First term Seminar 2012—2013

**Introduction to Quantitative Methods**

Organised by Fabrizio Bernardi

Monday 11:00 - 13:00  
Seminar Room 2, Badia Fiesolana

Please register with [Monika.Rzemieniecka@eui.eu](mailto:Monika.Rzemieniecka@eui.eu)  
(Registration before 28 September is obligatory.)

The aim of this seminar is to give researchers in sociology and political sciences practical knowledge of the application of basic quantitative techniques, which are commonly used in sociology and political sciences, while using one of the major statistical software packages STATA. The seminar centers on the linear regression model. A correct understanding of its proper functioning and limitations is an essential precondition for venturing into more advanced techniques. It also provides an introduction to the logistic regression model.

In this seminar, therefore, you can expect to learn:

- How to estimate a multivariate linear regression model and interpret correctly its results
- How to estimate and correctly interpret interaction effects
- How to apply regression diagnostics tools
- How to estimate a logistic regression and interpret its results

As reference books, we use:


The EUI library has a number of copies of these books on the seminar shelf.
You should bring your laptop to the seminar because part of the teaching will consists of interactive examples using STATA in the class.

The most important part of the seminar is not attending the two-hour sessions, but making the exercises that are assigned each week. A special *dropbox* folder will be created where you will find the weekly exercises and the materials used in class. The teacher assistants for this seminar are Michael Grätz ([michael.gratz@eui.eu](mailto:michael.gratz@eui.eu)) and Davide Vampa ([davide.vampa@eui.eu](mailto:davide.vampa@eui.eu)), both 2nd-year SPS researchers. Participants will be divided into two groups and the TAs will provide feedback on your exercises and teach some practical classes (time and place tbc). Attendance to these practical classes is not compulsory but highly recommended. The TAs will also have office hours to provide assistance with STATA and with the making of the exercises (again time and place tbc).

Making all exercises is the condition for certification of sufficient attendance. These exercises have to be posted in a dedicated folder of the seminar dropbox 24 hours before each session (thus before Sunday 11:00). You can team in *groups of two* for making the exercises.

The last assignment (due for the 3rd of December) consists of a small paper (4 pages plus tables) where you should carry out a multivariate analysis and interpret the results, using the skills you have learned throughout the seminar. For this final exercise participants are encouraged to use their own data (not necessarily the data one will use in his/her thesis). Researchers without applicable data have to contact me and the TAs in order to find proper data for this exercise.

More details on seminar practicalities and the final assignment will be given during the first introductory class.
Schedule (might slightly change)


Readings: Treiman: Chapters 1, 2, 3 and 4

WEEK 2 (Oct 8th): Bivariate regression and correlation. The logic of OLS estimation. How to comment your findings.


Readings: Treiman: Chapter 5


Readings: Chapter 3 from Bohrnstedt and Knoke, Statistics for social data analysis, in the dropbox. Chapters 16, 26 and 29 from Freedman, Pisani and Purves, Statistics, in the dropbox.

WEEK 5 (Oct 29th): Multiple regression.

Readings: Treiman: Chapter 6

Philip A. Schrodt (2010), Seven Deadly Sins of Contemporary Quantitative Political Analysis http://polmeth.wustl.edu/media/Paper/Schrodt7SinsAPSA10.pdf

Additional readings

Special issue of Conflict management and peace studies, V. 22, 4, 2005

WEEK 6 (Nov 5th): Regression diagnostics.

Readings: Treiman: Chapter 7

WEEK 7 (Nov 12nd): Interactions


WEEK 8 (Nov 19th): Introduction to logistic regression


More advanced
WEEK 9 (Nov 26th) More on logistic regression. Comparison with the linear probability model. Examples.

Readings:
Material to be distributed

WEEK 10 (Dec 3rd) Miscellaneous. Limits of the regression model.