



# SDG Indicators

boon or bane ?

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**GSEM**





Stefan Schweinfest\*, interview published by UNDESA in 2016 in NY

*“[...] of course, indicators is like the last missing piece to complete the architecture of the 2030 SDG agenda.”*

Prof. Enrico Giovannini\*\*, at UN conference Dec. 2015 in Geneva

*“ [...] But then my favourite topic; SDGs: 17 goals, 169 targets, more than 200 indicators. Good luck!”*

\* Director of the United Nations Statistics Division (UNSD).

\*\* University Tor Vergata, , Ex-President of ISTAT, co-chair of the UN "Independent Expert Advisory Group on the Data Revolution for Sustainable Development", Minister in different Italian Governments.



## **Less than half in Tier 1 !**

*Indicator that is conceptually clear, has an internationally established methodology and standards are available, and data are regularly produced by [...] at least 50% of countries and of the population in every region where the indicator is relevant*

## **Resolution 68//261 demands :**

*SDGI should be disaggregated [...] by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, [...]*

Project: **SDGIP** (SDG indicator prediction)


Consortium: **8 Universities of 7 Countries, 8 Partners**

Geneva, Pisa, Prag, Elche, Poznan, Bamberg, Southampton, A Coruña

NSO of Germany, Italy, Poland, Spain,

UN organizations FAO, WHO and data management enterprises

- ***Bringing together Experts for IP on highly disaggregated levels with people bringing it into practice***
- ***Strong Methodological orientation***
- ***Small Area Estimation with Mixed Models***



# Using Mixed Models and Mixed Parameters for *Prediction* In a Nutshell

$$Y_{ij} = \text{fixed} ( X_{ij} ) + \text{random } j ( Z_{ij} ) + \text{res}_{ij}$$

where  $i$  indicates subject level,  $j$  cluster level

- ❖ Interested in Parameter of  $Y$  on cluster level
- ❖ Applying auxiliary information  $X, Z$
- ❖ Using *random part* also for prediction

# SDG indicator Estimates

start in month 9

9

- Robustification
- Joint inference

WP 5

6

- Model selection for predictors
- Model selection for regularisation

WP 4

4

- Smart modeling
- Machine Learning (Nonpar.Estim.)

WP 3

2

- Big data potentials
- Big data problems

WP 2

1

- Using non-official data
- Using official data

WP 1

*SDG indicator definitions and Raw Data*