The RATSletter

Estima

Update Options

Update Subscriptions

Users with current RATS update subscriptions will receive their copy of 6.35 automatically.

If you don't already have an update subscription, this is a great time to consider getting one.

If you purchase an update subscription now, you will receive Version 6.35 as soon as it is released, as well as the major Version 7 upgrade that will be released later in the year.

Many users are finding update subscriptions to be the most convenient way to budget and implement software updates.

Subscriptions start at just $150 for single-user licenses. Pricing for multi-user licenses varies with the number of users.

Please see our website or contact our sales department for details.

Ordering an Update on CD

The price for updating a single-user license to 6.35 is $25 for users with Version 6, or $150 for users with Version 5 (or older). Please see our website or contact our sales department for pricing on multi-user license updates.

Download Option

Users with WinRATS 6.3 will also have the option of downloading the executable file from our website. Note that this does not include the new procedures and examples, or revised PDF-format documentation files.

Also In This Issue

RATS Version 6.35

Version 6.35 features a major reworking of the **DLM** (dynamic linear model) instruction and a powerful new regression instruction called **SWEEP**. We've also made a number of improvements to the graphics capabilities, and added eighteen new functions, including tools for determining dates of holidays for use with trading-day data.

The **DLM** instruction offers new options for simulation and conditional simulation. The latter is used in many of the examples from Durbin and Koopman (see page 2) for exact analysis of non-linear dynamic models using linear(ized) models. It is also a key step in Gibbs sampling on dynamic models. You also now have access to much more information, including the filtered and smoothed state disturbances, the smoothed measurement disturbances, sequential log likelihoods and others.

The new **SWEEP** instruction is a multi-purpose tool for regressing one set of variables on another. You can use it to "sweep" out the effects of short-run variables in cointegration analysis, or dummies in other types of regressions. With the GROUP option, you can allow a regression to vary across groups of data, building up the residuals or fitted values from the heterogeneous regressions.

Graphics improvements include:

- You can now nest **SPGRAPH** blocks inside other **SPGRAPH** blocks, giving you tremendous flexibility in organizing pages of graphs.

- A new SPIKE style is available for **GRAPH** and **SCATTER**—similar to bar graphs, but with much slimmer spikes for each observation.

- The new FRAME option provides additional choices for the bounding box on a graph, allowing you to reduce the "non-data" ink.

- The FOOTER option gives you another choice for labelling graphs. The footer is justified in the lower left corner, similar to the placement of graph captions in many published works.

- We've also improved the algorithms for axis labeling, with emphasis placed on selecting multiples of 5 or 10 for the vertical axis and a cleaner appearance for the time-axis labelling.

There is also a new, simpler format for the **CALENDAR** instruction, such as **CAL(M) 1947:1** rather than **CAL 1947 1 12**. Older programs will still work fine, but the newer format will be easier to read, and easier for new users to learn.

See our website for more details on 6.35.

RATS Training in June

We will be holding a RATS training session at HEC in Montreal, in conjunction with the SCE's "Computing in Economics and Finance" conference. The training will take place on Wednesday, June 13. Topics will include VARs and dynamic linear models. Conference activities begin the following day—see **web.hec.ca/CEF2007** for details. Please contact us if interested in attending the training session, or watch our website for further details.

New Procedures and Examples

We've added many new procedures and examples to the collection available on our website. They include the worked examples from two textbooks, code for replicating the results from several important papers, and other new and revised procedures. These will also be included with the RATS 6.35 CDs. Note that many of these *do* require Version 6.35.

Textbook Examples

Last issue, we promised that we would have worked examples from two textbooks:

Durbin and Koopman, *Time Series Analysis by State Space Methods*, Oxford University Press, 2001.

West and Harrison, *Bayesian Forecasting and Dynamic Models*, 2nd ed. Springer, 1997.

Both proved a little more challenging than expected at press time, so we were not able to make them available as planned. In particular, we found that both books required the addition of new features to the `DLM` instruction, as described on page 1.

In addition, we have updated the example programs for Stock and Watson's *Introduction to Econometrics* and Tsay's *Analysis of Financial Time Series* to include the material from their second editions. The first edition examples are also still available.

Paper Replication Example Programs

Carstenson: "Stock Market Downswing and the Stability of European Monetary Union Money Demand", *Journal of Business and Economic Statistics*, 2006, vol. 24, pp. 395-402. This code was supplied by the author, and implements an FMOLS stability test.

Enders and Granger: "Unit-Root Tests and Asymmetric Adjustment with an Example Using the Term Structure of Interest Rates", *JBES*, 1998, vol. 16, pp. 304-11.

