



TRAINING COURSE | ONLINE

INTRODUCTION TO SPATIAL ECONOMETRICS USING STATA

28 September - 2 October 2020

Many phenomena in the economics, medical and social fields, such as unemployment, crime rates or infectious diseases, tend to be spatially correlated. Spatial Econometrics, in contrast to standard econometric modelling, exploits cross-sectional and panel data collected with reference to location measured as points in space for dealing with spatial dependence and spatial heterogeneity. Our “Introduction to Spatial Econometrics using Stata” course offers researchers a unique opportunity to acquire the necessary theoretical and empirical toolset for the analysis of spatial longitudinal data, using the more recently developed spatial econometrics methodologies. The course begins by providing an overview of the more standard concepts in spatial econometrics and illustrating how one should prepare the data set for spatial analysis, before moving on to review the latest methodologies and commands (both official and user written commands) available in Stata. The course concludes by focusing on a number of more recent developments in spatial econometrics allowing simultaneously for serial dynamics, spatial spillovers and common factors. During the course, attention will also be given to the interpretation and presentation of results obtained.

In common with TStat’s course 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 segment, during which participants have the opportunity to implement the techniques using real data under the watchful eye of the course tutor. Throughout the course, theoretical sessions are reinforced by case study examples, in which the course tutor discusses and highlights potential pitfalls and the advantages of individual techniques. At the end, it is expected that participants are able identifying and evaluate which specific econometric method is more appropriate for the analysis in hand.

COURSE CODE

D-EF34-OL

DATE AND LOCATION

Due to the current COVID-19 situation, the 2020 edition of this Training Course will now be offered **ONLINE**, on a part-time basis from the 28th September to the 2nd October 2020. To this end, this year’s programme has been transformed into a series of module based on 5 sessions scheduled Monday to Friday from 10.00 am to 1.30 pm Central European Summer Time (CEST).

In addition, an informal hour long evening Study Group session will take place during the week of the course.

TARGET AUDIENCE

Ph.D. Students, researchers and professionals working in public and private institutions interesting in acquire the latest empirical techniques to be able to independently implement spatial data analysis.

PREREQUISITES

Knowledge of the arguments covered in our Panel Data Analysis training course, along with experience of Stata’s basic commands is required.

<https://www.tstattraining.eu/training/intro-spatial-econometrics-stata-ol/>

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PROGRAM

- SESSION I:**
1. A taxonomy of spatial econometric models
 2. Overview of the new Stata 16 sp suite of commands
 3. Preparing data for the spatial analysis:
 - Data with *shapefiles*: Creating and merging a Stata-format *shapefiles* (**spshape2dta**)
 - Spatial data declaration: **spset**
 - Data with coordinates of the geographical units **spset, coord()**
 - Longitudinal (balanced vs unbalanced) datasets: **spbalance**
 - The *W* (weighting) matrix: creation, standardization and description using **spmatrix**
 - Quick spatial data visualization **grmap**
- SESSION II:**
1. Quasi Maximum Likelihood (QML) and generalized Spatial two-stage least-squares (GS2SLS) estimation of spatial autoregressive models for cross-sectional data (**spregress** and **spivregress**)
 - Partial effects: direct, indirect and total effects
 - Hypothesis testing and model selection
 1. A taxonomy of spatial autoregressive models for panel data
 2. QML and GMM estimation of *static* spatial autoregressive models for panel data (**spxtregress**)
 - Partial effects: direct, indirect and total effects
 - Hypothesis testing and model selection
- SESSION III:**
1. QML estimation of *static* “generalized” spatial error models (**xsmle**)
 2. QML estimation of spatial autoregressive models for unbalanced panel data (**mi estimate: xsmle**)
 3. QML estimation of *dynamic* spatial autoregressive models for panel data (**xsmle**)
 4. Recent developments in spatial panel data modeling:
 - Spatial spillovers and common factors:
 - tests for strong cross-sectional dependence
 - one and two-stage approaches to spatial dynamic models with common factors (**xsmle**)
 - Spatial *dynamic* panel data models with interactive fixed effects (**xsmle**)

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REGISTRATION FEES

Full-Time Students*: € 1065.00

Academic: € 1515.00

Commercial: € 2020.00

*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: teaching materials (handouts, Stata do-files, program templates and datasets to use during the course), a temporary course licence of Stata valid for 30 days from the beginning of the course.

Individuals interested in attending this course, must return their completed registration forms to TStat by the **8th September 2020**.

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/intro-spatial-econometrics-stata-ol/>

