

gesis

Leibniz Institute
for the Social Sciences



Computer Assisted Measurement and Coding of Education in Surveys (CAMCES):

A new set of survey tools



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Outline

- Project background and aims
- Components of the CAMCES tool and demo
- Empirical evaluations
- Outlook

Project background I

Education: most central background variable, but very difficult to measure cross-culturally

- Nationally:
 - ▶ Increasing numbers of educational qualifications
 - ▶ Migration results in foreign qualifications

- Cross-nationally:
 - ▶ Idiosyncratic institutional differences across countries
 - ▶ Translation of names of qualifications impossible
 - ▶ Education classifications difficult to implement, inconsistent across surveys (Ortmanns & Schneider 2015)

Project aim: provide a new tool

- consisting of survey measurement instruments (brief question module), database and survey interface
- that enable accurate, detailed and cross-nationally comparable measurement, coding and harmonization of highest educational qualification obtained
- in computer-assisted surveys (where content can be shown visually to respondents, i.e. CAP/SI, CAWI)
- covering (at least) all European countries.

Components of the CAMCES tool

The CAMCES tool

- Short question module (intro, country, education q)
- Development of two interfaces:
 - Combo-Box: almost looks like text field of open question, search in underlying database, suggestions are shown while you type
 - Search Tree: looks like list of response categories, some entries can unfold – ,nested show card’, used as fall-back
- Loops available to indicate more than one qualification; other optional questions

Combo Box (CB)

- What is your *highest* formal educational qualification?
 - Please type in **Dutch** the name of the qualification.
 - Do **not** type the field of study or the occupation.
 - Pick the **best match**.



Search



Bach

Bachelor - Hoger beroepsonderwijs - HBO

Bachelor - Universiteit / Wetenschappelijk onderwijs - WO

Ambachtsschool

Search Tree (ST)

- What is your *highest* formal educational qualification?



CAMCES Database

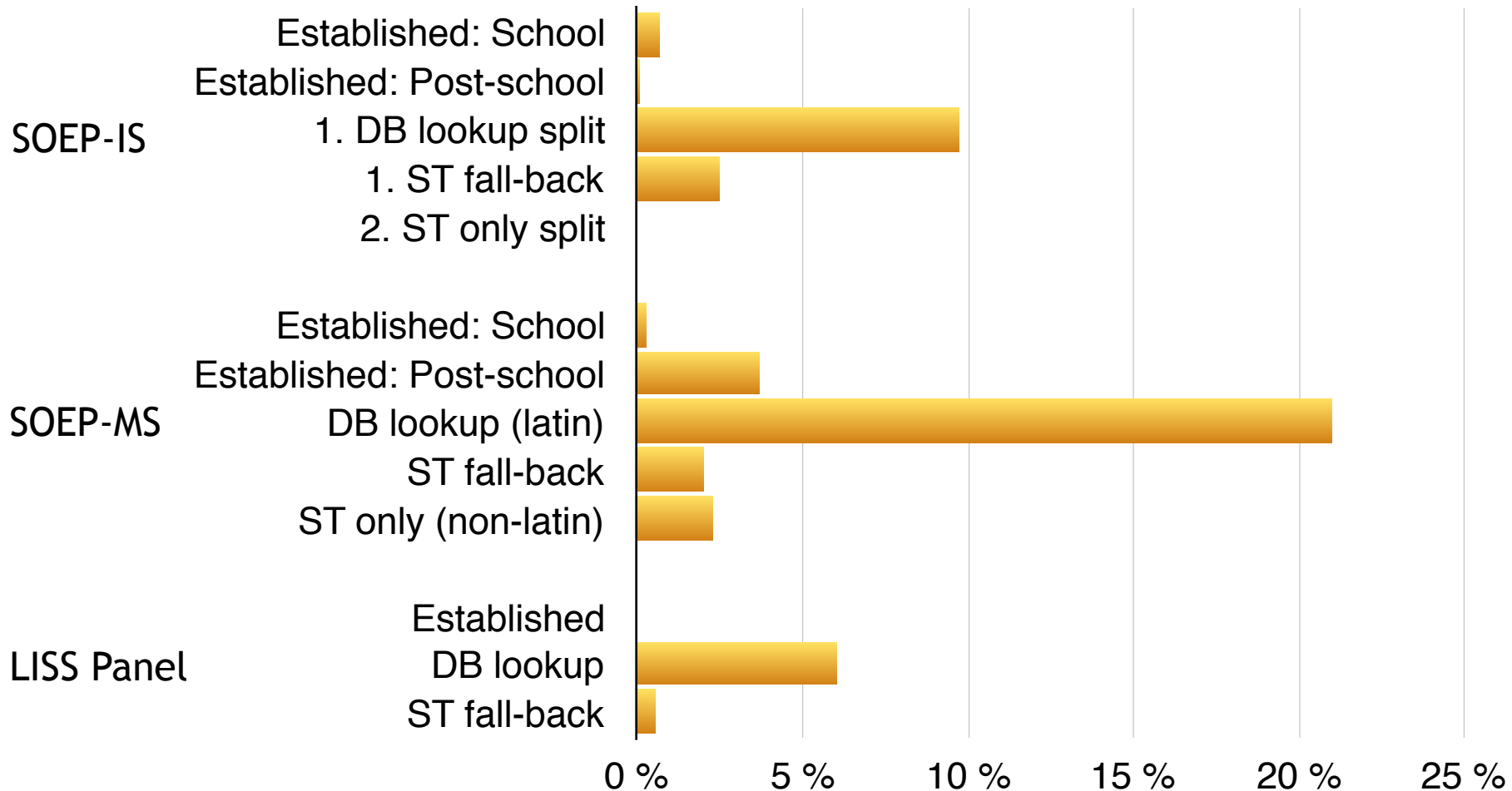
- Contexts (countries, regions/languages) of education
- Historical and current qualifications, including ST structure and links to classifications
- “Synonyms”
 - ▶ more general and more specific terms to improve matching
 - ▶ linked to one or more qualifications
- Education classifications for harmonization

