

# Practical implementation and workflow for quality management

Component A: Quality Management of Official Statistics  
Activity A.1: Vision, mission, policy and strategy for quality

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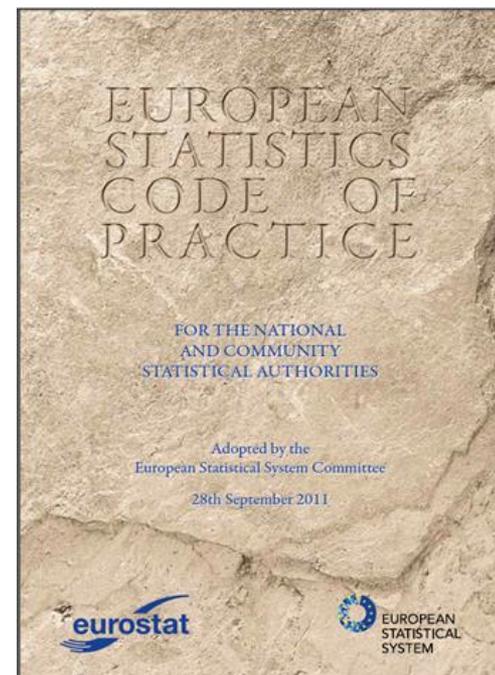
# Quality framework

- European frame:
  - European statistics Code of Practice (CoP)
  - ESS Quality Assurance Framework
  - Peer Reviews
- Local frame
  - Quality awareness in dissemination of statistics
    - Documentation of statistics
    - Other metadata
    - User involvement
  - Quality awareness in the production of statistics
    - EU cooperation
    - Guidance from the methods department
    - Extensive use of administrative registers
    - Quality audits



# Code of Practice (CoP)

- European statistics code of practice
  - First published in 2005 and updated in 2011
- Builds on UN's Fundamental principles for Statistics
  - Published in 1994
- 15 principles
  - Institutional environment
  - Statistical processes
  - Statistical output
- A set of indicators for good practice for each principle



# Institutional environment

- **Principle 1: Professional independence**
  - Professional independence of statistical authorities from other policy, regulatory or administrative departments and bodies, as well as from private sector operators, ensures the credibility of European Statistics.
- **Principle 2: Mandate for data collection**
  - Statistical authorities have a clear legal mandate to collect information for European statistical purposes. Administrations, enterprises and households, and the public at large may be compelled by law to allow access to or deliver data for European statistical purposes at the request of statistical authorities.
- **Principle 3: Adequate resources**
  - The resources available to statistical authorities are sufficient to meet European Statistics requirements.



# ...about quality

- **Principle 4: Commitment to quality**

- Statistical authorities are committed to quality. They systematically and regularly identify strengths and weaknesses to continuously improve process and product quality.
  - **Indicator 4.1:** Quality policy is defined and made available to the public. **An organizational structure and tools are in place to deal with quality management.**
  - **Indicator 4.2:** **Procedures are in place to plan and monitor the quality of the statistical production process.**
  - **Indicator 4.3:** **Product quality is regularly monitored**, assessed with regard to possible trade-offs, and reported according to the quality criteria for European Statistics.
  - **Indicator 4.4:** **There is a regular and thorough review of the key statistical outputs** using also external experts where appropriate.
  - <http://dst.dk/en/OmDS/strategi-og-kvalitet/kvalitetspolitik>



# Institutional environment (cont.)

- **Principle 5: Statistical confidentiality**
  - The privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and its use only for statistical purposes are absolutely guaranteed.
- **Principle 6: Impartiality and objectivity**
  - Statistical authorities develop, produce and disseminate European Statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.



# Statistical processes

- **Principle 7: Sound methodology**
  - **Sound methodology** underpins quality statistics. This requires adequate tools, procedures and expertise.
- **Principle 8: Appropriate statistical procedures**
  - Appropriate statistical procedures, implemented from data collection to data validation, underpin quality statistics.
- **Principle 9: Non-excessive burden on respondents**
  - The reporting **burden is proportionate to the needs of the users and is not excessive for respondents**. The statistical authorities monitor the response burden and set targets for its reduction over time.
- **Principle 10: Cost effectiveness**
  - Resources are used effectively.



