

Using Latent Class Analysis for testing the
equivalence of multi-item scales across data from
different survey programs.
The example of National Identity types.

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„ONBound“: Old and New Boundaries - National Identities and Religion

- <https://www.onbound.international>
- Funded by Deutsche Forschungsgemeinschaft, Grant No. 316798296
- Researchers from **GESIS** and **Univ Düsseldorf**, in cooperation with **Umea University** and **University of Milan**
- Compiling international surveys (1970 onwards) and macro data (1945 onwards) on identities, religion and religiosity, and some political attitudes and behaviors

The ONBound Project, ctd...

- Current internal dataset version:
 - Micro: 5.8 mio cases, 269 samples, 162 countries, around 150 concepts/measures, several 1000 source variables.
 - Macro: 21 relevant data sources, dozens of topical areas, 1462 source variables
 - Original data on constitutions worldwide coded by Uni Düsseldorf team

- All material (linkage and harmonisation scripts) will be shared for public use in 2020!

What is this presentation about?

- Substantively: Classifying countries by Ethnic and Civic National Identity types
 - Eg., **using multiple sources**, classify all European countries, and check for time trends

- But before that:

Are the results of a national identity battery stable in comparison to data for the same countries but from other survey programs?

Civic and Ethnic Types

- **Civic type**
 - acquired, subjective, voluntaristic criteria prioritised
 - *ius solis* and “Staatsnation” at institutional level
- **Ethnic type**
 - inherited or ascribed criteria prioritised
 - *ius sanguinis* at institutional level, essentialist “Kulturnation”
- **Diverging results**, especially with micro-level data – internal heterogeneity of countries matters!
- Operationalisations questioned (cf. Janmaat 2006)
- Almost everyone uses Factor Analysis
- ...and finds *positive* correlations between ethnic and civic factors.

Research Question and Approach

Are the results of a national identity battery consistent in comparison to data for the same countries from another survey program?

- Conduct Latent Class Analyses to establish number and substance of national identity types (classes)
- Separate and pooled analyses for assessing cross-sample variability

Data

- Three survey sources: ISSP, European Values Study, IntUne
- 8 common countries in ISSP 2003&2013, IntUne 2007&2009, European Values Study 2008&2017
- Full pooled file has 66,876 cases, nested within 6 non-independent samples
- **Similar, but not fully identical item batteries**

Q. 2. Some people say that the following things are important for being truly [NATIONALITY]¹. Others say they are not important. How important do you think each of the following is... (Please, check one box on each line)

ISSP 2013

	Very important	Fairly important	Not very important	Not important at all	Can't choose
a. to have been born in [COUNTRY]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. to have [COUNTRY NATIONALITY] citizenship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. to have lived in [COUNTRY] for most of one's life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. to be able to speak [COUNTRY LANGUAGE]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. to be a [religion]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. to respect [COUNTRY NATIONALITY] political institutions and laws	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. to feel [COUNTRY NATIONALITY]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. to have [COUNTRY NATIONALITY] ancestry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SHOW CARD 79 – READ OUT AND CODE ONE ANSWER PER LINE

Q79 Please indicate to what extent you agree or disagree with each of the following state-ments regarding immigrants living in your country:

		agree strongly	agree	neither agree nor disagree	disagree	disagree strongly	DK	NA
v274	Because of the number of immigrants in [COUNTRY], I sometimes feel like a stranger	1	2	3	4	5	8	9
v275	Today in [COUNTRY], there are too many immigrants	1	2	3	4	5	8	9

SHOW CARD 80

Q80 Some people say the following things are important for being truly [NATIONALITY]. Others say they are not important. How important do you think each of the following is?

EVS 2017

		very important	quite important	not important	not important at all	DK	NA
v276	To have been born in [COUNTRY]	1	2	3	4	8	9
v277	To respect [COUNTRY]'s political institutions and laws	1	2	3	4	8	9
v278	To have [COUNTRY]'s ancestry	1	2	3	4	8	9
v279	To be able to speak [THE NATIONAL LANGUAGE] [NOTE: if more than one national languages, ask the national languages]	1	2	3	4	8	9
v280	To have lived for a long time in [COUNTRY]	1	2	3	4	8	9

Q13 People differ in what they think it means to be (NATIONALITY). In your view, how important is each of the following to be (NATIONALITY)?

