

Session 2: Register-based Social Statistics

Using Register information to estimate (early) monthly unemployment rates for EU aggregates

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Seminar on Registers in Statistics - methodology and quality



Content

- ➔ Introduction
- ➔ Compiling EU unemployment rates
 - Data sources available to Eurostat
 - Method
- ➔ Register data content compared to target
- ➔ What then?
- ➔ Conclusion

Exercise

- ➔ Doomsday book
- ➔ Napoleon
- ➔ Danish government

1. Introduction

- Background
 - Personal experiences
 - Professional experiences
- What/Where is the limit for using Registers in statistics, or
- Why Registers may give the right answer to the wrong question
- Case study: Estimation of EU unemployment rates

2. Compiling monthly EU unemployment rates

➔ Aim: Produce comparable unemployment rates

- Coverage: whole population
- Labour status: as defined by ILO
- Frequency: monthly
- Delay: short

2. Compiling monthly EU unemployment rates

Main sources for monthly EU unemployment rates:

➔ Labour Force Survey (LFS)

- ✓ Coverage: whole population*
- ✓ Labour status: as defined by ILO
- ÷ Frequency: quarterly
- ÷ Delay: 12 weeks (~3 months)

➔ Registered with Employment Agencies (EA)

- ÷ Coverage: not well defined population
- ÷ Labour status: according to national rules and needs
- ✓ Frequency: monthly
- ✓ Delay: less than one month (~3-28 days)



2. Compiling EU monthly unemployment rates

General approach to harmonised monthly unemployment rates by Eurostat:

1st step: Get basic data, i.e. quarterly LFS and monthly registered Unemployment levels from EA (totals broken down by sex and two age-groups)

2nd step: Benchmark monthly EA data against quarterly LFS (infra-quarterly development)

3rd step: Forecast harmonised rates for most recent data using EA unemployment levels

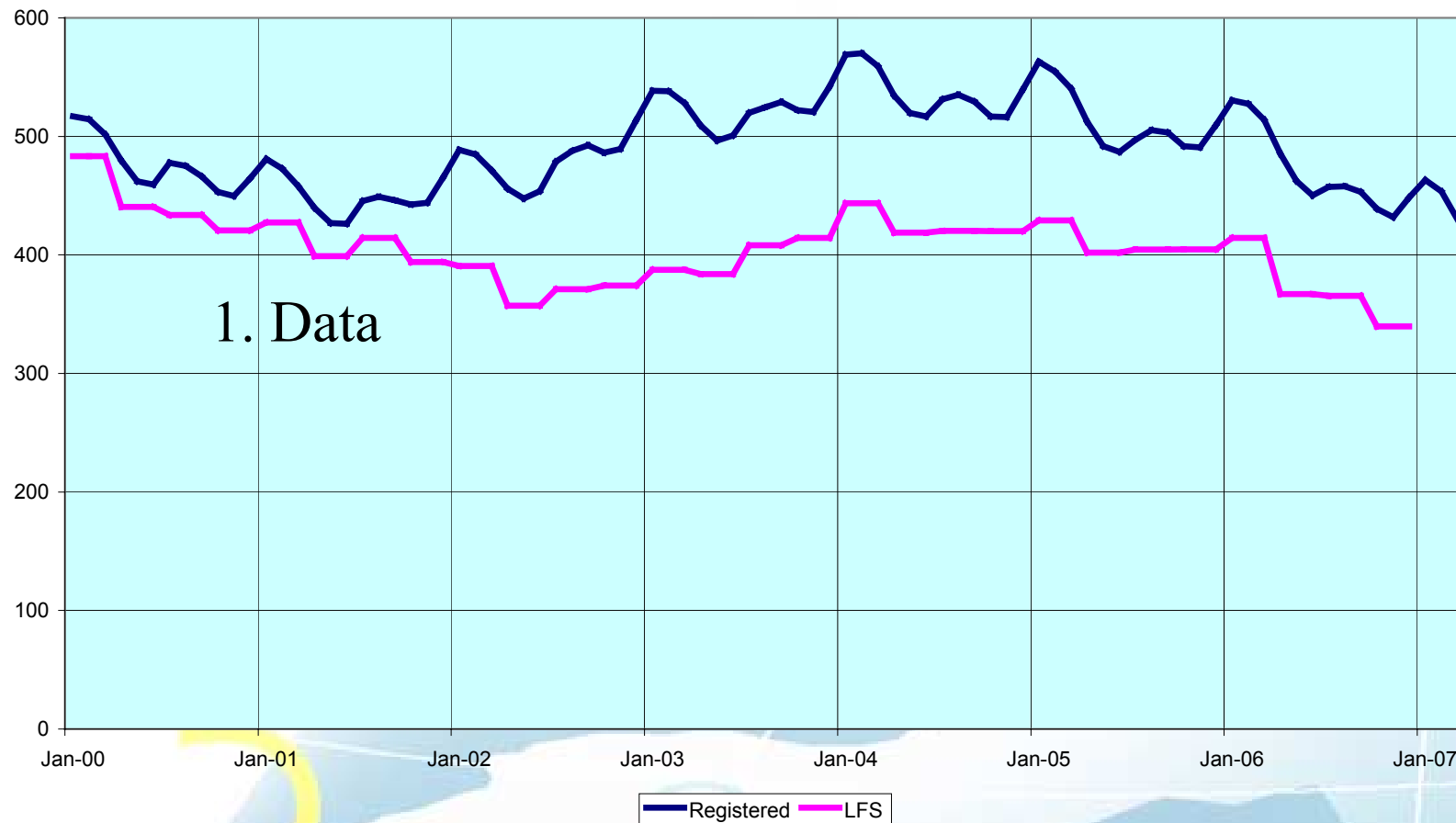
4th step: Aggregate Member State' data to EU totals

