



WORKSHOP

APPLIED PANEL DATA ANALYSIS IN STATA

Beirut, 15-18 October 2018

Panel data analysis contains information on many cross-sectional units, which are observed at regular intervals across time. Panel data, by its very nature, can be highly informative regarding dynamic effects across different units and thus they are increasingly used in econometrics, financial analysis, medicine and the social sciences. This introductory course offers participants the opportunity to acquire the necessary theoretical background and the applied skills to enable them to: i) independently employ micro panel data techniques to their own research topics, and ii) to understand and evaluate micro panel data analyses published in the academic literature. The course focuses on the techniques adopted for the analysis of stationary panel data sets, including fixed and random effects models; hypothesis testing; the violations of the basic assumptions of regression analysis; unbalanced panels; instrumental variable estimation techniques and non-linear panel data models. Special attention will also be given to the interpretation and presentation of results. At the end of the course, it is expected that participants are able to implement independently the methodologies and techniques acquired during the three day workshop.

The workshop opens with an optional introductory one day course (Module A) to the statistical package Stata, during which participants will be provided with an overview of the necessary Stata commands and tools to enable them to: a) carry out data analysis, data management, importing and export of different data formats and the creation of graphs in Stata; and b) actively participate in the applied empirical Lab sessions during the course of the Panel Data workshop.

In common with TStat's training philosophy, each individual session is composed of both a theoretical component (in which the techniques and underlying principles behind them are explained), and an applied (hands-on) segment, during which participants have the opportunity to implement the techniques using real data under the watchful eye of the course tutor. Throughout the workshop, theoretical sessions are reinforced by case study examples, in which the course tutor discusses and highlights potential pitfalls and the advantages of individual techniques.

WORKSHOP CODE

D-EF10B

DATE AND LOCATION

Beirut, 15-18 October 2018

University of Sciences and Arts in Lebanon
(USAL)

Faculty of Management, Finance, and
Economics (FMFE)

Airport Road, Ghobeiry, Beirut, Lebanon



TARGET AUDIENCE

The Panel data workshop is of particular interest to Master and Ph.D. Students, researchers in public and private research centres and professionals working in the following fields: Agricultural Economics, Economics, Finance, Management, Public Health, Political Sciences and the Social Sciences seeking to acquire the "introductory" applied and theoretical toolset to enable them to undertake independent empirical research using panel data.

<https://www.tstattraining.eu/training/panel-data-analysis-stata-10b>

APPLIED PANEL DATA ANALYSIS IN STATA

PREREQUISITES

MODULE A Introduction to Stata: Familiarity with PCs and a working knowledge of English.

MODULE B Panel Data Analysis: Participants are required to have a good working knowledge of the OLS regression model and the statistical software Stata.

PROGRAM

MODULE A

INTRODUCTION TO STATA

SESSION I: INTRODUCTION GETTING STARTED

1. Stata's GUI
2. File types in Stata
3. Working interactively in Stata
4. Saving output: the log file
5. Interrupting Stata
6. Loading Stata databases
7. The Log Output File
8. Saving databases in Stata
9. Exiting the software

SESSION II: PRELIMINARY DATA ANALYSIS

1. A preliminary look at the data: *describe*, *summarize* commands
2. Abbreviations in Stata
3. Stata's syntax
4. Summary statistics
5. Statistical Tables: *table*, *tabstat* and *tabulate* commands

SESSION III: DATA MANAGEMENT

1. Renaming variables
2. Selecting or eliminating variables
3. The *count* command
4. *sort* command
5. Creating sub-groups: the prefix *by*
6. Creating new variables: *generate*
7. Operators in Stata
8. The command *assert*
9. Missing values in Stata
10. Modifying variables: *replace*, *recode*
11. Creating Labels: variable labels and value labels
12. Creating dummy variables

SESSION IV: IMPORTING DATA FROM SPREADSHEETS

1. *Import Excel* and *Export Excel* commands
2. The *insheet* and *outsheet* commands
3. Reading in Text Data Files
4. Issues to watch out for when importing data
 - Missing values
 - String variables
 - Date variables
5. Redefining missing values
6. *destring* command
7. *tostring* command
8. dealing with "messy" strings