(ONE ANSWER PER LINE)

IntUne

(READ OUT - ROTATE)	Very important	Somewhat important	Not very important	Not at all important	DK (SPONTANEOUS)	Refusal (SPONTANEOUS)
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1	To be a Christian	1	2	3	4	5	6
2	To share (NATIONALITY) cultural traditions	1	2	3	4	5	6
3	To be born in (OUR COUNTRY)	1	2	3	4	5	6
4	To have (NATIONALITY) parents	1	2	3	4	5	6
5	To respect (NATIONALITY) laws and institutions	1	2	3	4	5	6
6	To feel (NATIONALITY)	1	2	3	4	5	6
7	To master (COUNTRY LANGUAGE) (IF MULTILANGUAGE COUNTRY "to master one of the official languages of (OUR COUNTRY))	1	2	3	4	5	6
8	To exercise citizens' rights and duties	1	2	3	4	5	6

Wordings of 'Common' Items

	ISSP	EVS	IntUne
Intro	<i>Some people say that the following things are important for being truly [NATIONALITY]. Others say they are not important. How important do you think each of the following is...</i>	<i>Some people say the following things are important for being truly [NATIONALITY]. Others say they are not important. How important do you think each of the following is?</i>	<i>People differ in what they think it means to be (NATIONALITY). In your view, how important is each of the following to be (NATIONALITY)?</i>
BORNTRY	To have been born in [COUNTRY]	To have been born in [COUNTRY]	To be born in (OUR COUNTRY)
SPEAKLNG	To be able to speak [COUNTRY LANGUAGE]	To be able to speak [THE NATIONAL LANGUAGE]	To master (COUNTRY LANGUAGE)
HAVEANCS	To have [COUNTRY NATIONALITY] ancestry	To have [COUNTRY]'s ancestry	To have (NATIONALITY) parents
RESPLAWS	To respect [COUNTRY NATIONALITY] political institutions and laws	To respect [COUNTRY]'s political institutions and laws	To respect (NATIONALITY) laws and institutions

Possible Reasons for Study Differences

- Item wordings?
 - IntUne speaks of ‚Parents‘, not ‚Ancestors‘ – softer concept, allows ppl w. immigrated parents as real natives.
 - IntUne puts ‚law‘ before ‚institutions‘, leaves out ‚political‘
- Within-country changes over time?
- Neighborhood effects in questionnaire?
 - ISSP and IntUne batteries appear after quest. on belonging and own nationality, EVS 2017 after immigration!
- Different modes, sampling designs and fieldwork quality?
 - ISSP and EVS are largely F2F, IntUne is CATI except Hungary and Slovakia
- Weights?

