

# CATS 2.0 Order Form

## October 2014



## CATS 2.0—The Premier Cointegration Analysis Tool

Version 2.0 of CATS (Cointegration Analysis of Time Series) is a major update of the original version, which set the standard for cointegration analysis techniques. Developed by Jonathan G. Dennis, Katarina Juselius, Søren Johansen and Henrik Hansen of the University of Copenhagen, CATS 2.0 offers a much more powerful user interface, several major new econometrics techniques, and dozens of other new features.

Additions include the Bartlett small-sample correction of tests for the cointegrating rank and hypotheses on  $\beta$ ; a new “CATSmining” procedure for automatic restriction and identification of the cointegrating space; and maximum likelihood analysis of I(2) models.

The procedure for recursive estimation has been updated and includes new tests for eigenvalue fluctuation, constancy of the cointegrating space and the log-likelihood function. It also allows for “backwards” recursion for investigating parameter constancy over the beginning of the sample.

For most model specifications, including partial systems and models with structural breaks, CATS now reports the correct critical values and  $p$ -values for the rank test. For other models, you can simulate the critical values using a built-in procedure. Version 2.0 also includes a procedure for estimation and identification of structural moving average models.

The CATS 2.0 package includes the CATS procedure on CD and a completely revised 200 page manual describing the econometrics of the cointegrated VAR model and how to interpret the output. All features of the program are illustrated by a worked example. The manual also includes a technical appendix describing the mathematics of CATS. Sample data and set-up files for the illustrative examples are also included.

The cost for a new single-user copy of CATS is \$175. The price for an update from CATS 1.0 is \$100. The student price for CATS is \$125 with verification of student status. Site licence prices are also available—contact Estima for a quote. CATS 2.0 requires Version 6.2 or later of RATS and is available for Windows, Macintosh, and UNIX/Linux platforms.

We would also like to recommend Katarina Juselius’ new book, *The Cointegrated VAR Model: Methodology and Applications*, to anyone using CATS. Written in conjunction with the development of CATS 2.0, it provides a comprehensive look at both the theory and practice of cointegration analysis.

### CATS 2: New Econometrics Features

- Bartlett small-sample correction for rank hypotheses tests.
- The “CATSmining” automated model-selection procedure.
- Estimation and hypothesis testing of the I(2) model, including testing hypotheses on the multi-cointegrating relations and the I(1) relations among the system variables

- Estimation of structural moving average models.
- System reduction tests for lag length determination.
- Missing observations in data allowed.
- Updated recursive estimation and “backwards” recursion.

### CATS 2: New Interface Features

- All-new user interface.
- The estimated model can now be exported as a RATS “MODEL” making it much easier to compute forecasts and impulse responses.
- Output can be exported in TeX or CSV formats.
- The graphs created by CATS can be customized.
- Restrictions can be saved and re-loaded making it easier to replicate analyses or continue your work at a later time.
- All model settings including the deterministic terms and lag structure are menu-controlled, so you can now change the underlying VAR model without quitting and re-starting CATS.
- All procedure settings, such as maximum number of iterations and convergence criteria for the switching algorithms, screen output format, and more, can be set via a dialog box.
- CATS offers the option of running in a true batch mode that does not require user interaction to generate basic output. This allows it to be used in loop.

### Other Features

CATS 2.0 contains all these features found in Version 1.0:

- “Batch” tests for long-run exclusion, weak exogeneity, and stationarity on all model variables (now available from the CATS menu). Also includes a test for unit vectors in  $\alpha$ , which corresponds to testing if the cumulated disturbances of any of the variables do not enter the common trends.
- Support for partial systems, models with structural breaks, and various forms of dummy variables.
- Multivariate and univariate tests of the estimated residuals.
- Recursive estimation for assessing constancy of the estimated model parameters, including tests for constancy of the estimated eigenvalues, the cointegrating space, the log-likelihood function, the parameters of an identified system, and the adequacy of one-step-ahead predictions.
- Options for testing hypothesis on the long-run relations in  $\beta$  as well as on the adjustment coefficients in  $\alpha$ .
- Choice of normalization for each cointegrating vector.
- Estimation of the parameters of the moving average model, e.g. the long-run impact matrix  $C$  and the loadings to the common trends  $\alpha_{\perp}$  (with asymptotic  $t$ -values).
- A large variety of preset graphics illustrating various key aspects of the estimated model.

# CATS in RATS, Version 2.0

The form below provides pricing for new licenses and updates to CATS, as well as new licenses and updates for RATS. Note that CATS is not a stand-alone application—you must have RATS 6.2 or later to use CATS 2.0.

Full-time students can also qualify for discounted pricing, as shown below. To qualify for the student discount, you must include a verification of your student status with the order. Valid registration certificates, letters from a faculty member, or tuition receipts are all generally acceptable.

Please call or write for pricing on multi-user licenses.

## CATS Products—Choose One

- Update from CATS 1.0 \$100
- New CATS License \$175
- New CATS License, Student Price \$125

Choose one:  Windows  Macintosh

Serial Number (updates only) \_\_\_\_\_

Please call or write for multi-user and UNIX pricing.

## Update Existing RATS License

Check a box below if you also want to update your RATS license (CATS 2.0 requires RATS 6.2 or later).

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<input type="checkbox"/> RATS Std 8.3 or older	\$150	\$300
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## Cointegration Textbook

Check the box below if you would like to order a copy of *The Cointegrated VAR Model* by Katarina Juselius

- The Cointegrated VAR Model* \$44

## Phone/Fax

800-822-8038  
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847-864-6221 (FAX)

## Mailing Address

Estima  
1560 Sherman Ave,  
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Evanston, IL 60201

E-mail: sales@estima.com  
Web-site: www.estima.com

## Shipping and Handling

Use the following chart to determine shipping costs for CATS, or copies of CATS plus RATS and/or the Juselius textbook. *There is no charge for UPS Ground shipping anywhere in the Continental U.S.*

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## For Customers Outside the United States:

Please note that your order may be subject to your country's import duties, taxes, or customs clearance fees.

These charges **are not included** in the product prices, shipping charges, or total amount shown on the order form.

These fees will be **the responsibility of those placing or receiving the order**, and will not be paid or levied by Estima.

When ordering from us, you are considered the importer of record, and it is your responsibility to comply with the applicable laws and regulations of the country in which you will receive the goods. Please contact your country's customs office for details specific to your country.