# Statistical output

- **Principle 11: Relevance**
  - European Statistics meet the needs of users.
- **Principle 12: Accuracy and reliability**
  - European Statistics accurately and reliably portray reality.
- **Principle 13: Timeliness and punctuality**
  - European Statistics are released in a timely and punctual manner.
- **Principle 14: Coherence and comparability**
  - European Statistics are consistent internally, over time and comparable between regions and countries; it is possible to combine and make joint use of related data from different sources.
- **Principle 15: Accessibility and clarity**
  - European Statistics are presented in a clear and understandable form, released in a suitable and convenient manner, available and accessible on an impartial basis **with supporting metadata and guidance**.



# Quality Assurance Framework (QAF)

- QAF is developed to assist the implementation of CoP
- In QAF possible activities, methods and tools to help achieving the goals in the principles of CoP
- A distinction is made between initiatives at the institutional level and at the level individual statistics
- Not all 15 principles are referred to
  - 4 Commitment to quality
  - Principles for statistical processes
  - Principles for statistical output



# Peer reviews in 2005/6 and 20014/15

- Carried out to assess the compliance with CoP
- ...to enhance the credibility and capacity of the ESS
- The process starts with a self evaluation form (350 questions) based on CoP and QAF
- This is followed up by a 5 days visit with three experts where users and data suppliers are involved
- A review report is delivered by the expert group with comments from the NSI
- The NSI formulates some improvement actions on the grounds of the report
- Eurostat delivers a comprehensive report to the European Parliament and ECOFIN-council

