STATISTICS DENMARK

Documentation of statistics for Annual National Accounts, Total Economy 2018

Statistics Denmark
Sejrøgade 11
DK 2100 København Ø

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1 Introduction

The purpose of the statistics is to give a detailed overall picture of the economy within the framework of a system of coherent definitions and classifications. Official Danish national accounts figures can be found back to the 1930s. In 2014 the final national accounts are in accordance with the definitions in the European System of National and Regional Accounts (ESA2010). Consistent time series in line with the new definitions goes back to 1966.

2 Statistical presentation

The National Accounts are designed to present a complete picture of the economy. The National Accounts provide the conceptual and actual tool to bring to coherence all economic activity and development in Denmark.

2.1 Data description

In the final national accounts the economic flows are viewed from two different points of view. The economic transactions are on the one hand described in a functional system and on the other hand described in an institutional sector system. In the functional system, detailed information on product flows is available such as production, import and export, intermediate consumption, final consumption expenditure and gross fixed capital formation, including information about the incomes that are generated and the factors of production in the form of labour and capital goods that have participated in the production process. In the institutional sector system, distributive and financial transactions are described as well, since focus here is on the economic agents as decision-making units. The core of the final functional national accounts is approximately 2,350 product balances at current prices. Additionally, product balances in prices of the previous year as well as detailed information on gross fixed capital formation and capital goods are being compiled.

In the functional system the main aggregates of the Production account and the Generation of income account are compiled at the most detailed industry level of the final national accounts, i.e. at 117 industry groups. Figures on employment are compiled at this level as well. The main aggregates are: Production, Intermediate production, Gross value added, Compensation of employees and Gross operating surplus and mixed income. Of these, the first three are also compiled as chain volume indices (chained values). This is an attempt to isolate the volume part of the monetary values. In addition, figures are given for private consumption expenditure using a classification of 72 individual consumption groups and for gross fixed capital formation using a classification of 69 industries both at current prices and as chained values.

From 2008 on-wards the production of government goods for individual consumption is compiled using a new methodology in chained values (constant prices). The introduction of volume indicators means that the chained values now directly reflects the volumes produced of government goods for individual consumption, such as operations on public hospitals and public education in primary schools. The collective government goods e.g. public security and infrastructure are however still calculated using the input-method i.e. as the sum of production costs in constant prices. The introduction of volume indicators for production of government goods for individual consumption in constant prices is described in the publication "General Government Output and Productivity". In this the public volume indicators are treated and analysed in detail. It is free of charge and can be downloaded from the tab "Publications" on http://dst.dk/en/Statistik/emner/produktivitet-og-input-output.aspx

The development in the volume of economic transactions involving products e.g. production, consumption and investment is illustrated by decomposing transaction values in current prices into their price and volume components. This decomposition is done for those aggregates of the national

accounts that relate to real transactions. The decomposition is done by calculating Laspeyres chain volume indices currently with base year 2010 (chained values).

The Laspeyres chain volume indices are calculated by extrapolating the values of the base period by the Laspeyres volume indices calculated with the previous year as base year. The frequent change of base year gives a better estimate of the year-to-year growth rates than growth rates calculated in a system with a constant base year. The drawback of chain volume indices is a lack of additivity in the chained values. Because of the lack of additivity the basic national accounts identities valid at current prices do not apply to volumes based on chain volume indices.

Besides the chained values for transactions involving products, are calculated chained values for some types of household income. These values describe the real income development, i.e. the development of the purchasing power of the income. Real income is calculated by correcting the development of the income for the change in prices of the products the income is assumed to buy. Disposable gross income is corrected with the price development of private consumption expenditure, and adjusted disposable income with the price development of actual individual consumption (sum of private consumption expenditure and government individual consumption expenditure). The chained values for disposable net income and adjusted disposable net income is calculated by subtracting the chained values for consumption of fixed capital from the corresponding gross values.

2.2 Classification system

Statistics Denmark's industrial classification DB07, which is a Danish version of the EU NACE, rev. 2. and the UN's ISIC, rev. 4, contains a number of standard classifications: the 127, 36, 19, and 10 classifications.

The final national accounts classification of 117 industries corresponds - with few deviations - to the 127 standard classification and the 117 industries of the national accounts can be aggregated to the other standard classifications. For this reason, national accounts figures can easily be compared to and used in connection with other statistics that are based on the DB07-standard classifications.

