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Advanced Econometric Methods

using EViews

3-Day Professional Development Workshop

Workshop Programme

This course will present an advanced treatment of econometric principles for cross-sectional, panel and time-series data sets. While concentrating on linear models, some non-linear cases will also be discussed, notably limited dependent variable models and generalised methods of moments. The course will focus on modern econometric techniques, addressing both technical derivations and practical applications. Applications in the areas of microeconomics, macroeconomics and finance will be considered.

Prerequisites: Introductory Econometrics, Econometrics II, Calculus and Matrix Algebra

The applied work will be performed using a software program called EViews. Data sets for the applications will be provided. Participants are advisable to bring their own preinstalled laptops if they wish to try out the applied work during this seminar.

The topics covered will include.

- Day 1: Main Regression. Topics to include:
 - Principles of Estimation (Ordinary Least Squares, Generalized Least Squares and Maximum Likelihood Estimation with Micro-Econometric applications)
 - Principles of Testing (t- and F-test; Wald, Likelihood Ratio, Lagrange Multiplier Testing Principles).
- Day 2: Estimation Methodology. Topics to include:
 - Endogeneity in linear regression models
 - Instruments
 - 2SLS estimator and Generalized IV estimator
 - Simultaneous equations. Motivation, definition and asymptotic properties of GMM estimator
 - Efficient GMM estimation
 - Over-identifying restrictions. Introduction to Panel Data Models: Fixed effect and random effect models
- Day 3: Time Series and Macro-Econometrics. Topics to include:
 - Basic Time Series Processes
 - Stationary Time Series Models
 - Non-Stationarity; Forecasting
 - Introduction to Vector Autoregressions. ARCH/GARCH.