

Reflections within the ESS on the multidimensional measurement of Quality of Life

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A new political context since 2009

■ A new European strategy

- European Economic Recovery Plan : green growth and a low-carbon, resource efficient and inclusive society
- GDP and beyond : priority actions on **quality of life (QoL)** and **well-being (WB)**
- Europe 2020 : become a smart, sustainable and inclusive economy

■ The recommendations of the Stiglitz-Sen-Fitoussi (SSF) report

- **Move beyond GDP**
- Recognizes the **multidimensional** aspects of well-being
- Enumerates **main domains** to take into account
- Suggests to statistical offices to incorporate in surveys questions to capture **people's life evaluations**

(Inter)national initiatives

- **OECD** : Global project on Measuring the Progress of Societies
- The report of the **Franco-German** Ministerial council
 - Monitoring economic performance, quality of life and sustainability
- **National** initiatives
 - UK : demand of D.Cameron to measure well-being
 - DE : creation of a commission by the Bundestag
 - IT and FR : first implementation of the SSF recommendations

I. Reflections in the ESS : organisation

- The **Sponsorship Group** on Measuring Progress, well-being and sustainable development (16 MS, OECD, UN)
 - 19 May 2010 : creation of 4 Task Forces
 - TF1 : Households' perspective and distributional aspects of income, consumption and wealth
 - TF2 : Environmental sustainability
 - **TF3 : Multidimensional measures of quality of life**
 - TF4 : Cross-cutting Issues
- The DGINS Sofia memorandum (Sep 2010)
 - Recognises that official surveys must cover **objective and subjective conditions**
 - Notes that **EU-SILC** is the main instrument but has to be complemented by other data sources
 - Insists on **timeliness, comparability and coverage** in the measurement of indicators

TF 3: multidimensional measurement of QoL (1)

■ Main principles

Consistency with the **modernisation** of social statistics

- Better integration of social surveys
- Better use of administrative data
- Extended use of the Social Core Variables (household, education level..)

Priority to **existing surveys** and **administrative data**

- Identification of ready-to-use indicators
- Non increase of the statistical burden

Use of **headline** and **context** indicators

Need for indicators at **sub-national level**

Importance of **sub-populations** and **micro data**

- For policy relevance
- For the computation of interactions between QoL dimensions

TF 3: multidimensional measurement of QoL (2)

■ Eight dimensions

- Material living conditions
- Health
- Education
- Productive and valued activities
- Governance and basic rights
- Leisure and social interactions
- Natural and living environment
- Economic and physical safety

■ One outcome measure

- Overall experience of life

The existing information

- Data within ESS: existing surveys (mainly EU-SILC*) and administrative data provide or will provide in the short term:
 - Good and comparable data on material living conditions, health, education, and economic and physical safety **but**
 - Insufficient information on productive and valued activities, leisure and social interactions, and natural and living environment
- Need to use surveys out of the ESS :
 - To compute indicators about governance and basic rights and overall experience of life
 - Recommended surveys are the EQLS** and the ESocS***
 - However, a specific **ad-hoc module** of EU-SILC is planned in 2013 about 'overall experience of life'

*European Statistics on Income and Living Conditions (ESS)

**European Quality of Life Survey (Eurofound)

***European Social Survey (research project)

QoL indicators in the ESS: Implementation

- An exhaustive set of indicators will be computed for each dimension using existing data
 - These indicators will be disseminated on a specific web site
- For needs of communication : 3 types of indicators
 - The construction of one overall aggregated indicator (over all eight dimensions) is not recommended
 - But it is proposed to compute **synthetic indicators** for each broad dimension of QoL
 - These synthetic indicators will be complemented with a small set of **primary indicators** (the most representative indicators for every dimension)
 - For national comparisons this set will be enlarged with **context indicators**

QoL indicators in the ESS: Micro indicators

- Most indicators come from micro data
 - EU-SILC is the core survey
 - But all ESS surveys contribute to the computation of indicators (LFS, AES, EHIS, HBS, TUS,...)
- These indicators give information to compare relevant **sub-populations** :
 - Sub-national levels
 - At risk populations*, immigrants, elderly people,...
- An extended use of the **Social Core Variables** is essential to obtain QoL information on specific social groups

* **A**t **R**isk **O**f **P**overty and **S**ocial **E**xclusion: AROPE

QoL indicators in the ESS: Macro indicators

- The information will be complemented by important macro (**context**) indicators
 - A recommendation of the SSF and the Franco-German report
 - A demand of the users of the European Commission
 - A way to take into account important features of QoL
 - The main domains are health, education and safety
- But these indicators are often available only for national comparisons
 - Few regional data
 - No possibility to have a measurement for specific subpopulations

Recommendations - Dissemination

- Specific website (in prep) that gathers all available indicators
- A five years comprehensive report with
 - The **synthetic indicators** by dimension
 - A small set of **primary indicators**, including the most representative micro indicators and some **context indicators**
 - A discussion of the gaps between answers to subjective and objective questions
- A light yearly report
 - Based on EU-SILC and a limited number of indicators
 - Aggregated in a radar chart (per dimension)
 - and if possible the most representative micro indicators
 - Describing correlations between the different dimensions
 - With the necessity of timeliness of data dissemination

Recommendations – EU-SILC

- The future revision of the regulation has to take into account :
 - A better **coverage** of the dimensions of QoL
 - The best **periodicity** to ask the questions
 - The replacement of ad-hoc modules by **rolling modules**
 - The necessity **not to increase the burden** of NSI and Eurostat

- Two important questions :
 - Improve the **timeliness** of results or partial results
 - The opportunity of the imputation for specific questions
 - Necessity of launching **experimentations (data matching)**

Recommendations - general

- Take care that existing or future ESS surveys will take into account QoL measurement as suggested by the TF
 - Labour Force Survey (LFS), Adult Education Survey (AES), European Health Interview Survey (EHIS), Safety Survey (SASU)
- Examine the necessity of better guidelines or a regulation for Time Use Survey (TUS) and/or Household Budget Survey (HBS)
- Promote an extensive use of Social Core Variables in surveys and administrative data
- Introduce well-being items/questions in surveys
- Be careful to quality requirements for surveys out of the ESS, as soon as their results are used in official publications

