

# StatTalks

## Beyond Big Data: Modernizing administrative data for statistical purposes

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# Overview

- Background and brief history of register-based statistics in Norway
- The data eco-system
- Best practices in coordination with data producers
- Data quality
- Examples of use of registers to produce statistics (migration and census)
- Some challenges of the use of registers for statistics
- Improving the use of administrative data for statistics in Africa
- The way forward

1769  
The first  
population  
census

1905  
Norwegian  
independence

1907  
First  
Statistics Act

1989  
Second Statistics  
Act

2019  
Third  
Statistics Act

1876

Statistics Norway  
founded as a  
separate institution



1964

National ID number,  
population register and  
archive statistics established



1995

Enhetsregisteret?



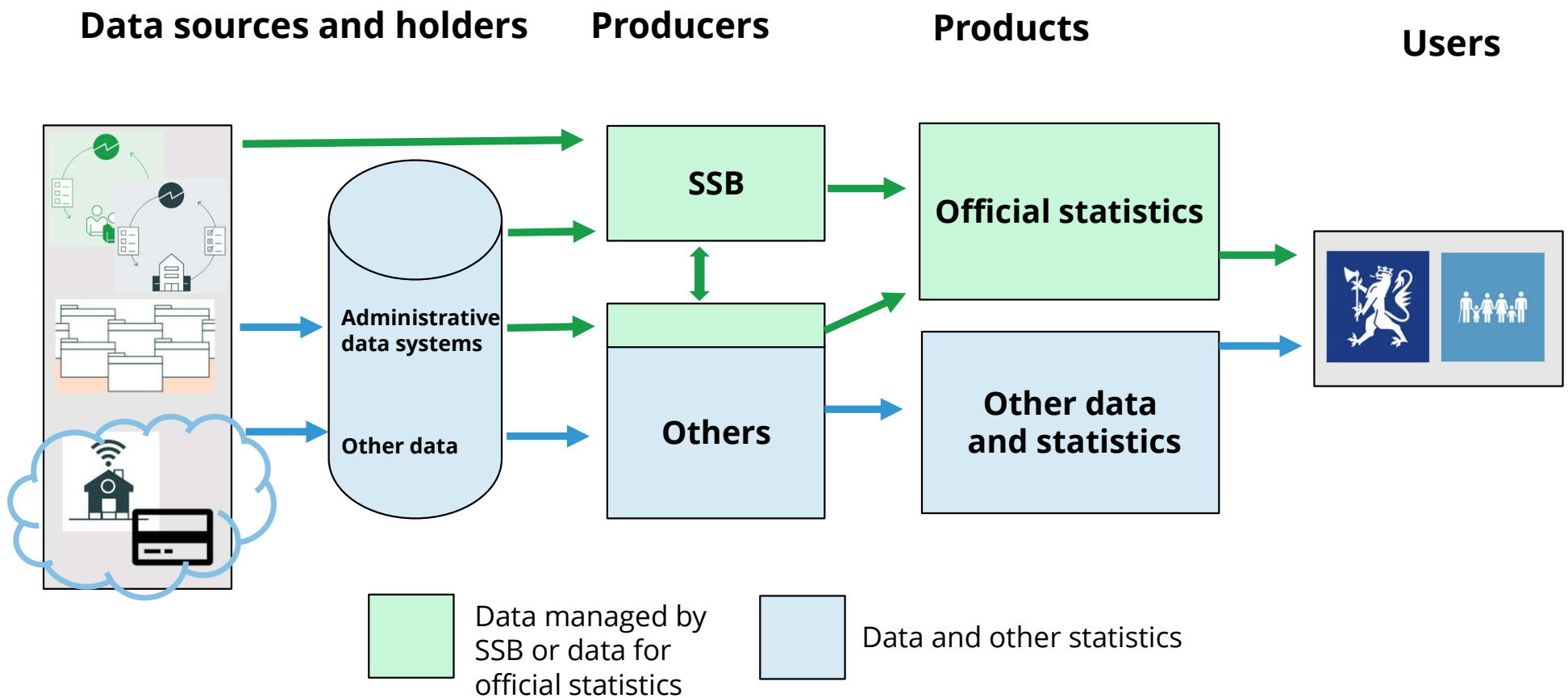
2011

First register based  
population census



Statistisk sentralbyrå  
Statistics Norway

# Data ecosystem for official statistics and beyond



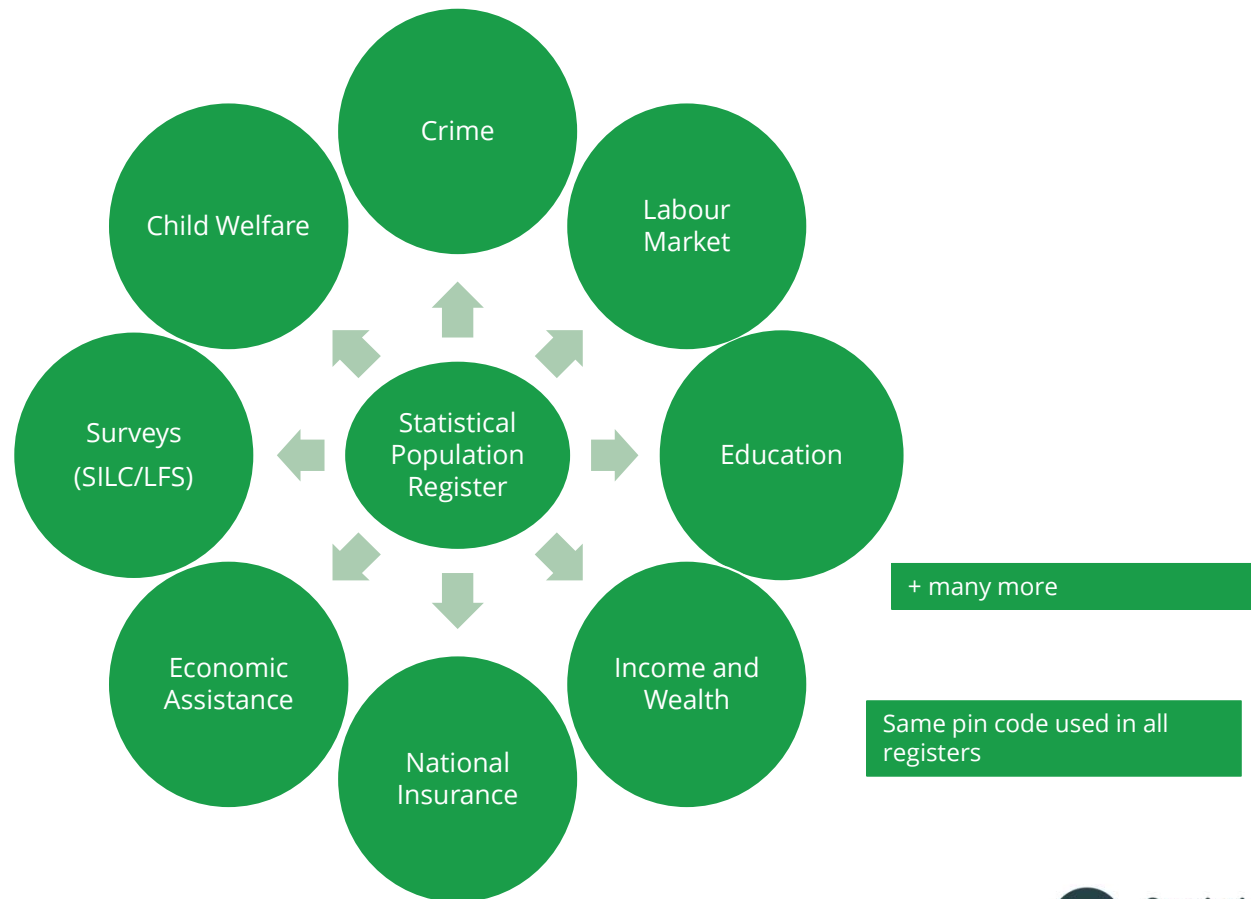
# Best practice in European Statistics

- Peer Review(s): Example of best practice in European Statistics (formal agreement at top level, quality in source, trust and co-operation)
- Based on European framework for administrative data sources

