ECONOMETRICS SHORT COURSES

@ COMP. LAB. 3, SCHOOL OF MATHEMATICAL SCIENCES, USM PENANG

SHORT PANEL DATA ANALYSIS

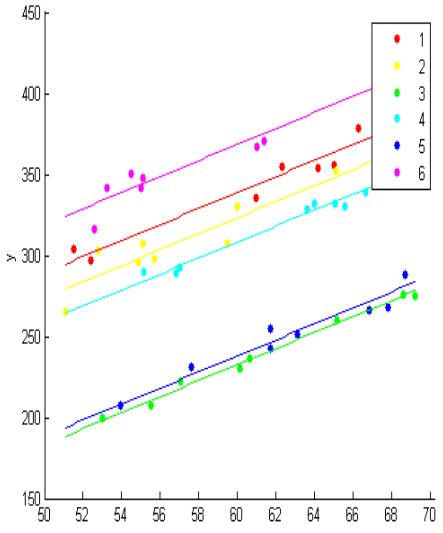
13 (Sat) & 14 (Sun) MARCH 2021

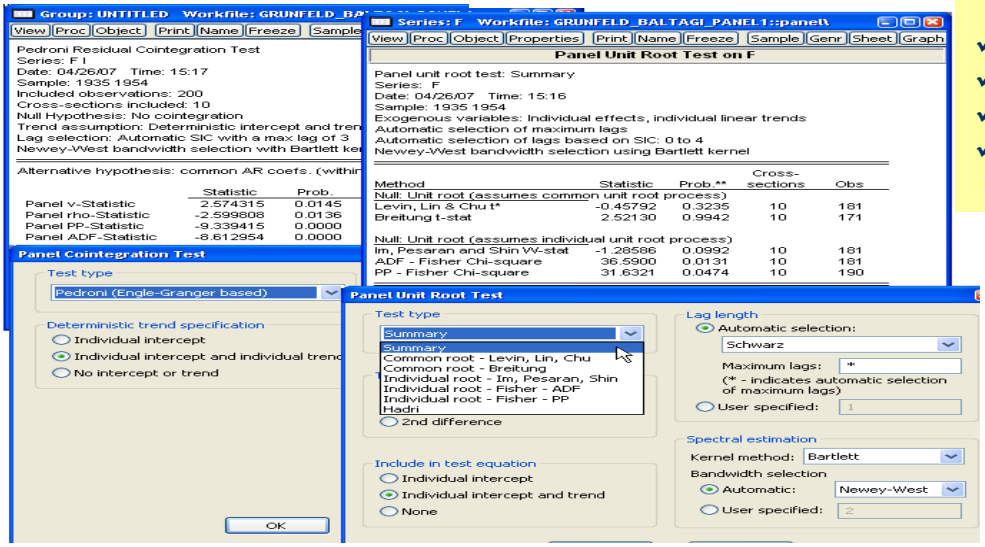
```
Random-effects GLS regression                   Number of o
Group variable: country                         Number of g

R-sq:  within  = 0.1045                         Obs per gro
       between = 0.2850
       overall = 0.2664

                                                Wald chi2(4
corr(u_i, X)   = 0 (assumed)                    Prob > chi2
```

suicid~_male	Coef.	Std. Err.	z	P>|z|	[
pol	-.0554296	.1183795	-0.47	0.640	-.
gdppercapita	-.000118	.0000202	-5.83	0.000	-.
gdpgrowth	-.1896904	.0397366	-4.77	0.000	-.
lat	.2617909	.0805254	3.25	0.001	.
_cons	13.5263	3.203002	4.22	0.000	7
sigma_u	10.845206				
sigma_e	3.382047				
rho	.91137044	(fraction of variance due to u_			





The **OBJECTIVE** of this course is to introduce participants with VAR model and panel data structures and also to equip them with core skills in analyzing techniques for various types of panel data

COURSE CONTENTS

SHORT PANEL DATA ANALYSIS

- ✓ Fixed & Random Effects
- ✓ Pooled OLS, Hausman Test
- ✓ Arellano-Bond Difference GMM
- ✓ Blundell-Bond System GMM

ECONOMETRIC ANALYSIS WITH STRUCTURAL BREAK:

- ✓ Long-run Models: FMOLS/DOLS/CCR
- ✓ Quandt-Andrews, Bai-Perron Tests
- ✓ Gregory & Hansen (1996) Test
- ✓ Johansen, Mosconi and Nieldsen (2000) Cointegration Test

WHO SHOULD ATTEND

Academics and Graduate Students as well as Researchers, Analysts and Consultants in various business disciplines that may include Private & Public Sector Organizations, Banks & Financial Institutions and Regulatory Authorities.