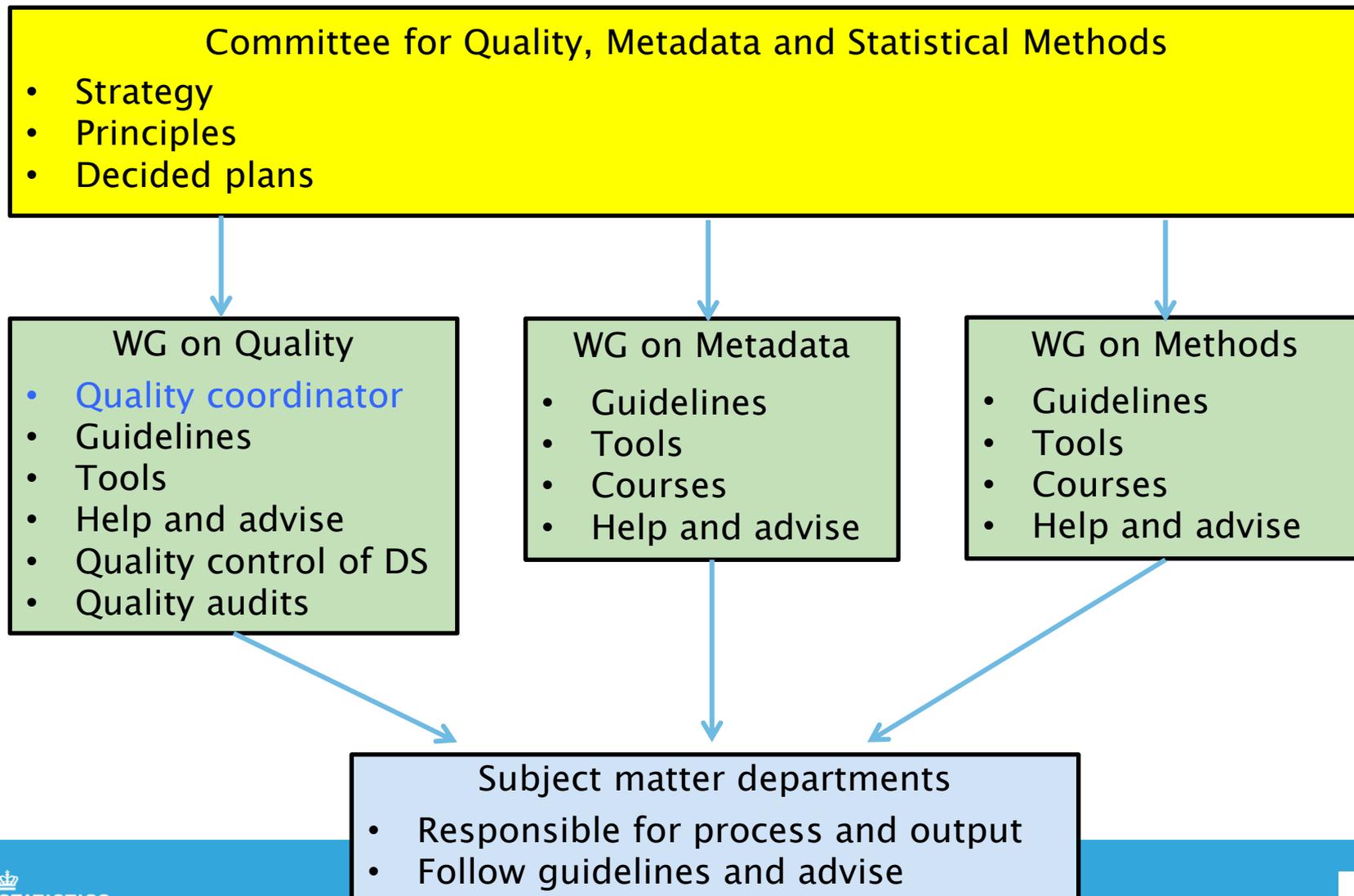


# Organisation of the quality work

- Traditionally the responsibility for quality has been decentralised
- Since 2013 there has been a steering group for Quality
- Since 1999 there has been a steering group for methods
- Since 2015 these has been replaced by a Directors group for Quality Metadata and Statistical methods
- Under this group there are three Working Groups



# Responsibilities - organisation



# Quality coordinator

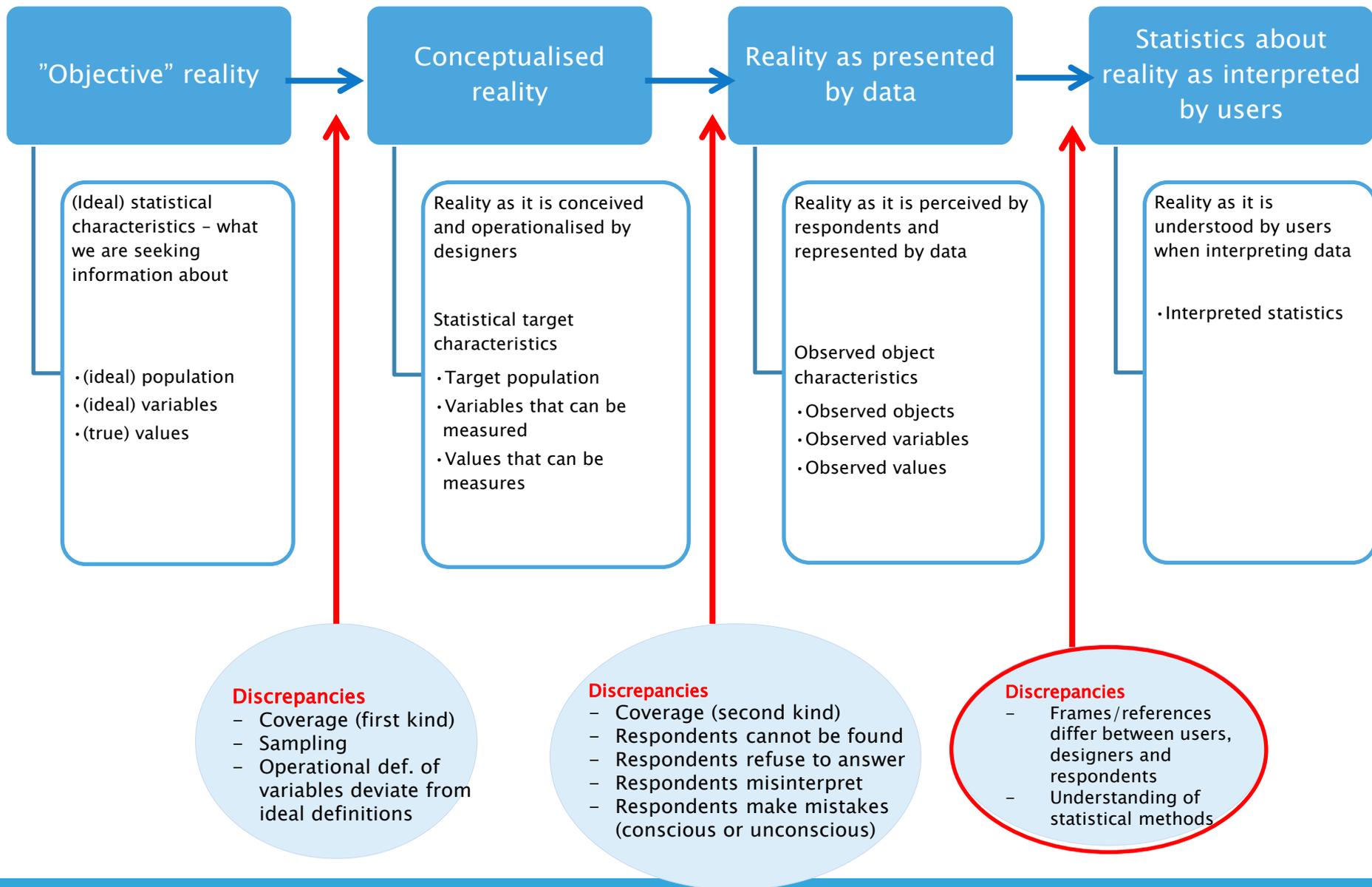
- New position in September 2014
- The goal of the work
  - Give statistics users targeted support in their use of statistics
  - Documentation of the content and quality is essential
  - Internal processes must support this
- Development and implementation of Statistics Denmark's process model
- Coordinator for review quality declarations
- Review of content of quality declarations
- Organize and coordinate the systematic review of processes in areas of statistics
- Keep abreast of international work on quality in statistics



