services traded: · Investment goods industry · Intermediate industry · Manufacture of durable consumer goods · Manufacture of non-durable consumer goods. · Manufacture of energy products and energy supply The distribution of the industries in these sectors can be seen in the appendix Gruppering efter anvendelse (in Danish only).

2.3 Sector coverage

Manufacturing (division C), mining and quarrying (division B) and utilities (division D + E), cf. the 36 grouping of DB07. The main departments are described in detail in the Danish Industry Code 2007 (Danish industry nomenclature - Danish industry code). Section E is only included in the industry grouping “Manufacture of energy products and energy supply."

2.4 Statistical concepts and definitions

Mining and Quarrying: Extraction of raw materials such as oil and gas

Manufacturing: Companies that manufacture goods or services in relation to goods

Utilities: Companies that provide gas, electricity, heat and water.

Turnover: Sales or invoice value in current prices, excluding VAT and excise duties, but including price subsidies, eg export subsidies. Invoiced discounts are deducted.

Own goods: Goods that have been obtained, manufactured, further processed or collected by the reporting company. Own goods are also goods that the company has had manufactured in paid work for another company. Merchandise is not covered.

Merchandise: Merchandise is goods that are bought and sold without further processing. Repackaging alone is not further processing.

Services: Work for others and industrial services, such as repair and erection work.

Other turnover: Patents etc.

Production: Goods and / or industrial services companies produce, which are either sold immediately or come into stock.

Investment goods industry: Production of fixed capital eg machines.

Intermediate industry: Production of materials that other industries further process, for example chemical products.

Manufacture of durable consumer goods: Production of durable consumables eg furniture or electronics.

Manufacture of non-durable consumer goods: Production of non-durable consumer goods such as food, clothing and medicine.

Manufacture of energy products and energy supply: Production of eg oil, gas, electricity, water and heat.

2.5 Statistical unit

The statistical unit is the so-called kind of activity unit (KAU), which is workplaces with the same industry belonging to the same industrial enterprise.

2.6 Statistical population

All Kind of activities units (KAUs) in the industries Mining and Quarrying, Manufacturing, Electricity, gas and district heating supply as well as water supply, cf. the 36 grouping of DB07 . It is estimated that companies with less than 10 employees do not have significant economic activity and therefore they are not part of the population.

2.7 Reference area

Denmark excluding the Faroe Islands and Greenland. In some cases, a company's turnover will include goods that are physically manufactured outside Denmark, if they are manufactured for paid work for a Danish industrial company.

2.8 Time coverage

The statistics covers the period from 2000 onwards.

2.9 Base period

Point of reference for the indexes is the average production and turnover of 2015, which is shown as 100 in the indexes. The base year is updated every five years. Next update of base year will be in 2028 with the base year 2025.

2.10 Unit of measure

Index.

2.11 Reference period

Calendar month

2.12 Frequency of dissemination

Monthly.

2.13 Legal acts and other agreements

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

The statistics fall under Council Regulation (EF) no. 2019/2152 of 27. November 2019 on European Business Statistics followed by the Commission Implementing Regulation 2020/1197 laying down technical specifications and arrangements pursuant to the mentioned EBS Regulation (General Implementing Act)."

2.14 Cost and burden

The burden was calculated for 2013 at DKK 3,235,000. The companies typically spend 20-30 minutes on each individual report.

2.15 Comment

The Production and turnover in manufacturing industries has a Subject page.

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3 Statistical processing

Every month, information is collected on the value of turnover and stock from a sample of approx. 1,000 industrial companies in Denmark. For most, this is done using online questionnaires, but for about 20 per cent. of the companies, the information can instead be collected from statistical registers. The received data is debugged and production is calculated based on turnover and stock figures. Then the data is weighted so that a production and a turnover index can be calculated that represents the entire manufacturing industry in Denmark. The results are seasonally adjusted to eliminate normal seasonal fluctuations

3.1 Source data

The primary source is a sample of approx. 1,000 industrial enterprises, which are stratified in terms of industry and size measured by number of employees (divided into four sizes). The framework population consists of kind of activities units (KAUs) in companies with at least 10 employees in the relevant industries. However, all kind of activities units (KAUs) with at least 200 employees in the selected industries are included in the sample, while companies with fewer than 20 employees are not selected for the sample. In general, kind of activities units (KAUs) with fewer employees are less likely to be drawn, however, there will be a high probability of being drawn if it is a small industry with large variation in turnover.

