



Panel EMOS Learning Materials & Opportunities Learning Resources & Coding Lab

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10th EMOS Workshop

14 November 2024

Wiesbaden, Germany

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The aim of the learning material provided here is to allow students to explore knowledge independently or in groups and put their knowledge into practice. The purpose is also help teachers in planning the structure of their lectures as well as adapting their teaching to different learning styles and capabilities of the students.

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EMOS Courses

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Course Outline

The course aims to review the main Small Area Estimation Methods. The first part of the course will be devoted to reviewing the classical inference approach. Then, the main Small Area Predictors based on Small Area models will be introduced with some examples for estimating poverty indicators at the local level. Moreover, a practicum on how to apply basic small area estimation methods in R is proposed.

Files description

[Slides + comments](#): folder containing the pdf presentation and the comments to the slides

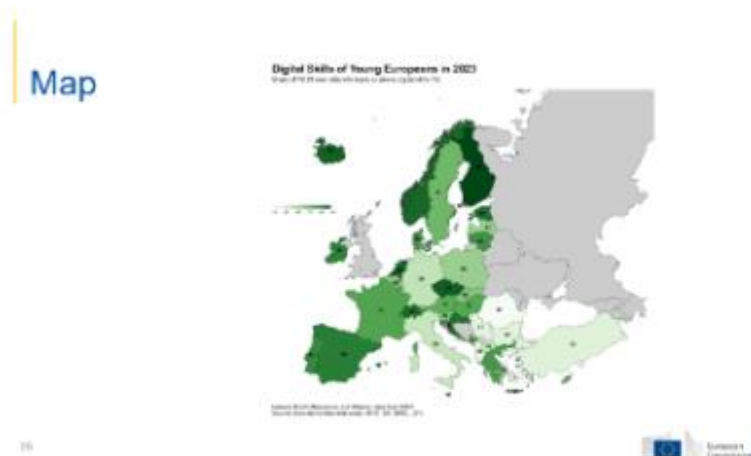
[Practicum](#): folder containing the application with R and the corresponding data

[Quiz](#): multiple choice quiz to be used for evaluation

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EMOS Coding Lab 2024

- Statistics Explained through literate programming 2024



Combining nuts and indicator data

Adding geographical information to the indicator values

```
indicator_filtered_df <- indicator_df %>%  
  dplyr::select(geo, time, values) %>%  
  dplyr::rename("NUTS_ID" = "geo")  
  
# DATA FRAME TO WIDE FORMAT  
indicator_wide_df <- indicator_filtered_df %>%  
  tidyr::pivot_wider(names_from = time, values_from = values)  
  
# REPLACE MISSING VALUES  
indicator_df_final <- indicator_wide_df %>%  
  dplyr::mutate(values = dplyr::if_else(is.na("2023"), "2021",  
    "2023")) %>%  
  dplyr::select(NUTS_ID, values)  
  
# MERGE NUTS3 Spatial Forms AND Data Frame  
mapping_sf <- nuts3_sf %>%  
  dplyr::left_join(indicator_df_final, by = "NUTS_ID")
```