HANDS-ON: EVIEWS & STATA

FACILITATOR: Professor Dr. Eng Yoke Kee (UTAR)

ECONOMETRIC ANALYSIS WITH STRUCTURAL BREAK

3 (Sat) & 4 (Sun) APRIL 2021

SHORT PANEL DATA ANALYSIS

DAY 1 : SATURDAY, 13 MARCH 2021	
8:15 AM	**REGISTRATION**
8:45 AM	**SESSION 1 – THE NATURE OF PANEL DATA** ▪ Nature and Benefits od Panel Data; Examining & Arranging Your Dataset
10:30 AM	**TEA BREAK**
10:45 AM	**SESSION 2 – STATIC LINEAR PANEL MODELS** ▪ Panel Data Basics: Pooled OLS, Fixed and Random Effects
12:45 PM	**LUNCH**
2:00 PM	**SESSION 3 – SELECTING PANEL DATA MODELS** ▪ Poolability F-test, Breusch-Pagan LM Test, Hausman Test
3.45 PM	**TEA BREAK**
4.00 PM	**SESSION 4 – ISSUES ON PANEL DATA MODELS: ROBUST ESTIMATES** ▪ Diagnostic Tests and Robust Standard Errors
5:45 PM	**Q & A (SESSIONS 1 - 4)**
DAY 2 : SUNDAY, 14 MARCH 2021	
8:30 AM	**SESSION 5 – DYNAMIC PANEL DATA APPROACH** ▪ Why Dynamic Panel?
10:15 AM	**TEA BREAK**
10:30 AM	**SESSION 6 – MULTIVARIATE DYNAMIC MODELS WITH PERSISTENT SERIES** ▪ Arellano-Bond Difference Estimator, 1-step vs. 2-step Weights
12.45 PM	**LUNCH**
2.00 PM	**SESSION 7 – MORE EXERCISE ON DYNAMIC PANELS** ▪ Arellano-Bover System GMM Estimator, Valid Instrument, Diagnostic Checks
3.45 PM	**TEA BREAK**
4.00 PM	**SESSION 8 – SUMMARIZING STATIC AND DYNAMIC PANEL APPROACH** ▪ Recap on Procedures for Static Panels and Techniques for Dynamic Panels
5.30 PM	**Q & A (followed by CERTIFICATE PRESENTATION at 5.45pm)**

For more information on content of courses and brochure, kindly contact:
Dr. Zainudin Arsad (013-5159571 or zainudin.arsad@usm.my) or Ms. Noor Farhana Fazil (nfarhana.stat17@gmail.com)

Facilitator

PROFESSOR. DR. ENG YOKE KEE is a Professor in the Faculty of Business & Finance, Universiti Tunku Abdul Rahman, Malaysia. She obtained her Ph.D from Faculty of Economics and Management, Universiti Putra Malaysia. She has extensive research experience using a wide range of statistical packages, which include but is not limited to EViews, Gauss, Stata, Matlab, and RATS.

Prof. Eng was awarded a **Diploma in Panel Econometrics in 2014 taught by Jeffrey Wooldridge**, one of the pioneers in cross-sectional and panel data. Her articles have been published in China Economic Review, Economics Letters, International Review of Economics and Finance, Review of Development Economics, Economic System, The North American Journal of Economics and Finance, Journal of the Asia Pacific Economy, among many others. Prof. Eng has regularly conducted quantitative econometric workshops in Universiti Malaya, Universiti Sains Malaysia as well as Universiti Tunku Abdul Rahman.

Accommodation

Recommended nearby hotel is U Hotel (RM175 - RM225, reservation at 04-658-1000, only 300m walk from USM). Alternatively, stay at Vistana Hotel (RM225 - RM350, reservation at 04-646-8000, 3km from USM, 10mins by taxi). Muslims can try to get a room at the USM Pusat Islam (only RM70 per night, limited rooms, enquiry at 04-653-3753). For other listings please visit www.penang-hotels.com.

ECONOMETRIC ANALYSIS WITH STRUCTURAL BREAK

DAY 1 : SATURDAY, 3 APRIL 2021

8:15 AM	**REGISTRATION**
8:45 AM	**SESSION 1 – PROPERTIES OF TIME SERIES DATA** ▪ Trend in Time Series Data, Classical Regression in the Context of Time Series
10:30 AM	**TEA BREAK**
10:45 AM	**SESSION 2 – NONSTATIONARY & UNIT ROOT TEST** ▪ Why Stationarity Important, How Do We Test for Unit Root
1:00 PM	**LUNCH**
2:00 PM	**SESSION 3 – COINTEGRATION TESTS** ▪ Cointegration – When I(1) Series are Genuinely Related, Engle-Granger Residual-based Test
3:45 PM	**TEA BREAK**
4:00 PM	**SESSION 4 – ESTIMATING LONG-RUN REGRESSION** ▪ Estimating Long-run Regression FMOLS, DOLS, CCR; Hansen's Parameter Instability Test
5:30 PM	**Q & A (SESSIONS 1 - 4)**