# Producing statistics

- Producing statistics is about describing phenomena in the society
- Not just anything – but some important phenomena in the society – something that some users seek information about
  - Population
  - Education
  - The economy
  - Etc.
  - An illustration is given by the Swede Bo Sundgren in *Statistical systems: Some fundamentals*





# Reporting quality to users – Documentation of statistics

- Help for the user to understand the statistics – giving the user information about the frame we have worked within
- Explain the content of the statistics
  - History
  - Purpose of the statistics
  - Content – population, variables etc.
- Quality = Fitness for use
- Quality of contents:
  - Relevance, Accuracy & reliability, Timeliness and punctuality, Coherence & comparability, Accessibility and clearness

# Documentation of Statistics

- Re-organisation 2014 following the ESS handbook
- Three levels
  1. “Front page” to appear at the webpage of Statistics Denmark, with a short description of the 9 headlines in the Structure. From the front page one can open around 100 specified topics (SIMS)
  2. SIMS topics cover the more detailed quality report (see guidelines in Annex 2). From level 2 one can open annexes for further description
  3. Annexes
- The idea is in one product to cover all customers (national, international, EU).
- Prepared in Danish and English



# Starting point for quality reports

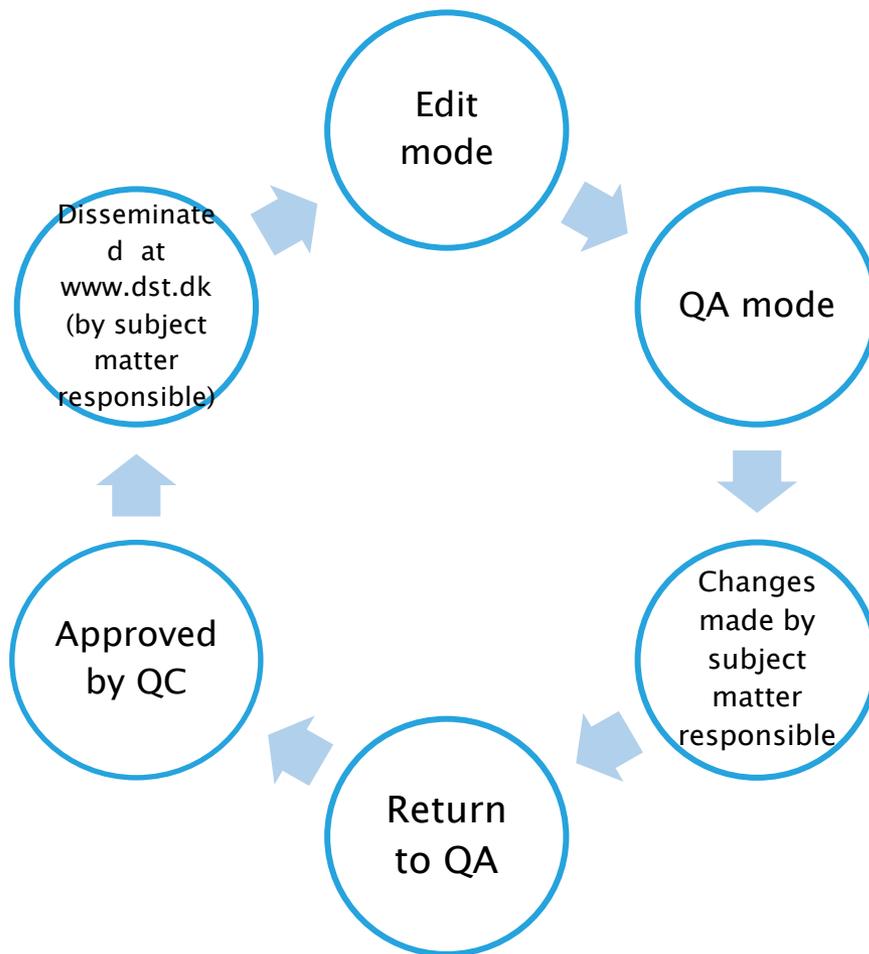
- Starting point is Code of Practise and ESS Quality assurance framework
  - Indicator 4.3 – reporting of quality
  - Indicator 15.5 – metadata are documented according to standardised metadata systems
- Standards:
  - SIMS
  - ESQR
  - ESMS
  - GSBPM

# Documentation of statistics

- Cycle:
  - Every new dissemination of statistics followed by an updated quality declaration
  - Send to QA
  - QA reads and comments
  - Dissemination centre reads and comments on "front-pages"
  - Responsible updates – new QA
  - Ready for dissemination



# Cycle for Documentation of statistics



# Documentation of statistics on www.dst.dk

The screenshot shows a web browser window with the URL <http://www.dst.dk/en/Statistik/dokumentation/documentationofstatistics/retail-trade-index>. The page features the Statistics Denmark logo and a navigation menu with options like 'FIND STATISTICS', 'PRODUCTS & SERVICES', 'CONSULTING ABROAD', and 'ABOUT US'. A search bar is located in the top right corner. The main content area is titled 'Retail Trade Index' and includes a detailed description of the index, its statistical presentation, and processing methods. A sidebar on the left lists various documentation topics, with 'Retail Trade Index' selected. A 'Denmark in figures' box is visible on the right side of the page.

**Retail Trade Index**

The Retail Trade Index shows the development in turnover within the retail trade sector. The statistics is published monthly and is primarily used as short term indicator for private consumption as well as the general business cycle movement.

**Statistical presentation**

Retail trade indices are published for 43 industries and for three main commodity groups: food and other everyday commodities, clothing etc., and other commodities. Furthermore special industry aggregates are produced for Eurostat. Value as well as volume indices are produced. The volume indices only for the main commodity groups and the indices for Eurostat. The statistics is based on survey data from all large retail trade enterprises and a sample of the remaining retail trade enterprises. seasonal adjustment is performed on the main commodity groups and the total.

[Read more about statistical presentation](#)

**Statistical processing**

Turnover figures are collected each month from a sample of 3 500 retail trade enterprises, reporting the figures either by web or by dial-in. The submitted data is error checked by a number of measures, e.g. by comparing the turnover growth in similar enterprises.

Survey data is grossed up in part by including information from administrative sources on the VAT turnover in the previous quarter for the entire population.

