STATISTICS DENMARK

Documentation of statistics for Fixed Capital Stock 2019

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1 Introduction

The purpose of fixed capital is to provide a picture of the productive capacity of the economy's capital stock as well as of that part of national wealth which is placed in fixed assets. Fixed capital is compiled according to guidelines in the present European national accounting system, ESA2010, and is based on investment series from the National Accounts. Fixed capital according to ESA2010 was first published in September 2014. Updated series for fixed capital are published yearly.

2 Statistical presentation

Fixed capital consists of five variables compiled at current prices and 2010-prices, chained values (Other volume changes in non-financial assets are not compiled at 2010-prices, chained values and revaluations are, by definition, only available at current prices):

Gross stock Net stock Consumption of fixed capital Other volume changes in non-financial assets n.e.c. Revaluations

2.1 Data description

Fixed capital is compiled according to the guidelines in the European System of Accounts, ESA2010. Fixed capital is compiled gross and net. The difference depends on whether wear and tear, obsolescence and declining remaining service lives are taken into account. The gross capital stock consists of the value of all capital goods valued at replacement cost. When compiling the gross stock, the age dimension is disregarded in the sense that all capital goods, of the same type, but with different remaining service lives are valued alike. The gross stock at constant prices can be regarded as a crude measure of the productive capacity of fixed capital. The net stock represents that part of national wealth, which is placed in fixed assets valued at replacement cost. At constant prices the net stock equals the gross stock less accumulated consumption of fixed capital. It reflects the fact that the market price falls when the remaining service life falls. Consumption of fixed capital in the national accounts expresses the diminishing value of fixed capital as a consequence of wear, tear and obsolescence valued at replacement cost. It is different from the concept depreciation as it is used in company accounts, in which there may also be an element of revaluation as a result of price changes. Consumption of fixed capital in the national accounts is calculated according to the geometric method for all types of assets from 2008 onwards (the geometric method has been incorporated earlier for some types of assets). Prior to 2008 values of consumption of fixed capital are based on the straight-line method. Other volume changes in non-financial assets n.e.c record the effects of unexpected incidents that affect fixed capital, e.g. catastrophic losses. Nominal revaluations tell how much the capital goods change from one period to another due to changes in prices. Real revaluations are corrected from general price changes.

2.2 Classification system

The variables are subdivided into the following products:

- Dwellings
- Buildings other than dwellings
- Other structures and land improvements
- Transport equipment
- Computer hardware
- Telecommunication equipment
- Other machinery and equipment and weapon systems
- Cultivated biological resources
- Research and development
- Mineral exploration and evaluation
- Computer software and databases
- Entertainment, literary or artistic originals and other intellectual property products

In addition, there is a breakdown into 69 industries at the most detailed level as well as a breakdown by institutional sectors.

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.

Fixed capital most detailed classification level is the standard 69, which can be aggregated to classification 36a2, 19a2 and 10a3. More information

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

Institutional sectors:

- S.11 Non-financial corporations
- S.12 Financial corporations
- S.13 General government
- S.14 Households
- S.15 Non-profit institutions serving households

2.4 Statistical concepts and definitions

Consumption of Fixed Capital: Consumption of fixed capital is the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage.

Gross Stock: Gross capital stock is the value of all fixed assets still in use, at the actual or estimated current purchasers' prices for new assets of the same type, irrespective of the age of the assets

Net Stock: Net capital stock is the sum of the written-down values of all the fixed assets still in use is described as the net capital stock; it can also be described as the difference between gross capital stock and consumption of fixed capital.

Other Volume Changes in Non-financial Assets n.e.c.: Other Volume Changes in Non-financial Assets records abnormal changes to the level of capital stocks. For example unforeseen injury cases are not recorded as consumption of fixed capital but as Other Volume Changes.

Revaluation: The revaluation account records changes in the value of fixed capital due to changes in their prices. The nominal account corresponds to the revaluation of fixed capital stock in a given period due to changes in their prices. The real holding is the difference between general price changes and the fixed capital price change.

