

# THE STATA NEWS

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## The Stata Journal is now indexed



We are very pleased to announce that the *Stata Journal* has been added to two of Thomson Scientific's citation indexes—the *Science Citation Index Expanded* and the *CompuMath Citation Index*. The *Stata Journal* joins more than 6,000 science, technical, mathematical, and statistical journals in these indexes and is included in cited reference searches.

You can find out more about the indexes

at Thomson Scientific's web site, <http://www.isinet.com/cit>. This mark of recognition is naturally most welcome, particularly for having been attained by a relatively young journal.

H. Joseph Newton and Nicholas J. Cox  
Editors, *Stata Journal*  
[editors@stata-journal.com](mailto:editors@stata-journal.com)

Authors interested in submitting to the *Stata Journal* can find out more on the submissions page, <http://www.stata-journal.com/submissions.html>.

## New Stata Journal column

"Mata Matters" is a new column in the *Stata Journal* written by Stata's President and Head of Development, William Gould, showing how to use Stata's matrix programming language, Mata, both interactively to solve problems and as a programming language to add new features to Stata.

The inaugural column shows you how to convert programs written in Fortran to Mata, without needing to know any Fortran. Many statistical routines have been written in Fortran over the years and are readily available over the Internet. Converting those programs so that they can be used in the familiar Stata environment will be painless after you read this column.

Proposed topics for future columns include using Mata for data-management tasks, writing maximum likelihood estimators, and teaching and learning linear algebra.

"Mata Matters" joins the broad variety of refereed articles, Stata tips, and "From the help desk" and "Speaking Stata" columns to help maximize your productivity with Stata.

Subscribe to the *Stata Journal* or renew your subscription using the enclosed bookstore order form, or subscribe online at <http://www.stata-press.com/journals/sj.html>.

## STATA 9.1 UPDATE IS NOW AVAILABLE

Stata 9.1 is now available free to all users of Stata 9. To update, just type `update all`, and follow the instructions on the screen.

New features include the following:

- Multiple log files may be opened simultaneously.
- Survey linearization is now 2 to 100 times faster, the larger multiplier applying to large datasets with many sampling units.
- The string length limit has been increased to 244 for Intercooled and Small Stata to match Stata/SE.
- Up to 300 estimation results may be stored.
- Mata has a new permutation function making it easier to program exact permutation tests.
- Mata has several other new features, including new string, regular expression, and binary I/O functions.
- Graphs exported to PNG or TIFF bitmap format may now have their sizes specified, allowing their resolution to be greater than screen resolution.
- There is a new command for computing marginal effects after an alternative-specific multinomial probit model.
- There is now a console version of Stata/SE for the Macintosh.
- Collecting statistics across a by list using the `statsby` command is now allowed in more situations, including with postestimation commands.
- Fay's adjustment is now allowed with balanced repeated replications (BRR) for complex survey data.

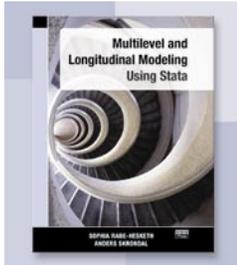
After updating, type `help whatsnew` to see all the enhancements.

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THE STATA NEWS is published four times a year and is free to all registered users of Stata.

## NEW BOOK FROM STATA PRESS



Title: *Multilevel and Longitudinal Modeling Using Stata*  
 Authors: Sophia Rabe-Hesketh and Anders Skrondal  
 Publisher: Stata Press  
 Copyright: 2005  
 ISBN: 1-59718-008-4  
 Pages: 317; paperback  
 Price: \$54.00

## Multilevel and Longitudinal Modeling Using Stata

*Multilevel and Longitudinal Modeling Using Stata*, by Sophia Rabe-Hesketh and Anders Skrondal, provides a Stata-specific treatment of generalized linear mixed models, also known as multilevel or hierarchical models. These models are mixed in the sense that they allow fixed and random effects and are generalized in the sense that they are appropriate not only for continuous, normally distributed responses but also for binary, count, and other types of limited dependent variables.