However, comparisons with other statistics at a detailed industry level will often show differences, partly because of differences in definitions of variables, and partly because of the calendar year delimitation of the national accounts and its requirement of total coverage of the economic activity.

Internationally there is a high degree of comparability with the national accounts of other countries because the Danish national accounts are compiled in accordance with the definitions in the European System of National Accounts ESA2010.

2.3 Sector coverage

All industries according to Danish Industrial Classification of All Economic Activities 2007 (DB07).

2.4 Statistical concepts and definitions

Account Concepts: The national accounts are compiled in accordance with the definitions in the EU's "European System of National and Regional Accounts - ESA2010", which is a European version of the UN's "A System of National Accounts 2008". The main structure of the national accounts consists of a number of consolidated accounts for the economy as a whole which are called: Goods and services account, Production account, Generation of income, distribution of income and spending of income accounts, Capital account and Rest of the world account. The Goods and services account shows the value of the total supply of goods and services in the form of output and imports of goods and services. The supply is equivalent to the value of the total use of goods and services distributed between intermediate consumption, final consumption expenditure, gross fixed capital formation, changes in inventories and exports of goods and services. The central variable GDP - Gross Domestic Product - can be found in the Production account. The Generation of income, distribution of income and spending of income accounts show the incomes, which are a result of the Danish value added tax, to which these incomes accrue, and how they are used. The Capital account shows how gross savings have been spent on gross fixed capital formation and changes in inventories, resulting in net lending/net borrowing. This, in turn, corresponds to the balance in the Rest of the world account, which largely corresponds to the balance of the current account in the balance of payments. In the institutional system, the above mentioned accounts (except the Goods and services account) are divided into the following institutional sectors: Non-financial enterprises, Financial enterprises, Government services, Households, Non-profit Institutions serving Households (NPISH) and Rest of the world account.

2.5 Statistical unit

For the compilation of output, intermediate consumption, taxes linked to production and subsidies, wages and salaries, employment, fixed capital formation and depreciation, the statistical unit is the local kind-of-activity unit. For the compilation of distributive and financial transactions, which cannot be divided up unambiguously among the individual kind-of-activity units belonging to a decision making unit (enterprise), the unit is the larger institutional unit, which in most cases will be the same as the legal unit which is the enterprise.

2.6 Statistical population

All units generating Danish economic activity

2.7 Reference area

Denmark.

2.8 Time coverage

- Annual National Accounts, final 1966-2015
- Annual National Accounts, preliminary 2016-2018

2.9 Base period

Production, Intermediate production, Gross value added are also compiled as chain volume indices (chained values) with 2010 as base year. This is an attempt to isolate the volume part of the monetary values.

2.10 Unit of measure

Mill. DKK

2.11 Reference period

The flow figures in the national accounts refers to transactions during the year, while employment figures are averages over the year.

2.12 Frequency of dissemination

Annually.

2.13 Legal acts and other agreements

Act on Statistics Denmark § 6 and §§ 8 - 12.

Council Regulation (EU) No 549/2013 of May 21 2013 on the European system of national and regional accounts in the European Union (ESA2010) (OJ L 174 26.06.2013, p. 1).

2.14 Cost and burden

There is no direct burden of response since data are collected by other offices in Statistics Denmark.

2.15 Comment

Not available

3 Statistical processing

The Final National Accounts are compiled using the method of product balancing. Supply and use of goods and services are compiled on a detailed level. The product balances are reconciled by using all relevant information. The sources of the Final National Accounts are primarily final statistics concerning the economy, industry structures, and prices.

3.1 Source data

The data sources of the final national accounts consist primarily of all (final) statistics on economics, business structure, employment and prices.

Amongst such statistics the following can be mentioned:

- Accounting statistics (for private urban industries)
- Enterprise statistics
- Accounting statistics for publicly controlled enterprises
- Statistics on general government
- Agricultural statistics
- Statistics on manufacturing sales
- Statistics on the use of raw materials in manufacturing
- Household budget surveys
- Retail turnover statistics
- External trade statistics
- Balance of payments statistics
- Register-based labour force statistics
- Employment statistics
- Wholesale, consumer and net consumer price indices

3.2 Frequency of data collection

Annual.

3.3 Data collection

Not relevant for this statistics.