Gonzalo and Granger: "Estimation of common long memory components in cointegrated systems", *JBES*, 1995, vol. 13, pp. 27-36.

Hansen and Seo: "Testing for two-regime threshold cointegration in vector error-correction models", *Journal of Econometrics*, 2002, vol. 110, pp. 293-318.

Harvey, Ruiz and Shephard: "Multivariate Stochastic Variance Models", *Review of Economic Studies,* 1994, vol. 61, pp 247-264.

Pesaran, Shin and Smith: "Pooled Mean Group Estimation of Dynamic Heterogeneous Panels", *JASA,* 1999, vol 94, pp 621-634.

Willinger, Taqqu, Teverovsky: "Stock Market Prices and Long-Range Dependence", *Finance and Stochastics*, 1999, vol. 3 pp. 1-13. Uses Hurst, RSStatistic and other methods to analyze long-memory behavior.

New Procedures

BIF
Implements the Bounded Influence Function robust estimation proposed by Krasker, Ku, and Welsch (1983). Written by Diego M. Vásquez of Banco de la República (Colombian Central Bank).

HILLGEV
Estimates the tail index for a distribution using Hill's method.

LOCALDLM
Creates matrices for a local level or local trend Dynamic Linear Model.

RSStatistic
Computes the R/S statistic: either the classical rescaled range, or Lo's statistic adjusted for short-run dependency.

SEASONALDLM
Creates matrices for a Fourier or additive seasonal DLM.

Revised Procedures

BAIPERRON
Performs multiple structural change analysis, as described in Bai and Perron, "Computation and Analysis of Multiple Structural Change Models", *Journal of Applied Econometrics*, 2003, pp. 1-22. Now includes a `PRINT` option, and allows for some regressors to be fixed over the sample.

BJIDENT
Graphs regular and partial autocorrelations, for selecting and evaluating the fit of ARIMA models. New version provides more graphing options.

HURST
A long-memory computational tool—this computes the Hurst exponent. Now uses a "`DBOX`" dialog box to simplify input, and has better graph labelling.

RGSE
Gaussian semi-parametric estimator for long-memory. Updated to take advantage of new features.

VARMADLM
We have updated these routines for analyzing or estimating VARMA models using `DLM`.

More Recommended Textbooks for RATS (and CATS) Users

We are pleased to announce several important additions to the collection of textbooks we can recommend highly for RATS users. The Juselius and Brooks books are both available for purchase from Estima. The Brandt/Williams book is available from Sage Publications and other book sellers.

The Cointegrated VAR Model

by Katarina Juselius

Katarina is one of the principal developers of the CATS cointegration analysis procedure, and wrote this book in conjunction with the development of Version 2.0 of CATS. Anyone using CATS should find this to be an invaluable resource on both the theory and practice of VAR modelling and cointegration analysis.

Comments by the Author:
The Maximum Likelihood analysis of the cointegrated VAR model was developed over the last twenty years by (primarily) Søren Johansen of the University of Copenhagen, in close cooperation with Katarina Juselius, who focused on the applied side. The idea of cointegration quickly became a real hit: The market was flooded by cointegration analyses, as it seemed the proper way to handle the unit root nonstationarity typical of most (macro)economic data.

However, it became increasingly obvious that many applications were flawed in various ways, and very few exploited the full potential of the cointegrated VAR methodology. There seemed to be a need for a textbook fully reflecting the mix of theory and applications that is the trademark of the cointegrated VAR approach.

While working on the empirical methodology of the book, it became obvious that the old version of CATS in RATS would need to be upgraded to incorporate the new ideas presented in book. Jonathan Dennis rewrote the CATS code, working closely with Katarina Juselius to ensure that the structure of the program followed the methodological structure of the book. In this sense, the book and software fit together like glove and hand.

For anyone who would like to challenge old dogmas and explore exciting new empirical features in today's fast changing world, combining "CATS in RATS" with this book should be an obvious choice. This is partly because the philosophy behind the book is that it is more important to find out that you are wrong in your beliefs (so that you can become wiser) than to demonstrate that you are right.

Over the last four years we have been teaching a summer school based on this philosophy, using "CATS in RATS" along with the book, and this has proven to be a tremendous success. We are convinced that the two together make for something much more powerful than either of them in isolation.

