

Monitoring the Evolution and Benefits of Responsible Research and Innovation - MoRRI

Presentations MoRRI final event (D15) PART 2

Day 2 – Discussions on policy aspects

Final Event – Discussion on policy aspects

Date: 7 March 2018

Location: Fondation Universitaire – rue d’Egmont 11, Brussels

Presentations

- Clusters and indicators – Niels Mejlgaard

Clusters and indicators

Niels Mejlgaard, Aarhus University

Final Event – Discussion on policy aspects

Date: 7 March 2018

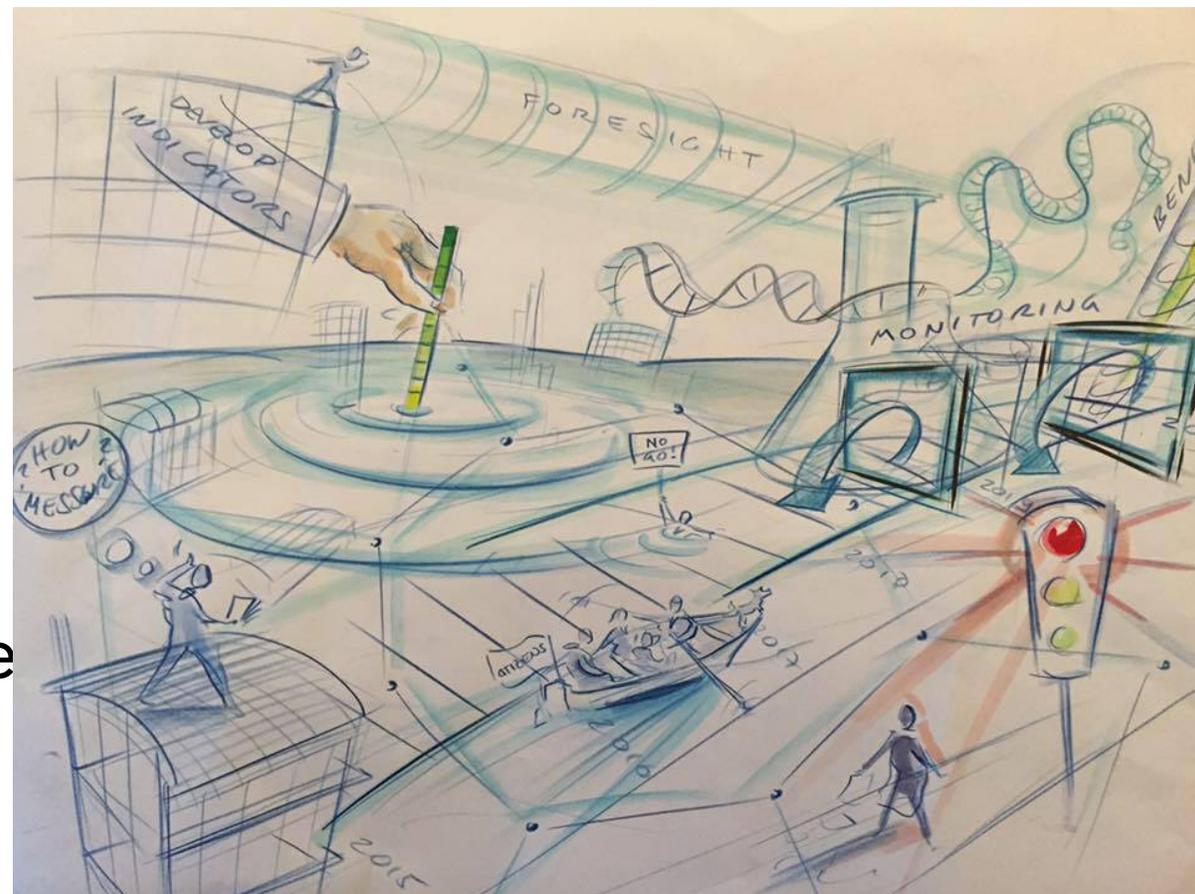
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MoRRI indicators

