

**Documentation of statistics for  
Regional Accounts 2017**

## 1 Introduction

The purpose of regional accounts is to describe the economic activity in the regions and provinces within the framework of national accounts definitions and classifications. In January 1999, the present Danish regional accounts were first published. The accounts are based on the Danish national accounts, which are compiled in accordance with the guidelines set out in ESA2010. Data is not comparable with former versions of regional accounts that are compiled using both different sources and methods. On the other hand comparability among other European countries is possible. The regional accounts are published at the NUTS II level (regions) and NUTS III level (provinces).

## 2 Statistical presentation

Regional accounts describe the geographical dimension of production and income conditions as these are compiled in the *functional* national accounts using the production approach. The regional allocation aims at adding output and value added etc. to the region in which production takes place, mainly the residences of production or local kind-of-activity units. This is different to e.g. income statistics where the calculation is based on the recipients address. Regional accounts contain information on output, intermediate consumption and gross value added in both current and chained 2005-prices as well as other taxes less subsidies on production, compensation of employees, and gross operating surplus and mixed income in current prices. Moreover information on the number of salary earners and total employment is also compiled. GDP by region is published both in total and per capita.

### 2.1 Data description

Regional accounts describe the geographical dimension of production and income conditions as these are compiled in the functional national accounts using the production approach. The regional allocation aims at adding output and value added etc. to the region in which production takes place, mainly the residences of production or local kind-of-activity units. This is different to e.g. income statistics where the calculation is based on the recipients address. Regional accounts contain information on output, intermediate consumption and gross value added in both current and chained 2010-prices as well as other taxes less subsidies on production, compensation of employees, and gross operating surplus and mixed income in current prices. Moreover information on the number of salary earners and total employment is also compiled. GDP by region is published both in total and per capita.

## 2.2 Classification system

Geographical classifications: EU's NUTS-classification ((Nomenclature of Territorial Units for Statistics). Statistics Denmark's industrial classification DBo7, 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 DBo7-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.

Regional accounts are published at the 10a3-aggregation level.

## 2.3 Sector coverage

All industries according to Danish Industrial Classification of All Economic Activities 2007 (DBo7).

## 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**

1993-2017.

## **2.9 Base period**

GDP, Production, Intermediate production, Gross value added and Gross fixed capital formation 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**

- GDP, production, gross fixed capital formation etc. are published in mill. DKK
- Per. capital values are published in 1000 DKK.
- Employment and average population are published in number of persons.
- Hours worked are published in 1000 hours.

## **2.11 Reference period**

The reference period for the economic flows of the regional accounts is equivalent to the national accounts being the year in which the economic activity occurs. Information on employment is annual averages.

## **2.12 Frequency of dissemination**

Annually.

### **2.13 Legal acts and other agreements**

Act on Statistics Denmark, section 6 and sections 8-12.

Council Regulation (EC) No 549/2013 of 21 May 2013 on the European system of national and regional accounts in the Community (ENS 2010) (EFT L 174 26.06.2013, p. 1) - ESA2010.

### **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**

There is no other information.

## **3 Statistical processing**

The regional accounts are compiled from the production side.

In connection with regional allocation there are two principles:

1. Bottom-up approach, where regional information is used directly
2. Top-down approach, where regional indicators which are closely related to the variable, which should be allocated, are used as distribution keys.

Often a combination of the two methods is used.

Often a combination of the two methods is used. In the Danish regional accounts very often a so called "pseudo bottom-up/technical top-down" method is used. This means that you technical use the top-down method, but that the distribution key is of the same type of data as the national variable, that they are meant to distribute. An example of this is the Accounts Statistics, which is carried out at the work-place level and is are used as a source in both the national and the regional accounts.

### **3.1 Source data**

The calculation of regional accounts is based, wherever possible, on regional compilations of the data sources used in national accounts. The main sources are the Statistics of Agricultural Accounts, Statistics of Employment in Businesses, VAT Statistics, Statistics of Manufacturers' Sales of Commodities, the Database for Integrated Public Accounts (DIOR), R&D statistics and Income statistics. The sources are used either directly or forms the basis for calculations of economic development. Furthermore various volume indicators for regional activity are used. In the figures from 1995 onwards Accounts Statistics for Manufacturing and Retail trade is incorporated in the regional accounts and in the figures from 1998 and onwards also Accounts Statistics for Wholesale trade is incorporated. From 1999 Accounts Statistics for Sale of motor vehicles, Hotels and restaurants, Business activities etc. and some Transport activities is added, and from 2001 Accounts Statistics is also used to allocate production and input in post and Telecommunication. There is thus a change in sources and methods used, from 1994 to 1995, from 1997 to 1998, from 1998 to 1999 and again from 2000 to 2001.

### **3.2 Frequency of data collection**

Annually.

### **3.3 Data collection**

Not relevant for these statistics.

