WORKSHOP

DYNAMIC PANEL DATA ANALYSIS

Singapore, 11-13 November 2019

Frankfurt am Main, 2-4 December 2019

WORKSHOP CODE

D-EF24

DATES AND LOCATION

Singapore, 11-13 November 2019
Frankfurt am Main, 2-4 December 2019

TARGET AUDIENCE

Our Dynamic Panel Data Analysis workshop is of particular interest to 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, wishing to acquire the necessary applied and theoretical skills in order to be able independently conduct applied empirical research on dynamic panel data.

COURSE REQUISITES

It is assumed that delegates have an introductory knowledge of panel data analysis (familiarity with the arguments covered in our introductory panel data analysis course), IV and GMM estimation techniques, together with previous experience in using Stata.

Dynamic models are of interest in a wide range of economics, financial social and medical models. Consequently, dynamic panel data analysis has become increasingly popular due to its ability to take into account both short and long term effects and unobserved heterogeneity between economic agents in the estimation of the parameter estimates.

This workshop provides a rigorous overview of existing dynamic panel data analysis techniques, thus offering participants the opportunity to acquire the more advanced technical capabilities currently available for panel data analysis. Participants are provided, through a series of illustrative examples, with a theoretical and applied overview of Instrumental variable analysis (IV) and Generalized methods of moments (GMM), both of which being an important class of estimators for the estimation of dynamic linear panel data models. The course then turns to address more recent issues in dynamic panel data analysis, such as weak instruments with persistent data; instrument proliferation; gaps in the data; estimation with serially correlated errors; robust inference with multiway clustering and the finite-sample performance of estimators and tests. The course concludes by addressing the issues of; i) non-stationarity in long panels, where the time series (as opposed to cross-sectional) characteristic of the data dominates; and ii) cointegration.

During the three days, particular attention will be paid (using a combination of both official Stata and user written dynamic panel data analysis commands) to: i) evaluating which specific econometric methodology/specification is more appropriate for the analysis in hand; ii) selection of the appropriate instruments; iii) rigorous post estimation diagnostic/specification testing; and iv) the problems of inference resulted from weak-instrument bias, instrument-proliferation bias and small-sample bias. 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, with the aid of the Stata routines utilized during the sessions, to correctly implement independently the methodologies and techniques acquired during the three days.

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.

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PROGRAM

SESSION I: SIMPLE ESTIMATORS

1. The DPD Model
   - Introduction
   - The model
   - Inconsistency of the LSDV and RE estimators
   - Monte Carlo evaluation of the bias
2. IV estimators
   - Introduction
   - The AH estimators

SESSION II: GMM ESTIMATORS

1. The DPD Model
   - The model
   - Assumptions
2. The Arellano and Bond GMM estimators
   - More restrictions from A.1
   - The one-step estimator
   - The two-step estimator
   - Specification tests
   - The Windmeijer's correction of two-step SEs
3. Blundell and Bond system estimators
   - Weak instruments with highly persistent series
   - Mean stationarity
   - The system estimators

SESSION III: IMPLEMENTING IN STATA THE ARELLANO AND BOND DPD ESTIMATORS

1. Three Stata commands for AB
   - Introduction
   - The default AR(1) model
   - Higher order AR models
   - Specifying exogenous covariates
   - Specifying predetermined covariates
   - Specifying predetermined covariates and their lags
2. Replicating Arellano and Bond (1991)
   - Data
   - *xtabond*
   - *xtdpd*
   - *xtabond2*

SESSION IV: IMPLEMENTING IN STATA BLUNDELL AND BOND DPD ESTIMATORS

1. Three Stata commands for the System estimator
   - Introduction
   - Examples of system estimator with exogenous and predetermined covariates
2. Replicating BB (1998)
   - Introduction
   - *xtabond2*
   - *xtdpd*

SESSION V: FURTHER TOPICS IN DPD

1. Reducing the instrument count
   - Introduction
   - Instrument proliferation
   - Autocorrelation of errors in the level equation
2. Forward orthogonal deviations
   - Two issues in the FD transformation
   - FOD

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3. Bias corrected LSDV in DPD
   - Introduction
   - Approximations of the LSDV bias
   - Application

SESSION VI: NON-STATIONERY PANELS INTRODUCTION

1. Panel unit root tests
   - The *xtunitroot* command
   - Applications
   - Testing unit-root through DPD estimators
2. Panel cointegration in Stata
   - Estimation: the *xtpmg* command
   - Tests: *xtcointtests*
   - Tests: *xtwest*

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 the workshop in one of these dates, must return their completed registration forms by email (training@tstat.eu) to TStat by the

11th October for the Singapore date
2nd November fot the Frankfurt date

CONTACTS

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REGISTRATION FEES

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

*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/dynamic-panel-data-analysis/