<https://www.tstattraining.eu/training/panel-data-analysis-stata-10b/>



APPLIED PANEL DATA ANALYSIS IN STATA

SESSION V: GRAPHICS A BRIEF INTRODUCTION

1. Stata's syntax for two way graphs
2. Saving and exporting graphs
3. Useful *graph* commands
4. Personalizing a graph
5. Stata's Graph Editor

APPENDIX A:

1. Useful to know

APPENDIX B: MORE ADVANCED ISSUES (TIME PERMITTING)

1. *do files*
2. Merging data bases
3. *e-class* and *r-class* variables
4. *collapse* command
5. *preserve* command
6. *restore* command

MODULE B

PANEL DATA ANALYSIS IN STATA

SESSION I: INTRODUCTION

1. Panel data: definition
2. Panel data: benefits for estimation and inference

SESSION II: LINEAR PANEL DATA MODELS WITH EXOGENOUS VARIABLES

1. One-way and two-way fixed effect estimators: *xtreg, fe*
2. Random Effects Estimators: *xtreg, re; xtmixed*

SESSION III: LINEAR PANEL DATA MODELS WITH EXOGENOUS VARIABLES: ROBUST INFERENCE

1. Robust covariance estimators
2. The first-difference estimator
3. Testing for non *i.i.d.* errors
4. Testing Random Effects against Fixed Effects: *hausman*

SESSION IV: LINEAR PANEL DATA MODELS WITH EXOGENOUS VARIABLES

1. General aspects of IV and GMM
2. Estimators with strictly exogenous IV
 - Fixed and Random Effect IV Estimators: *xtivreg*
 - Hausman and Taylor's estimator: *xhtaylor*
3. Dynamic panel data estimators: *xtabond*

SESSION V: NON-LINEAR PANEL DATA MODELS

1. The incidental parameter problem in non-linear models
2. Probit panel data models: *probit, xtprobit*
 - Random-effect models
 - Correlated effects modelled as group means
 - Partial effects
3. Logit panel data models: *logit, xtlogit*
4. Random effects
5. Correlated effects (conditional logit)
6. Poisson panel data models: *poisson, xtpoisson*
 - Random effects
 - Correlated effects (conditional poisson)



APPLIED PANEL DATA ANALYSIS IN STATA

REGISTRATION FEES

MODULE A - Introduction to Stata (1 day)

Students*: € 150.00
Academic: € 350.00
Non-Profit/Public Research Centres: € 425.00
Commercial: € 525.00

MODULE B - Panel Data Analysis (3 days)

Students*: € 735.00
Academic: € 1225.00
Non-Profit/Public Research Centres: € 1513.00
Commercial: € 1800.00

MODULES A + B (4 days)

Students*: € 835.00
Academic: € 1525.00
Non-Profit/Public Research Centres: € 1888.00
Commercial: € 2275.00

*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.

Further details regarding our registration procedures, including our commercial terms and conditions, can be found at <https://www.tstattraining.eu/training/panel-data-analysis-stata-10b/>

USEFUL TEXTS

Panel Data Econometrics Advanced Texts in Econometrics (2003) di M. Arellano, Oxford University Press

Microeconometrics using Stata, Revised Edition, (2010) di A. C. Cameron e P. K. Trivedi, Stata Press

Econometric Analysis of Cross Section and Panel Data (2010) di J. Wooldridge, MIT Press

REGISTRATION DEADLINE

Individuals interested in attending this workshop must return their completed registration forms either by email (training@tstat.eu) or by fax (+39 0864 206014) to TStat by the 15th of September 2018.

CONTACTS

Monica Gianni

TStat Training | Kleebergstraße, 8
D-60322 Frankfurt am Main

TStat S.r.l. | Via Rettangolo, 12-14
I-67039 Sulmona (AQ)
T. +39 0864 210101

training@tstat.eu

www.tstattraining.eu

www.tstat.eu

