A GENTLE INTRODUCTION TO MATA
Berlin, 28-30 October 2019

Mata, Stata's relatively "low level" built-in matrix compiled language, is similar in many ways to R, Matlab or GAUSS. As such, it cannot be considered a replacement for Stata, nor is it intended to be a stand-alone statistical package in itself. Rather it is a programming tool which is best used as a supplement to Stata, in order to execute those tasks, which Stata does not do very well on its own. One of the main drawbacks in learning Mata however, is that the Mata Reference Manual, whilst extremely detailed, offers little advice on how Mata can be actively implemented. In this course therefore, we seek to bridge this gap, offering participants a gentle, but extensive introduction into Mata's programming capabilities. To this end, the opening sessions focus on more general considerations, such as when the use of Mata is either justified or warranted and offers participants an overview of Mata's syntax and its principle commands. The program then moves on to illustrate both Mata's functions and built-in libraries and how Mata's operators (such as functions, pointers and structures) and code can be effectively integrated in both user written do and ado files.

At the end of the workshop, it is expected that participants we be able to independently implement the techniques learnt during the course of the workshop in order be able to use Mata to work more effectively in Stata.

This course is, by it's very nature, to be considered much much a "hands-on/applied training program". Each session is composed of both a theoretical component (in which the techniques are explained), and an applied (hands-on) segment, during which participants have the opportunity to implement the techniques under the watchful eye of the course tutor. Throughout the course, theoretical sessions are reinforced by practical examples, in which the course tutor discusses and highlights potential pitfalls and the advantages of individual programming techniques.

TARGET AUDIENCE

Researchers in any field interested in learning Stata's programming matrix language. Ph.D. students and researchers interested in extending their existing knowledge of Mata.

COURSE REQUISITES

A good knowledge of Stata and its programming functions/commands. Please note: a working knowledge of "low-level" and matrix programming languages is to be considered a "plus".

WORKSHOP CODE

D-IN19

DATE AND LOCATION

Berlin, 28-30 October 2019

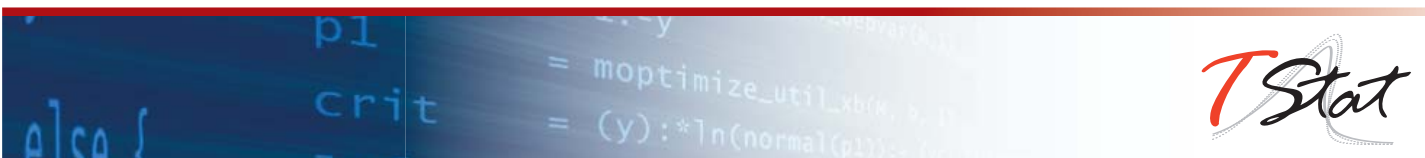https://www.tstattraining.eu/training/gentle-introduction-mata/

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PROGRAM

SESSION I:
1. A taxonomy of Mata functioning
2. Obtaining help in Stata
3. Using Mata interactively
4. Mata syntax and operators
5. Subscripting
6. Customizing graphs

SESSION II:
1. Functions: types, declarations and arguments
2. Compile and use a function
3. Flow of control: loops and brenching
4. Built-in Mata functions
5. Mata libraries
6. Using Mata with *do-files*

SESSION III:
1. Functions of functions
2. Pointers and structures
3. Functions' optimization: **optimize and moptimize**
4. Using Mata with *ado-files*

USEFUL TEXTS

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

- The Mata Book: A Book for Serious Programmers and Those Who Want to Be, William Gould, Stata Press 2018

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REGISTRATION FEES

Students*: € 735.00
Academic: € 1171.00
Non-Profit/Public Research Centres: € 1480.00
Commercial: € 1640.00

*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.

Please note that a *non-refundable deposit* of €100.00 for students and €200.00 for Academic, Non-Profit/Public Research Centres and Commercial participants, is required to secure a place and is payable upon registration. The number of participants is limited to 15. Places will be allocated on a first come, first serve basis.

Course fees cover: teaching materials (handouts, Stata *do files* and datasets to used during the course), a temporary licence of Stata valid for 30 days from the beginning of the workshop, light lunch and coffee breaks.

To maximize the usefulness of this workshop, we strongly recommend that participants bring their own laptops with them, to enable them to actively participate in the empirical sessions.

REGISTRATION DEADLINE

Individuals interested in attending this workshop must return their completed registration forms by email (training@tstat.eu) to TStat by the 8th October 2019.

CONTACTS

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Further details regarding our registration procedures, including our commercial terms and conditions, can be found at https://www.tstattraining.eu/training/gentle-introduction-mata/