3.4 Data validation

Data validation is carried out in three steps corresponding to the main processes of the data processing when compiling the National Accounts:

1. Thorough data validation is carried in primary statistics. See the relevant documentation of statistics for more information.
2. Data validation when preparing data for the product balance system. The National Accountants receives and process data on detailed unit-level which makes it possible to go back to the sources.
3. The final data validation is carried out when reconciling the product balance system into consistency.

3.5 Data compilation

The data compilation is described together with "Data validation".

3.6 Adjustment

There is no adjustments on data except what is already described under "data validation" and "data compilation".

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4 Relevance

The National Accounts are relevant as quantitative basis for everyone working with economics, ranging from the use of national accounts in the ministries of economic affairs for planning, analysing, modelling and forecasting purposes to their use in various public organisations and public interest in the structure and development of the economy.

4.1 User Needs

The National Accounts are relevant as quantitative basis for everyone working with economics, ranging from the use of national accounts in the ministries of economic affairs for planning, analysing, modelling and forecasting purposes to their use in various public organisations and public interest in the structure and development of the economy.

4.2 User Satisfaction

See "Brugerudvalg for Økonomisk Statistik:
www.dst.dk/da/OmDS/organisation/Brugerudvalg/OEkonomisk-Statistik.

4.3 Data completeness rate

Council Regulation (EU) No 549/2013 of May 21 2013 on the European system of national and regional accounts in the European Union (ESA2010) (OJ L 174 26.06.2013, p. 1).

5 Accuracy and reliability

The inaccuracy of the national accounts figures relates to the inaccuracy of the various sources which are used. However, the conceptual consistency and, over time, the uniform adaptation of the sources contribute to reducing the inaccuracy of the national accounts figures. In particular, the combination of the primary sources into a coherent system in many cases gives rise to errors, which therefore are not reflected in the final national accounts.

5.1 Overall accuracy

The national accounts cover all economic activities based in Denmark and are therefore based on many different source statistics. Some of them are based on collected information from companies or households, whereas others are based on data from different registries. The uncertainty in the national accounts figures reflect the uncertainty in the source statistics and the calculation methods used. However, since the national accounts system is an integrated system that contains many routines for balancing and data verification, there is reason to assume that these reduce some of the uncertainties in the sources and calculations. Error sources and uncertainties related to individual sources are usually described in the statistics documentation for each of the individual source statistics.

5.2 Sampling error

Not relevant for this statistics.

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5.3 Non-sampling error

Some parts of the national accounts can be calculated more accurately than others because there are better source data within these areas. For example, within the industrial area, data are fairly accurate, while for Danish-based companies, which live from buying and reselling goods abroad, less precise data are available. Finally, there are also areas where source data does not exist, including for example, owner-occupied dwellings and undeclared work. In these areas, the national accounts are almost entirely based on calculations and estimates, so the uncertainty here can be significant.

Another condition that affects the uncertainty and reliability of the national accounts is that the national accounts' many source statistics can be corrected after the final version of the national accounts has been prepared. These corrections cannot be included in the national accounts before a major revision is made, which usually takes place every 5-10 years. This contributes to increasing the uncertainty of the national accounts. However, in the long run, the accuracy and reliability of the national accounts are reestablished because all corrections in the source statistics are included in the major revisions. Recently, there has been a tendency for upward revisions of investments. This means that one should expect a somewhat greater uncertainty about the investment calculation than for other variables in the national accounts.

Real growth in general government production and government consumption expenditure is subject to particular uncertainty as real growth is mainly based on volume indicators. Both data sources and methods are continuously developed.

Globalization, which causes Danish companies to increasingly organize production internationally, affects Danish national accounts and Danish GDP. See, for example (in Danish only):

- Dansk BNP påvirkes af produktion i udlandet
- Industrikoncernernes globale organisering har betydning for opgørelsen af dansk produktion og indkomst.

Detailed data collection and confronting and checking consistency of data for the large enterprise groups are resource-intensive. Therefore, there is greater uncertainty about the early issues of foreign trade and balance of payments, which also causes revisions in the national accounts.

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 ESA 2010 regulation requires Eurostat to undertake quality assessments of reported data in accordance with the ESA transmission program. The starting point of this is in the individual member state's own quality reports, which are not published by Eurostat. These reports are prepared annually. Read the quality assessment of the Danish national accounts here:

- Quality Report, Denmark 2017 - National Accounts.

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

Preliminary annual national accounts are published four times a year: end of February, end of March, end of June and early November. Final annual national accounts are published once a year at the beginning of November 3 years after the reference year.