The drawing takes place at company level, which means that all kind of activities units (KAUs) that are part of a drawn company are included in the sample with the same enumeration factor. The last draw took place in 2022. Every year in the first quarter, the sample is supplemented with new companies with at least 200 employees. The Business Statistics Register, which is based on the Central Business Register (CVR), is used to update and update the sample of industrial companies.

For a small part of the sample, companies do not report, as data on turnover and inventories can be obtained directly from the VAT information on which the statistics Companies' purchases and sales are based.

The producer price index for goods is used in the calculation of the production index.

Information for oil and gas extraction, which is part of raw material extraction (section B) and energy supply (section D + E), was included in the calculation of the production index in 2005. The source of this data is primary material from the Danish Energy Agency and Danish Oil Contingency Stocks. The net price index and a special run on export figures from the Foreign Trade Statistics.

3.2 Frequency of data collection

Data are collected monthly.

3.3 Data collection

Data are collected partly by using an online questionnaire and partly by extracts from other statistics in Statistics Denmark.

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3.4 Data validation

The questionnaire contains automatic display of previous reports. It is possible for companies to correct previous reports. When Statistics Denmark receives the report, data is debugged electronically, as limit values have been set in the data system for how much current data is expected to deviate from previously reported data. If the limit values have been exceeded, the data are examined in more detail, eg by manually comparing them with previous reports from the same company and with comparable companies. If further information is required, contact the company.

Data are also compared with information from the quarterly statistics Industry's sales of goods, which is a total count of industrial companies in Denmark with at least 10 employees. A number of the companies that report to the statistics are among the largest groups in Denmark. For these, Statistics Denmark has a special focus on the reports also across statistics.

3.5 Data compilation

The responses received are listed in the framework population, which includes all companies within the selected industries that have at least 10 employees. The enumeration thus assumes that the development in the smallest companies with between 10 and 20 employees is the same as the development in the companies in the next size group.

In the event of non-reporting, data is imputed using information from previous periods. If a company is a new reporter and there is a lack of reporting for the current period, imputation is not used and the company does not count in the sample for the month in question.

The level of dropout is monitored and the number of imputations decreases from the first publication of monthly data to the same data two months later, where monthly data is published as the final result.

Consistency in relation to the statistics Companies' Purchases and Sales is ensured by only selecting VAT data for companies with one kind of activities unit (KAU) on the CVR number used by the VAT register. In addition, only companies with a turnover of or less than DKK 100 million are selected. DKK in the statistics for the industry's sales of goods.

The statistics only include those of a company's workplaces where the industry is in industry. Most companies consist of one kind of activities unit (KAU), but especially large companies have activity in several industries, and the kind of activities units (KAUs) are therefore a subdivision of the company. This means that the turnover in these statistics is distributed differently between the industries than in the statistics where the unit is the company (the economic unit).

The turnover indices are formed by a simple indexation in relation to the average monthly turnover in the base year. In the calculation of aggregate turnover indices, the industry groups are weighed against their turnover. The production index is an implicit volume index that is calculated on the basis of turnover measured at fixed prices. It is found by taking revenue measured in current prices and correcting for the changes in inventories during the month. Inventories include two types of inventory: finished goods and work in progress. The sum of the stocks is converted to fixed prices using the monthly producer price index.

Production turnover is not calculated for main industry group 30.1 (shipyards and boatyards) as well as sections B, D and E. For shipyards and boatyards, the calculation of the base index is instead based on hours worked. For main sections B, D and E, the calculations of the index are based on information on production volumes, which is collected by the Danish Energy Agency (see further in the section on sources).

The production indices are formed by a simple indexation in relation to the average monthly production in the base year. In the calculation of aggregate production indices, the industry groups are weighed against their value added.

3.6 Adjustment

The figures are seasonally adjusted on the lowest level of publication. Indirect seasonal adjustment are used for calculating seasonal adjusted figures on a more aggregated level.

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4 Relevance

The development of the production and turnover indices are primary used for manufacturing industry business cycle analyses and as input for the national accounts. Various users include industry organisations, public authorities and the news media. Form and content as well as comparisons with other statistics are continuously discussed at manufacturing industry user committee meetings.

4.1 User Needs

The development of the production and turnover indices are primary used for manufacturing industry business cycle analyses. The production index is an early indicator of the manufacturing industry business cycle trend both on an aggregated level and on sub-industry levels. In debt analyses of the turnover index is possible due to the split in domestic and export turnover indices.

