EU Twinning Project on Statistics in Jordan

دائرة الإحصاءات العامة
Department of Statistics

Twinning Project

Strengthening the capacity of Jordan's Department of Statistics

Amman, Jordan

19th – 22nd June - 2023

Purpose of the activity

1. **Examine the quality of administrative data**
2. Organize and build register based on administrative data taking outset building a population register and an address register

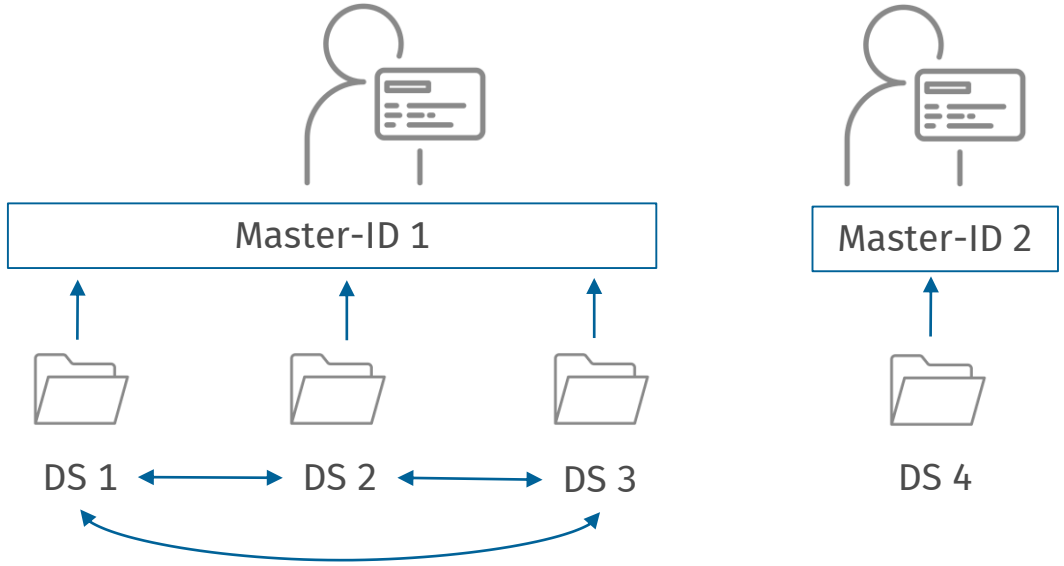
Examine the quality of administrative data

- Expected output
  - best practices for integrating administrative data in the statistical process
  - practical experiences in evaluating quality of administrative data

Internal quality review of registers

Multiple case review

- ✓ Consolidation of data sets that represent one natural person under one master ID
- ✓ Identification via personal identifiers
- ✓ Potentially multiple cases:
  - Twins with similar names
  - Technical duplicates
  - **True duplicates**



Optimisation of register quality

Standardistation of variables

- ✓ Pre-assessment of formats in each register
- ✓ Application of standard formats for personal identifiers, e.g.
  - Upper/lower case letters
  - ISO-Coding of nationality and place of birth
  - Gender (m/w)
  - Date of birth (DDMMYYYY)

Feature	Original	Standardised
Name	Doktor Max Muster	dr max muster
Place of birth	Deutschland	DEU
Place of birth	Jordanien	JOR
Date of birth	19Juni1976	19061976

