

SPATIAL ECONOMETRICS IN AGRICULTURAL ECONOMICS

TRAINING SESSIONS

25-28 September, 2017

Whithin the ENHANCE project, in the period 24-27 September, 2018 at the Faculty of Management, Economic Engineering and Rural Development, Bucharest, Building P, Room 30, will be conducted the fourth and last course given by the partners from BOKU, Austria –Dr. Andreas Niedermayr.

This course provides an introduction to spatial econometric techniques in the context of agricultural economics. In principle, spatial econometric models expand non spatial regression models by including spatial relations between observations in a regression model, which allows one to analyse spatial phenomena in economics such as externalities, interactions or spatial concentration.

Instead of focusing solely on theoretical/methodological aspects (theoretical motivation, models, estimation procedures, test statistics), it is more aimed at covering practical topics like for example differentiating between spatial heterogeneity and spatial dependence, the issue of causality in spatial econometrics, definition of neighborhood and spatial weights, data availability and management, applied modeling examples and pitfalls, when carrying out an empirical analysis.

At the end of this course the participants are expected to be able:

- to provide different theoretical motivations for applying spatial econometric models
- to differentiate between spatial heterogeneity and spatial dependence
- to apply spatial econometric models in R and interpret as well as graphically represent and critically discuss their results.
- to critically discuss papers that apply spatial econometric methods in agricultural economics



Project: Building an Excellency Network for Heightening Agricultural ecoNomic researCh and Education in Romania – ENHANCE
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691681

The courses detailed schedule

Hour	Monday, 24 September	Tuesday, 25 September	Wednesday 26 September	Thursday 27 September
09 ⁰⁰ – 12 ⁰⁰	<u>Theory:</u> General introduction of the topic and of participants Theoretical foundations of and other motivation for the use of spatial econometrics	<u>Theory:</u> Introduction to spatial econometrics (what is it? Difference between spatial heterogeneity and spatial dependence, spatial autocorrelation, spatial weights matrix, etc.	<u>Theory:</u> Spatial econometric models for cross-sectional data (SAR, SEM, SLX, SDM, SDEM, GNS, GWR): theoretical motivation, estimation and interpretation of marginal effects	<u>Theory:</u> Presentation and discussion of different papers in agricultural economics that apply spatial econometric models
12 ⁰⁰ – 13 ³⁰	Lunch Break			
13 ³⁰ – 16 ³⁰	<u>R-Lab:</u> Basics in R Basics in Matrix Algebra and linear regression	<u>GeoDa-Lab:</u> Basics in GeoDa (visualizing spatial data, definition of neighborhood and construction of spatial weight matrices, exploratory spatial data analysis - ESDA)	<u>R-Lab:</u> Estimation of different spatial econometric models in R and interpretation of marginal effects	<u>R-Lab:</u> Replication of model results of selected paper(s) with R



University of Agronomic
Sciences and Veterinary
Medicine of Bucharest



Faculty of Management,
Economic Engineering in Agriculture
and Rural Development



Eidgenössisches
Departement für Wirtschaft,
Bildung und Forschung



Universität
für Bodenkultur
Wien



Leibniz-Institut für
Agrarentwicklung in
Transformationsökonomien