II. Empirical study using EU-SILC data

- Based on the **multidimensional framework** supported by the TF3 (eight main dimensions + overall experience of life);
- Practical exercise based mainly on a single source and the individual-first approach
 - potential for multivariate analysis;
 - capture the individual-wise variation by dimension;
 - reduce data complexity;
- Propose a methodology for building synthetic indicators - based on the 'aggregation of variables' when we can support the assumption that they are measuring a **uni-dimensional latent concept**;
- **Extensions** to other **micro data sources** for dimensions not covered in EU-SILC- coherence sub-populations and integration techniques needed
- **Communication aspects**: radar charts; standardisation; good vs. bad QoL

Practical steps for computation indicators

- 1) **Review** of all available information in EU-SILC; delineation of sub-dimensions;
- 2) Multivariate techniques for **analysing relationships among variables**:
 - **uni-dimensional** hypothesis confirmed (*Multiple Correspondence Analysis (MCA), Cronbach alpha, and correlations*) - aggregate into **synthetic** micro-indexes
 - **multidimensional** hypothesis confirmed - select as **primary** indicators
- 3) **Aggregate** variables into **binary** micro-level indexes
 - Based on the **accumulation of deprivations**
 - Focus on the left tail of the distribution
 - Set **thresholds**
 - Sensitivity analysis
- 4) Aggregate micro-indexes **across individuals**
 - Into **relevant sub- populations** (e.g early school leavers, involuntary part time)
 - Address the relevance of country-level indicators

Health- review and data analysis (1)

➤ Two different sub-dimensions:

– **Health conditions**

- self-perceived health (Answering categories (1) very good, 2) good, 3) fair, 4) bad, 5) very bad);
- longstanding illness or longstanding health problem;
- limitation activities (Answering categories: yes strongly limited, yes limited, no not limited);

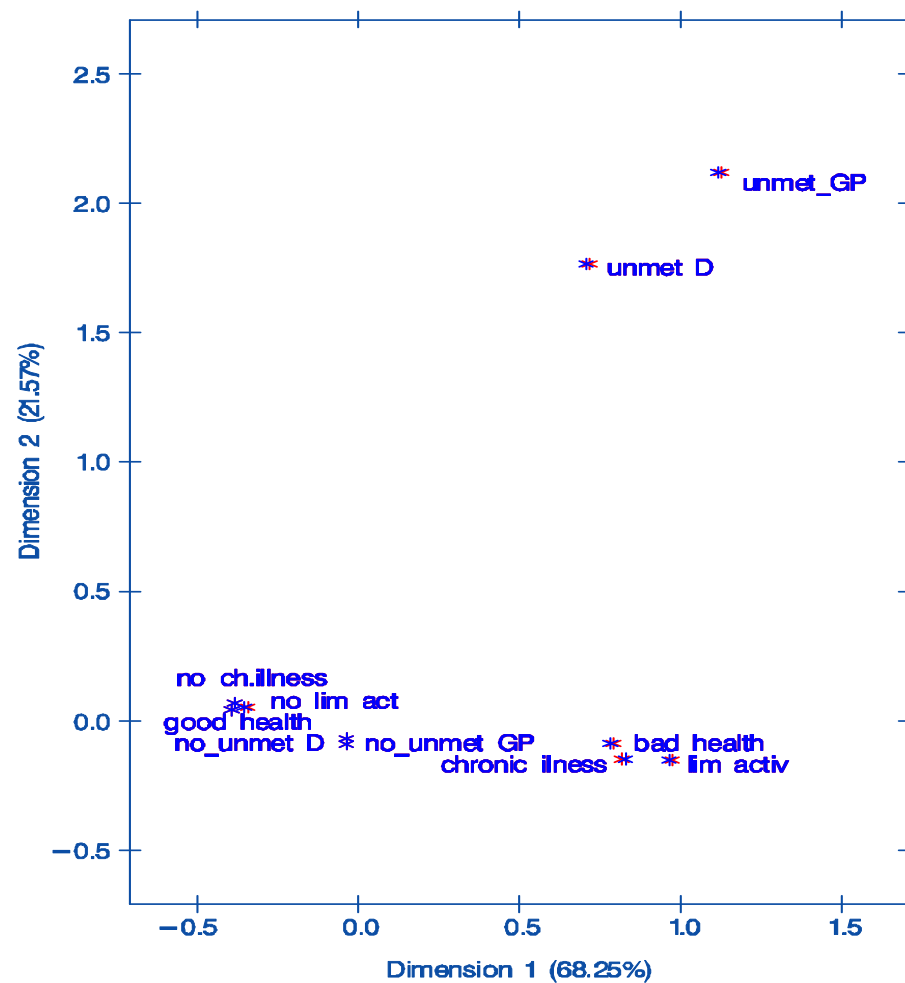
– **Access to healthcare**

- Unmet needs generalist doctor (1) or
- Unmet needs dentist (2) because
a) it was too expensive, b) had to wait or c) too far away.