**Contact info**

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**Get as PDF**

[Retail Trade Index](#)

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**Denmark in figures**

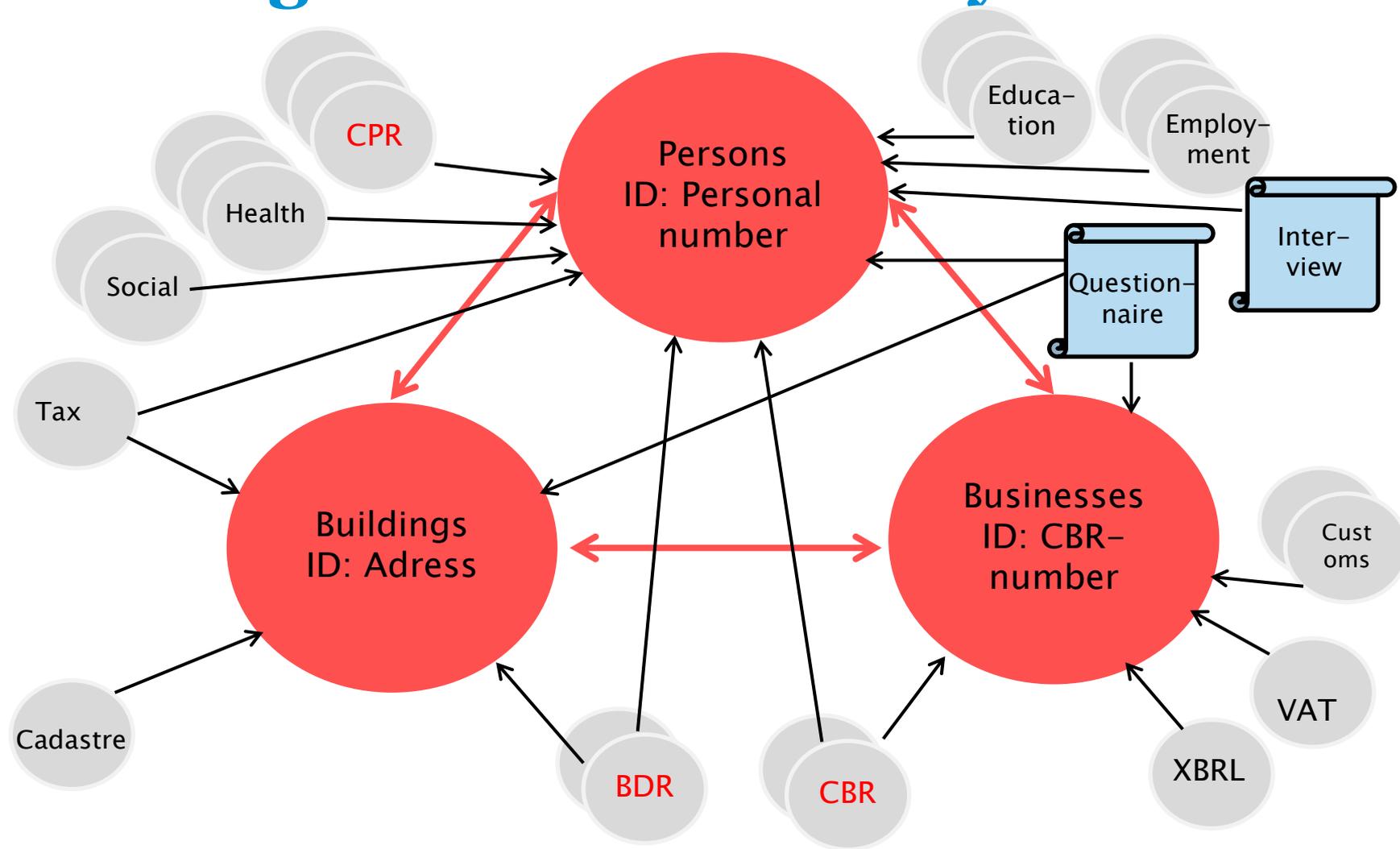
Get a quick overview of the developments in the Danish society in this colourful and easily read booklet.

[Denmark in Figures](#)

# Basic registers in Statistics Denmark

- Use of common identification numbers
- Immensely rich data
- High data quality
- Combining & linking
- Longitudinal studies

# Basic registers - statistical system



# Quality audits

- Started in SD in 2015
- Audit based on CoP
- Team of experts
- Self assessment
- Examination of documentation
- Report
- Action list
- Minimum 6 statistics in 2016