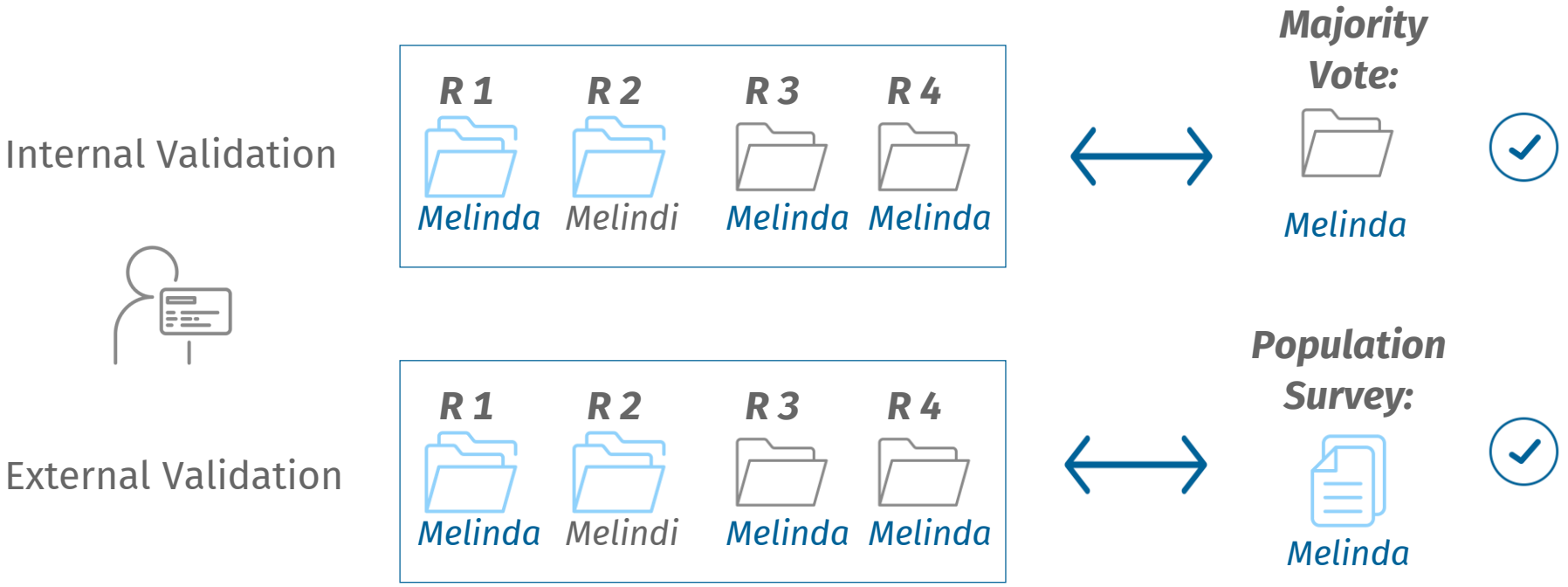
Quality evaluation of secondary registers via data analysis and institutional assessment

Quality Evaluation

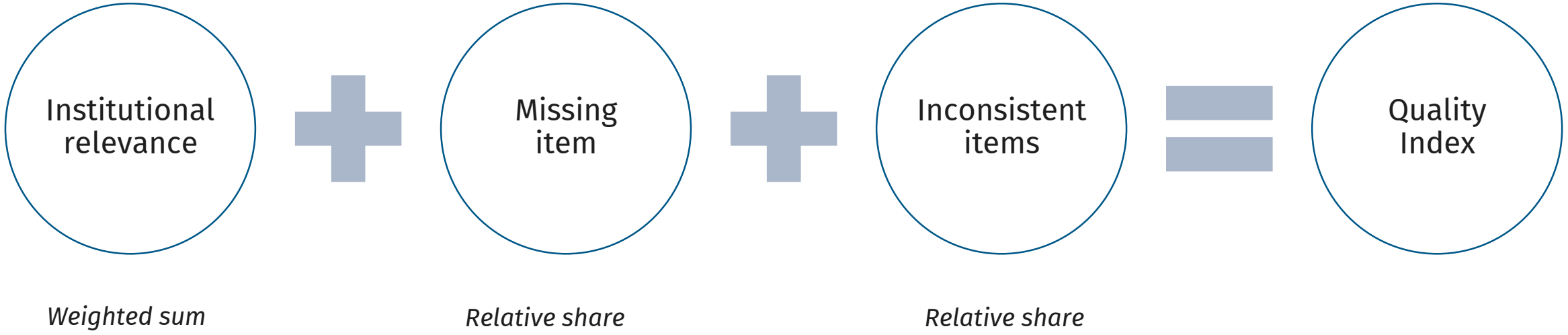
- ✓ Institutional assessment
- ✓ Data quality
- ✓ Comparison with external reference data*

