



## Applied Econometrics using EViews

### Contents

East Asia Training & Consultancy Pte Ltd invites you to attend a three day workshop on Applied Econometrics using 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 objective

The objective of the course is learning to model and estimate various economic causal models for time-series data in a consistent way. Hendry's general-to-specific modelling (GTS) approach will be used in obtaining correct and parsimonious models of various economic phenomena, like consumption, investment, etc. In the course, the emphasis will be on the econometric practice. Only that theory will be discussed that is necessary to understand the empirical work. All procedures will be exercised with real macroeconomic data by using EViews as software package. The data concern time-series data of various countries, also including recent volatile periods because of economic crises, which need special attention in obtaining a correct model specification.

### Target audience

Economists interested in applied quantitative economic research.

### Prerequisites

Knowledge of (1) an introductory course in econometrics, (2) matrix algebra and (3) statistics, especially estimation of parameters and hypotheses testing, is necessary. The participants need laptops with EViews installed.

Delegates are also welcome to bring their own datasets to discuss with our expert trainer during tea breaks or after class.

**Course summary**

(subject to minor changes)

**Day 1*****EViews and modelling of a single equation model***

- Ø Overview of EViews' procedures
- Ø Applications in econometric research
- Ø The GTS approach of estimating the parameters of single equation models
- Ø Reduced-form and structural models
- Ø Estimators, like OLS, GLS, and IV
- Ø Testing of restrictions on parameters
- Ø Dealing with residual autocorrelation and heteroskedasticity
- Ø Application of GTS procedure with EViews on a 'specific' macroeconomic mode, involving a consumption / investment function of one country and a demand-for-money model.
- Ø Special attention can be given to volatile behaviour of variables during the sample period.

**Day 2*****Modelling of multiple equation models***

- Ø Introduction of two multiple equation models
- Ø Seemingly-unrelated regression model (SUR model).
- Ø Application: A SUR model will be estimated with EViews procedures, by combining macroeconomic models of a number of countries which have been determined the previous day. As the economies of all countries have been influenced by international crises, more efficient estimates can be obtained with a SUR model.
- Ø Simultaneous-equation model (SEM)
- Ø Application: Various aspects like identification of equations, estimation of parameters (IV, 2SLS, 3SLS) and testing of restrictions on parameters will come up.
- Ø Estimated parameters of a SEM will be more efficient than those of the individual equations obtained during the first day.

**Day 3*****Modelling of short-run error-correction models and long-run models***

- Ø Long-run models, implied by solving dynamic short-run models
- Ø Restrictions on the parameters of long-run models
- Ø Short-run error-correction models (ECMs).
- Ø Unit-roots in lag polynomials of parameters
- Ø Engle-Granger and the Johansen approach of estimating long-run and short-run models.
- Ø Single equation models and multiple equation models (VAR models).
- Ø Application: Macroeconomic models
- Ø Asymmetric influence of explanatory variables on the dependent variable, as often differences between the influence of increasing and decreasing developments of variables exist.
- Ø Application: Influence of a decreasing oil price on the economy versus the influence of an increasing oil price.

**General Notes**

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