### **3.4 Data validation**

Data validation in the regional accounts is carried out in means of macro debugging at the publication level. If needed, corrections are made. Information about data validation in National Accounts in general can be found in the quality declaration of Annual National Accounts

### **3.5 Data compilation**

The data compilation is described together with data validation.

### **3.6 Adjustment**

No corrections of data are made besides the earlier mentioned corrections under "data validation" and "data compilation".

## **4 Relevance**

National and regional accounts are relevant for all, who deal with economic and regional matters.

### **4.1 User Needs**

The regional accounts are mainly used by the EU and national research institutes. In the EU, the regional accounts form the basis of the distribution of means from the structural fund. A central national research institute using regional accounts is CRT (Center for Regional and Tourism Research - Denmark) that uses the regional accounts for local economic models and analyses. Furthermore, figures are supplied to researchers, organisations, regions, municipalities, the media and other bodies interested in the regional economy.

### **4.2 User Satisfaction**

No information is available.

### **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

Regional accounts are subject to the same margins of uncertainty as the annual national accounts and the inaccuracy here relates to the inaccuracy of the various sources used. However, the conceptual consistency and over time uniform adaptation of the sources contribute to reduce the inaccuracy of the national accounts figures. In particular, the combination of the primary sources into a coherent system in many cases reveals errors, which are therefore not reflected in the final national accounts. With regard to the regional dimension the following factors can be mentioned:

- Concerning the regionalisation of each industry, a certain margin of uncertainty, both with respect to concepts and data, is associated with the areas of: Transport, financial intermediation and insurance and pension funding. Conceptually, it is e.g. difficult to determine the location for the production of railway services, and as far as the figures are concerned, the use of quantitative indicators for the regionalisation of economic variables is necessary.
- Regarding price indices the regional accounts are deflated on the basis of the national price indices, which may affect the figures at chained prices to the extent that there are regional differences in prices.
- Furthermore, the convention generally applied by Eurostat in compiling GDP is that taxes less subsidies on products are regionally allocated in proportion with gross value added. It goes without saying that as far as concepts are concerned, it is not possible to establish an objective criterion for this allocation. To a certain extent, this may have an effect on the accuracy of the calculation of growth in each region.

There are no measures of margins of uncertainty.

### 5.1 Overall accuracy

Regional accounts are subject to the same margins of uncertainty as the annual national accounts and the inaccuracy here relates to the inaccuracy of the various sources used. However, the conceptual consistency and over time uniform adaptation of the sources contribute to reduce the inaccuracy of the national accounts figures. In particular, the combination of the primary sources into a coherent system in many cases reveals errors, which are therefore not reflected in the final national accounts. With regard to the regional dimension the following factors can be mentioned:

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### 5.2 Sampling error

Not relevant for these statistics.

### **5.3 Non-sampling error**

Not relevant for these statistics.

### **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**

Regional accounts are subject to the same margins of uncertainty as the annual national accounts and the inaccuracy here relates to the inaccuracy of the various sources used. However, the conceptual consistency and over time uniform adaptation of the sources contribute to reduce the inaccuracy of the national accounts figures. In particular, the combination of the primary sources into a coherent system in many cases reveals errors, which are therefore not reflected in the final national accounts. With regard to the regional dimension the following factors can be mentioned:

- Concerning the regionalisation of each industry, a certain margin of uncertainty, both with respect to concepts and data, is associated with the areas of: Transport, financial intermediation and insurance and pension funding. Conceptually, it is e.g. difficult to determine the location for the production of railway services, and as far as the figures are concerned, the use of quantitative indicators for the regionalisation of economic variables is necessary.
- Regarding price indices the regional accounts are deflated on the basis of the national price indices, except for the production values in non-market education, where regional prices indices have been calculated. The lack of regional prices information may affect the figures at chained prices to the extent that there are regional differences in prices.
- Furthermore, the convention generally applied by Eurostat in compiling GDP is that taxes less subsidies on products are regionally allocated in proportion with gross value added. It goes without saying that as far as concepts are concerned, it is not possible to establish an objective criterion for this allocation. To a certain extent, this may have an effect on the accuracy of the calculation of growth in each region.

There are no measures of margins of uncertainty. In comparison with other European countries the source material is very detailed and with a high degree of coverage - in most cases exhaustive. The compilation system is quite detailed and coherence with the sources of the national accounts is high. Therefore, the regional accounts are probably among the most reliable calculations at the Nuts III level in the EU.



## **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**

Regional accounts are declared final in line with the national accounts. The preliminary regional accounts are thus based on the preliminary national accounts. In addition the sources used to allocate activity to regions can be provisional for the preliminary years. The two latest years in regional accounts are preliminary.

## **6 Timeliness and punctuality**

First version of regional accounts is published 12 month after the reference year. Final regional accounts are published 3 years after the reference year. Regional accounts have a high degree of punctuality

### **6.1 Timeliness and time lag - final results**

Regional accounts are published annually. Data for the most present year is published approximately 12 months after the year in question.

