



Workshop: Advanced Stata Coding

This course introduces several advanced aspects of Stata coding. It is structured around five to six sessions. The first session is an optional preliminary session that offers background knowledge for the topics covered during the workshop. The second introduces macros (objects that can store any content) and system variables. Researchers will learn how to define, evaluate and call them. The third session focuses on more advanced manipulation of string and macro objects. It introduces functions to access, parse, extract and format their contents. The fourth session demonstrates how to write Stata programs. The fifth session will be open to discuss any aspect of the participants' interests.

All these sessions will provide a hands-on approach using macro-economic data retrieved from Eurostat and OECD. This approach touches on several aspects from data management, to estimation, and data visualisation. This workshop offers invaluable tools for researchers working on large and complex data-intensive projects. It focuses mostly on Stata. However, all the topics will be introduced conceptually, so that researchers can harness this knowledge, not only their fields of research but also to their preferred software.

Instructor: Daniel Fernandes (SPS Department)

Sponsor: Fabrizio Bernardi

Dates: 19th, 20th and 23rd of April 2021

Time: Two sessions per day. Morning session at 11:00-13:00 CET. Afternoon session at 14:00-16:00 CET.

Minimum requirements: Researchers are expected to have Stata 16 installed on their computers and some command of the software

Credits: None

Registration: [Online](#), opens by the end of February. Please register before the 12th of April.

Note: The materials for the workshop and the Zoom link will be sent to the registered participants on April 12th.

Structure of the course

Session 1 (Monday morning): Requirements for the course

- Evaluating expressions with if statements
- Verifying arguments with *assert* and *confirm*
- Using frames
- Temporary variables, temporary files, temporary frames

Session 2 (Monday afternoon): Macros and returned lists

- Macros: the difference between locals, globals, and scalars
- Using results returned by Stata commands
- Using system variables

Session 3 (Tuesday morning): Manipulating strings and macros

- An introduction to string functions
- Using regular expressions in Stata
- Using wildcards in Stata
- Manipulating macros

Session 4 (Tuesday afternoon): Prefix, loops, and dictionaries

- Using the *bysort* prefix
- Using *foreach of*, *foreach in*, *forvalues*, and *while* loops
- Defining nested loops
- Using dictionaries (a.k.a. associative arrays) in Stata

Session 5 (Friday morning): Writing Stata programs

- Running external *.do* files
- Passing arguments to an external *.do* file
- Creating a program with advanced syntax
- Returning results of a program

Session 6 (Friday afternoon): Open session

- To be decided according to the interests of participants (e.g. data visualisation, Python integration).