INSTRUCTOR

Prof. Benedetto Lepori, Faculty of Communication, Culture and Society, Università della Svizzera italiana.

Reference paper for the course

Lepori, B., Geuna, A. & Mira, A. (2019). Scientific output scales with resources. A comparison of US and European universities. PloS One, 14(10).

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ORGANIZATIONAL DETAILS

Online course including:

- On-line lecture presenting the main issues and with OLS and alternative regression approach.

- Group exercises where participants will test the different approaches on the example dataset.

- Plenary discussion on pros and cons of regression strategies and how to motivate them to the reviewers.

Cost and Fees: No registration fees to be paid by European Participants.

Maximum N. of participants: 16

Registration: send the organizer the application form by email, including a CV and a short statement of interest.

Contact person: Natalija Todorovic, natalija.todorovic@usi.ch.

DEADLINE FOR registration 20th of December 2021

RISIS

RESEARCH INFRASTRUCTURE FOR SCIENCE AND INNOVATION POLICY STUDIES

Università della Svizzera italiana

Methods in Action Series

Dealing with heteroscedasticity and other issues in regressions about scaling

January 31th, February 3rd, February 7th 2022

COURSE OBJECTIVES

- Deal with common issues in regression analysis on science data at the organizational level.

- Including non-linearity, heteroscedasticity, outliers and non-normality

- Introduce methods for addressing these issues such as quantile regressions, variable transformations and Feasible Generalized Least Squares

- Test these methods and discuss advantages and disadvantages using an example dataset

PROGRAM AND CONTENTS

Monday 31th of January 2022

9:00-09:15 Introduction to the Course

09:15-10:15 Lecture: issues in regression analysis and methods to deal with them.

10:30-11:30 Stata tutorial on how to implement regression methods.

11.30 – 12.15 Creation of the groups and task assignment.

Thursday 3rd of February 2022

16.00 – 18.00 interim discussion with groups in breakout rooms.

Monday 7th of February 2022

9:00-11.00 Group presentations.

11.15 – 12.00 Lecture: how to motivate robustness to reviewers.

12.00 – 12.30 Final discussion and assessment of the use of methods.

AUDIENCE TARGETED

The course aims at involving participants among the following categories:

- Senior scientist, early career researchers

- PhD students at the last phase of their training

- People from the policy making level wishing to extend their analytical capabilities

- Research intermediaries (e.g. research association like Science Europe).

REQUIREMENT FOR PARTICIPATION

Basic requisite for admission will be:

- Knowledge of basic principle of statistics, as well as of Ordinary Least Squares (OLS) regression.

- Good working knowledge of statistical software (Stata).