

ECON6026 (EC65B) – Econometrics II

Year: Semester II, 2018-19

Pre-Requisite: ECON6003 – Econometrics I, or its equivalent

Lecturer: Patrice Whitely

Office Hours: Mondays 3-5, Tuesdays 1-3

Course Description

This course is an introduction to time series and panel data analysis. It involves the application of econometric methodology to time series and panel data for estimation and hypothesis testing in dynamic economic models. The unique problems that arise in the analysis of this type of data will be highlighted and the required specialized methods of data analysis will be presented. The class lectures will expose the students to these theoretical issues. The application of the methods introduced will take the form of a research paper.

Learning Outcomes

At the end of this course students should be able to:

1. Critically assess the differences between time series, cross sectional and panel data
2. Explain the classical linear model assumptions as they relate to the different types of data
3. Solve and manipulate difference equations
4. Explain stationarity
5. Describe how to go about using non-stationary data in time series analysis
6. Explain, estimate and critically analyze the results of vector autoregressions
7. Explain and apply co-integration and error-correction models
8. Explain and apply ARCH and GARCH models
9. Distinguish between random effects and fixed effects
10. Estimate random and fixed effects models

Modes of Delivery

Two lecture hours and one lab hour.

Assessment

Problem Sets – 20%

Referee Report – 20%

Research Paper – 60%

There is no mid-term or final exam for this course. Class work includes a series of homework assignments. Each student MUST submit his or her own written assignment. Students are discouraged from simply copying someone else's homework and submitting it. This practice will ensure that you will not learn anything. Late assignments will not be accepted. No excuses for late work will be accepted – these include computer crashes, dengue fever, Armageddon or excess stress, among others. Students are advised to save all data and output on a jump/flash drive and to back up all saved files by emailing them to themselves.

The deadline for all assignments will be announced in class and posted on OURVLE.

The lecturer reserves the right to change the course outline, the sequence of topics and deadlines for assignments. All changes will be announced in class and posted on OURVLE.

Syllabus

1. Basic Tools in Time Series Analysis
2. Stationarity
3. Non-stationary Time Series
4. Vector Autoregressions
5. Cointegration and Error – Correction Models
6. ARCH and GARCH Models
7. An Introduction to Panel Data

Resources

Required Textbook:

Enders, Walter, *Applied Econometric Time Series*, 2nd Edition (2004)

Reference Textbooks:

Hamilton, J., *Time Series Analysis*, (1994)

Wooldridge, J, *Econometric Analysis of Cross Section and Panel Data* (2002)