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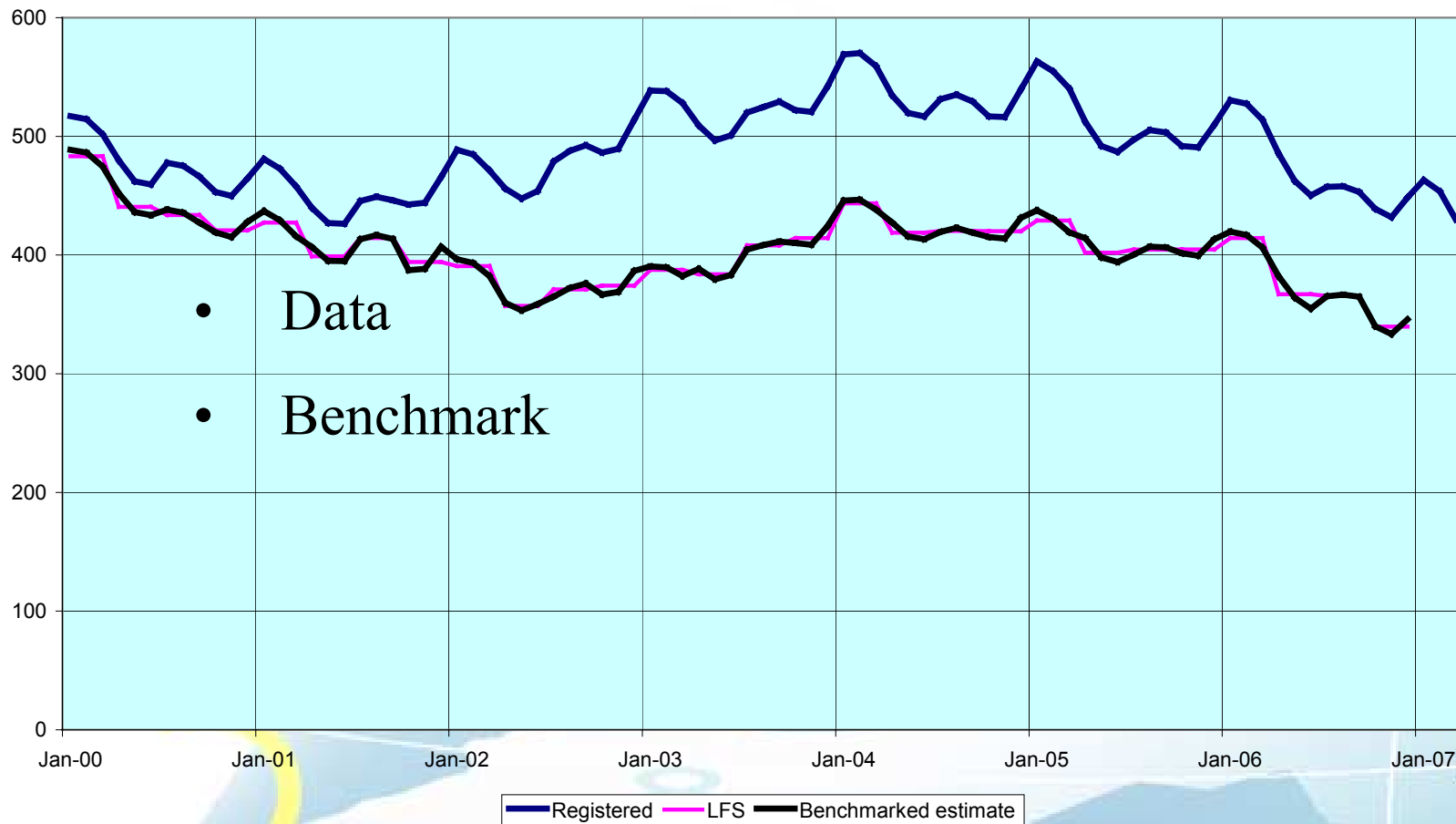
EA Registered and LFS time series