Measure	Details	Quality Index
Institutional	• Legal framework of data collection • Standards of database handling • …	• y/n assessment of each feature • Weigthed average
Population Coverage*	• Number of register entries per individual	• Coverage and non-coverage shares of subpopulation
Data Quality	• Missing information • Inconsistent information*	• Share of missing for each characteristic/register • Share of inconsistent entries for each characteristic/register

Example: Internal vs. external assessment of register quality



Example: Quality Indexing for each feature and each register



Weighted sum

Relative share

Relative share

Example: Institutional relevance

Questions	Level of measurement
Data Historiograph	
Can we detect data changes over time? [Detect Changes]	dichotomous
Is the information available for the cut-off date? [Cut-off date]	dichotomous
Definitions	
Are the data definitions for the attribute compatible to those of Destatis? [Definitions]	dichotomous
Administrative Purpose	
Is the attribute relevant for the data source keeper? [Relevance]	dichotomous
Does a legal basis for the attribute exist? [Legal basis]	dichotomous
Data Treatment	
How fast are changes edited in the register? [Timeliness]	ordinal
Are the data verified on entry? [Administrative Control]	dichotomous
Are technical input checks applied? [Technical Control]	dichotomous
How good is the data management, i.e. ex post consistency checks? [Data management]	ordinal

Example: Institutional relevance

Questions	Weight ϑ	Register 1			Register 2		
		response	α	α * ϑ	response	α	α * ϑ
Can we detect data changes over time?	1	Yes	1	1	Yes	1	1
Is the information available for the cut-off date? (reference date)	2	Yes	1	2	No	0	0
Are the data definitions for the attribute compatible to those of Destatis?	2	Yes	1	2	Yes	1	2
Is the attribute relevant for the data source keeper?	4	No	0	0	Yes	1	4
Does a legal basis for the attribute exist?	1	Yes	1	1	Yes	1	1
How fast are changes edited in the register?	3	Immediate	1	3	Immediate	1	3
Are the data verified on entry?	2	Excellent	1	2	Excellent	1	2
Are technical input checks applied?	2	Excellent	1	2	Excellent	1	2
How good is the data management, i.e. ex post consistency checks?	4	Excellent	1	4	Sufficient	0,67	2,67
Sum	21			17			17,67
Quality Indicator:				**0,81**			**0,84**

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Organizing and building registers

- Preparation to building an population register and an address register
- Combining different data sources
  - Usage of different data sources to fill the missing features/items from other sources
- Identification of features to link different data sources
- Example to test the coverage of the data sources

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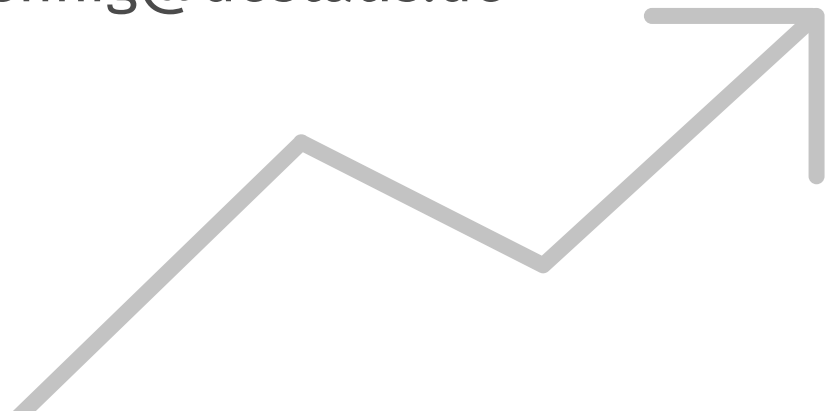
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