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 1966-2016.
- Annual National Accounts, preliminary 2017-2018.

2.9 Base period

Gross stock, net stock, consumption of fixed capital and gross fixed capital formation are 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

Calendar year.

2.12 Frequency of dissemination

Annually.

2.13 Legal acts and other agreements

REGULATION (EU) No 549/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 May 2013 on the European system of national and regional accounts in the European Union (OJ L 174. 26.6.2013, 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

A general documentation of the Danish national accounts is available in (Danish) "Nationalregnskab Kilder og metoder. Danmarks Statistik 2002. For a theoretical background and methods for compiling fixed capital: "Measuring Capital". OECD Manual. Measurement of capital stocks, consumption of fixed capital and capital services. OECD 2009.

3 Statistical processing

The compilation of fixed capital is consistent with the investment series from the National Accounts with breakdown into industries, a fact which ensures consistency with the rest of the National Accounts. Buildings and transport equipment are completely or partly compiled using direct stock information from registers, which is seen as the most reliable compilation method. As buildings and transport equipment form the major part of fixed capital, it follows that the uncertainty on the total stock is reduced considerably. For the other variables, the PIM method or a combination of both methods is used.

3.1 Source data

The sources used for compiling fixed capital consist of different registers and statistics containing stock information, unit values and investment information. Among such registers and statistics are:

- Administrative registers for motor vehicles, ships, aircrafts and rolling stocks
- Central Register of Buildings and Dwellings
- Central Business Register
- Gross fixed capital formation from the National Accounts (by industry and by institutional sector)
- Industrial Commodity Statistics
- Agricultural Statistics
- Foreign Trade Statistics
- Statistics for public corporations
- Producer Price Indices
- Construction Cost Index

3.2 Frequency of data collection

Annual.

3.3 Data collection

Not relevant for these statistics.

3.4 Data validation

The data validation is carried out with a validation of primary data sources. The fixed capital data is secured to be consistent with the investment series from the National Accounts with breakdown into industries, a fact which ensures consistency with the rest of the National Accounts. Lastly there are performed a macro level validation of the results.

3.5 Data compilation

Buildings and transport equipment are completely or partly compiled using direct stock information from registers, which is seen as the most reliable compilation method. As buildings and transport equipment form the major part of fixed capital, it follows that the uncertainty on the total stock is reduced considerably. For the other variables, the PIM method or a combination of both methods is used.

3.6 Adjustment

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

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4 Relevance

As fundamental data for everyone dealing with socioeconomic conditions like economic ministries, organizations, the press, the financial sector, larger companies, students and researchers. National accounts are used as the basis for analyzing the economic development. National accounts continuously evaluate feedback from users via national and international forums.

4.1 User Needs

Fixed capital is used as a basis for analyzing economic relations in general and production functions, productivity and wealth in particular. Users are mainly researchers, economic ministries and organizations.

4.2 User Satisfaction

Go to User Committee for Economic Statistics (available in Danish only).

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 uncertainty on fixed capital is closely related to the uncertainty on the sources used. In addition, there is uncertainty connected with the assumptions made, for example in relation to service lives. Recently, there has been a tendency for upgrades of the figures for gross fixed capital formation. This means that one should expect a somewhat greater uncertainty about the figures for gross fixed capital formation than for other variables.

For a sensitivity analysis on the service lives used for dwellings please refer to A comparison of PIM Estimates with Direct Stock Information for Dwellings by Esben Dalgaard and Annette Thomsen. Paper prepared for the 26th General Conference of The International Association for Research in Income and Wealth. Cracow, Poland, 27 August to 2 September 2000.

5.1 Overall accuracy

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 reveal errors which are removed from the final national accounts.

Statistical inaccuracy estimates do not exist.

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

With the introduction of ESA2010 the levels for fixed capital was validated.

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

Fixed capital is compiled according to guidelines in the present European national accounting system, ESA2010. Updated series for fixed capital are published yearly.