Empirical evaluation in pilot studies

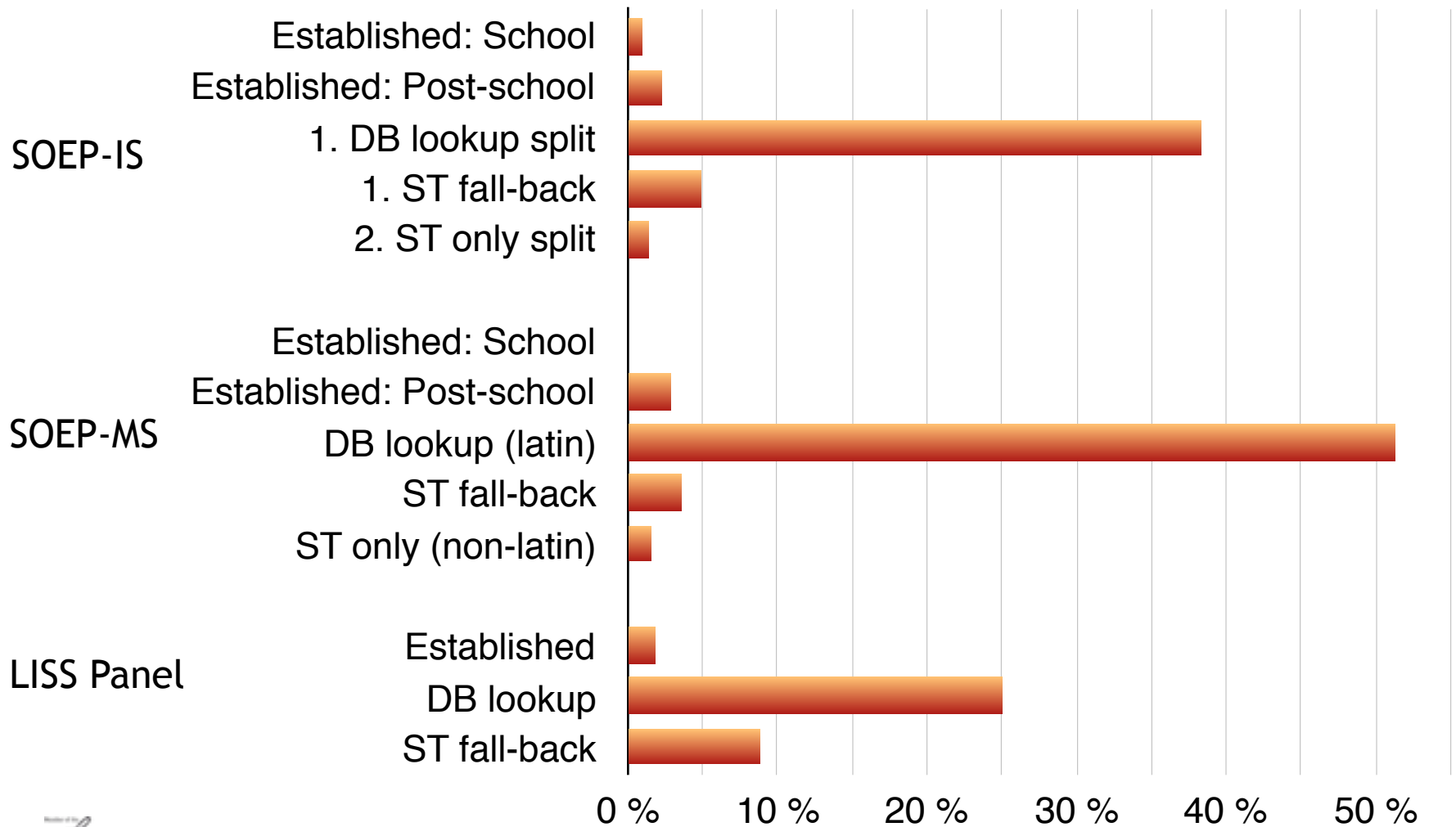
Empirical input and studies

1. Expert workshops (2013, 2014, 2016)
2. Focus groups with SOEP interviewers (2014) - v0
3. Two cognitive interview studies:
 - ▶ Cross-cultural, with eye-tracking, DE (2015) - v1
 - ▶ Think aloud, Venezuela (2016) - v2
4. Three CAPI/CASI Pretest/Pilots, DE - v1:
 - ▶ Pretest for SOEP Migrant Sample (2014)
 - ▶ **SOEP Innovation Sample, split ballot (2014)**
 - ▶ **SOEP Migrant Sample, i.e. cross-cultural (2015)**
5. CAWI Pilot:
 - ▶ **LISS Survey (NL), split ballot (2016) - v2**