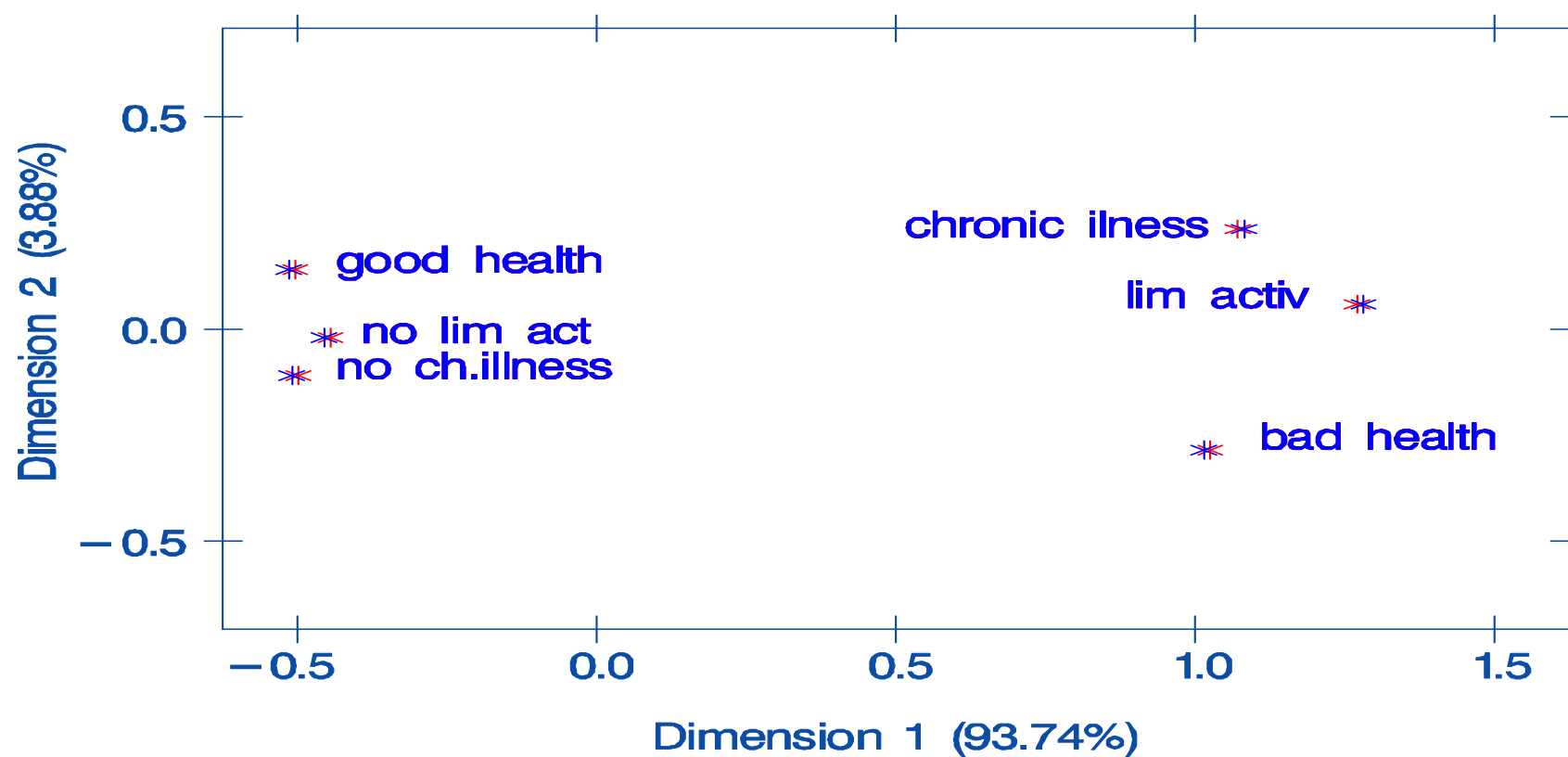
➤ Data Analysis:

- **Health deprivation:** MCA - first dimension is explaining more than 90% of the covariance ; Cronbach alpha=0, 81;
- **Unmet needs:** MCA - first dimension is explaining more than 80% of the covariance; Cronbach alpha=0,5.

