

Introduction to administrative register data

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May 17, 2023

What will be covered in this course?

1. Broad overview of benefits and challenges of ARD
2. Handling of ARD using R

What will NOT be covered in this course?

- ▶ Every possible pro and con of ARD
- ▶ Every possible computational challenge
- ▶ Stata, Python, SPSS, SAS, ...
- ▶ Analysis

Goals

At the end of this course...

- ▶ ...you have a basic idea when ARD is appropriate
- ▶ ...you have a basic idea how to handle ARD

Target audience: No experience with ARD

Prerequisites

- ▶ No experience of ARD required
- ▶ Basic statistical knowledge
- ▶ Some experience using statistical software (R or other software)

Materials

Materials are available from GitHub, also mirrored on OSF:

- ▶ <https://github.com/christiandudel/ThinkData2023>
- ▶ <https://osf.io/h6knq/>

Contact

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My experience with ARD

- ▶ Birth register data from many countries
- ▶ Social security register data from Spain, Italy, US
- ▶ Health register data from Scotland
- ▶ Matched survey and social security register data from Germany
- ▶ Combined data from several registers for Norway

Course schedule

9:30-11:30 Introduction

13:00-14:30 Handling of big data, classic ARD

15:00-16:30 Complex ARD

What is ARD?

- ▶ “Administrative” = Derived from administrative system
- ▶ “Register” = Covers full target population
- ▶ “Data” = Quantitative, rectangular data

Examples of ARD

- ▶ Population registers
- ▶ Birth registers, death registers
- ▶ Migration registers
- ▶ Tax registers
- ▶ Social security registers
- ▶ Student registers
- ▶ Health registers
- ▶ Company/establishment register
- ▶ Housing/building registers
- ▶ Vehicle licensing

ARD in demographic research

- ▶ ARD has a very long history in demography
- ▶ “Classic” demography often used ARD...
- ▶ ... but mostly restricted to vital registration data
- ▶ <https://doi.org/10.3917/popu.1302.0215>

ARD in social science research (1)

- ▶ ARD is a (mostly) recent development in social science research
- ▶ According to Google Scholar: 1,200 publications in 1990-94 with 'register data'...
- ▶ ... while in 2015-2019 there were 16,900 publications

ARD in social science research (2)

Why did ARD only become popular recently?

- ▶ Supply and demand
- ▶ Availability (digitization)
- ▶ Computational power

What makes ARD special?

- ▶ Big data
- ▶ Found data

Challenges of ARD

Complexity of ARD

Data quality