# Formal, written agreements

- All follow the same templates for agreement and annexes
- Originally initiated and always signed at top management level
- Define data owner's obligations and SN's obligations
- Define players (contact persons) and addresses
- Define points and rules of contact
- Today: Around 30 agreements between SN & governmental data owners

# Linking of data on individuals in Statistics Norway



# Data quality

- Formal, written agreements with data owners – all follow same template.
- Quality reports on regular intervals
- Data deliveries with different frequencies – from daily streaming of transaction data to delivery once a year – from different systems.

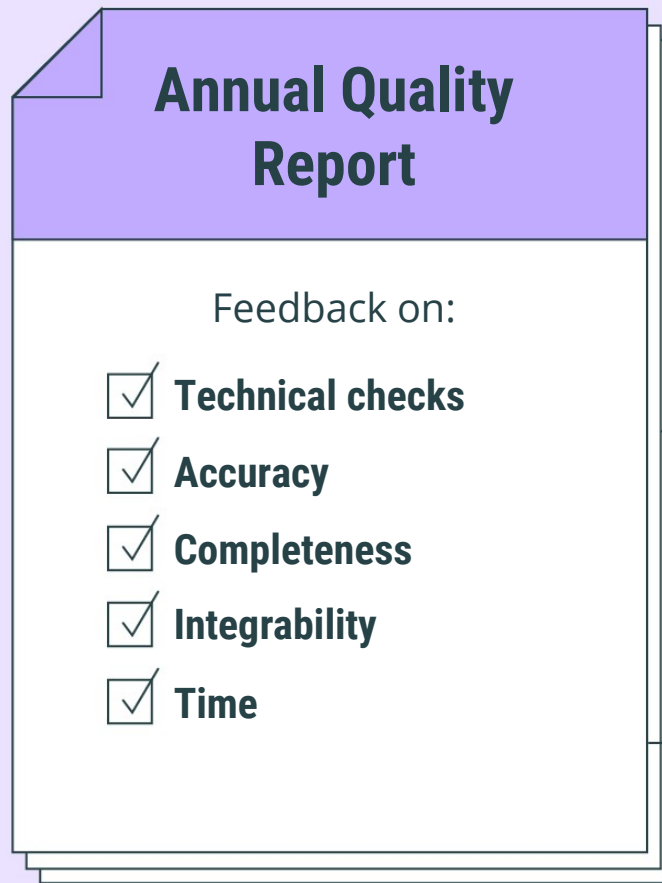


# Dialog with data owner

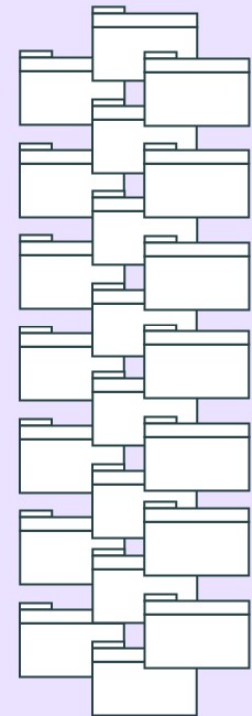
- Formalised agreements with data owners since 2012
- Annual high-level meeting with key data owners
- Quarterly/annual quality meetings
- Annual quality reporting to data owners =>
- Joint working groups established as needed
  - Continuous improvements and development of IT-solutions



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## Registers



# Evaluation and revision of quality reports

- About 100 reports linked to agreements with 29 owners of registers
- Dedicated register-group in SSB
- Focus group with internal and external users
- Revised quality report
- Win-win