Two complementary dimensions-individual level



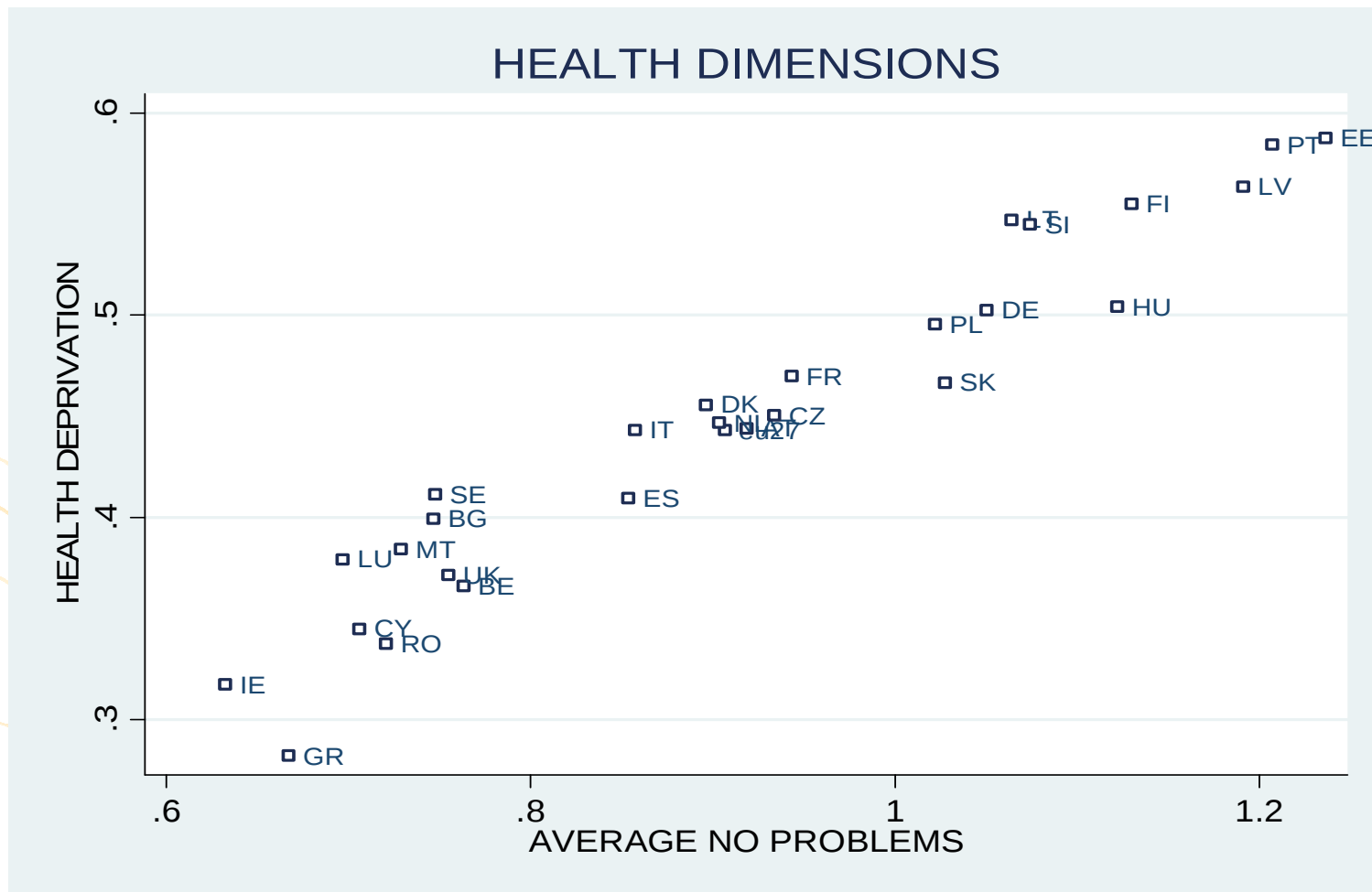
Health deprivation- MCA



Health-micro indexes (2)

- Micro-level indexes:
 - Set thresholds
 - Health deprivation - a binary index= 1 if at least one of the 3 health deprivation items=1
 - Unmet needs - a binary index= 1 if at least one of the 2 unmet needs items= 1
 - Robustness tests to assess the **sensitivity of results** to different threshold: the correlation with the average index , rankings of countries based on different thresholds
- Aggregated indicators:
 - One synthetic indicator
 - One primary indicator
 - Age effects: for comparing countries or subgroups we provide 18-64 and 65+

Robustness tests



Health- indicators (3)

- Synthetic indicator:

Health deprivation defined as “the share of persons who have at least one deprivation item”. It is measured as the proportion of people that assess their health to be very good or good, **or** that report having a long-standing chronic illness/ long-standing health problem **or** declare having long-term restrictions in daily activities. (18-64, 65+)

- Primary indicator:

Unmet needs defined as the share of people who reported that they needed medical or dentist care and they did not receive it either because a) it was too expensive, b) they had to wait or c) it was too far away. (18-64, 65+)

- Further recommendations:

- **standardise by age**

Productive activities (work)- review (1)

