

## East Asia Training & Consultancy Pte Ltd

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# Time Series Econometrics Using Eviews

## 3 - day Professional Development Workshop

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### Contents

East Asia Training & Consultancy Pte Ltd invites you to attend a three-day professional workshop, covering the use of econometrics with the latest EViews, the well-known econometrics software package developed by Quantitative Micro Software (USA).

### About EViews

“EViews provides sophisticated data analysis, regression, and forecasting tools on Windows-based computers. With EViews you can quickly develop a statistical relation from your data and then use the relation to forecast future values of the data. Areas where EViews can be useful include: scientific data analysis and evaluation, financial analysis, macroeconomic forecasting, simulation, sales forecasting, and cost analysis.” (EViews User’s Guide, p.5)

### Course Programme

Do your statistical and econometric skills need a tune-up?

Are you looking for simple user-friendly software to implement the more sophisticated techniques you have studied or read about?

This 3 - day workshop provides a selective review of basic econometric concepts, their application in economics and finance and their implementation using the EViews software program. Topics cover include ARMA modelling and forecasting, vector autoregressive model and impulse response analysis, cointegration and error-correction model estimation, and GARCH modelling of financial volatility. Case studies are drawn from actual up-to-date research in economics and finance. The approach is ‘hands on’ and interactive, with the instructor discussing relevant concepts and then illustrating in EViews with participants replicating each step at their own PCs.

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### Who Should Attend

The course is aimed at Economic Researchers, Model Builders; Financial Modellers, Arbitrage Traders; Quantitative Investment Analysts, Traffic Modellers, Energy Load Forecasters, University Instructors, Statisticians, Budget Analysts, Financial Analysts, Market Researchers, Currency & Interest Rates Strategists and Policy Planners & Researchers.

### Fee

The fee includes extensive course materials and databases, morning and afternoon tea/coffee breaks with refreshments, luncheons and opportunities to network with researchers and forecasters from different industries throughout Asia. Further instructions will be sent to confirmed participants.

This is a “hands-on” workshop. Delegates are required to bring your laptops with Eviews installed.

### Registration

**The number of participants is restricted.** Please register early to guarantee your place. Please fax your completed registration form to us at (65)-62506369 to reserve your seat. If you need assistance in locating hotel accommodation in the area, please contact us at [eviews@eastasiatc.com.sg](mailto:eviews@eastasiatc.com.sg).

### MAS Financial Sector Development Fund (FSDF)

Participants may be eligible for Financial Sector Development Fund (FSDF) support on a case by case basis. Interested applicants should submit their applications to the FSDF Secretariat directly. For enquiries, please contact the FSDF secretariat at 65- 6229 9396 or via email at [fsdf@mas.gov.sg](mailto:fsdf@mas.gov.sg).

You may use the printable MAS FSDF application form in Word format posted on our website. Please submit your applications to the FSDF Secretariat directly at least 6 weeks prior to the commencement of the course.

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### Course Outline

(subject to minor changes)

#### Day 1: Time Series Econometrics I

##### Morning Session

- Overview of EViews
- Basic Time Series Tools (SACF and Ljung-Box Test)
- Unit Root Testing (Augmented Dickey-Fuller Test)
- ARIMA Modelling and Forecasting

**Case Study:** Modelling and Forecasting Spot and Future Prices of Crude Oil

##### Afternoon Session

- Testing for Co-integration (Engle-Granger Two-Stage Method)
- Error Correction Model Estimation
- Testing for Causality

**Case Study:** Short-Run and Long-Run Relationships between Spot and Future Prices of Crude Oil

#### Day 2: Time Series Econometrics II

##### Morning Session

- Vector Autoregressive Modelling
  - Model Selection and Diagnostics
  - Impulse Response Analysis
  - Variance Decomposition

**Case Study:** A VAR Model for Capital Market Integration in the Pacific-Basin Region

##### Afternoon Session

- Johansen's Multivariate Co-integration Analysis
  - Testing for Co-integration Rank
  - Vector Error Correction Model Estimation

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- Testing for Short Run and Long Run Relationships

**Case Study:** The Short and Long Run Relationships of Real Interest Rates in the Pacific-Basin Region.

### Day 3: Financial Econometrics

#### **Morning Session**

- Modelling Volatility of Stock Returns
  - ARCH, GARCH, EGARCH Models
  - GARCH-in-Mean Model
- Testing for Volatility Spill-Over Effects

**Case Study:** Modelling Volatility of Daily Stock Returns of East Asian Financial Markets

#### **Afternoon Session**

- Forecasting Volatility of Stock Returns
- Value-at-Risk Analysis

**Case Study:** Forecasting Volatility and Value-at-Risk of Daily Stock Returns of East Asian Financial Markets.

- **General Notes**

- All sessions will have 45 minutes of discussion on the topic and Eviews functions and 45 minutes of hands-on tutorial with data sets.
- The data sets discussed in the examples will be provided. However, participants are encouraged to bring their own data sets.
- All case studies and examples will use real data sets, which were taken from financial and econometric applications.