## Quality reports

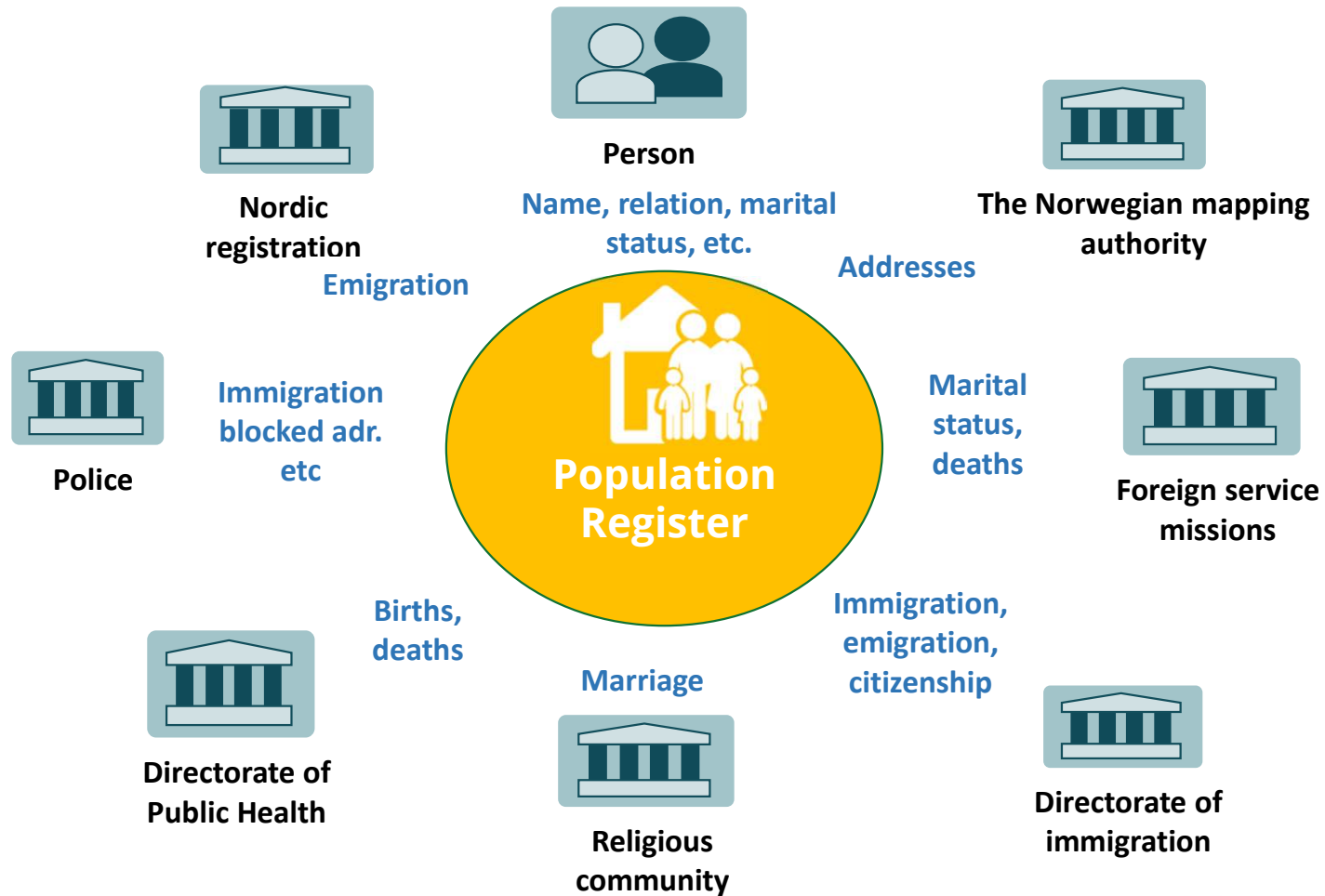
- Feedback on data transfer
- Feedback on data quality
- Suggestion to improve quality
- Quality indicators (numerical)



