UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

EXECUTIVE DEVELOPMENT AND INDUSTRY LINKAGES UNIT (EDIL)

FACULTY OF ECONOMICS AND MANAGEMENT

5 TO 6 SEPTEMBER 2018

PANEL DATA ANALYSIS – LONG TIME SERIES PANELS

FEE

Normal: RM750/person or
Group Registration: RM1800/3 person
UPM Student: RM600/person
Dateline Registration: 31st August 2018

Panel data methods have become more common modelling the behaviours among country level and macro data, etc., as a result of the development of powerful software for panel data estimation. The time series long panel data analysis has been getting popular in applied empirical research recently. This two-day workshop covers first and second generation nonstationary techniques such as panel unit root, panel cointegration, long-run and short-run estimations, as well as panel Granger causality. The workshop aims to familiarize participants with long panel data structures and equip them with core skills in using panel data methods. This will be achieved through a combination of short lecturers and computer lab sessions, with greater emphasis on giving participants hands-on experience.

For any enquiries: **Executive Development and Industry Linkages Unit, Faculty of Economics and Management**

AACSB ACCREDITED

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INTRODUCTION

At the end of the workshop, participants will perform, analyze and interpret the results of long time series panel estimations confidently based on their own research projects.

Specific questions include:

• How do differentiate the 1st and 2nd generation panel estimation techniques?

• How should unobserved individual heterogeneity be dealt with in panel time series?

• What are the properties of 2nd generation tests for unit roots and cointegration in panel time series, compared with 1st generation panel time series?

• How to re-shape the data to panel data structure and transfer the output to MS Word directly?

LEARNING OUTCOMES

1. To apply the right long time series panel estimations
2. To differentiate the 1st and 2nd generation panel estimation techniques
3. To identify the long-run and short-run dynamic relationships
4. To derive the autoregressive disribution lag (ARDL) model in panel data setting
5. To detect the causal effects of long time series panel variables

TOPICS INCLUDE

1st Generation Estimation – Cross-sectional Independence

Panel unit root tests

- Levin and Lin (LL) Test
- Im, Pesaran and Shin (IPS) Test
- Maddala and Wu (MW) Test

Panel Cointegration

- Pedroni (2000, 2004) Test

Dynamic Heterogenous Panels

Panel Cointegration Long—run Estimations

- Mean Group (MG)
- Pooled Mean Group (PMG)
- Dynamic Fixed Effect

Dynamic Ordinary Least Squares (DOLS)

Fully Modified Ordinary Least Squares (FMOLS)

2nd Generation Estimation - Cross-sectional Dependence(CSD)

Testing for Cross-sectional Dependence

- N > T (Frees (1995) and Pesaran (2004) tests)
- T > N (Breusch-Pagan LM Test)

Non-stationary panels allowing for Cross-sectional Dependence

- Pesaran (2003) Cross-sectionally augmented Dickey Fuller (CADF) unit root test

Panel Cointegration Test with Cross Section Dependence

Long-run Estimation with Cross-sectional Dependence

- Common Correlated Mean Group (CCEMG)
- Augmented Mean Group (AMG)

Panel Granger Causality (Dumitrescu and Hurlin, 2012)