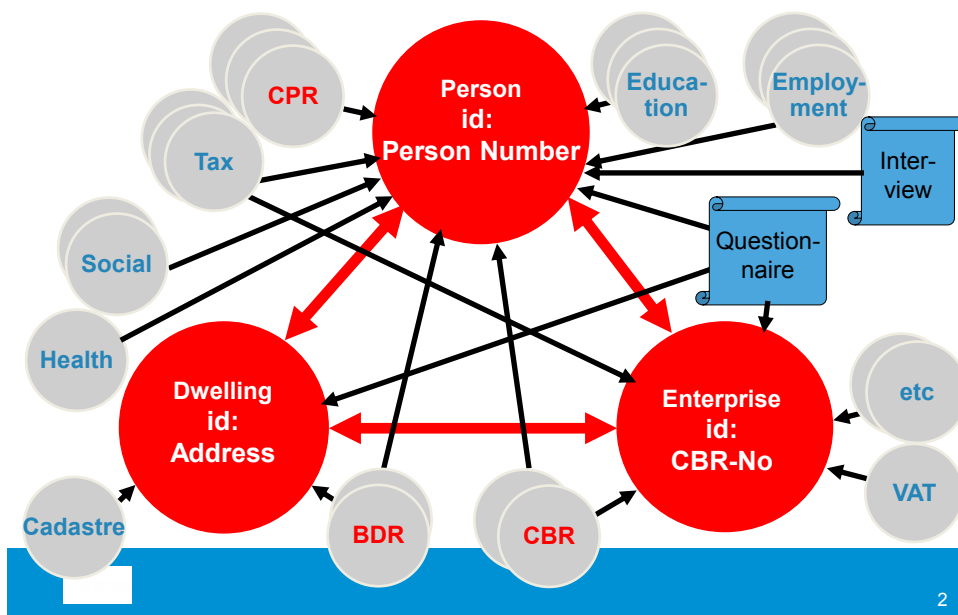


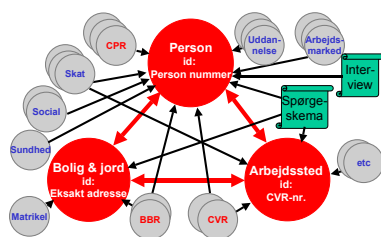
Register Based Research – Exploiting a Goldmine of Knowledge

or: Micro data access

Lars Thygesen

The Statistical Information System

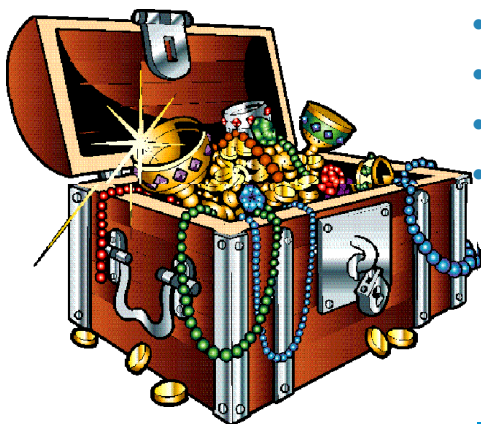




A treasure!

- High data quality
- Coverage
- Coherence
- Combining & linking
- Longitudinal studies
- World's first Census without questions