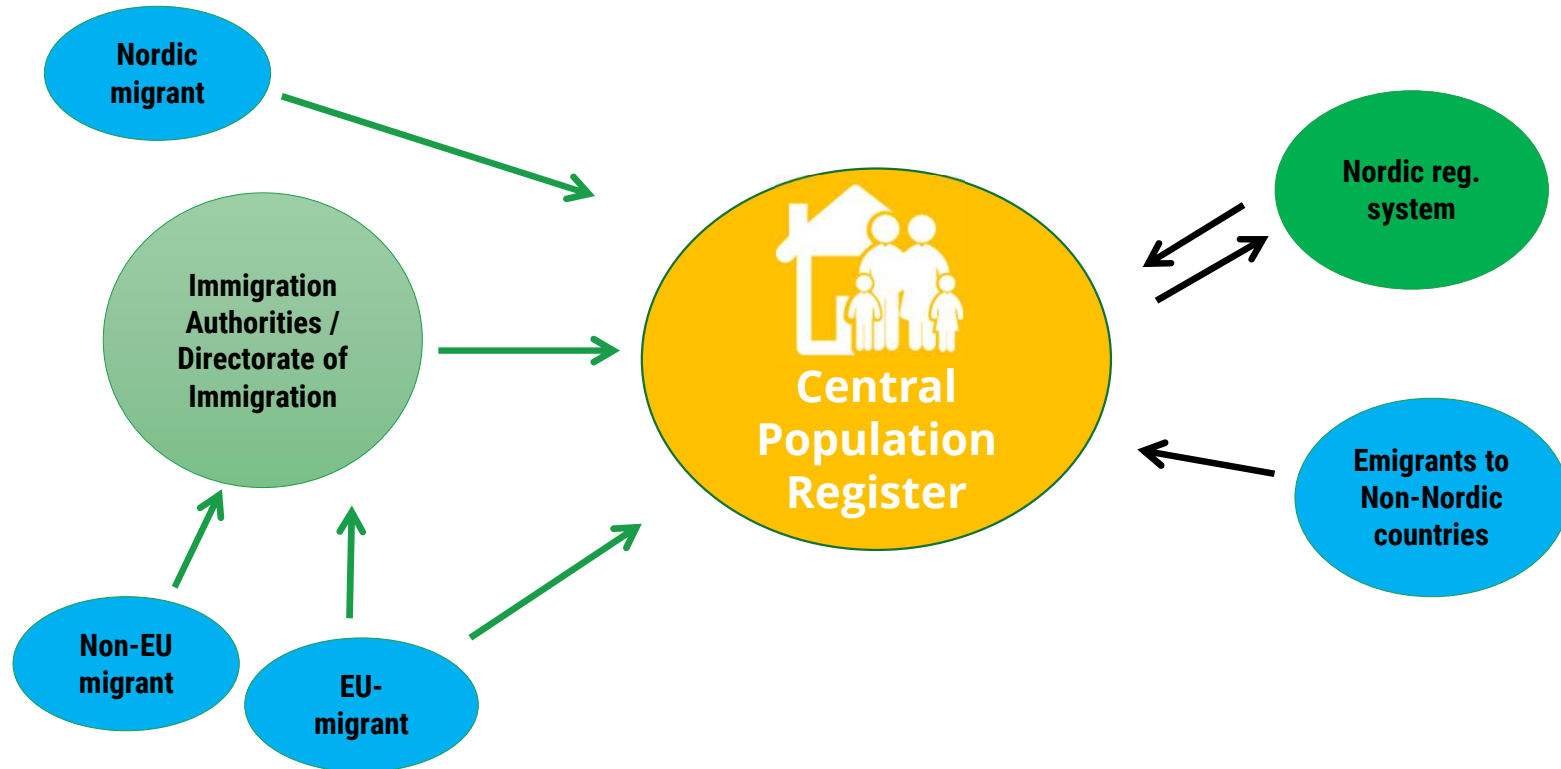
# Administrative data for production of statistics

- A centralised statistical system. SSB is responsible for 85 percent of official statistics in Norway.
- The Norwegian Statistics Act (2019) gives SSB a clear legal basis for access to administrative data.
- SSB shall, free of charge, get access to and be informed when administrative registers are established, changed or discontinued.