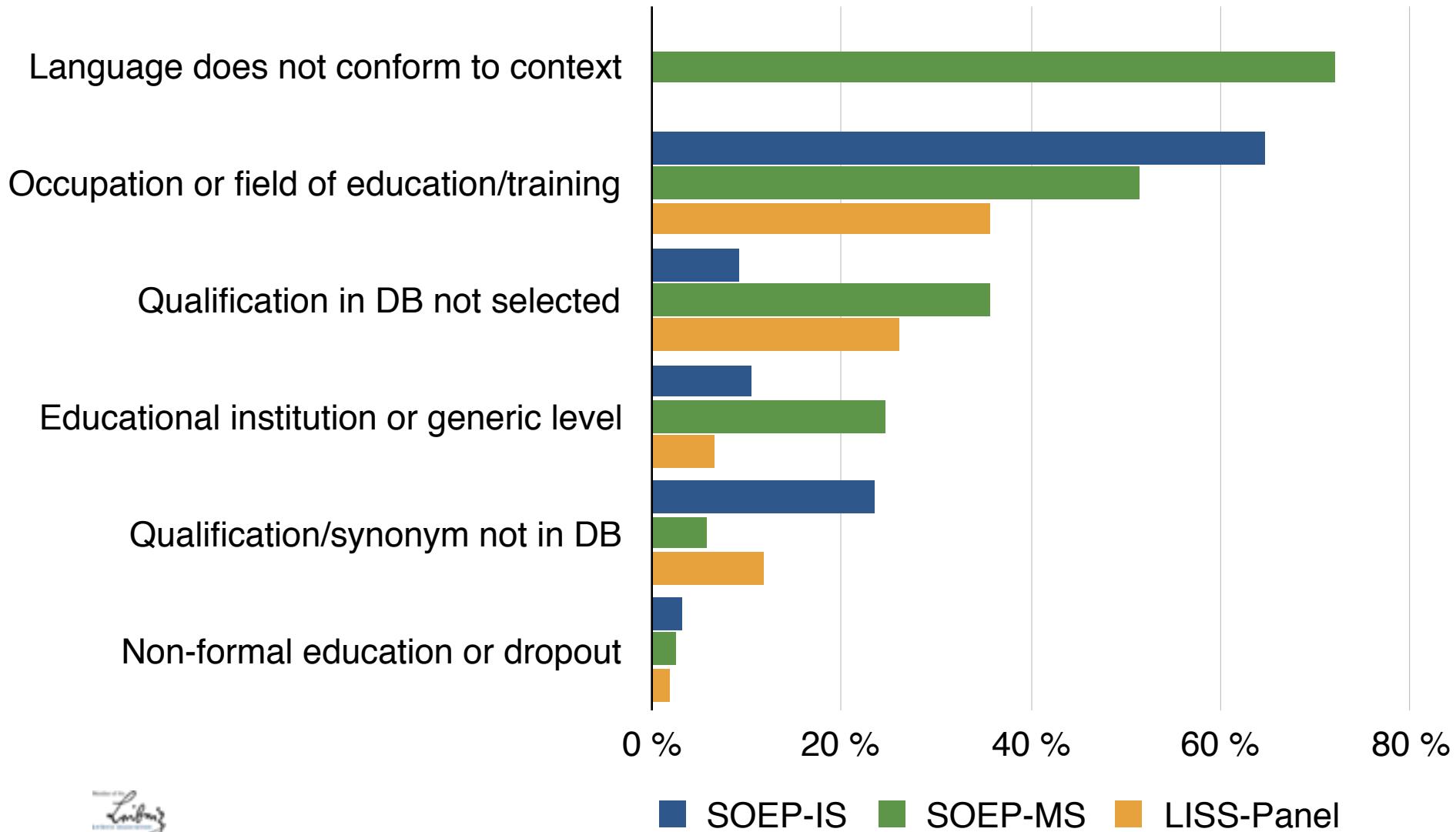
% Item nonresponse (no answer, blank)