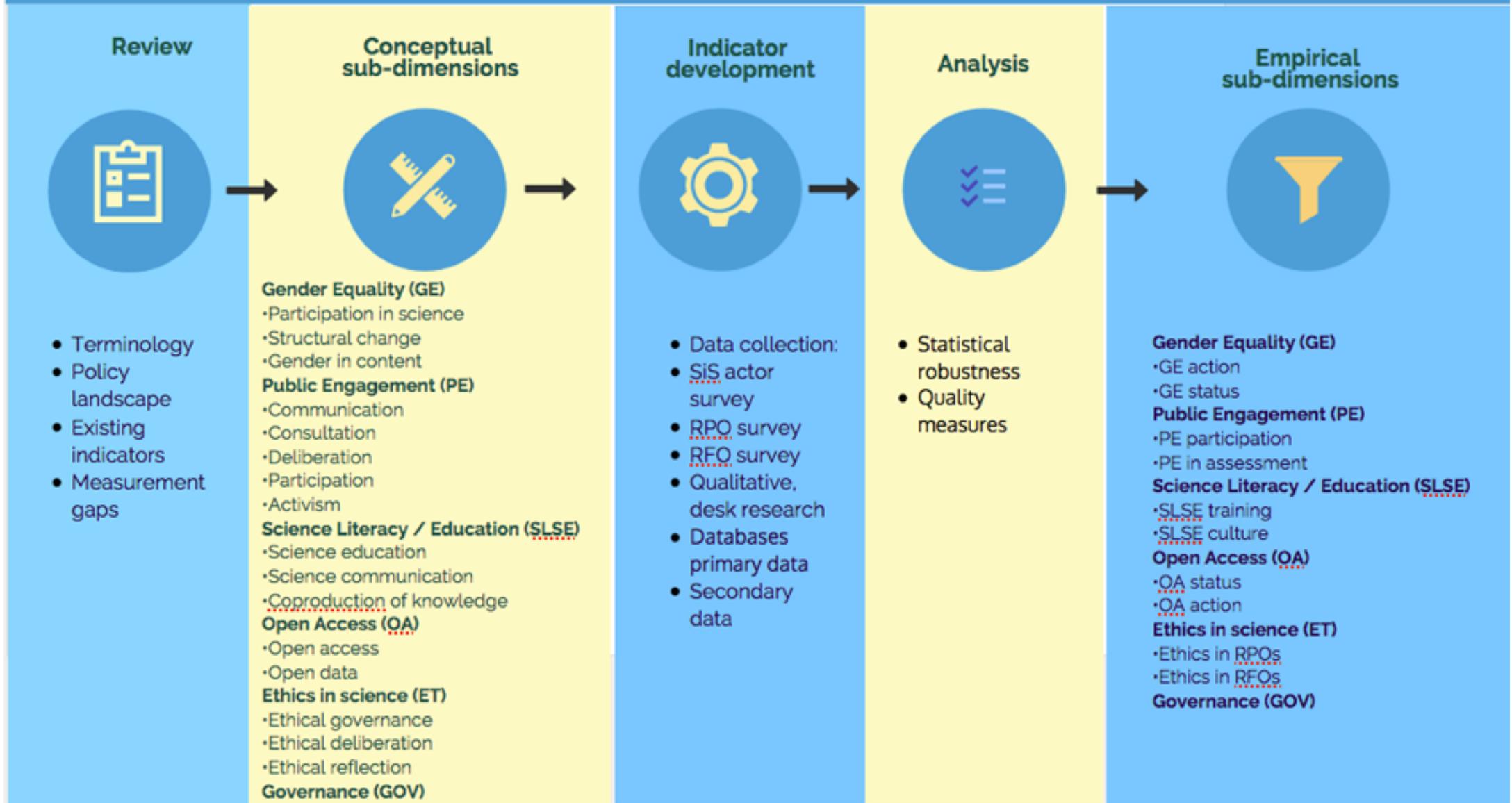
- Conceptual and empirical work aimed at developing indicators and data collection approaches for monitoring RRI across 28 EU MS
- Provide opportunities for international learning by mapping the state-of-play and trajectories at national level
- Report aggregated measures, but builds in parts on data at the organisational- and individual level

Core questions related to RRI indicators

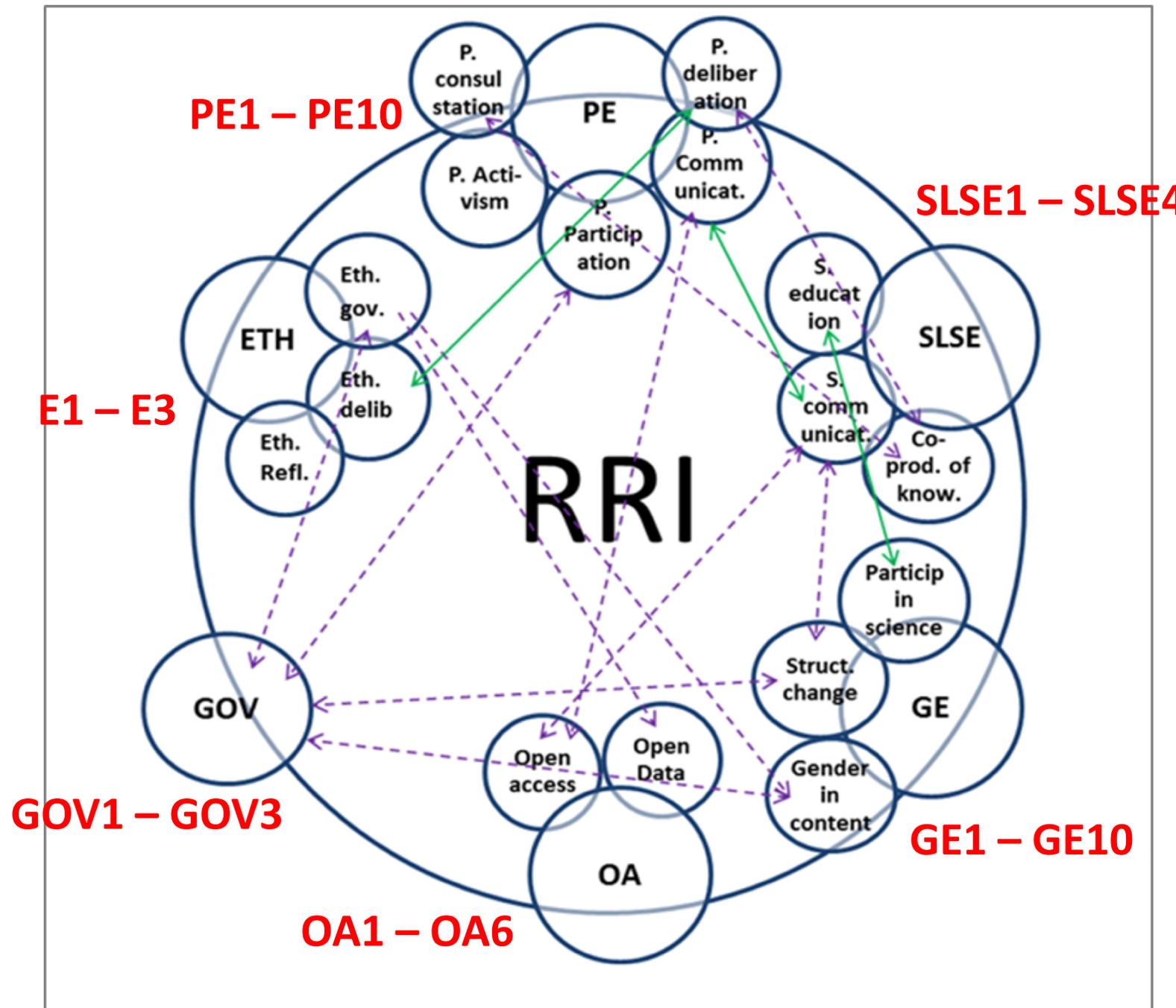
- Coverage
 - Countries and R&I actors
- Conceptual relevance
- Aggregation
 - Balance of macro, meso, micro
- Sustainability
 - Time series (historical and future)
- Feasibility
- Robustness