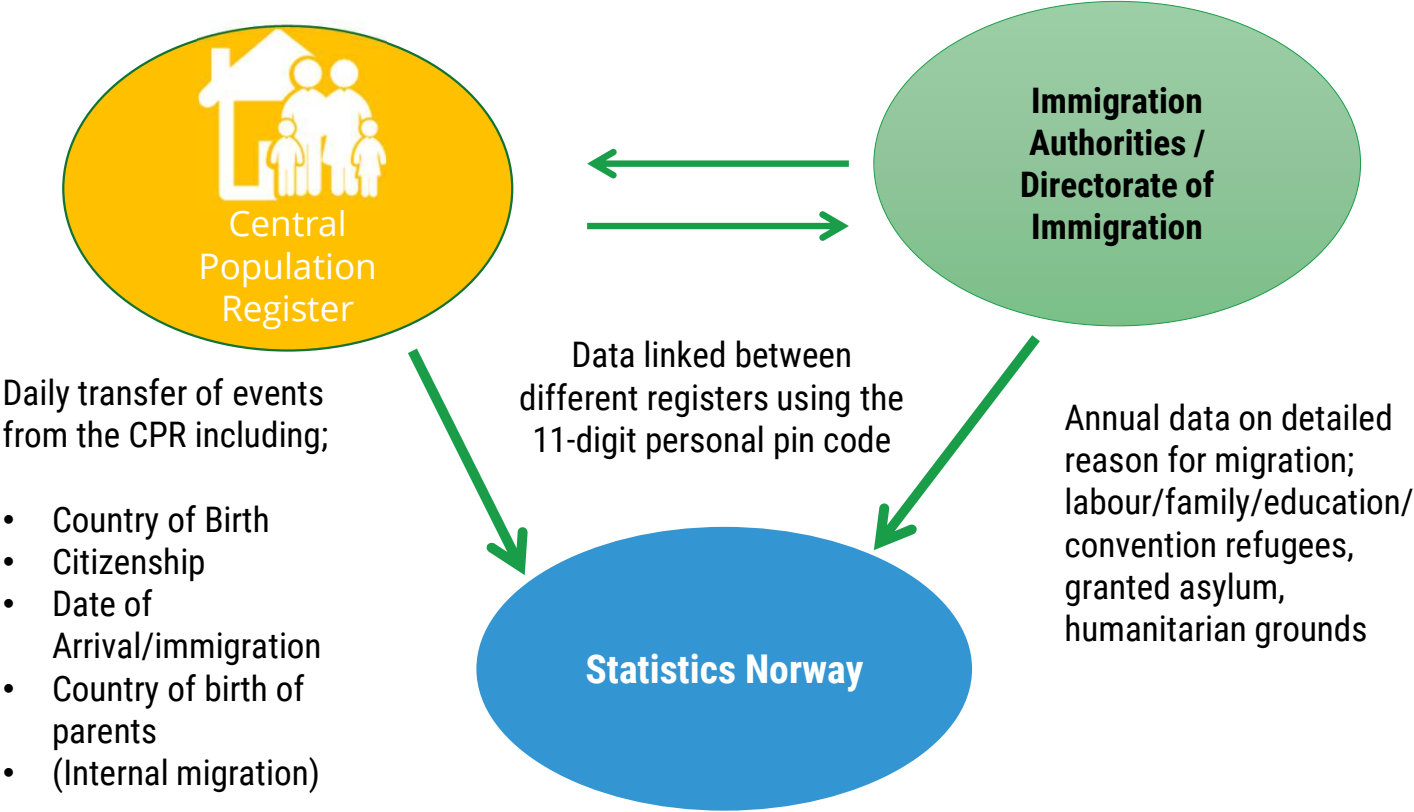
# Population Register data sources



# (Long term) migrants to Norway. Registration of **immigration** and emigration



# Migration statistics in Norway



Official population/migration statistics on stocks and flows