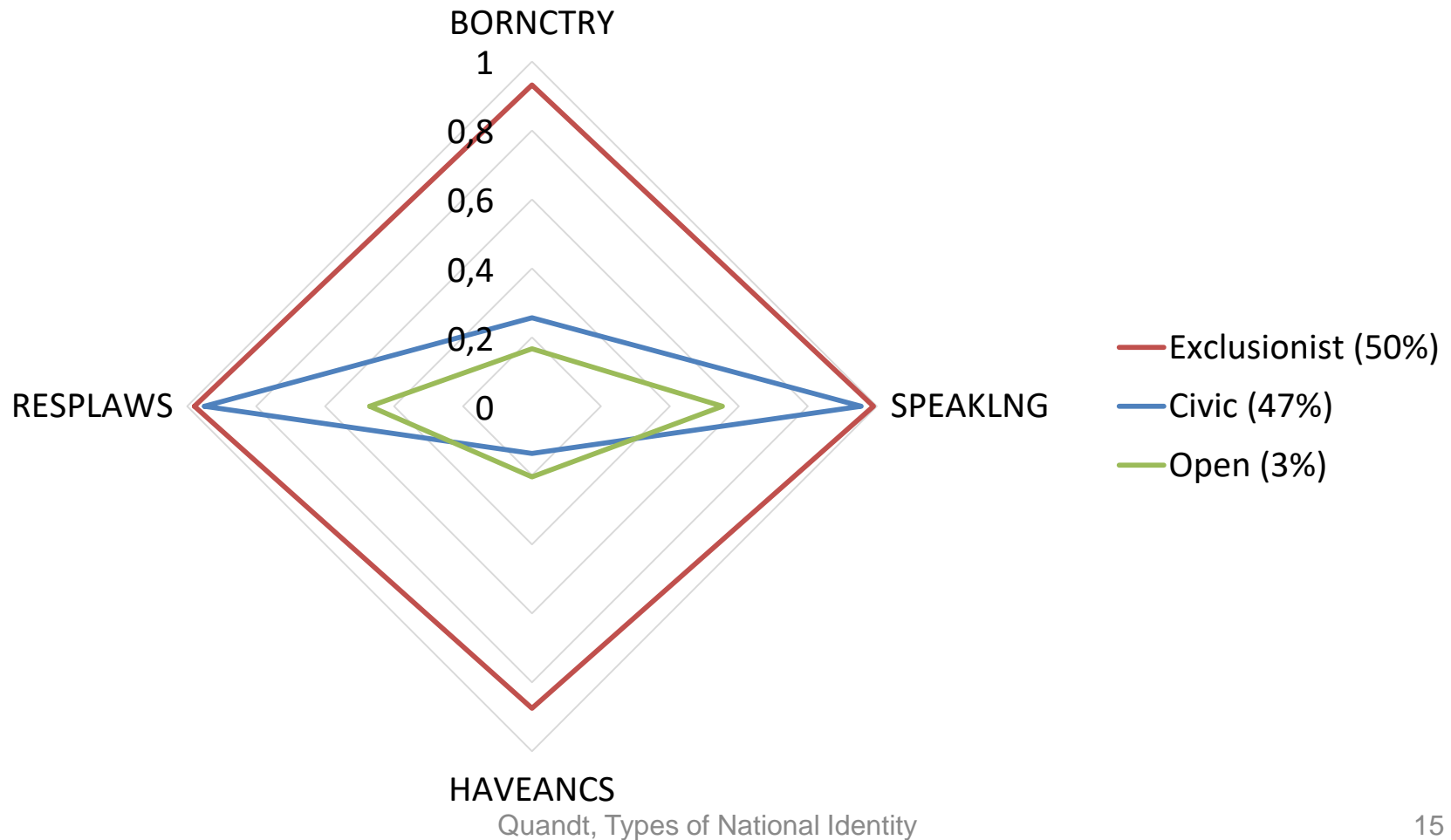
LCA Setup

- Using Latent Gold 5.1 with ‘syntax module’
- All N.I. items dichotomized
- **Multi-group models** (country as ‘conditional’ covariate)
- All sample sizes normalized to 1,000 cases by weighting
- Respondents’ citizenship or country of origin as covariate