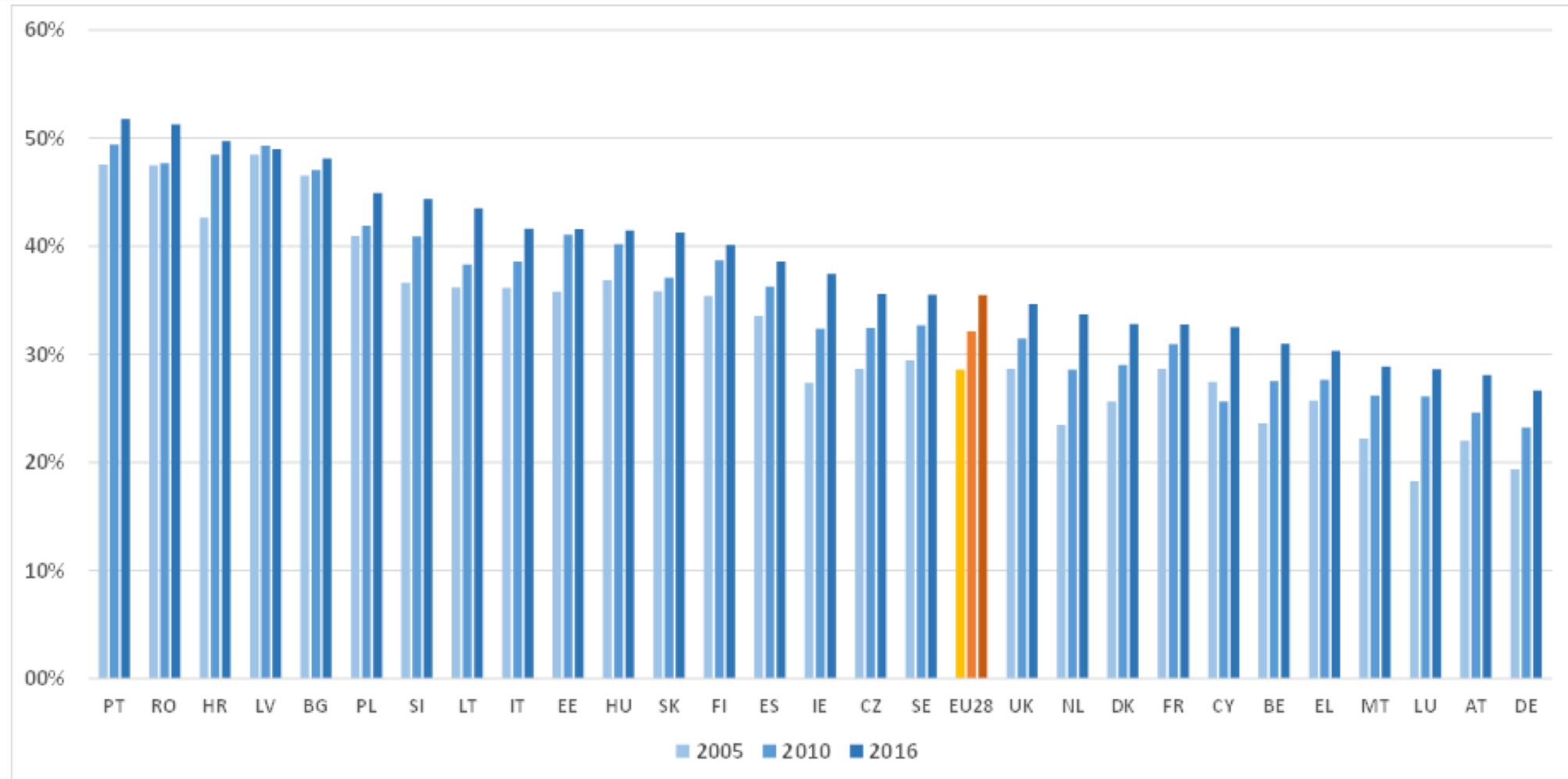
Step-wise approach towards RRI indicators