Czech Republic, Total Unemployment



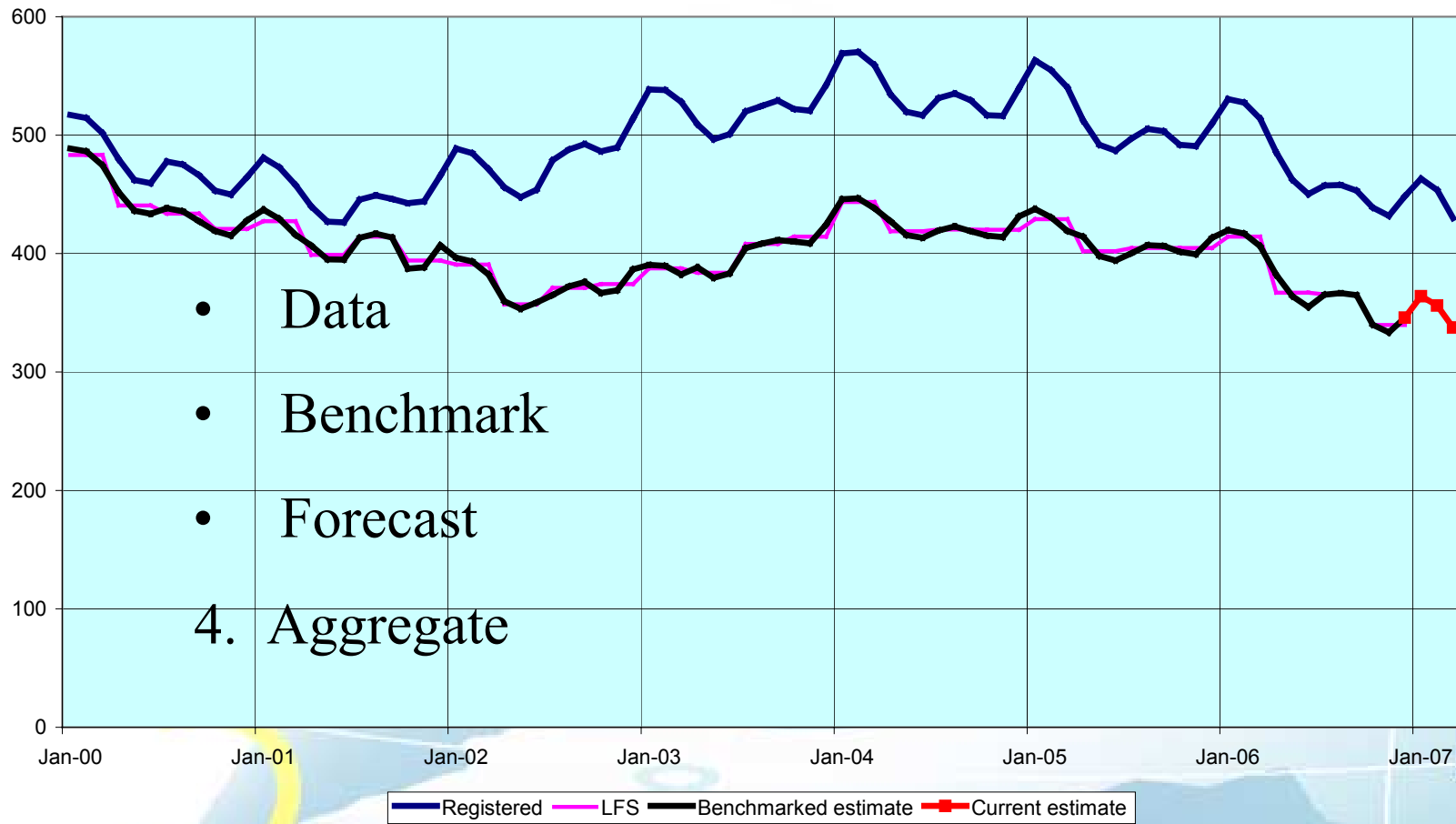
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EA Registered and LFS time series