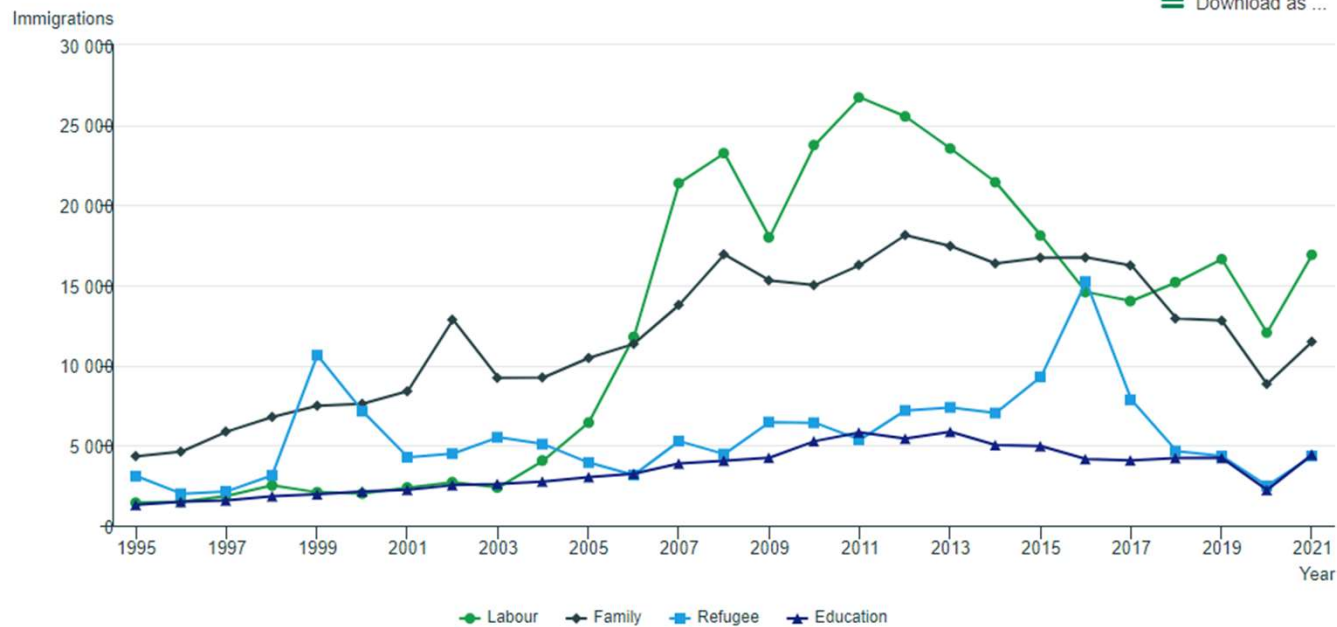
# Reason for immigration

## Immigrants by reason for immigration<sup>1</sup>

Show as chart

Show as table

Download as ...



<sup>1</sup> Nordic citizens are not included in the statistics.

