IIUM ACADEMY
of Graduate & Professional Studies

iFINTELL

VOLATILITY MODELLING WORKSHOP

(MGARCH-DCC & WAVELET METHODS - DWT, MODWT & CWT)

Module Description

This module focusses on advanced volatility modelling namely, MGARCH-DCC and Wavelet Methods [Discrete Wavelet Transform (DWT), Maximal Overlap Discrete Wavelet Transform (MODWT) and Continuous Wavelet Transform (CWT)]. Theoretical and hands-on sessions will be conducted to provide better understanding on the techniques and its applications.

MGARCH models are dynamic multivariate regression models in which the conditional variances and covariances of the errors follow an autoregressive-moving-average structure. The MGARCH DCC model uses a nonlinear combination of univariate GARCH models with time-varying cross-equation weights to model the conditional covariance matrix of the errors.

Specially, this technique is helpful to understand the volatilities of and correlations between asset returns that change over time. Correspondingly, the wavelet coherence is deemed to be a suitable tool to study co-movements over time i.e. stock market, commodity market.

Application of such advanced econometric techniques and software has become more important for research and publications.

Target Participants

- Students
- Academicians
- Researchers
- Industry practitioners

Benefits for Participants

- Knowledge on advanced and recently developed econometric techniques.
- Ability to employ appropriate techniques to study market volatility in research.
- Learn how to conduct advanced statistical analyses using appropriate software.
- Ability to conduct research data analysis and interpret properly.
- Increase the economic value of research model and enhance the possibility to publish in top-tier journals.

Workshop Date(s)

April 27-28 (Saturday-Sunday), 2019

Software to be Used

R Language | Microfit/Eviews/STATA | MATLAB

Participation Fee

IIUM : RM 290 / participant

Other Institutions **:**
RM 390 / participant (Student)
RM 450 / participant (others)

Venue

IIUM Academy Conference Room,
Level 2, KICT Building Block E,
IIUM Gombak Campus.

Participants need to bring their own laptop

Agenda for Volatility Modelling Workshop at IIUM Academy

Time	Description	
	Day 1 (MGARCH-DCC)	**Day 2 (Wavelet)**
08:30 a.m. – 09:00 a.m.	Registration	------
09:00 a.m. – 10:45 a.m.	Discussion on MGARCH-DCC	Discussion on DWT
10:45 a.m. – 11:00 a.m.	Morning Break	Morning Break
11:00 a.m. – 12:45 p.m.	Discussion on MGARCH-DCC (Continued)	Discussion on MODWT & CWT
12:45 p.m. – 02:00 p.m.	Lunch Break	Lunch Break
02:00 p.m. – 03:30 p.m.	Hands-on Session 1	Hands-on Session 1
03:30 p.m. – 03:45 p.m.	Afternoon Break	Afternoon Break
03:45 p.m. – 05:00 p.m.	Hands-on Session 2	Hands-on Session 2

Mode of Payment

1. Online Transfer.
Bank Muamalat, IIUM Academy A/C No: 1407-0000010-710; Swift Code: BMMBMYKL

2. Cheque
**Please fax a copy of the transaction receipt to us at +603-6196 6620 or email to norbazirah@iium.edu.my

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