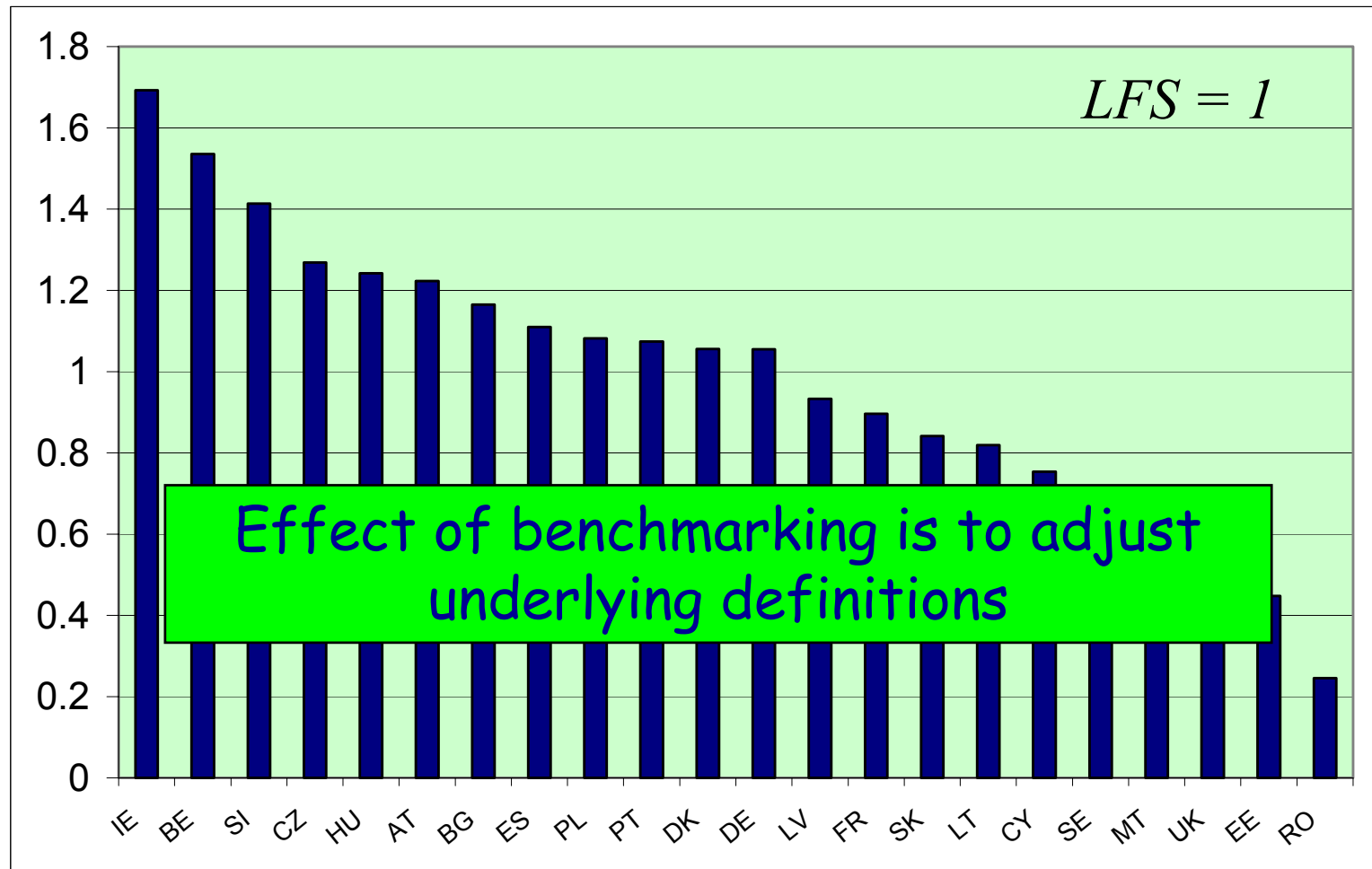
Czech Republic, Total Unemployment