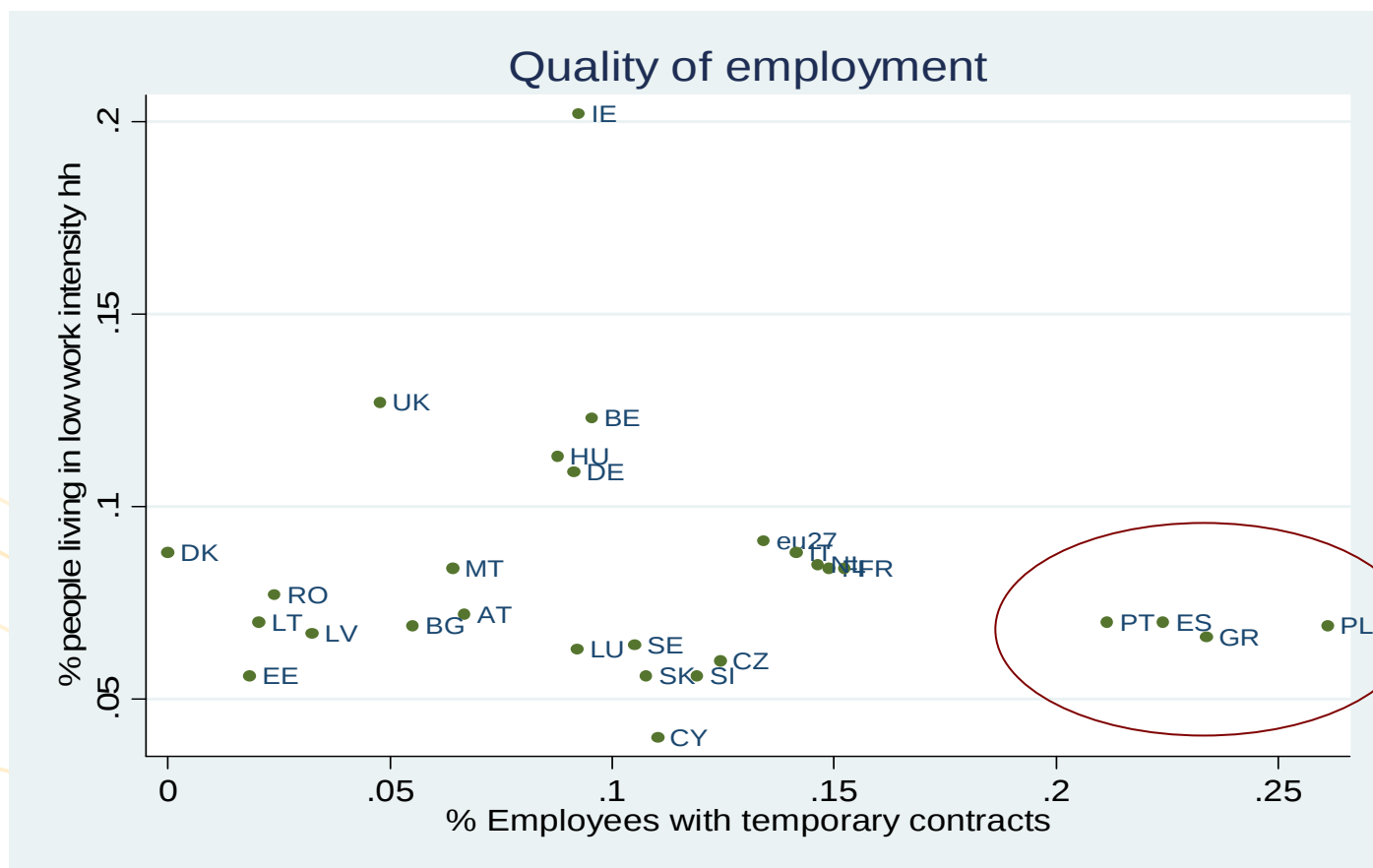
➤ *Two sub-dimensions*

- *Access to the labour market*
 - Low Work Intensity (LWI)
 - Activity status
- *Quality of employment*
 - **In work poverty**-at work and at-risk-of-poverty in the income reference year;
 - **Working hours**- average hours usually worked per week;
 - **Temporary contracts** –fixed term employment contract or job;
 - **Involuntary part-time employment**- work part-time because they are unable to find full-time work.

Productive activities (work)- data analysis (2)

- Data analysis gives difficulties because of
 - Different sub-populations across and within dimensions
 - quality-only people at work; In work poverty- income reference year; temporary-just employees
 - Different working arrangements- distinct/opposite concepts
 - no correlations
- LWI- absence of work opportunities at the household level- relation to economic well-being

Two complementary sub-dimensions



Productive activities (work)- indicators (3)

■ Synthetic indicators

Low work intensity: share of people (aged 0-59) living in household where adults work less than 20% of their potential during the income reference year

■ Primary indicators

In work poverty: Share of people at work in the income reference year which are at risk of poverty or materially deprived

Temporary job: Share of employees with temporary contracts

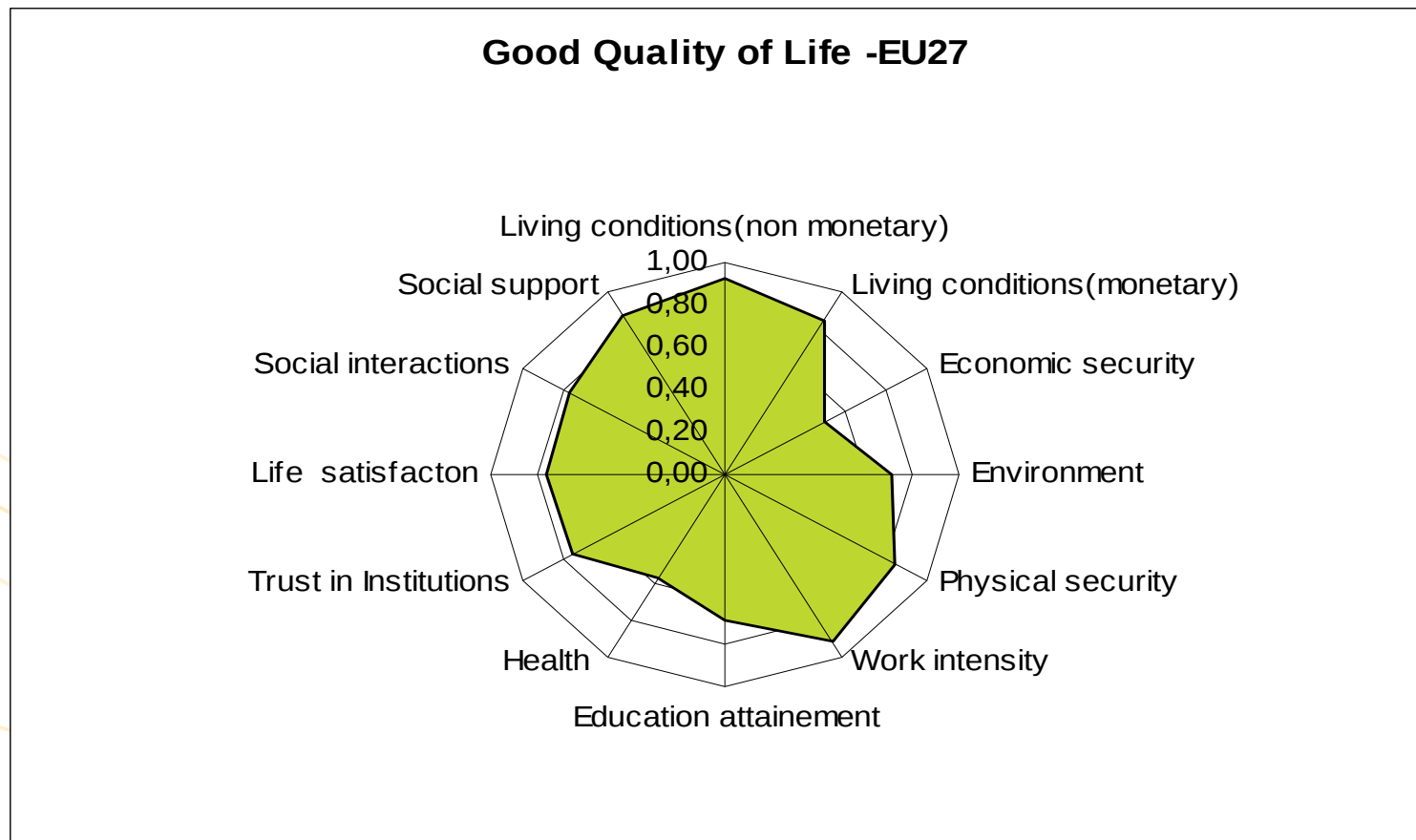
Involuntary part-time employment: Share of people working on an involuntary part-time basis as percent of the part-time workers.

Long working hours: proportion of employed workers who worked at least 50 hours during the reference week.