www.dst.dk/declarations

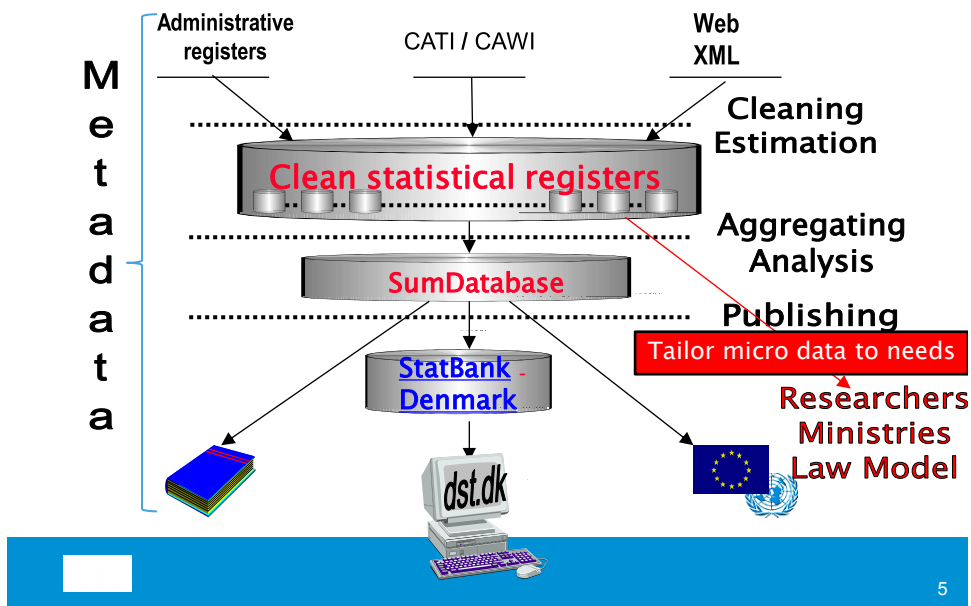


3



The State of Denmark

4

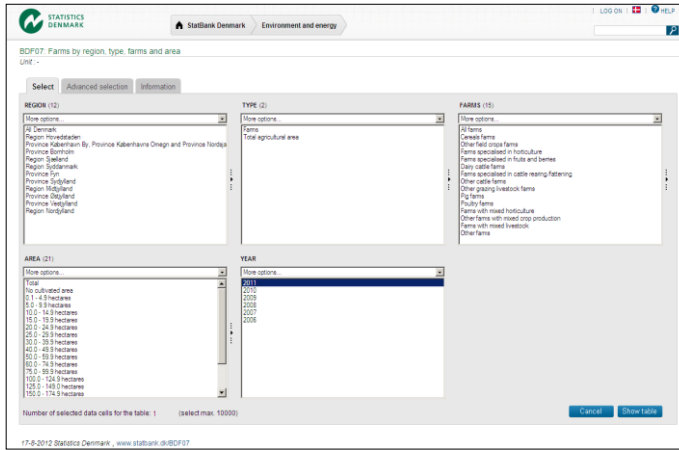


Consequences of archive method

- Data collection not linked to use
- Key purposes are foreseen
- Almost anything can be made on demand

The statistical program	Paid services
Decided by the Board	Customers
Free on Internet/ StatBank.dk	Full (average) cost recovery
Examples: Municipality level Detailed statistics	Examples: Small area statistics Even greater detail Research on micro data

Online access to Statbank Denmark



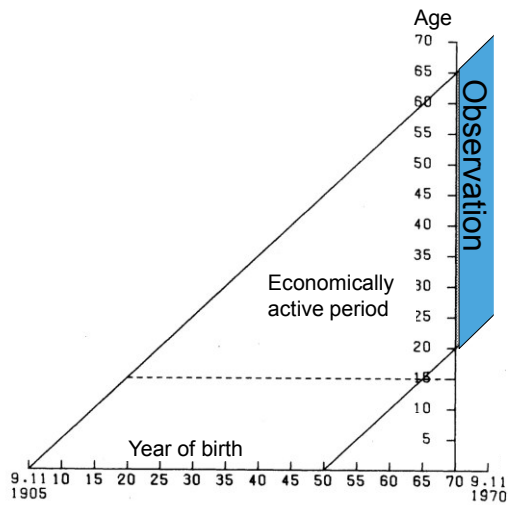
- Billions of numbers
- More than 1,500 detailed tables
- In English and Danish
- Updated every day at 9:00 am
- Free-of-charge
- 2.2 million retrievals per year
- www.statbank.dk

Micro data and longitudinal analysis

Elsebeth Lynge:
Occupational
mortality 1970-75

- Pioneering studies!

Fig. 3.2.1. Undersøgelsespopulationens fødselstidspunkt og erhvervsaktive periode.



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Register based research

1986: Statistics Denmark starts “on-SITE” access for researchers.

1993-2000: possibility to send programmes to Statistics Denmark and have the output sent back.