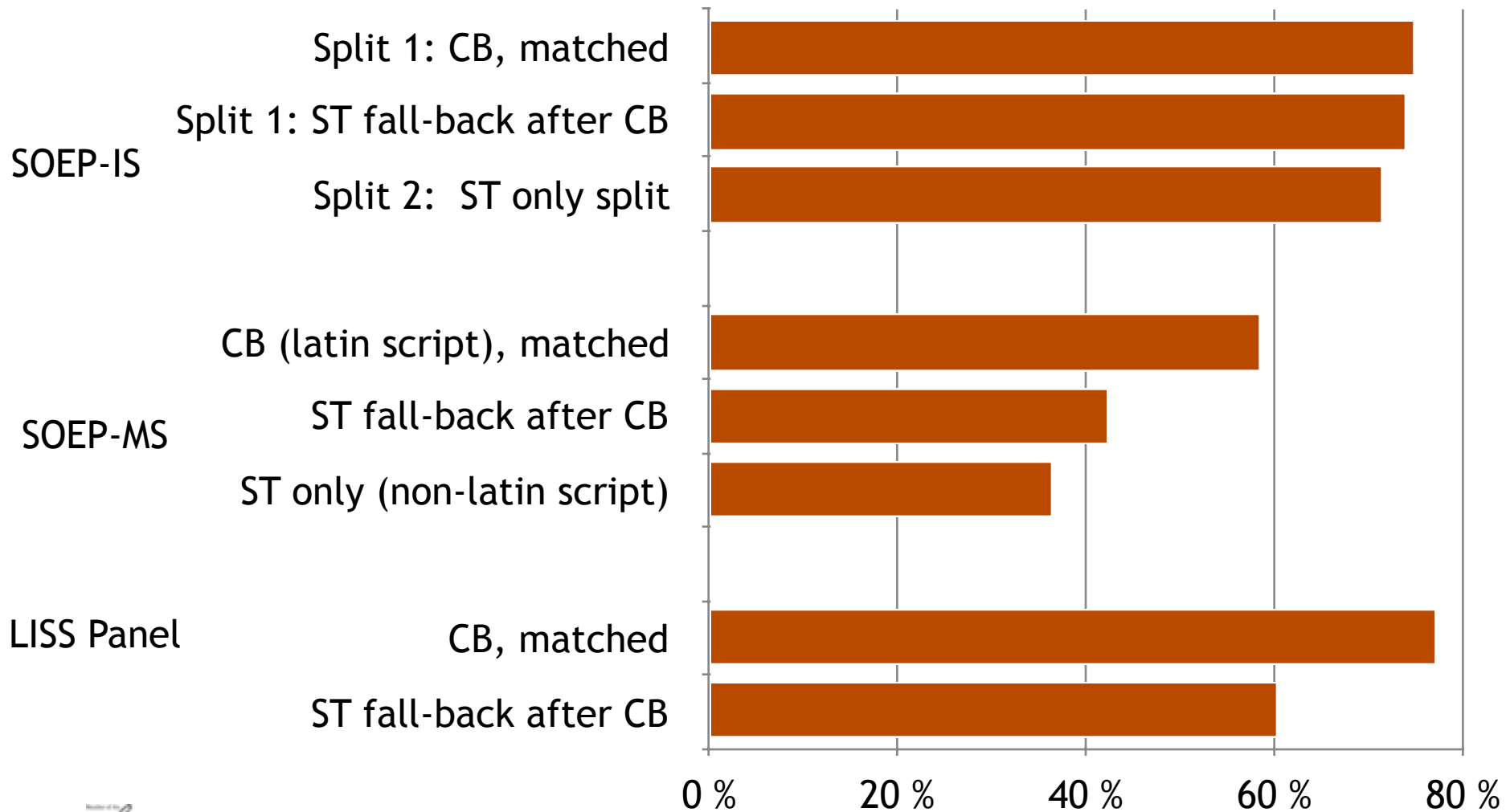
% other/not automatically coded



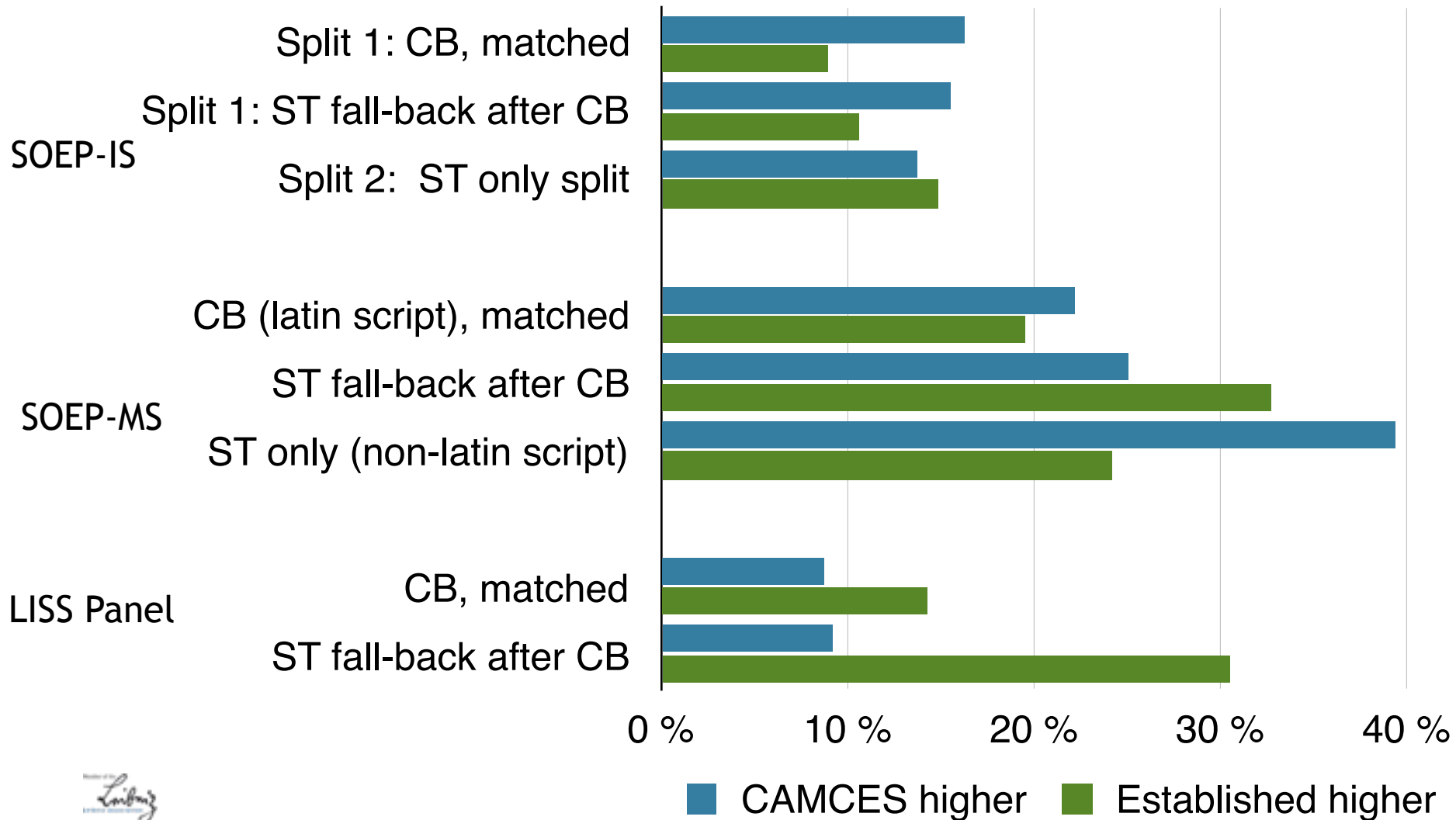
Reasons for non-matching CB entries



% consistently coded cases compared to established measures



% *inconsistently* coded cases compared to established measures



Outlook

Future developments

- SERISS project, we participate in WP8 on socio-economic indicators and questions in surveys
 - ▶ Web portal will host CAMCES tools already
 - ▶ Extending database by adding non-European countries
 - ▶ Adding concept “Fields of education and training”

- Increasing need for adequate education data for migrants, especially recent refugees
 - ▶ SOEP refugee sample 2017?

Benefits of CAMCES Tools

- Can be implemented in CAI surveys
- Little item nonresponse if ST used as fallback
- Consistent with traditional measures (~80%)
- Efficiency and consistency through standardization of data collection and harmonization
- Better coverage of foreign, rare, and outdated qualifications
- More accurate information, flexibility and analytic value through detailed measurement and coding
- Database useable as standard resource for ex-post harmonization

Further materials

Ideas for further extending the project

- Extension to measure related concepts:
 - ▶ Educational transitions and educational career
 - ▶ Dropout
 - ▶ Educational institutions
- Enrich database by relevant related information:
 - ▶ Educational programs and their durations
 - ▶ Educational institutions
- Relationship to questionnaire development, documentation and translation tools?

Introduction questionnaire text (example: UK)

“Now some questions about your formal education. This covers schooling, higher education and officially recognized vocational education. Formal education *excludes* on-the-job training, training programmes for the unemployed (e. g. through a Jobcentre or the Department for Work and Pensions), as well as continuing training lasting less than 6 months (full-time).”

Context - all respondents

- Where did you obtain your highest formal educational qualification?
 - Survey country - context 1
 - Survey country - context 2
 - ...
 - Abroad
- Example:
 - United Kingdom - England, Wales and Northern Ireland
 - United Kingdom - Scotland
 - Abroad

Detailed context for respondents educated abroad

- Where did you obtain your highest formal educational qualification?

Morocco
Morocco
Nepal
Netherlands
New Zealand
Nicaragua
Nigeria
Norway
Oman
Pakistan
Panama
Paraguay
Peru
Philippines
Poland