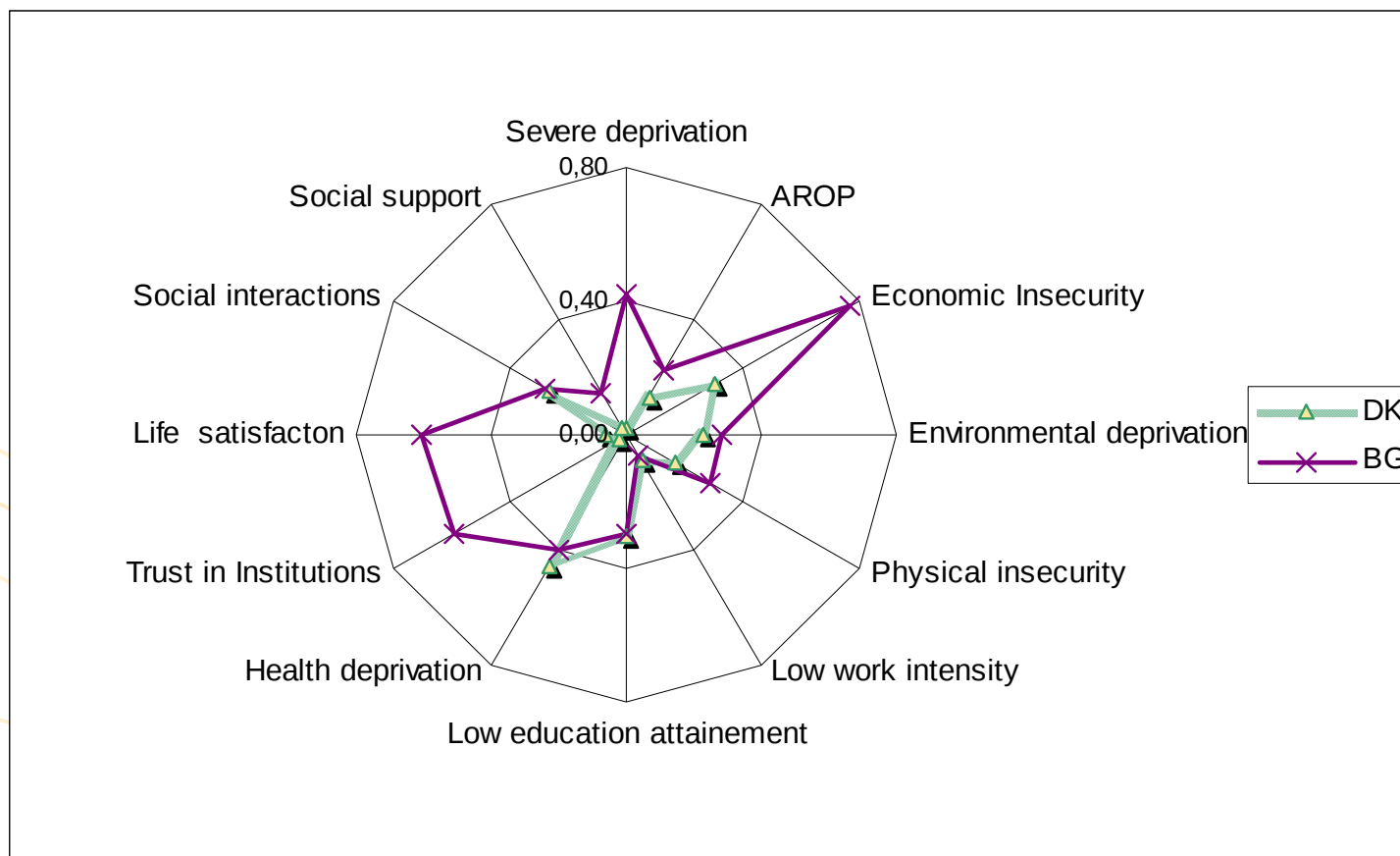
■ Further recommendations:

- Task Force on Quality of Employment.
- LFS (including ad-hoc modules) to have a comprehensive coverage of the indicators put forward by the task force
- other productive activities: e.g. housework and childcare

Overall QoL

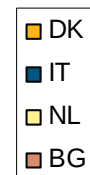
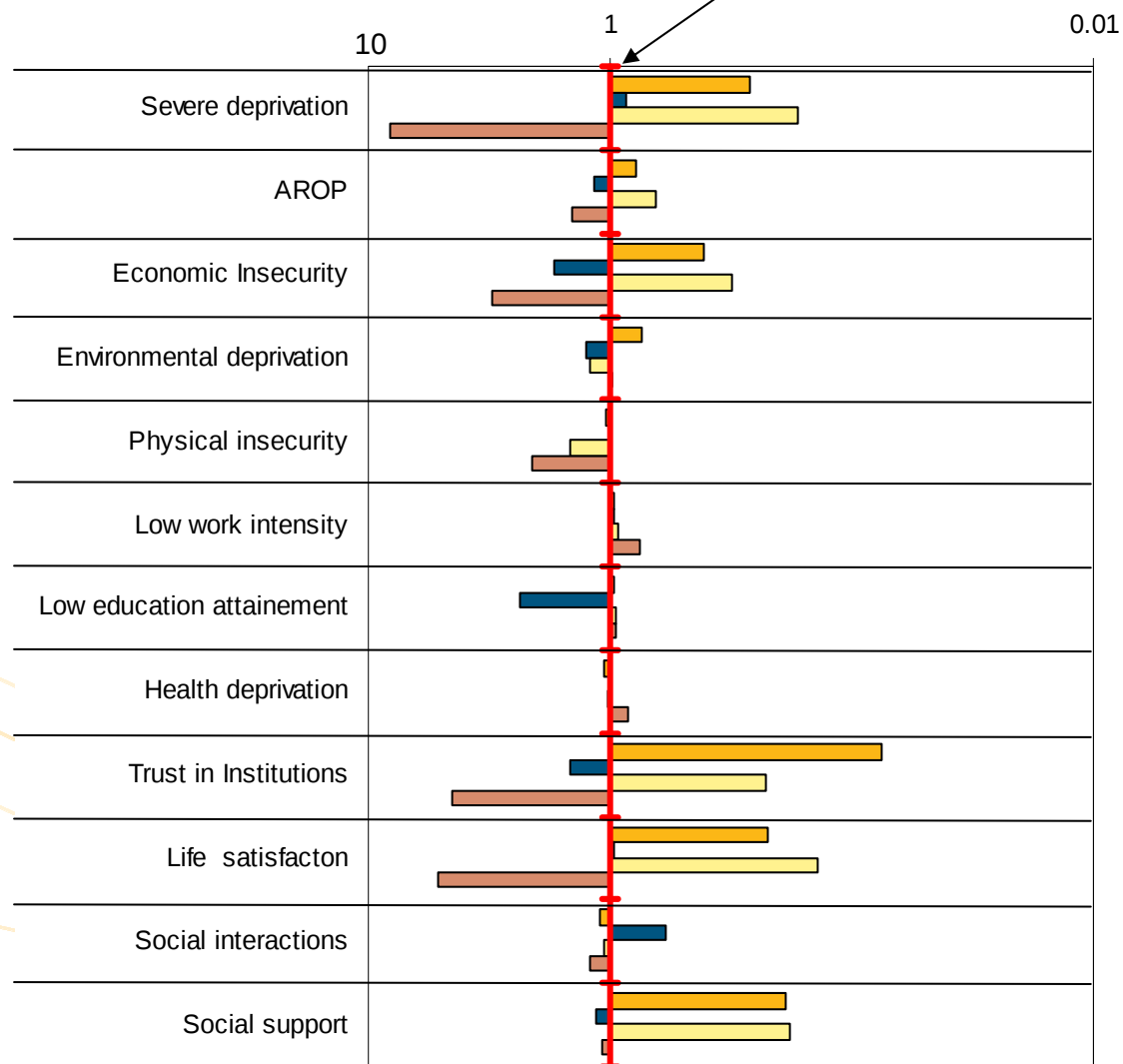