Users of the statistic include industry organisations, the financial sector, public authorities and the news media.

Furthermore, the statistic is used as an input for the national accounts.

4.2 User Satisfaction

Twice a year meetings with important users are held. At these meetings the users are given opportunity to give information about their use of the published figures, and they are informed about important actual themes in the statistics.

4.3 Data completeness rate

This statistics are affected by demands from EU. In terms of completeness all these demands are fully met.

5 Accuracy and reliability

There is some sampling uncertainty as the statistics are based on a sample of companies. In addition, there are a number of assumptions in calculations, eg in connection with the valuation of inventories. In the first version of the numbers, there is a bit of a lapse.

5.1 Overall accuracy

Thorough maintenance is carried out on an ongoing basis on the population used for enumeration, which is therefore judged to reflect reality well and the sample is taken in a way that ensures that there is a high coverage of all industries. Lapse, however, means that at the first publication there may be greater uncertainty regarding. precision, but is compensated for skewed drop-out in the enumeration, which includes information on the entire population from the quarterly statistics for Industry's sales of goods. When the month is revised for the second time, however, there is a coverage of almost 100%, which is why this uncertainty disappears. It can also be skewed that the very small companies are not selected for the sample. If those companies have a markedly different development than the remaining companies, then it can affect the precision.

5.2 Sampling error

The sampling uncertainty is due to the fact that the companies that must contribute to these statistics have been selected at random, and therefore could just as well have been some other companies. The sampling uncertainty can be quantified by the coefficient of variance, which is a relative measure that indicates how large a proportion of the estimate is made up of the standard deviation. The coefficients of variation for the total domestic market turnover is 1.1%, and for the total export turnover the coefficient of variation is 0.6%

5.3 Non-sampling error

There is no reason to believe that there are particular problems with errors in the reported turnover figures and stock figures. In the calculation of production, the change in inventory value is recognized in the turnover that is deflated. This method assumes that the price development in goods sold is the same as in stock goods, and this is subject to a degree of uncertainty. There may be different composition of the turnover in the individual companies and the price indices used for the quantity calculation, which means uncertainty in the calculated quantities. There are no companies with between 10 and 20 employees in the sample, and thus it is assumed that the development in these companies follows the development of the larger companies.

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

It is estimated that the statistics largely live up to the needs of users and that they live up to the EU regulation. The precision is judged to be high and the statistics are always published on the pre-announced date.

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 monthly figures are revised twice, and revisions further back in time happen rarely (e.g. with the introduction of new methods). The difference between provisional figures and final figures is normally less than 1 percent. In some cases, however, revisions to information formerly reported by enterprises may lead to differences larger than that. The mean absolute revision (MAR) is calculated being 1,45 and the mean revision (MR) is calculated being 0,09 for the time series mining and quarrying, manufacturing and electricity, gas, steam and air conditioning supply (NACE BCD), seasonal adjusted. The size of the revisions is calculated on the basis of data for the previous base year (2015), as it requires a certain number of observations in the new base year (2021) before it is possible to calculate

6 Timeliness and punctuality

The statistics are published between 35 and 40 days after the end of the month. The punctuality is high, with very few delays in relation to the scheduled release dates.

6.1 Timeliness and time lag - final results

The statistics sre published between 35 and 40 days after the end of the month. The first provisional figures are revised with the two next publications, and the final results are thus published after 95-100 days.

6.2 Punctuality

The punctuality is high, with very few delays in relation to the scheduled release dates.

7 Comparability

The current time series goes back to year 2000, and it has a high degree of comparability over time. The time series can for most industries be linked to data of previous years, resulting in a comparable time series going back to year 1985. The international comparability with similar statistics from other EU countries is very high.

7.1 Comparability - geographical

The statistics are produced according to common guidelines for all EU countries, ensuring good comparability across the entire EU.

At the Eurostat website under Short-term business statistics data tables for the production index and the turnover index are found.

7.2 Comparability over time

With the publication of figures for December 2014 new methods for calculating production were introduced. The entire time series of the production index was recalculated. Until the end of 2012 the name of the statistics was Industrial production and new orders. Before 2005 the statistics were called the Industrial sales and orders statistics. In Statbank Denmark, archived tables can be found, including the now discontinued variable for orders.