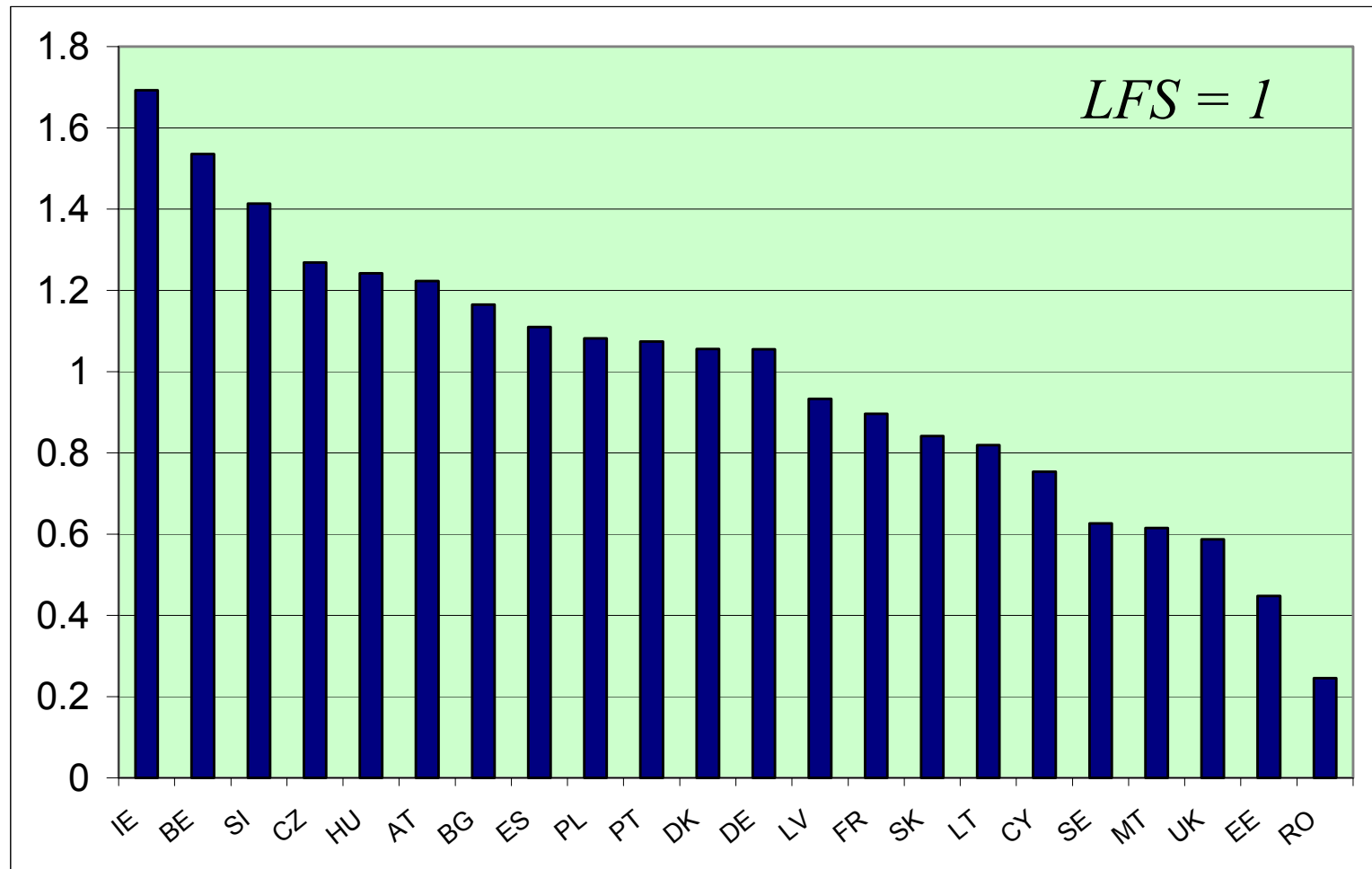
- Data
 - Benchmark
 - Forecast
4. Aggregate