DAY 2 : SUNDAY, 4 APRIL 2021

8:45 AM	**SESSION 5 – ECONOMETRICS OF STRUCTURAL CHANGE** ▪ Chow Test, Quandt-Andrews Test, Bai-Perron Multiple Breakpoint Testing
10:30 AM	**TEA BREAK**
10:45 AM	**SESSION 6 – TESTING UNIT ROOT IN THE PRESENCE OF STRUCTURAL BREAKS** ▪ Modelling Break Variables, Break Date Selection, Testing Unit Root with Structural Break
12:45 PM	**LUNCH**
2:00 PM	**SESSION 7 – TESTING COINTEGRATION IN PRESENCE OF STRUCTURAL BREAK** ▪ Gregory and Hansen (1996) Cointegration Test
3:45 PM	**TEA BREAK**
4:00 PM	**SESSION 7 – MORE TESTING COINTEGRATION IN PRESENCE OF STRUCTURAL BREAK** ▪ Johansen, Mosconi and Nieldsen (2000) Cointegration Test
5.15 PM	**Q & A followed by CERTIFICATE PRESENTATION at 5.30pm**

Course Fee (including SST)

The fees cover course materials/handouts, luncheons and a Certificate of Attendance.

Short Panel Data: **RM650** per participant (Group 3-6: RM520 per participant)
Econometric Analysis with Structural Break: **RM600** per participant (Group 3-6: RM480 per participant)

Postgraduate student: **RM500** – Short Panel & **RM450** – Structural Break, requires proof of status.
Group 3-6 students: **RM400** – Short Panel & **RM360** – Structural Break, per student

Advantages of using Panel Data over individual time series or cross section data are that it:

- ✓ Creates large dataset & Increases degree of freedom
- ✓ Introduces more variability in data, Improves efficiency of estimates
- ✓ Reduces collinearity, account individual heterogeneity Controlling omitted/missing/unobserved factors

Course Outcomes

This course provides participants with a few EViews and STATA tools to develop economic relationships. After completion of this course, participants should be able (or know) to:

- ❖ Formulate static and dynamic econometric models for panel data estimations
- ❖ Identify potential estimation biases due to heterogeneity in individual characteristic and individual behaviour
- ❖ Intepret empirical results of static and dynamic single equation panel data models
- ❖ Perform empirical econometric analysis, involving time series variables with structural breaks

REGISTRATION FORM (Closing Date: 11 Mac & 1 April 2021)

SHORT PANEL DATA ANALYSIS (Sat 13 & Sun 14 MARCH 2021)
ECONOMETRICS OF STRUCTURAL BREAK (Sat 3 & Sun 4 APRIL 2021)

Please scan and email this registration form (together with a copy of LO/PO, if applicable) to :

Noor Farhana Fazil: nfarhana.stat17@gmail.com
School of Mathematical Sciences, Universiti Sains Malaysia, 11800 USM PENANG.

NAME OF SHORT COURSE (Please tick (✓) short course(s) to be attended)

Short Panel Data Analysis	13 & 14 March 2021	Yes		No	
Econometric Analysis with Structural Break	3 & 4 April 2021	Yes		No	

Please register the following name/names: (Please use separate sheet, if required)

Item	Name	Designation
*1.		

Company:		
Address:		
		Postcode:
*Primary Person:		*Mobile Phone:
*Telephone No.:	*Fax No.	*E-mail:

"I hereby agree that the personal data that I have provided to USAINS, whether now or in future, may be used, recorded, stored, disclosed, or otherwise processed by or on behalf of USAINS in accordance with the Personal Data Protection Act 2010 and USAINS' data protection policy (available at USAINS' website - www.usainsgroup.com), for the purpose of facilitation and organisation of this event, research and audit, and maintenance of a participant database for the promotion of this event, and such ancillary services as may be relevant."

MODE OF PAYMENT

I enclose	☐ Crossed Cheque	Number	Bank	No. of Participants:	
	☐ Cash on Day			Research Institution:	
	☐ Bank Transfer			Group Discount:	
	☐ LO/PO			Postgraduate Student:	
				Total Sum:	RM
		Payment must be made payable to **'Usains Holding Sdn. Bhd.'**			

1. **Telegraphic Transfer**. Please note the following:
   Payee Name: Usains Holding Sdn. Bhd.
   Details: Short Course on Short Panel Data Analysis OR Econometric Analysis with Structural Break
   Name of Bank: AmBank (M) Berhad, Level 21, Menara Dion, Jalan Sultan Ismail, 50250 Kuala Lumpur.
   Account Number: 888 – 100 – 985 – 0380 Swift Code: ARBKMYKL
   (Please SCAN and EMAIL Bank-in Slip (write name & contact number on slip) to nfarhana.stat17@gmail.com

2. Proof of **Local Order (LO) or Purchase Order (PO)** must be scanned/emailed to Dr. Zainudin/Ms. Noor Farhana for confirmation and secure of place, and it must be presented during morning registration.
   The organizer reserves the right to refrain a registered participant from taking part in the event if no proof of payment can be presented. This only applies to registered participants who have NOT paid the registration fee PRIOR to the event date.

Cancellation / Substitution

Cancellation must be made in writing through fax, e-mail or post **at least 10 working days** before the course. No refunds are available after this period. In the case of cancellation, **an administration charge of RM150** will be applied. However, substitute participants are welcomed at no extra charge provided written notice is given to the organizer at **least 5 working days** before the event.

Date:	Company's Official Stamp
Signature:	