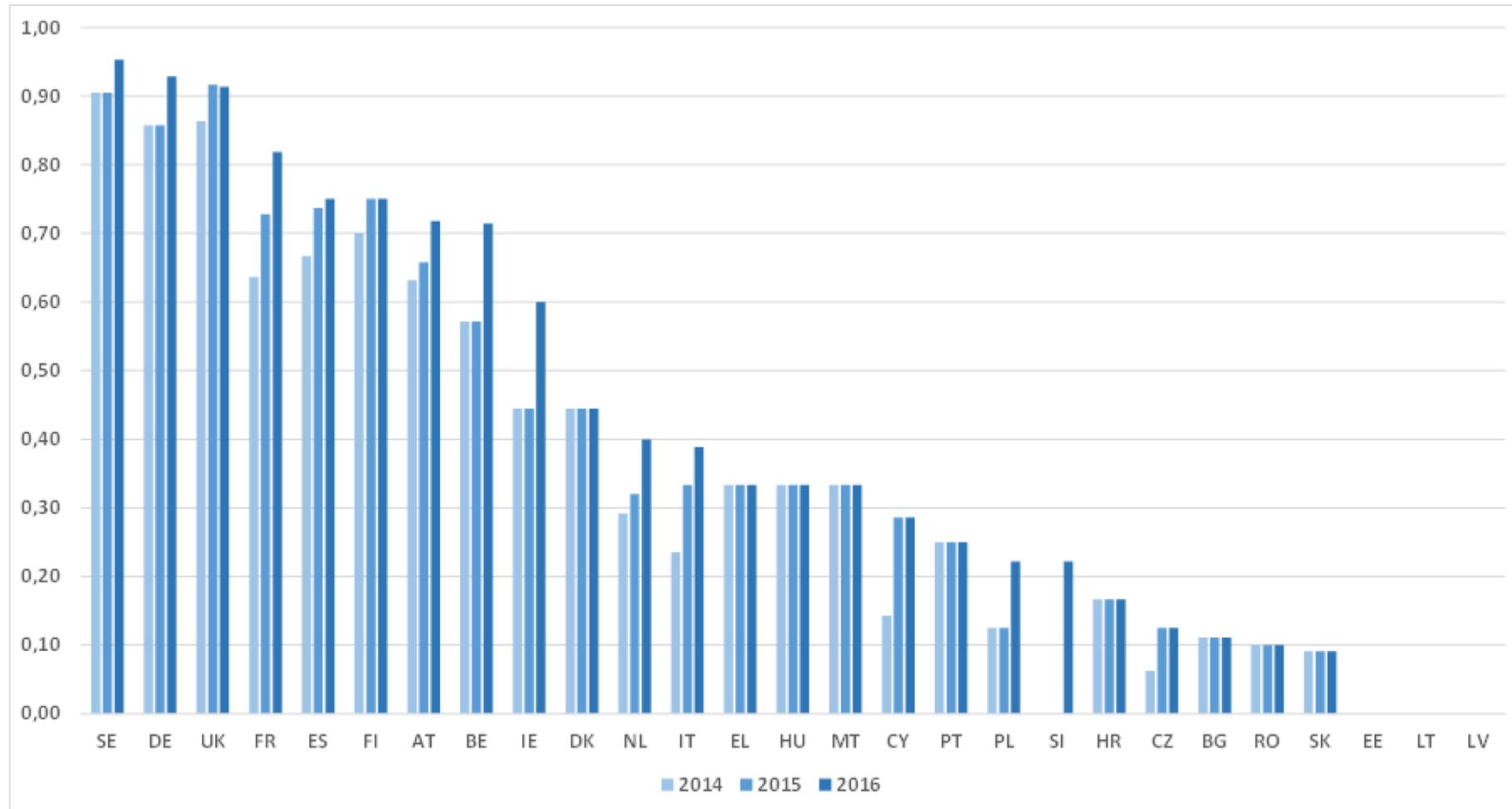
Data sources	Indicators
Science in Society actor survey	PE9, PE10
RPO-survey	GE1, GE5, GE8, GE9, SLSE2, SLSE 4, PE5, PE6, OA6, E1, GOV2, GOV3
RFO-survey	GE3, PE7, PE8, E3, GOV2, GOV3
Register data (database)	GE10, OA1, OA2, OA3
Qualitative, desk-research	SLSE1
Eurostat; She Figures; MORE2; MASIS; Eurobarometers; EPOCH; SATORI; Openaire.eu	GE2, GE4, GE6, GE7, SLSE3, PE1, PE2, PE3, PE4, E2, OA4, OA5, GOV1



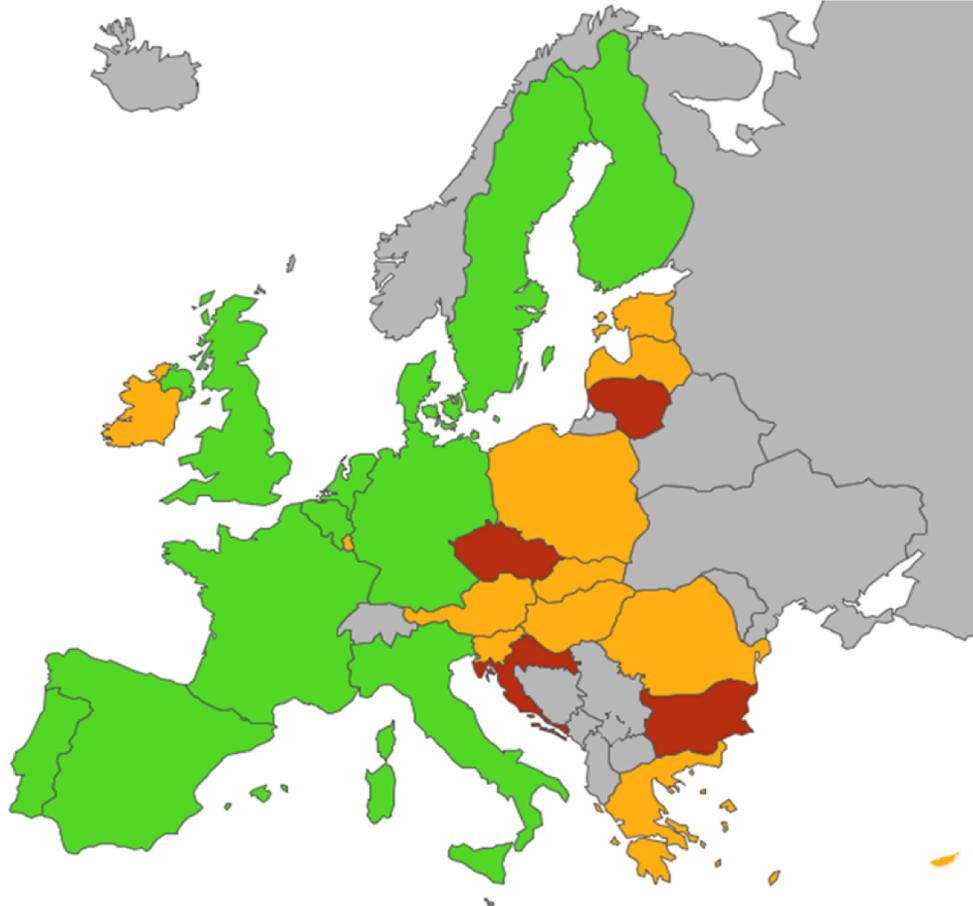
GE10.1: Share of female authors of academic articles