### **6.2 Punctuality**

The statistics are usually published according to schedule.

## **7 Comparability**

There is a close relationship between the national accounts and the regional accounts. Regional accounts are consistent with the national accounts, as the sum of the figures for each region with respect to each individual variable is equal to the national accounts value for the same variables. Consequently, each variable can be interpreted in the same manner as the national accounts variables, and the data sources and methods used in the national accounts are part of regional accounts. As mentioned, the regional accounts are based on guidelines set out in ESA2010 and are thereby directly comparable with other regional accounts from the EU Member States.

### **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.

## 7.2 Comparability over time

As in national accounts, efforts have been made to achieve a high degree of data comparability over time. However, changes in the systems and the development of new methods imply that regional accounts are available in six different series from 1970 onwards, which are not comparable.

The *first* version of the regional accounts covers the gross domestic product at factor cost in counties for the period 1970-91 at current prices and, in addition, employment in counties 1981-91. The underlying method of these series has primarily been based on income statistics, taking adjustments for commuting into account. The data are consistent with the SNA68/ESA79 national accounts.

The *second* version of the regional accounts contains gross domestic product at factor cost both at current and 1980-prices and also total employment in counties and 66 industries for the period 1988-95. The data are consistent with the SNA68/ESA79 national accounts. Furthermore, gross domestic product figures (not by kind-of-activity) are available for each county, covering the period 1988-95. These series are created on the basis of a highly detailed system and they are closely related to the data sources used in the national accounts. Due to changes in the system of national accounts these data are not comparable with the latest figures.

The *third* version of regional accounts comprises the main national accounts aggregates e.g. gross value added both at current and chained 2000- prices and also employment covering the period 1993-2006, for 277 municipalities and 130 industries. Furthermore, gross domestic product figures (not by kind-of-activity) are available for each county. These data are consistent with the SNA93/ESA95 national accounts.

The *fourth* version of regional accounts comprises the main national accounts aggregates e.g. gross value added both at current and chained 2000- prices and also employment covering the period 1993-2009, for 99 municipalities and 130 industries. In addition gross capital formation as well as primary and disposable income covering the period 2000-2009.

The *fifth* version of regional accounts comprises the main national accounts aggregates e.g. gross value added both at current and chained 2005- prices for 99 municipalities and 117 industries covering the period 1993 onwards.

The *sixth* version of regional accounts comprises the main national accounts aggregates e.g. gross value added both at current and chained 2010- prices for 99 municipalities and 117 industries covering the period 1993 onwards. This series are consistent with the SNA2008/ESA2010 national accounts.

## 7.3 Coherence - cross domain

There is a close relationship between the national accounts and the regional accounts. Regional accounts are consistent with the national accounts, as the sum of the figures for each region with respect to each individual variable is equal to the national accounts value for the same variables. Consequently, each variable can be interpreted in the same manner as the national accounts variables, and the data sources and methods used in the national accounts are part of regional accounts. As mentioned, the regional accounts are based on guidelines set out in ESA2010 and are thereby directly comparable with other regional accounts from the EU Member States.

## 7.4 Coherence - internal

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

## 8 Accessibility and clarity

*News from Statistics Denmark, Statistical News (National Accounts and Balance of Payment) and Statbank Denmark (<http://www.Statbank.dk>).*

Regional accounts by 38 industries and 11 provinces/5 regions are available (at a charge). Furthermore regional data can be provided (at a charge) for groups of municipalities with a joint population of at least 100.000 inhabitants. In addition GDP and other non-industry data is available for municipalities with a population of at least 10.000 inhabitants.

### 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. 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

[Regional Accounts 2017](#) (only in Danish)

### 8.5 Publications

Analysis: [Er store arbejdsmarkeder mere produktive end små?](#) (only in Danish)

### 8.6 On-line database

- [NRHP](#)
- [NRHB](#)
- [NRBP10](#)
- [NRBI10](#)
- [NRBB10](#)
- [NRS](#)

### 8.7 Micro-data access

The most revised data can be found for: Output, intermediate consumption, and gross value added at both current and chained 2010-prices. And for: Other taxes less subsidies on production, compensation of employees, and gross operating surplus and mixed income in current prices. And for: The number of salary earners and total employment.

### **8.8 Other**

Not relevant for these statistics.

### **8.9 Confidentiality - policy**

Not relevant for these statistics.

### **8.10 Confidentiality - data treatment**

Not relevant for these statistics.

### **8.11 Documentation on methodology**

EU guidelines set out for regionalisation as described in the *European System of Accounts, chapter 13 (ESA2010)*, *Eurostat 2013* and in *"Manual on regional accounts methods"*, Luxembourg 2013.

### **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 Government Finances. The person responsible is Bo Siensen, tel. +45 39 17 30 69, e-mail: bsm@dst.dk

### **9.1 Contact organisation**

Statistics Denmark

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