Benchmarking Ratio of Registe'd / LFS (2006)



Benchmarking Ratio of Registe'd / LFS (2006)



2. Problems in Eurostat method

➔ Problems

- LFS not monthly and timely
- EA data not same definitions and methodology

➔ Consequence

- Infra-quarterly development is purely based on EA Registered Unemployment
- Most recent development is based on EA Registered Unemployment (-> Revisions)

3. LFS Characteristics

Labour Force Survey: LFS is a big survey

- Usually household interviews
- About 1.5 million persons covered per quarter
- Beyond labour status also: age, marital status, educations, nationality, duration of unemployment, hours worked, work outside normal hours, temporary or contract work, self-employed, seasonal workers, unpaid family workers, lay-offs, etc.
- Would be sufficient if monthly, timely, and perfect !!!
 - But it is not

3. LFS Characteristics

- ➔ Typical LFS problems (apart from frequency and timeliness)
 - Sampling effects
 - Sample selection (bias), sample size (variance)
 - Survey mode, response willingness, and non-response handling
 - Estimation/grossing-up procedures

3. EA data Characteristics

Is EA data perfect?

- ➔ Typical Employment Agencies characteristics
 - Willingness/incentive to register
 - ◆ Mean to find a job, but
 - Other means may be just as efficient
 - students, specialist areas, ...
 - mouth-to-mouth, news papers, internet, ...
 - Has a job, but may want a better job
 - Better pay, working conditions, ...
 - Part-time vs. full-time, ...
 - ◆ Money - unemployment and social benefits, but
 - Temporary lay-off (e.g. due to bad weather)
 - Not necessarily able to work (e.g. health)
 - Not necessarily willing to work (in general or in a specific period)
 - Timeliness and Stickiness

3. EA data Characteristics

Is EA data perfect?

