TAKING YOUR STATA PROGRAMMING SKILLS TO THE NEXT LEVEL: DEVELOPING AND MODIFYING STATA ADO FILES

GENERAL DESCRIPTION

The objective of TStat Training's more advanced course is to provide participants with the programming commands and options required to autonomously develop and modify Stata ADO files. The opening session offers a quick overview of the fundamental concepts and commands (macros, vectors, scalers, looping, branching, temporary objects, **foreach, forvalues**) intrinsic to successful programming development. Session two moves on to illustrate the most effective way to develop a Stata ADO file, introducing participants to more specific programming concepts (such as arguments, local subroutines and the temporary storing of results) and Stata's programming commands **tokenize, macro shift**, **marksample** and **markout** "**byable**" and **sortpreserve**. In section three participants are introduced to Stata's inbuilt matrix capabilities, before moving on in the final session to developing their own programs for linear and maximum likelihood estimators.

In common with TStat's course philosophy, each session is composed of both a theoretical component (in which the programming techniques are fully explained via a series of course specific developed examples), and an applied (hands-on) segment, during which participants have the opportunity to implement the techniques under the watchful eye of the course tutor.

At the end of the course, it is expected that participants will be able to independently implement both the techniques learnt and personalize the ADO program templates specifically developed during the course in order to enhance the effectiveness of their research.

TARGET AUDIENCE

Researchers or professionals with a good knowledge of the introductory programming skills covered on our A Little bit of Programming goes an Awfully Long Way.. wising to take their Programming skills to the next level in order to be able to program their only Stata ADO files for data analysis and data management and to develop develop Stata commands for least squares and maximum-likelihood estimators.

PREREQUISITES

It is assumed that participants have a sound working knowledge of Stata and are familiar with the concepts and Stata commands treated in our introductory Stata programming course: A Little bit of Programming goes an Awfully Long Way..

PROGRAM

SESSION I: PROGRAMMING BASICS | A QUICK REVIEW

1. Macros
   - Global macros
   - Local macros
2. Scalars and matrices
3. Temporary objects
4. Looping
5. Branching

SESSION II: WRITING STATA PROGRAMS

1. Programming in Stata
2. Do-files and ADO-files
3. Writing and modifying a Stata programs
4. Programs *without arguments*
5. Programs with *positional arguments*
6. Programs with *named positional arguments*
7. Storing and retrieving program results
8. Programs with arguments using the "**syntax**" construct
9. Using **tokenize** and **macro shift**
10. ADO-files
11. Implementing program options
12. The return statements
13. Sample restriction with **marksample** and **markout**
14. Making a command "**byable**"
15. The use of **sortpreserve**
16. Writing an **rclass** ADO-file
17. Implementing program options
18. Sample restrictions with **marksample**
19. The usefulness of **markout**

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20. Make a program "**byable**"
21. The use of **sortpreserve**
22. Writing an **eclass** ADO-file
23. More on storing results in **e()**
24. A **eclass** program template
25. Temporarily destroying the data in memory
26. Local sub-routines

SESSION III: STATA MATRIX CAPABILITIES

1. Stata matrix commands
2. Stata matrix **input** and **output**
3. Matrix input from Stata estimation results
4. Stata matrix subscripts and combining matrices
5. Matrix operators
6. Matrix functions
7. Defining a macro by a matrix function
8. Matrix accumulation commands

SESSION IV: PROGRAMMING ESTIMATORS

1. Programming Linear Least Squares estimation
2. Programming Maximum Likelihood estimation
3. Some examples

COURSE REFERENCES

- An Introduction to Stata Programming, Christopher F. Baum, Second Edition, StataPress 2016

DATE AND LOCATION

Due to the ongoing COVID-19 situation, the 2021 edition of this training course will be offered ONLINE on a part-time basis on the 26th and 29th-30th of March 2021 from 10.00 am to 1.30 pm Central European Time (CET).

REGISTRATION FEES

Full-time students*: € 535.00
Academic: € 760.00
Commercial: € 1010.00

To be eligible for student prices, participants must provide proof of their **full-time student status for the current academic year.

Fees are subject to VAT (applied at the current Italian rate of 22%). Under current EU fiscal regulations, VAT will not however applied to companies, Institutions or Universities providing a valid tax registration number.

The number of participants is limited to 8. Places, will be allocated on a first come, first serve basis. The course will be officially confirmed, when at least 5 individuals are enrolled.

Course fees cover: i) teaching materials (copies of lecture slides, databases and Stata programs specifically developed for the course; ii) a temporary licence of Stata valid for 30 days from the day before the course commences.

Individuals interested in attending the training course, must return their completed registration forms to TStat by the **16th March 2021**.

Further details regarding our registration procedures, including our commercial terms and conditions, can be found at www.tstattraining.eu/training/stata_programming_next_level-ol/.

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