2000: Statistics Denmark starts “on-LINE” access for researchers: Direct access to databases in Statistics Denmark from own computer

2002: Ministry of Science starts supporting computer time for researchers in Statistics Denmark and update/documentation of selected databases

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Researchers’ access

- 1986: 2 researchers
- 1997: 71 researchers
- 2002: 151 researchers
- 2004: 277 researchers
- 2008: 667 researchers
- 2012: 1,000 researchers
- 2014: 1,400 researchers

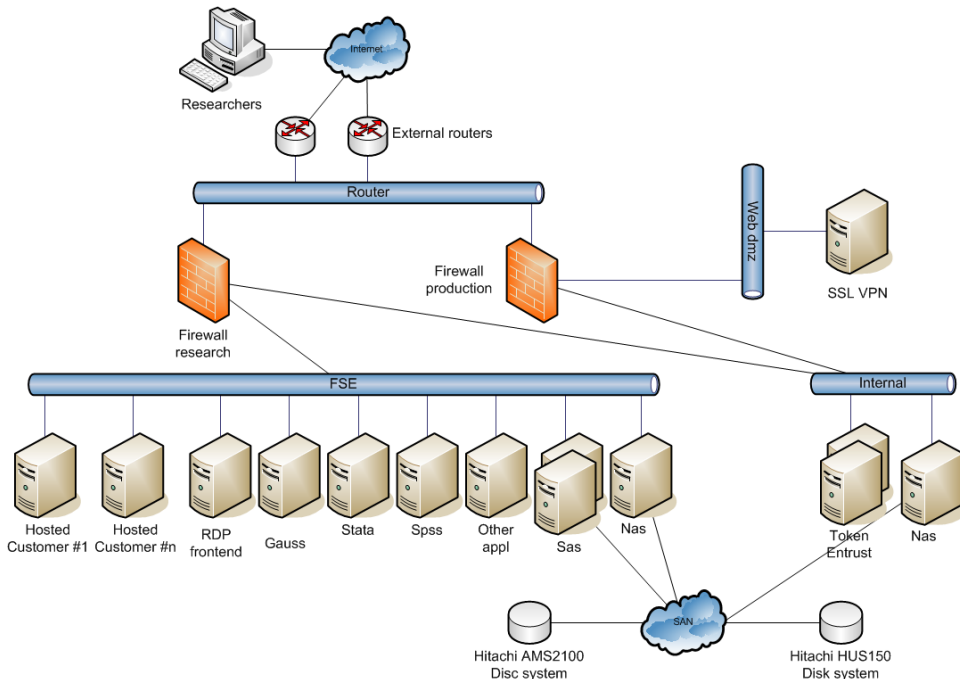
10

Online access to micro data

Balancing data protection and usefulness

- Only for researchers and analysts from authorized research and analysis environments
- Special servers separated from the statistical production
- The de-identified micro data (individuals and businesses) remain at Statistics Denmark
- Outputs with statistical results are forwarded by e-mail
- Strict data security measures and severe sanctions if the rules are not complied with

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Organization of Research Services

Data for research is handled by a specialized [Research Service Unit](#) at Statistics Denmark

- **15 academics, 5 IT staff**
- **Manage the remote access** arrangements and administrate authorizations, contracts etc.
- **Check outputs on a sample basis**
- **Coordinate data** from all divisions in Statistics Denmark
- **Deliver data** to all research projects
- **Give advice** to researchers – new and old projects
- **Do computer related work.** Update research databases, develop new facilities

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Research Databases

- Special registers for research
- Reducing costs
- Special research topics:
 - Labour Market Research Data Base
 - Demographic Database
 - Social Research Database
 - In-patients Register (hospitals)
 - **Medical Prescriptions Database**
 - etc.

Why researchers use this facility

- Data coverage
- Quality
- Coherence
- Longitudinal
- Documentation
- Supplement with own data
- Supplement with survey data

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Confidentiality

- All data is de-identified
- Only access to the data needed for the specific research purpose
- **No** micro data ever leaves SDK
- **No** public use data sets
- **No** scrambling or distortion of data
- **No** linking by researcher
- **No** complaints from research community

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Other micro data mechanisms

- The Law Model
- The ministerial arrangements ("Data Warehouses", in preparation)

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