EAST ASIA TRAINING &
CONSULTANCY PTE Ltd

3 Raffles Place, #07-01, Bharat Building, Singapore 048617
Tel: (65)-62199062, Fax: (65)-67694739
URL:http://www.eastasiatc.com.sg
Email:enquiry@eastasiatc.com.sg

Macroeconometrics & Financial Modeling with GAUSS

3-Day Professional Development Workshop

East Asia Training & Consultancy Pte Ltd invites you to a three-day professional development workshop in Thailand, with a focus of understanding and modeling macroeconometrics and financial models using the GAUSS software developed by Aptech System (USA).

Course Programme

This is a 3-day intensive course at the intermediate-advanced level on modeling macroeconomic and financial variables using the econometric software GAUSS, a highly flexible and powerful programming language for statistical computation.

The workshop begins with a session on the basics of GAUSS programming. This is followed by extensive treatment of univariate and multivariate time series models using both simulated and real data in economics and finance. The workshop also tackles some advanced methods including VAR, VECM, Markov-switching, and Kalman filters. Participants are welcomed to bring your own datasets.

The workshop will use the latest GAUSS software. The workshop will place emphasis not only on the theory underlying each topic, but will also aim at understanding and interpretation of results of estimated models. The approach is "hands on" where participants will be expected to replicate and understand each step of the GAUSS examples in their own PCs. The workshop will take place in a computer-linked environment.

Course Objectives

After completion of the workshop the participants will have a strong working knowledge of GAUSS, which you will find most useful for handling non-trivial macroeconometrics and financial models. More specifically, in this workshop the

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participants will acquire detailed knowledge of and extensive hands-on experience in the use of GAUSS, univariate and multivariate time series modeling (estimation and forecasting), simulation techniques, modeling nonstationary series, as well as reporting and interpreting results.

Prerequisites for this course

Although the participants need not be familiar with the GAUSS software, some knowledge of matrix algebra and basic econometrics will be useful.

Who Should Attend

The course is aimed at Econometricians, Financial Analysts, Economic Researchers, Model Builders, Financial Modelers, Arbitrage Traders, Quantitative Investment Analysts, Portfolio Strategists, Interest Rate & Currency Analysts, Treasury Strategists, University Instructors, Statisticians, and Policy Planners/Researchers.

Fees & Registration

The number of participants is restricted. Please register early to guarantee your seat.

Course Outline

(subject to minor changes)

On each day, the course is will cover both theory and hands-on computer parts that allow the participants to work through a number of ideas with simulated and real data sets. A full set of lecture notes and exercises will be made available as well as the GAUSS command and data files used in the workshop.

There will also be the opportunity each day to work on your own data, and disc uss procedures not listed below.

Day 1: Introduction to GAUSS

Morning Session

- Data types, reading data into GAUSS

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- Vectors and matrices, arrays
- Matrix, relational, and logical operators
- Conditional statements and loops
- Procedures, functions, and keywords
- Case studies

Afternoon Session

- Regression Basics: OLS, GLS, MLE, GMM, Bayesian methods
- Basic Time Series Concepts: Stationarity, Non-stationarity, Unit-root tests
- Case studies

Day 2: Modeling Stationary Time Series

Morning Session

- Univariate Modeling: Simulation, ARIMA(p,d,q), estimation and forecasting
- Modeling Volatility: ARCH, GARCH, GARCH-m, EGARCH etc.
- Case studies

Afternoon Session

- Multivariate Modeling: ADL(p,q) models
- Markov-switching Models
- Case studies

Day 3: Modeling Non-stationary Time Series

Morning Session

- Co-Integration and Error Correction Models: Single and multiple equations
- Vector Autoregressive (VAR) and Vector-Error Correction (VEC) Models
- Case studies

Afternoon Session

- Kalman filters and Time-varying Parameters
- Basics of Bayesian Computation: MCMC, Gibbs sampling
- Case studies