Comparing countries- bad conditions



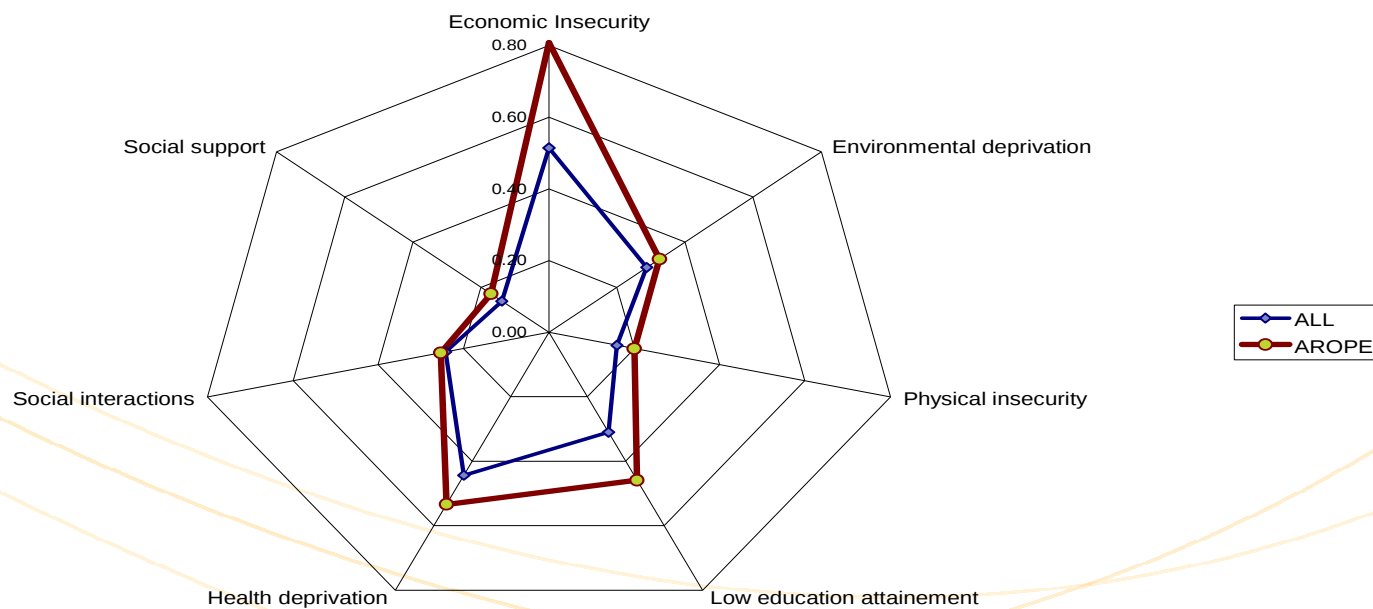
Odds ratio compared to EU27

1 is EU27



More deprivation Less deprivation

Comparing subpopulations- AROPE

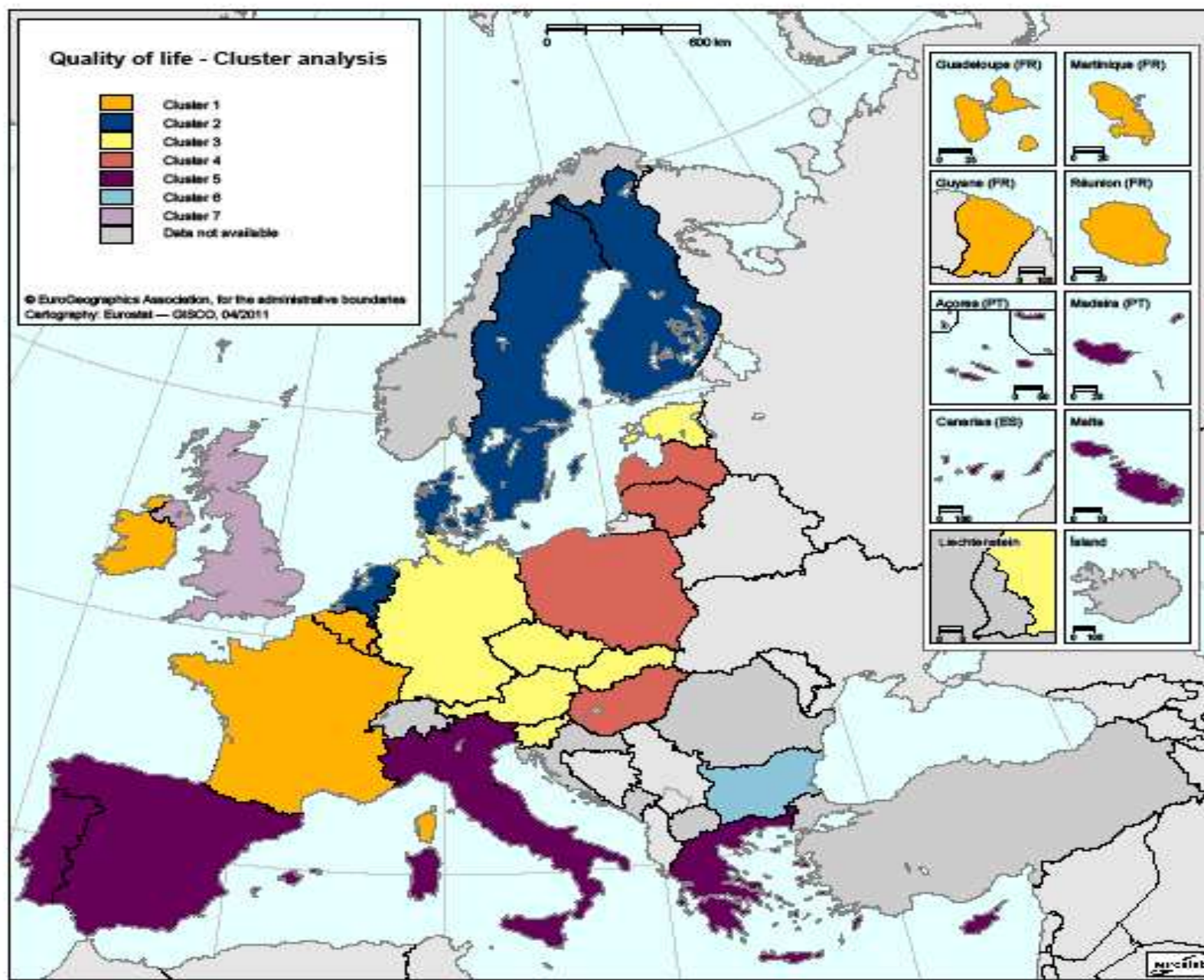


Pearson Correlation Coefficients, N = 26

Prob > |r| under H0: Rho=0

	Severe deprivation	Economic Insecurity	Environmental deprivation	Health deprivation	Life satisfaction
A-Severe deprivation	0.90147 <.0001	0.80694 <.0001	-0.01945 0.9249	0.09742 0.6359	0.84889 <.0001
A-Environmental deprivation	0.05436 0.792	0.3837 0.053	0.98345 <.0001	-0.14071 0.493	0.13076 0.5243
A-Economic Insecurity	0.73951 <.0001	0.98937 <.0001	0.29367 0.1454	-0.02318 0.9105	0.75199 <.0001
A-Health deprivation	0.13726 0.5037	0.0126 0.9513	-0.13046 0.5253	0.96473 <.0001	0.31857 0.1127
A-Life satisfacton	-0.83658 <.0001	-0.73032 <.0001	-0.14801 0.4705	-0.22008 0.28	-0.97191 <.0001

In log odd ratio	BG	HU LV LT PL	BE LU FR IE	DK NL SE FI	CY GR ES IT MT PT	AT EE CZ SK DE SI	UK
Severe deprivation	2.1	0.9	-0.6	-1.4	-0.1	-0.2	-0.9
AROP	0.4	0.2	-0.2	-0.3	0.1	-0.3	0.1
Economic Insecurity	1.1	0.8	-0.2	-0.9	0.5	-0.3	-0.3
Environmental deprivation	0.0	-0.2	-0.3	-0.3	0.3	-0.1	-0.1
Physical insecurity	0.7	-0.3	-0.1	0.0	-0.2	-0.1	0.6
Low work intensity	-0.3	-0.1	0.3	-0.1	-0.3	-0.3	0.4
Low education attainment	-0.1	-0.5	0.2	-0.2	0.9	-0.8	-1.1
Health deprivation	-0.2	0.3	-0.2	0.1	-0.1	0.2	-0.3
Trust in Institutions	1.5	0.8	-0.4	-1.7	-0.1	-0.1	0.2