The first versions of the national accounts are fairly summary, while the final version is more detailed. This reflects both the access to more detailed source data as well as a longer production time. This means that the national accounts, as time passes, becomes more and more accurate - it applies both to current year's prices and to chained values. At the same time, figures can be more and more detailed because more source data becomes available in a more detailed form.

Every 5-10 years, major revisions are conducted in which long time series of final national accounts are corrected. This improves the accuracy and reliability of the national accounts because all corrections in the source statistics and calculation errors are included.

Since the main purpose of the national accounts is to provide a basis for an overall assessment of the structural and economic development of the economy, continuity in time series is given high importance, and consequently level errors are usually first addressed during the major revisions.

6 Timeliness and punctuality

First version of preliminary yearly national accounts figures are published end of March the following year. The final figures are published 3 years after the reference year.

The statistics are usually published according to schedule.

6.1 Timeliness and time lag - final results

First version of preliminary yearly national accounts figures are published end of March the following year. The final figures are published 3 years after the reference year.

6.2 Punctuality

The statistics are usually published according to schedule.

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7 Comparability

Internationally there is a high degree of comparability with the national accounts of other countries because the Danish national accounts are compiled in accordance with the definitions in the European System of National Accounts ESA2010.

Statistics Denmark's industrial classification DB07, which is a Danish version of the EU NACE, rev. 2. and the UN's ISIC, rev. 4, contains a number of standard classifications: the 127, 36, 19, and 10 classifications.

7.1 Comparability - geographical

Internationally there is a high degree of comparability with the national accounts of other countries because the Danish national accounts are compiled in accordance with the definitions in the European System of National Accounts (ESA2010) which is a European version of the UN's "A System of National Accounts 2008" (SNA2008).

7.2 Comparability over time

It is a fundamental idea when compiling national accounts compilation that the figures to the largest possible extent should be comparable over time. This means e.g. that new sources always have to be adapted to the concepts of the national accounts, and that changes of existing sources cannot be seen directly as changes of variables and concepts in the national accounts statistics.

Likewise, whenever new international definitions is implemented in the national account system, revisions have to be implemented back in time to secure comparability. Consistent time series in line with the new definitions in ESA2010 goes back to 1966.

However, fundamental changes of nomenclatures, e.g. industrial classification or consumption classification, invariably result in changes in the national accounts, as was the case recently with the introduction of Statistics Denmark's latest industrial classification DB07.

7.3 Coherence - cross domain

Statistics Denmark's industrial classification DB07, which is a Danish version of the EU NACE, rev. 2. and the UN's ISIC, rev. 4, contains a number of standard classifications: the 127, 36, 19, and 10 classifications.

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However, comparisons with other statistics at a detailed industry level will often show differences, partly because of differences in definitions of variables, and partly because of the calendar year delimitation of the national accounts and its requirement of total coverage of the economic activity.

7.4 Coherence - internal

There is per se fully internal consistency in the National Accounts.

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8 Accessibility and clarity

These statistics are published in a Danish press release, at the same time as the tables are updated in the StatBank. In the StatBank, these statistics can be found under Annual national accounts.

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. Theme publications etc. may be published at other times of the day. The National Statistician can decide that such publications may be released before their official publication time, e.g. to the media and other stakeholders.

8.4 News release

These statistics are published in a Danish press release.

8.5 Publications

Publications only in Danish.

8.6 On-line database

The statistics are published in the StatBank in the following tables:

- NAN1: Demand and supply by transaction, price unit and time
- NAN2: Real gross national disposable income etc. by transaction, price unit and time
- NAN3: Consumption, disposable income and saving for households and NPISH by transaction, price unit and time
- NAH1: 0 Goods and services (full sequence) by transaction, price unit and time
- NAHL2: 1-2.1.1 Production, GDP and generation of income (main table) by transaction, price unit and time
- NAHL4: 5 Rest of the world (ROW) (main table) by transaction and time
- NAHO2: 1-2.1.1 Production, GDP and generation of income (summary table) by transaction, price unit and time
- NAHO3: 2.1.2-3.1 Allocation of income and capital formation by transaction and time
- NAHO4: 5 Rest of the world (ROW) (summary table) by transaction and time
- NAHD21: 1 Production (full sequence) by transaction, price unit and time
- NAHD22: 2.1.1 Generation of income (full sequence) by transaction and time
- NAHD31: 2.1.2 Allocation of primary income (full sequence) by transaction and time
- NAHD32: 2.2 Secondary distribution of income (full sequence) by transaction and time
- NAHD33: 2.4.1 Use of disposable income (full sequence) by transaction and time