—Katarina Juselius

Introductory Econometrics for Finance

By Chris Brooks

From the publisher's description:
The first textbook to teach introductory econometrics to finance majors. The text is data- and problem-driven, giving students the skills to estimate and interpret models, whilst having an intuitive grasp of the underlying theoretical concepts. Its easy-to-follow style and numerous examples and case studies make this the most accessible book in this area, and the best starting-point for non-specialists.

The text incorporates sample instructions and output from WinRATS so that readers can understand right away how to implement the techniques in practice. The approach is based on successful courses taught by Dr. Brooks at the ICMA Centre, one of Europe's leading finance schools, ensuring that the text focuses squarely on the needs of students of finance, including advice on planning and executing a project in empirical finance.

The book assumes no prior knowledge of econometrics, and covers important modern topics such as time-series forecasting, volatility modelling, switching models and simulation methods. It includes detailed examples and case studies, and web-based supporting materials are available free of charge.

Multiple Time Series Models

by Patrick Brandt and John Williams

Although targeted at the political science market, we think this book will be of interest to those using any of the methods discussed here. Co-author Patrick Brandt has set up a web page at:

www.utdallas.edu/~pbrandt/MTSM/index.html

that includes links to the RATS code for replicating the worked examples.

From the publisher's description:
This book reviews the main competing approaches to modeling multiple time series: simultaneous equations, ARIMA, error correction models, and vector autoregression. The text focuses on VAR models as a generalization of the other approaches. Specification, estimation, and inference using these models is discussed. The authors also review arguments for and against using multi-equation time series models. Two complete, worked examples show how VAR models can be employed.

Vista Compatibility

With two minor exceptions, WinRATS 6 appears to be fully compatible with Windows Vista.

The first issue is the Help system. Unfortunately, Vista does not ship with the "Windows Help" application, which has long been the standard system for displaying Help information under Windows. As a result, you may get an error dialog when you try to use any of the *Help* menu operations in RATS.

Fortunately, Microsoft has now made the Help application available as a download for Vista. If you get the error dialog when using Help in RATS (or any other application), just follow the link to download the Help application from Microsoft's web site. After downloading the application, the RATS help system should function normally.

The other issue is with the *File–Print Setup...* feature. Under Vista, the "Printer" button does not appear in the Print Setup dialog box, so you cannot change the destination printer from within RATS. This issue has been resolved in Version 6.35 through the use of a new *File–Print...* dialog.

Aside from these issues, all computational and interface features appear to be working normally under Vista. While we have not done extensive testing with older releases, Versions 5.0 and later also all seem to work well under Vista.

MALCOLM News

For those of you using the MALCOLM procedures with RATS, MALCOLM developer Rocco Mosconi tells us that version 2.95, which is compatible with WinRATS 6.30 under Windows XP, is now available.

Greta (www.greta.it/malcolm/index_malcolm.htm), which sells MALCOLM, is currently sending the new version to registered users.

Registered users who do not receive the upgrade by May 1 should send an email to segreteria@greta.it or rocco.mosconi@polimi.it.

The RATSletter
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Changing Platforms?

In the past year or so, we've had a number of inquiries from users who are switching computing platforms from Windows to Mac OS X, or from Windows to Linux, and so on.

So, we thought we would take a moment to describe the options available for users who want to migrate their RATS software to a different platform.

In most cases, if you have the most recent release of RATS (currently 6.3) you can switch from Windows to Macintosh, or vice versa, at no charge. Just contact us by email or by phone, and request a new CD. Please include your serial number if possible.

If you have an older version, you can update and switch platforms for just the cost of the update itself. For example, if you have WinRATS 5.1, you can update to WinRATS 6.3 *or* MacRATS 6.3 for $150.

If you would like to switch from Windows or Mac to the executable-only Linux version (no source code), you can do so for $100 (add $150 if your have Version 5 or older). You can upgrade to the source-code version for UNIX or Linux for $200.

New Licenses for RATS and CATS

Standard prices for single-user RATS and CATS licenses are shown below. These prices are for Windows and Macintosh versions only. Please see our website or contact Estima for prices for UNIX and Linux.

Product	New	Update from 6.x	Older
RATS 6.35	$500	$25*	$150
RATS Pro 6.35	$650	$25*	$150

Product	New	Update from 1.0	
CATS 2.0	$175	$100	

*Users with RATS 6.0–6.3 who purchase CATS 2.0 (new license or update) receive a free update to 6.35.

Web Forum Reminder

Don't forget to check out the new RATS Software Forum. You can go directly to the forum at:

www.estima.com/forum

or use the "Forum" link on our home page.

As with the email discussion list, the staff at Estima will be active participants in the RATS Software Forum.