Source: Immigrants by reason for immigration, Statistics Norway

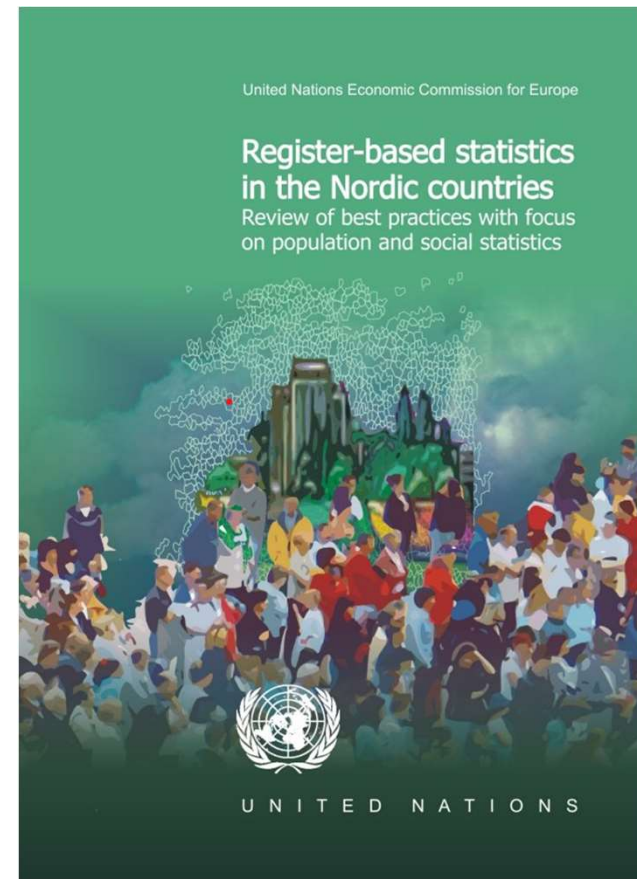


# 2010-round of censuses. UNECE region



# The Nordic approach

- Nordic countries have been working with register-based statistics for almost fifty years
- [Nordic report on best practices published by UNECE in 2007](#)
- Aim: Collect main experiences from Nordic countries in **one** report
- Target group: Statisticians and decision makers in countries that are developing or planning for register-based statistics



# Historical background – population censuses in Norway

- 1769: First (numeric) census
- 1801: First (nominative) census
- 1960: Last traditional census
  - **1964: Central Population Register (CPR) established**
    - **CPR based on the 1960 census**
    - **ID number introduced for all residents of Norway**
- 1970: Mainly traditional census (enumerators with paper questionnaires).
  - Check and update CPR (ID-number used)
  - Established a statistical register of education
  - Last census with enumerators in the field

# Historical background (continued)

- 1980 Census:
  - Questionnaire shortened and sent by mail (no enumerators)
  - Main demographic variables based on CPR
- 1990 Census:
  - Administrative data on demography, education, income and geography
  - Census questions on labour, households, and housing
  - Only a sample enumerated
- 2001 Census
  - All data on persons taken from registers, questionnaires for households and housing
  - Census used to extend Cadastre to comprise dwellings, not only buildings
  - Persons and dwellings linked (almost)
- 2011 Census
  - 100% based on administrative registers
  - (maintained tradition of a census date in November)

# Census organization and costs

2001

- Staff: 10-15 permanent and 35-40 for data collection
- Costs (total): 14,6 mill Euro = 3.2 Euro per person

2011:

- Staff: 2-3 persons
- Costs (additional): 1.5 mill Euro = 0.3 Euro per person



## Registers/register systems used in 2011 Census

- Population register (B)
  - Place of residence, demography, migration, families, households
- Cadastre, register of addresses, buildings and dwellings (B)
  - Housing, geographical characteristics
- Business register (B)
  - Self-employment, place of work, industry
- Labour market register (S)
  - Current activity status (employment, unemployment), occupation, status in employment
- Register of education (S)
  - Educational attainment, current activity status (students)
- Registers on national insurance (S)
  - Current activity status (pensions)
- Income register (S)
  - Income, current activity status (self-employed, capital income)
- Register of vehicles (S)
  - Private cars in household

# Some challenges of population registration in Norway

- Late registration • No registration
- “Dead souls” among residents (Signs of life method)
- “Administrative” emigration implies that ‘country of next residence’ will be missing
- This problem reduced by the Nordic agreement on population registration since a third of migrations go to other Nordic countries
- Residency requirement • Students can choose where they want to be registered as living: parental home or place of study

# Improving the use of administrative data for statistical purposes in Africa

- Data sources in Africa still remain predominantly from surveys and censuses with very high costs
- Some statistics are currently from administrative sources and there are global, regional and national efforts to increase the use of administrative sources of data
- With the introduction with big data and increasing problems of funding there is the need to speed up these efforts



# The way forward

- Continuous dialogue on administrative data sources
- Assessing tools and legal frameworks to access to administrative data improve and improve data sharing
- Guidance on quality assessment of administrative data sources
- Integration of administrative data and surveys where possible
- Capacity building sharing of best practices in the use of administrative data for statistical purposes

# Thank you