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- NAHD34: 3.1 Capital (full sequence) by transaction and time
- NAHD4: 5 Rest of the world (full sequence) by transaction and time
- NAHC21: Final consumption of households on the economic territory (11 grp) by purpose, price unit and time
- NAHC22: Final consumption of households on the economic territory (41 grp) by purpose, price unit and time
- NAHC23: Final consumption of households on the economic territory (72 grp) by purpose, price unit and time
- NAHC3: Final consumption of households on the economic territory by duration, price unit and time
- NAHC1: Consumption by type of consumption, price unit and time
- NAHC11: Individual consumption by type of consumption, purpose, price unit and time
- NAHC12: Collective consumption by type of consumption, function, price unit and time
- NAHI: Gross capital formation by assets, price unit and time
- NABP10: 1-2.1.1 Production and generation of income (10a3-grouping) by transaction, industry, price unit and time
- NABP19: 1-2.1.1 Production and generation of income (19a2-grouping) by transaction, industry, price unit and time
- NABP36: 1-2.1.1 Production and generation of income (36a2-grouping) by transaction, industry, price unit and time
- NABP69: 1-2.1.1 Production and generation of income (69-grouping) by transaction, industry, price unit and time
- NABP117: 1-2.1.1 Production and generation of income (117-grouping) by transaction, industry, price unit and time
- NABPDIV: 1-2.1.1 Production and generation of income (10a3-grouping) by transaction, industry, price unit and time
- NASL1: 1-2.1.1 Production and generation of income (main table) by transaction, sector and time
- NASL2: 2.1.2-3.1 Allocation and use of income (main table) by transaction, sector and time
- NASO1: 1-2.1.1 Production and generation of income (summary table) by transaction, sector and time
- NASO2: 2.1.2-3.1 Allocation and use of income (summary table) by transaction, sector and time
- NASD11: 1 Production (full sequence) by transaction, sector and time
- NASD12: 2.1.1 Generation of income (full sequence) by transaction, sector and time
- NASD21: 2.1.2 Allocation of primary income (full sequence) by transaction, sector and time
- NASD22: 2.2 Secondary distribution of income (full sequence) by transaction, sector and time
- NASD23: 2.4.1 Use of disposable income (full sequence) by transaction, sector and time
- NASD24: 3.1 Capital (full sequence) by transaction, sector and time
- NAS3: 2.3 + 2.4.2 Adjusted disposable income (supplementary table) by transaction, sector and time
- NOF1: Real expenditure by general government by transaction, price unit and time

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8.7 Micro-data access

The figures in Statbank Denmark are available on the Internet free of charge. More detailed data are available at a charge. It is possible to buy data from the approximately 2,350 product balances at current prices, prices of the previous year and at constant prices, typically in the form of, e.g., a single product balance or the product composition of a given consumption group.

Information on gross fixed capital formation is also sold in its most detailed form, i.e. as information on the product composition of a given industry.

8.8 Other

Internal deliveries to ADAM.

8.9 Confidentiality - policy

Not relevant for these statistics.

8.10 Confidentiality - data treatment

Not relevant for this statistics.

8.11 Documentation on methodology

Specific information about the latest major revision of National Accounts:
http://dst.dk/en/Statistik/dokumentation/hovedrevideret-nationalregnskab.aspx.

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 this statistics is in the division of National Accounts. The persons responsible are:

- Jens Holst Jensen, tel.: +45 3917 3484, e-mail: jhj@dst.dk
- Christina Just Brandstrup, tel.: +45 3917 3633, email: cjb@dst.dk
- Lars Gustafsson, tel.: +45 3917 3487, e-mail: lag@dst.dk

9.1 Contact organisation

Statistics Denmark

9.2 Contact organisation unit

National Accounts, Economic Statistics

9.3 Contact name

Bo Siemsen

9.4 Contact person function

Responsible for the statistics

9.5 Contact mail address

Sejrøgade 11, 2100 Copenhagen

9.6 Contact email address

bsm@dst.dk

9.7 Contact phone number

+45 3917 3069

9.8 Contact fax number

+45 39 17 39 99