GE1: Share of RPOs with gender equality plans

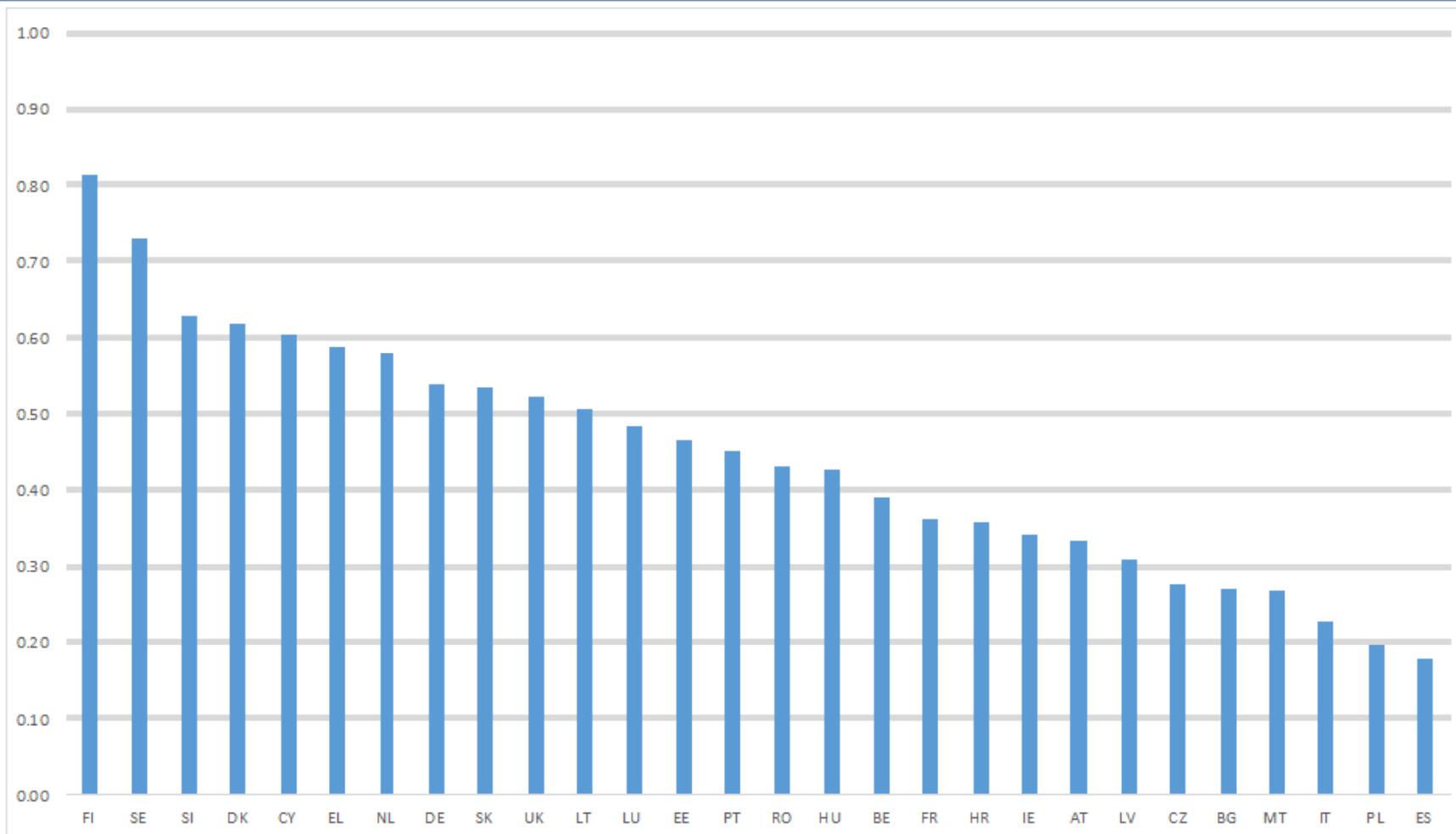


SLSE3: Science communication culture

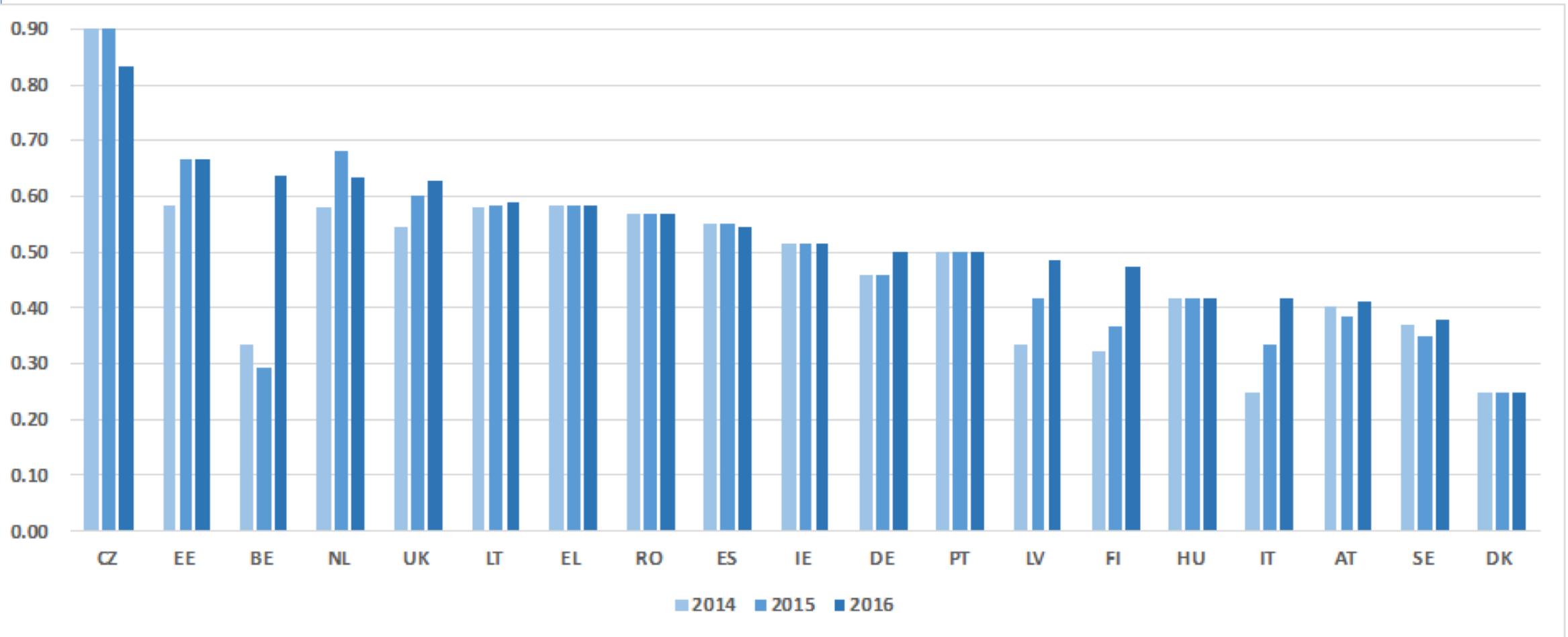


Green: consolidated
Orange: developing
Red: fragile

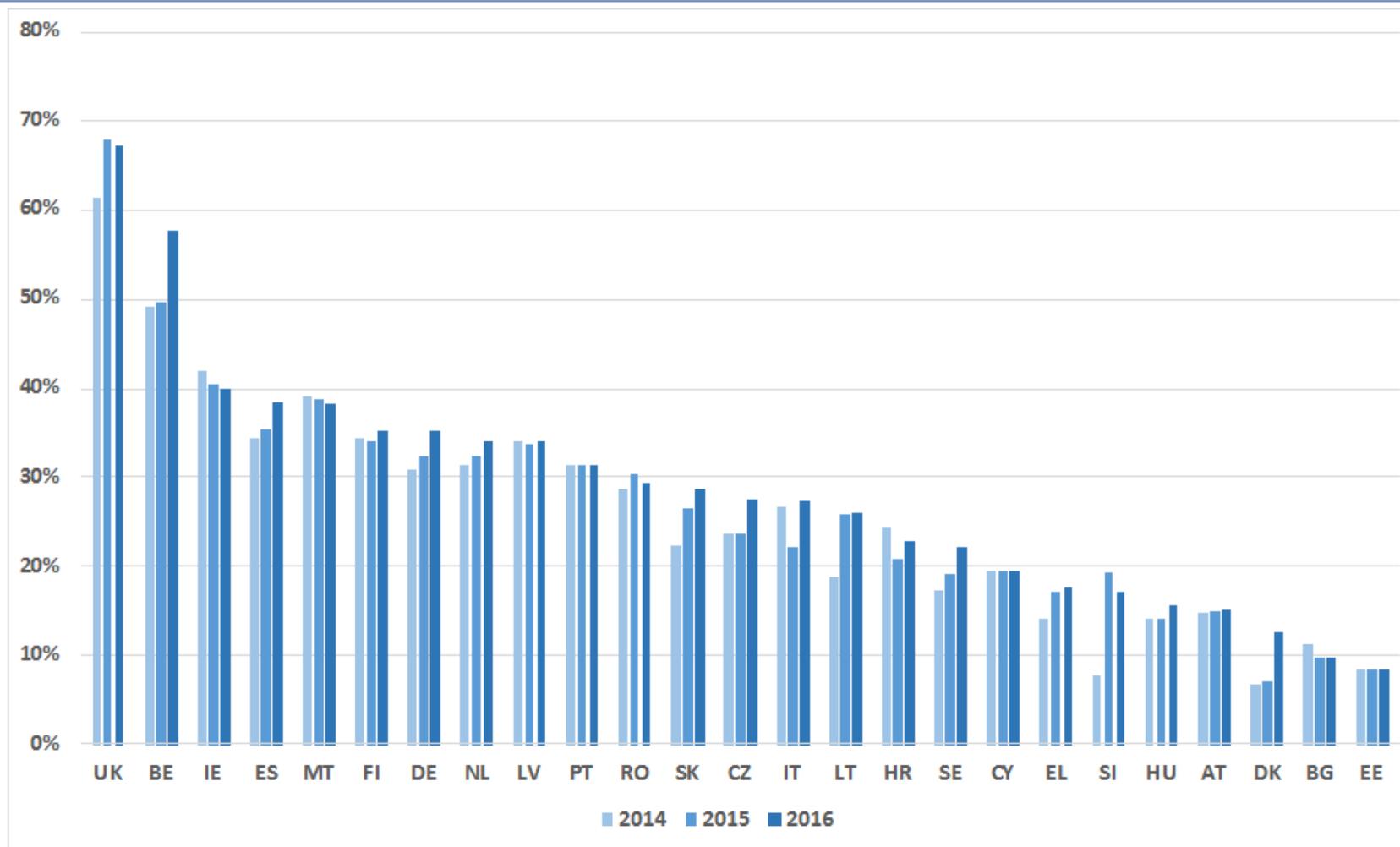
PE9: R&I democratisation index



OA6: RPO support structure for OA / open data



E1.b: Ethics in RPOs



Assessment of RRI indicators

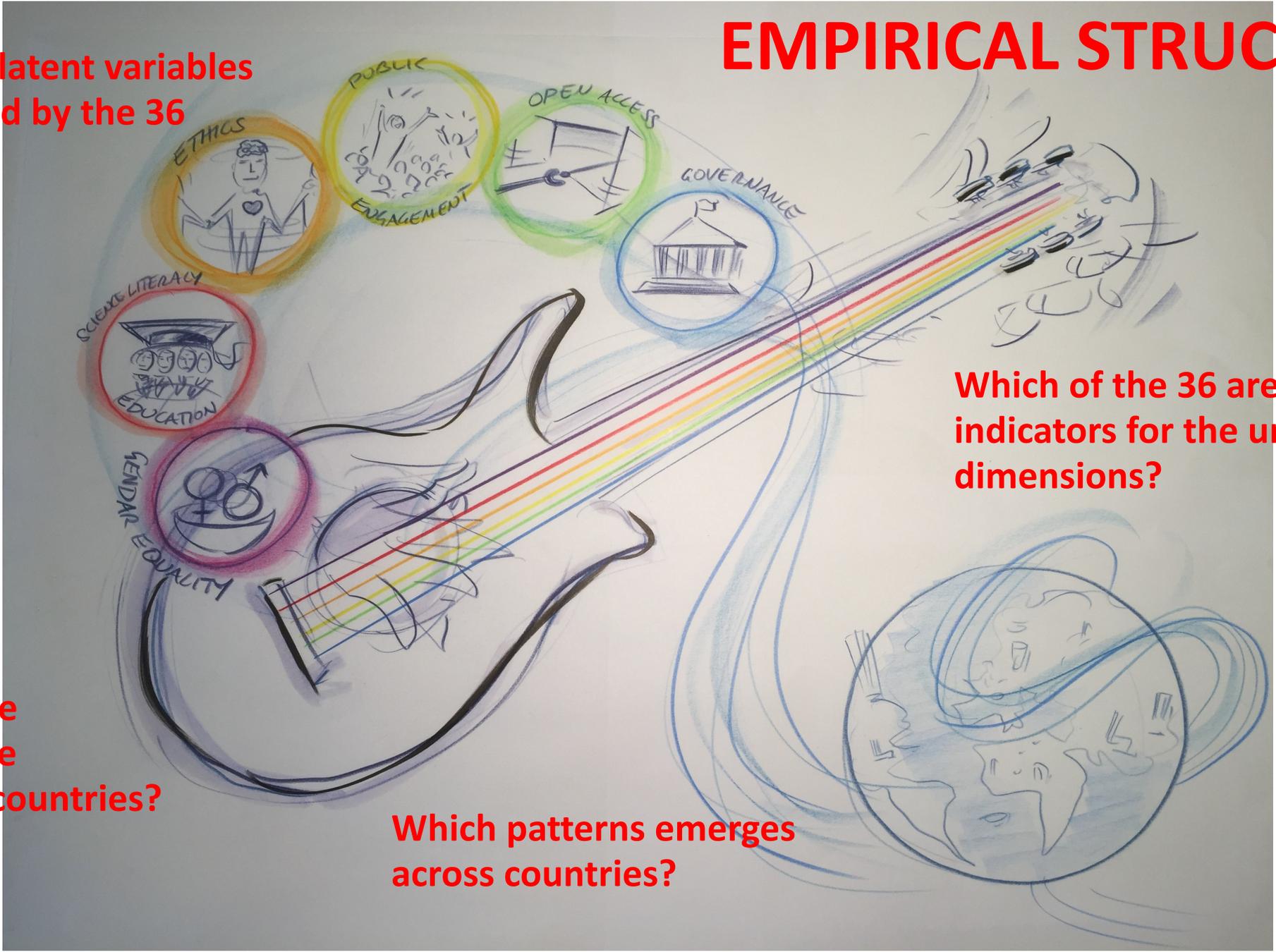
- Using a colour code system (**Green**, **Yellow**, **Red**) it provides for each indicator an assessment on the basis of three criteria:
 - **Availability of data:** Gives an indication on the data's availability in terms of country coverage (non-response thresholds to exclude observations)
 - **Statistical Robustness:** When opportune, a series of statistical tests (validation procedure) have been conducted to assess the indicators' robustness: internal consistency of composite measures; measurement adjustment effect for country ranking; within-country vs. cross-country variance
 - **Feasibility/Replicability:** Considers the complexity to obtain the data and to construct the indicator, and provides an interpretation on the degree of replicability of the indicator

MoRRI surveys response rates

Survey	Total contacts	Total responses (including partially completed)	Response rate	Countries below 10% response rate
Science in Society survey	686	326	48%	/
Research Funding Organisations survey	275	122	44%	LV, LU, RO
Higher Education Institutions survey	1479	259	18%	CZ, FR, LU, PL, PT
Public Research Organisations survey	1486*	208	14%	BG, EE, DE, PL, UK

EMPIRICAL STRUCTURE?

How many latent variables are captured by the 36 indicators?



Which of the 36 are the strongest indicators for the underlying dimensions?

