

# Composite indicators for Social Sciences

Academic year 2022/2023

Instructor: Daria Mendola (University of Palermo)

**Hours of lecture:** 10 hours

**Topic:** Composite indicators are combinations of a set of indicators, with the aim of summarizing complex or multi-dimensional constructs. One of their major uses is categorizing or ranking units over a unidimensional axis. Composite indicators are spreading in social sciences as it is witnessed by the last decades' proliferation of contributions in several fields (well-being, quality of life, multiple deprivation, sustainability, competitiveness, development, health systems' performance, ...), both at the institutional and academic level.

## Objectives

The course provides theoretical and empirical tools to build new composite indicators and interpreting existing ones in the Social Sciences field.

This course focuses on measurement issues, with particular reference to the choice of transformation and pooling functions as well as weighting schemes.

A focus will be also on the passage from qualitative to quantitative measurement.

Lectures will combine theoretical and empirical aspects of measurement through composite indicators.

## Syllabus

| Hours | Topic  |
|-------|--|
| 1     | Introduction: why composite indicators?  |
| 2     | Classical approaches in building composite indicators. Reflective vs formative approaches.   |
| 1     | A protocol for building good composite indicators  |
| 3     | Choosing appropriate transformation, weighting and pooling functions   |
| 2     | An introduction to "model-based" composite indicators  |
| 1     | Analysis of case studies of composite indicators in Social Sciences (competitiveness, poverty, development, well-being, sustainability, ...) |

## Materials

The main references are:

OECD (2008) Handbook on constructing composite indicators: methodology and user guide. Available at:

<http://www.oecd.org/els/soc/handbookonconstructingcompositeindicatorsmethodologyanduserguide.htm>)

Decancq, K., & Lugo, M. A. (2013). Weights in multidimensional indices of wellbeing: An overview. *Econometric Reviews*, 32(1), 7-34.

Diamantopoulos A. and H.M. Winklhofer (2001) Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, 38(2), 269-277.

Mendola, D., & Volo, S. (2017). Building composite indicators in tourism studies: Measurements and applications in tourism destination competitiveness. *Tourism Management*, 59, 541-553.

Munda, G. and Nardo, M. (2009) Noncompensatory/Nonlinear Composite Indicators for Ranking Countries: A Defensible Setting. *Applied Economics*, 41, 1513-1523.

Saisana M., A. Saltelli and S. Tarantola (2005) Uncertainty and sensitivity analysis techniques as tools for the quality assessment of composite indicators. *Journal of the Royal Statistical Society: Series A*, 168(2), 307–323.

Additional references:

Delvecchio F. (1995) Scale di misura e Indicatori sociali, Cacucci editore [general handbook in Italian]

### **Contacts**

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