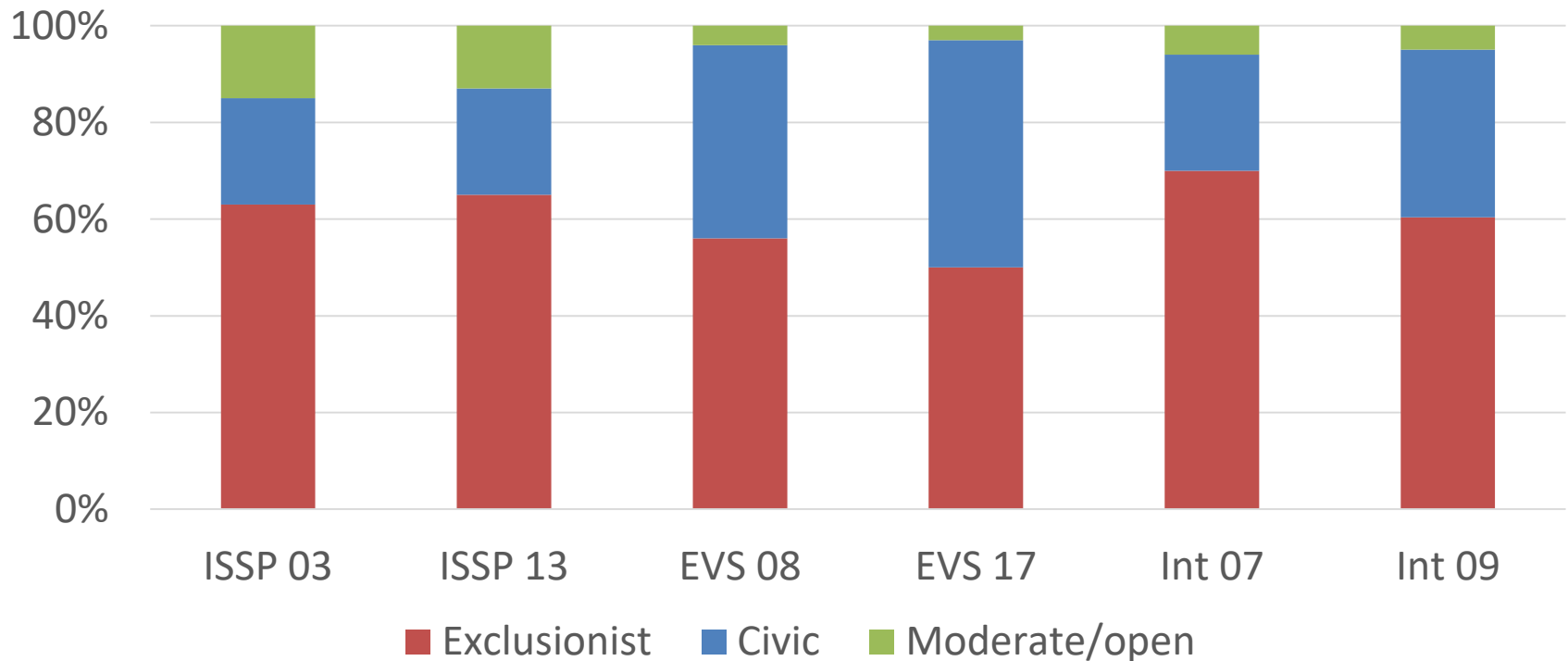
Measurement equivalence in LCA

- Test equivalence by making item parameters conditional on ‘country’
- Item->class relation parameters can be:
 1. homogeneous (intercept and slope equal across samples),
 2. partially homogeneous (intercept ‘free’, slope equal),
 3. or fully heterogeneous (intercept and slope ‘free’)
- For type building, **partial homogeneity** is good enough
 - Variable ‘difficulty’ of items in cross-sample comparison
 - Differences in certainty and ‘intensity’ of individual class membership may remain

Example: Class Profile for EVS 2017



Class Distr. by Survey & Time (6 Separate Estimates)