7.3 Coherence - cross domain

The turnover index is comparable to various other business statistics involving turnover data with the reservation of differences in statistical concept. Turnover data published in other business statistics are measured in terms of value while the Production and turnover in manufacturing industries statistics only publish indices. Comparisons are possible either by comparing growth rates between time periods or by calculating simple value or volume indices (deflated value indices). The turnover index is comparable to the following business statistics: Manufacturers' sales of goods and services - PRODCOM (quarterly), Purchases and sales by firms (monthly), International trade of goods (monthly) and accounts statistics for non-agricultural private sector (annual). The below lists key concepts of the comparable business statistics as well as each of their populations, statistical unit and which variable is comparable to the turnover index in the Production and turnover in the manufacturing industries statistics.

- Manufacturers sales of goods (PRODCOM). The statistics describe manufacturers' sales of goods measured in terms of volume and value covering all enterprises with 10+ employees within NACE B (mining and quarrying) and C (manufacturing). Total sales are distributed by industries (NACE groups). The statistical unit is KAU's just as it is in the Production and turnover in manufacturing industries statistics as the only one of the other business statistics. If commercial (resale) turnover and other sales are deducted from total sales in Manufacturers' sales of goods, the two turnover variables are equally defined.

- International trades in goods. Exports and imports are measured in terms of volume and value covering all exports and imports of goods to and from all countries in the world distributed on commodity codes but not industries. The external trade is comparable to the total export turnover index in the Production and turnover in manufacturing industries statistics. The statistical unit is however enterprises and External trade of goods only includes goods that physically cross the Danish boarder whereas turnover in the Production and turnover in the manufacturing industries statistics include all export turnover. Commercial (resale) turnover is included in the external trade statistics.

- Purchases and sales by firms. The statistics are based on VAT reports from Danish enterprises sent to the Danish tax authorities. The variable Total sales consists of domestic sales and export sales. The level is comparable to the total turnover index of the Production and turnover in manufacturing industries. The statistical unit is enterprises. The VAT report data is primarily collected for administrative purposes whereas the statistical use of data is secondary.

- Accounts statistics for non-agricultural private sector. The statistics provide key economic data on a sample of enterprises covering the private secondary and tertiary industries among others manufacturing industries. The statistical unit is enterprises.

7.4 Coherence - internal

Seasonal adjustment is calculated indirectly, which gives consistency between seasonally adjusted sums and their sub-components.

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8 Accessibility and clarity

New figures are published in a monthly news article News from Statistics Denmark, and all figures can be found in Statbank Denmark.

The statistics also have a subject page.

8.1 Release calendar

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

8.3 User access

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

8.2 Release calendar access

The Release Calender can be accessed on our English website: Release Calender.

8.4 News release

The figures are published in a monthly news release, Nyt from Statistics Denmark.

8.5 Publications

The figures are included in Statistical Yearbook.

8.6 On-line database

Monthly updates for the statistic Production and turnover in manufacturing industries are published in StatBank Denmark under the topic Business Sectors, Manufacturing industries, Production and turnover in manufacturing industries where the following tables are found:

- IPOO2015: Industrial turnover by seasonal adjustment, turnover and industry (DB07)
- IPOP2015: Industrial production index by seasonal adjustment and industry (DB07)

8.7 Micro-data access

There is no micro-data access.

8.8 Other

Monthly data are delivered to Statistics Denmark's National Accounts Division as well as international data transmissions to Eurostat and the UN.

8.9 Confidentiality - policy

The confidentiality policy of Statistics Denmark is followed (only in Danish).

8.10 Confidentiality - data treatment

When figures can not be published on a certain level of detail, because of confidentiality issues, figures are published on a more aggregated level.

8.11 Documentation on methodology

No further methodology papers are available.

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 Mathias Bluhme, tel. +45 39 17 35 61, e-mail: mdb@dst.dk

9.1 Contact organisation

Statistics Denmark

9.2 Contact organisation unit

Short-Term Statistics, Business Statistics

9.3 Contact name

Mathias Bluhme

9.4 Contact person function

Responsible for the statistics

9.5 Contact mail address

Sankt Kjelds Plads 11, 2100 Copenhagen

9.6 Contact email address

mdb@dst.dk

9.7 Contact phone number

+45 39 17 35 61

9.8 Contact fax number

N/A

Statistics Denmark
Sejrøgade 11
DK 2100 København Ø