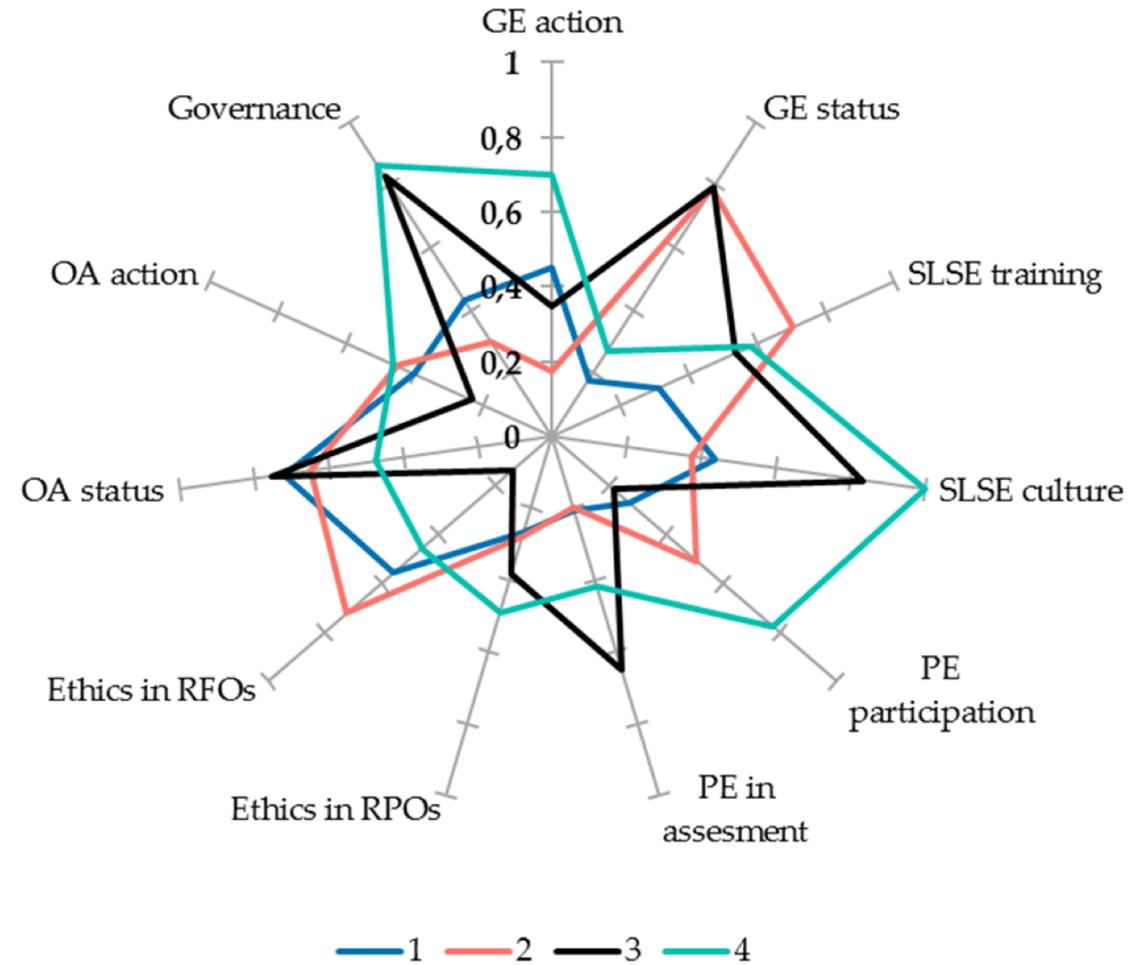
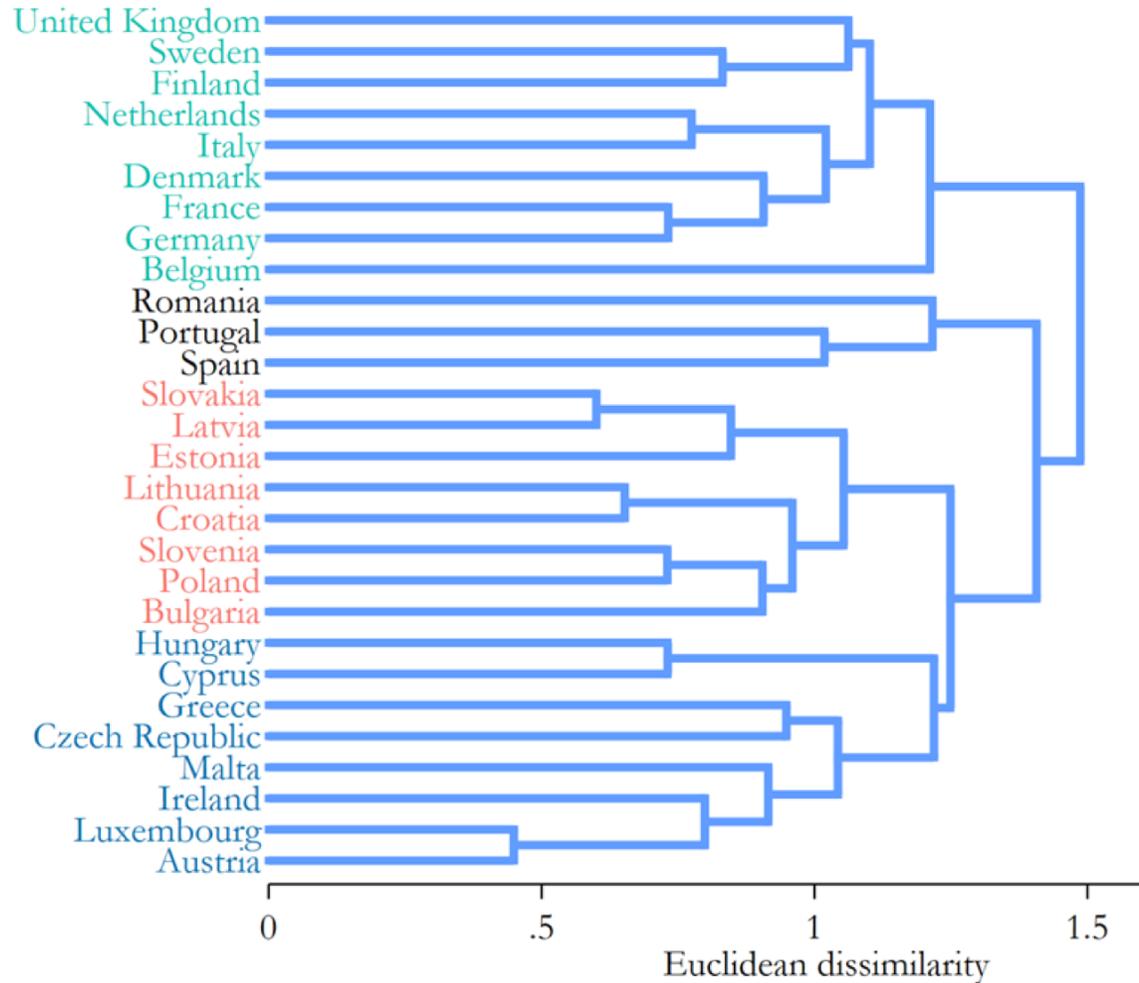
How can we characterise individual countries?

Which patterns emerges across countries?

(Empirical) Sub-dimensions and core indicators

Dimension	Core indicators
GE action	GE1, GE5
GE status	GE2.3, GE10.1
SLSE training	SLSE1, SLSE2
SLSE culture	SLSE3, SLSE4
PE participation	PE1, PE4, PE9
PE in assessment	PE7, PE8
Ethics in RPOs	E1a, E1b
Ethics in RFOs	E3a, E3b
OA status	OA1.1, OA1.2
OA action	OA3, OA4, OA6
Governance	GOV1, GOV2, GOV3

Clusters; based on 11 indicies



Conclusions and discussion points

- A basket of 36+ fairly robust indicators forms a baseline for RRI monitoring
- When times-series are available, trends appear conducive to RRI
- 25 indicators seem to do a good job capturing 11 subdimensions
- Different RRI profiles across (clusters of) countries allow for international learning while avoiding an “RRI horserace”
- Underexplored: disaggregate data; ‘cross-dimensional’ properties of the data set. And challenges related to surveys at meso level
- Future priorities: Which are core indicators? Blind spots? Efficiency in data collection? Responsible use of RRI indicators?