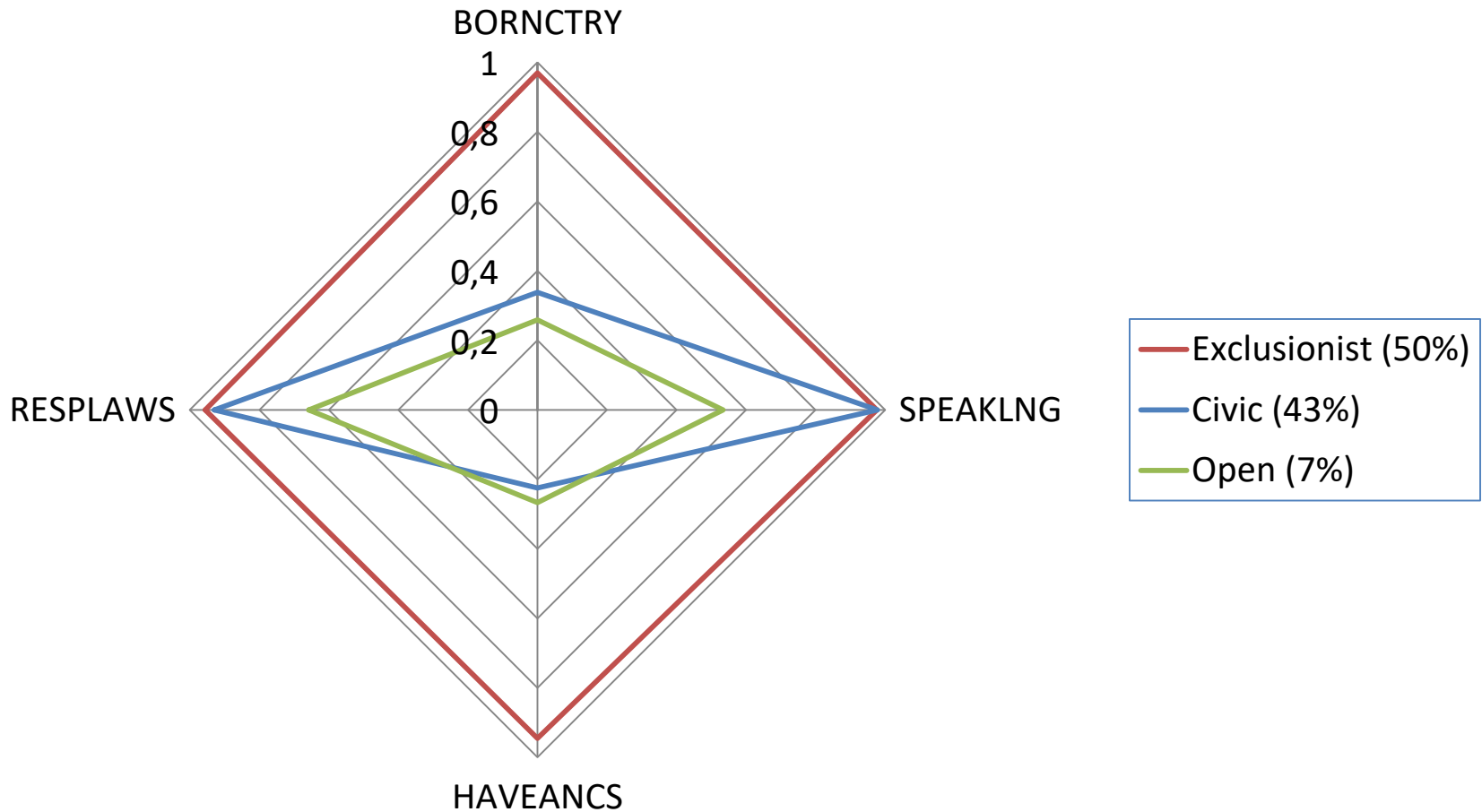


Adding the Time/Study Component

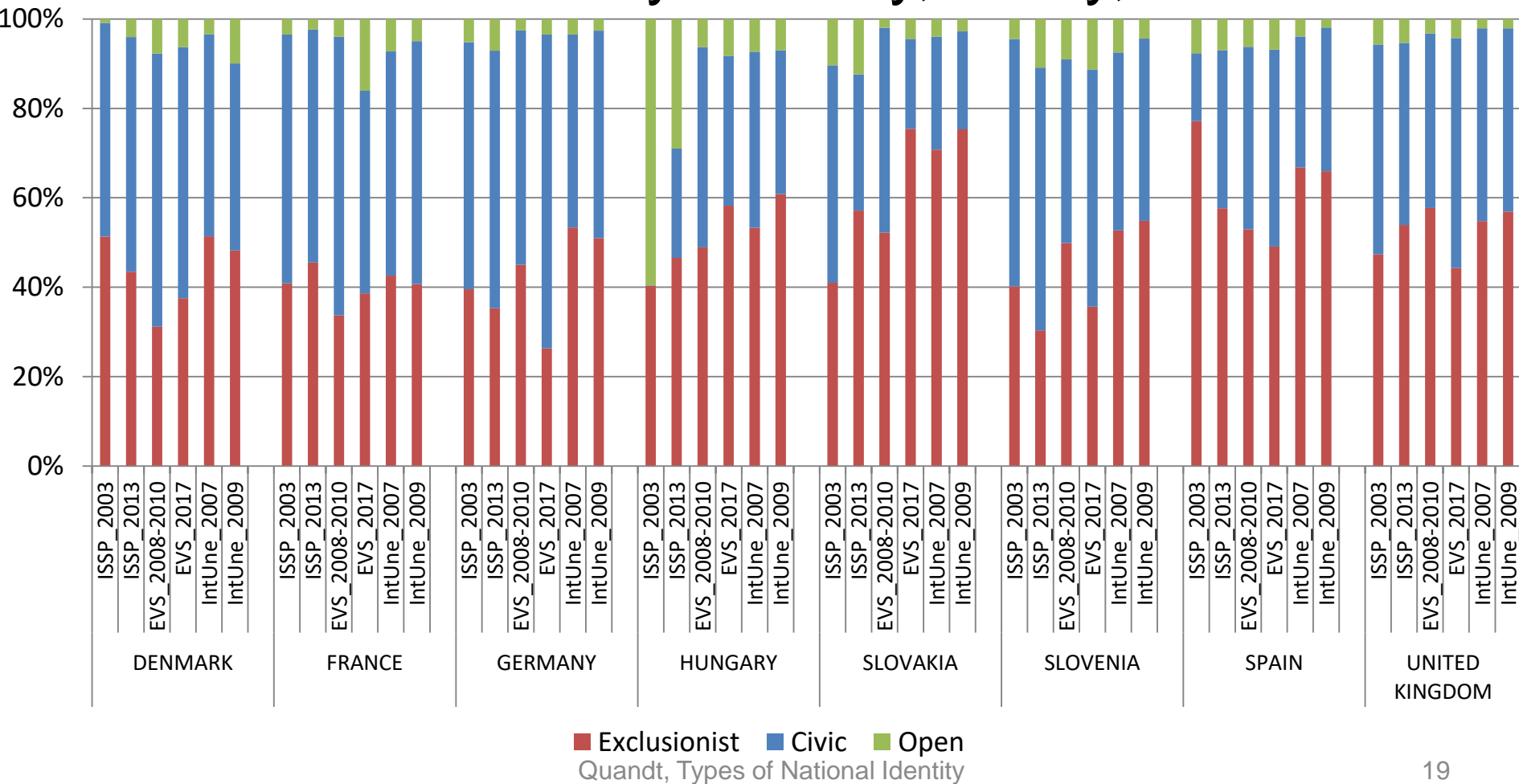
- ...very simply: we add a six-category covariate for the program-wave combinations, and again test for ‚conditionality‘ of item parameters, in a pooled sample

- Outcome:
 - Only structural equivalence across time/study axis

Class Profile for Pooled Estimate



Class Distribution by Country, Study, Time



Summary & Conclusions

- Substantive:
 - Exclusionist (Ethnic) vs. Civic types **can** be distinguished
 - 50% respondents in our sample applies ‘Exclusionist’ reasoning
 - Between-country class size differences can be substantial

- Methodological:
 - Class types consistent across all three studies!
 - Class sizes very variable, even within-study stability only for one of three studies

Conclusions?

- *If a multi-item scale is so sensitive to study-specific variations, how careful do we need to be with single-item measures?*

OR

- *Is the LCA approach robust enough to produce **reliable** class size macro-level point estimates for our purpose?*

OR

- *Is any of our data sources reliable enough to produce such reliable macro-level estimates?*