Life satisfacton	1.6	0.7	-0.7	-1.7	0.0	0.1	-0.3
Social interactions	0.2	0.5	-0.1	-0.1	-0.8	0.2	-0.6
Social support	0.1	-0.7	-0.8	-1.5	-0.8	-1.0	2.1



Data source: EU-SILC & EQLS

Conclusions

- Rich potential for analysis
- Sensitivity of indicators to selection variables, rescaling, threshold choice
- Need to define basic human needs/minimum decent patterns for each dimension- ensure consistency of choices across dimensions
- Quality assessment of the indicators in relation to the preferred source
- Need to ensure coherence across surveys in terms of definitions, wording variables and sub-populations
- Communication aspects: radar charts, bar charts, standardization
- Specific indicators for relevant sub-groups
- Relevant national indicators

Further work

- Further technical work for the **operationalisation of indicators** (methodology, robustness);
- Need for a **participatory approach** to include experts and stakeholders in the development of indicators for several dimensions: *economic insecurity, governance and basic rights, overall experience of life, environment*;
- Checking consistency **across ESS sources**: harmonisation variables, in-depth coherence analysis of marginal distributions and sub-populations (core social variables, data matching project);
- Assess feasibility **integration of (subjective) information** from outside ESS sources (EQLS)
 - Some progress for the core social variables
 - Still high differences