



# **Programming and its Applications to Econometrics using RATS**

2-Day Professional Development Workshop

[East Asia Training & Consultancy Pte Ltd](http://www.eastasiatc.com.sg) invites you to attend a two-day professional development workshop covering the use of econometrics with RATS (Regression Analysis of Time Series), the well-known econometrics and statistical software package developed by Estima (USA).

## **About RATS**

RATS (Regression Analysis of Time Series) is a leading econometrics and time-series analysis software package used worldwide by economists and researchers for analyzing time series and cross sectional data, developing and estimating econometric models and forecasting.

## **What RATS Can Do for You**

- Manage data sets and do a variety of data transformations.
- Estimate many kinds of regression models, including ordinary, weighted, and generalized least squares, seemingly unrelated regressions (SUR), non-linear least squares, non-linear systems, generalized method of moments, and maximum-likelihood (including ARCH, GARCH and related models).
- Perform virtually any time series technique in use, including ARIMA models, transfer function and intervention models, vector autoregressions (VAR's), and spectral analysis.
- Generate forecasts and run simulations.
- Create, save, print, and export high-quality time series graphs and scatter plots.

## Course Programme

This is a two-day workshop intended for those who wish to learn more on RATS. We will discuss the major improvements included in RATS and show you how to make the best use of them.

The first day gives an introduction to the latest RATS and is devoted primarily to the more general programming features of RATS. This will help you write more flexible procedures and functions and improve the efficiency of repetitive calculations. The second day describes the econometric and statistical applications, with modeling non-linear univariate and multivariate models, overview of Logit, Probit models and panel data models with forecasting and simulation applications.

## Who Should Attend

The course is aimed at Economic Researchers, Model Builders, Financial Modellers, Arbitrage Traders, Currency Strategists, Quantitative Analysts, Traffic Modellers, Energy Load Forecasters, University Instructors, Statisticians, Budget Analysts, Financial Analysts, Market Researchers and Research Analysts.

## Fees & Registration

The fee includes lectures, course materials, databases, luncheons and opportunities to meet with other RATS researchers and forecasters from different industries throughout Asia. Each delegate is required to bring their own laptops.

**The number of delegates is restricted.** Please register early to guarantee your place. Please complete the registration form and email it to us at [training@eastasiatc.com.sg](mailto:training@eastasiatc.com.sg). Confirmation will only be made upon receipt of payment. Further instructions will be given to confirmed participants.

If you need assistance in locating hotel accommodation in the area for this workshop, please email your request to us at [RATS@eastasiatc.com.sg](mailto:RATS@eastasiatc.com.sg).

## Financial Assistance

Participants may be eligible for MAS 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).

## Course Outline (subject to minor changes)

Each day comprises three formal sessions:

- A talk on various aspects and procedures in RATS
- Worked examples
- Assignment

### Day 1

#### ***Introduction to RATS***

- Brief introduction on RATS basics
- New functions available in RATS
- User-defined reports, plots, advance graphs
- Writing your own procedures
- Interacting with procedures

### Day 2

#### ***Econometrics Applications Using RATS***

- Hypothesis Testing
- Time series plots
- ARMA models
- Error correction Models
- GARCH Models and its extensions (EGARCH, GJR)
- Smooth transition models
- Value at Risk
- High-frequency data analysis-Duration models (ACD, WACD, EACD)
- Bivariate and Multivariate models-VAR, Multivariate-GARCH, Time Varying correlation models
- Application to Monte Carlo and bootstrapping
- Probit and logit models
- Panel Data models

There will also be the opportunity each day to work on your own data and discuss procedures not listed above.