- Fixed capital was released for the first time in 1997 according to guidelines in the former European national accounting system, ESA79, and the DB93-based industries.
- First revision in 2001: According to the system ESA95 and DB93-based industries.
- Second revision in 2005: data revision with minor corrections according to ESA95 and DB93 -based industries.
- Third revision in 2011: Industry revision with incorporation of DB07-based industries.
- Fourth revision on September 15th 2014: Incorporation of the system ESA2010.
- Fifth revision on November 15th 2016, data revision with minor corrections, measured according to ESA2010 and DB07 based industries.

From September 15th 2014 figures are available at current prices and 2010-prices, chained values.

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6 Timeliness and punctuality

First version of preliminary yearly national accounts figures are published end of November the following year for fixed capital. 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 October the following year. The final figures are published 3 years after the reference year.

Fixed capital is compiled yearly and publishes together with the November version of the yearly National Accounts.

Special issues for November version 2018: Due to late delivery of source material, industry-distributed investments for 2017 will not be published.

6.2 Punctuality

The Statistics are usually published without delay in relation to the scheduled date.

7 Comparability

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.

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.

Other conditions: The statement in the Statbank of inventory variables in 2010-prices, chained values is based on valuation in the mid-year prices, whereas delivery and publication at Eurostat is done with valuation in the year's end prices. Therefore, the calculated growth rates will not necessarily be identical.

7.2 Comparability over time

One of the fundamental goals when compiling National Accounts statistics is to achieve a high degree of comparability over time. The statistical sources are therefore adapted in order to be consistent with the concepts of the National Accounts. Fundamental changes of nomenclatures as for example classification of industries, changes in definitions as a result of new guidelines as well as new and better sources, will inevitably lead to changes in the National Accounts and the compilation of fixed capital. In such cases, a comprehensive revision is involved, and earlier periods are re-compiled following the new guidelines.

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.

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, fixed capital is only published at the 69 classification standard.

The compilation of fixed capital is consistent with the rest of the national accounts. The products are identical to those used for gross fixed capital formation in the national accounts, the industry breakdown is identical to the industry breakdown of gross fixed capital formation (69 level) and the breakdown by institutional sectors is identical to the institutional sector accounts. As the compilation follows international guidelines a high degree of comparability with other countries is achieved. This applies in particular to the European Union, where the Commission represented by Eurostat goes to great lengths to achieve comparability between the national accounts in member states.

7.4 Coherence - internal

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

8 Accessibility and clarity

These statistics are published in the StatBank.

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.

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8.2 Release calendar access

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

8.4 News release

Not relevant for these statistics.

8.5 Publications

Publications: More information.

8.6 On-line database

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

- NABK10: Accumulation account and balance sheets, fixed assets (10a3-grouping) by stock / flow, assets, industry, price unit and time
- NABK19: Accumulation account and balance sheets, fixed assets (19a2-grouping) by stock / flow, assets, industry, price unit and time
- NASK: Accumulation account and balance sheets, fixed assets by stock / flow, assets, sector and time
- NABK36: Accumulation account and balance sheets, fixed assets (36a2-grouping) by stock / flow, assets, industry, price unit and time
- NABK69: Accumulation account and balance sheets, fixed assets (69-grouping) by stock / flow, assets, industry, price unit and time
- NAHK: Accumulation account and balance sheets, fixed assets by stock / flow, assets, price unit and time

8.7 Micro-data access

Basic material is stored electronically. In some cases more detailed material can be made available on a service basis at a charge.

8.8 Other

Internal deliveries to ADAM.

8.9 Confidentiality - policy

Data Confidentiality Policy for Statistics Denmark.

8.10 Confidentiality - data treatment

Not relevant for these statistics.

8.11 Documentation on methodology

Documentation on methodology for these statistics have not been published.

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 statistic is in the division of National Accounts. The person responsible is Jonas Johansen Næsby, tel. +45 3917 3477, e-mail: jjn@dst.dk

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