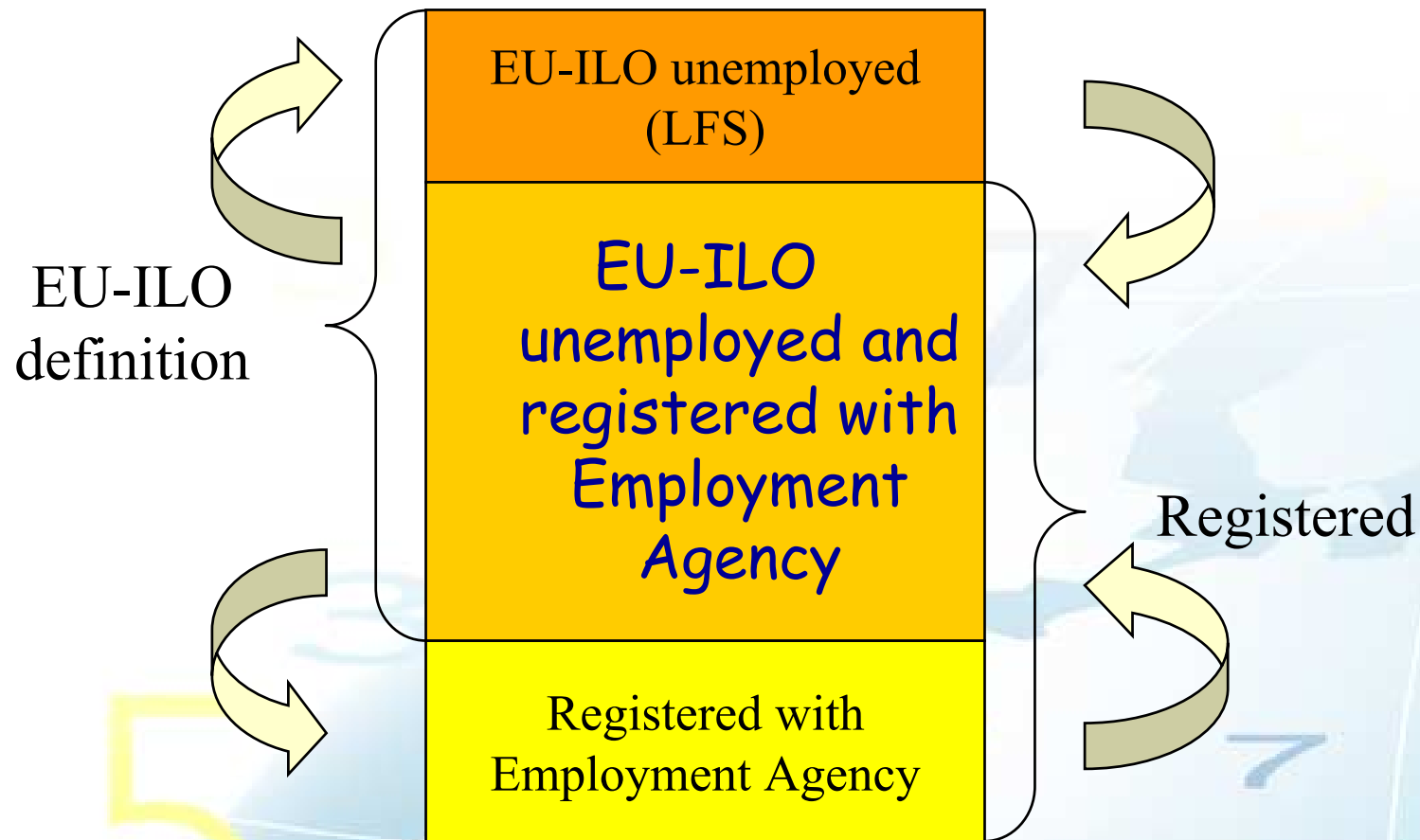
- Typical Employment Agencies characteristics
 - Willingness/incentive to register
 - ◆ Mean to find a job, but...
 - ◆ Money - unemployment and social benefits, but...
 - Timeliness and Stickiness
 - ◆ Register before unemployed (expect need)
 - ◆ Do not un-register when starting new job

3. Definition overlap

ILO unemployment
level
(LFS)

Registered with
Employment Agency

3. Definition overlap



4. Getting monthly EU-ILO unemployment rate right

Ideally apply EU-ILO definition using a Census, but not possible in practice!

Instead EA data used...

- At Macro-level: EA data can be as an (early) indicator/co-variable to support estimation of EU-ILO unemployment level (e.g. Eurostat)
- At Micro-level: EA data can be used for pre- or post-stratification (e.g. Nordic countries)

4. Way forward

→ Eurostat

- Making full use of Registers given the limitations
 - ◆ Legal limitations: No access to micro-data of Registers, only macro results
 - ◆ Practical limitations: NA
- May improve the modelling that links Register data with LFS data
- All-in-all: Cannot improve significantly

4. Way forward

→ Member States

- Produce and deliver monthly LFS data with aim of compiling better EU aggregates
 - ◆ Sample design allow monthly estimates
 - ◆ Publication (???)
- Where access to micro-data of Registers, then do as Nordic countries (pre- and post-stratification)
- (General trend: More usage of Registers)

5. Conclusion

- ➔ Shown that Registers produce reliable information for the purpose that they are designed for
- ➔ Comparable statistics may need specific Surveys and cannot rely on general purpose Registers
- ➔ Harmonised Monthly EU-ILO Unemployment rates
 - EA Registers may improve timeliness of LFS estimates but cannot replace survey results
 - If access to micro-data, then may improve stratification of a survey
- ➔ Way forward
 - Monthly surveys (LFS) with appropriate sample design
 - Supplemented by Register information for stratification purposes where possible