Beginning with the comparatively simple random-intercept linear model without covariates, the text develops the mixed model from first principles, familiarizing the reader with terminology and summarizing the widely used estimation strategies.

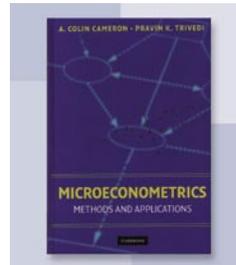
Once this mixed-model foundation has been established, the text generalizes the basic model to include random-intercept models with covariates and random-coefficient models. The middle chapters apply the concepts defined earlier for Gaussian models to models for binary responses such as logit and probit, ordinal responses such as ordered logit and probit, and count responses such as Poisson. Models with multiple levels of random variation are then considered, as well as models with crossed (nonnested) random effects. Real datasets from the medical, social, and behavioral sciences are used throughout the text and in thought-provoking exercises.

The text is loaded with applications of generalized mixed models performed in Stata. The authors are the developers of `gllamm`, a Stata program that can fit a vast array of latent-variable models, of which the generalized linear mixed model is a special case. Using Stata 9's `xtmixed` command for fitting linear (Gaussian) mixed models, as well as the rest of the `xt` suite of Stata commands, you can perform comparative mixed-model analyses for various response families. The types of models fitted by these commands sometimes overlap, and when this occurs, the authors highlight the differences in syntax, data organization, and output for the commands that can be used to fit the same model. The text also points out the relative strengths and weaknesses of each command when used to fit the same model, based on issues such as computational speed, accuracy, and available predictions and postestimation statistics. In particular, the text explains the relationship between `gllamm` and `xtmixed` and how they complement each other.

This text is the most complete and up-to-date depiction of Stata's capacity for fitting generalized linear mixed models and is an ideal introduction for Stata users to this powerful data analysis tool.

The table of contents, as well as online ordering information, can be found at <http://www.stata-press.com/books/mlmus.html>. You may also order using the enclosed bookstore order form.

## FROM THE STATA BOOKSTORE



Title: *Microeconometrics: Methods and Applications*  
 Author: A. Colin Cameron and Pravin K. Trivedi  
 Publisher: Cambridge University Press  
 Copyright: 2005  
 ISBN: 0-521-84805-9  
 Pages: 1,048; hardcover  
 Price: \$74.75

## Microeconometrics: Methods and Applications

*Microeconometrics: Methods and Applications*, by Colin Cameron and Pravin Trivedi, provides a refreshing, modern approach to the econometrics of cross-sectional and panel data. The book is written at a level suitable for anyone familiar with matrix algebra, basic statistics, and linear regression. The authors do a commendable job presenting advanced topics accurately yet succinctly, with an eye toward real-life applications. They have also posted Stata do-files and datasets to their web site so you can replicate virtually all the examples in the book.

The book begins with a discussion of causal modeling, identification, and sources of data, such as social and natural experiments. The book then moves on to estimation strategies, including linear and nonlinear regression, maximum likelihood and quasi-maximum likelihood estimation, generalized method of moments, and quantile regression.

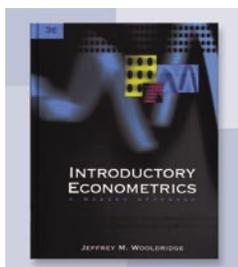
Semiparametric and nonparametric estimation methods, such as partially linear models, lowess regression, kernel density estimation, and kernel regression, are introduced, and many examples help to illustrate their usage. Three chapters cover simulation-based methods, including the bootstrap and jackknife estimators of variance, maximum simulated likelihood, simulators for multivariate probability calculations, and Bayesian methods, such as Monte Carlo integration and Markov-chain Monte Carlo simulation.

Topics such as binary and polychotomous choice models, censored and truncated dependent-variable models, sample selection, and count data models are all covered, along with extensions such as semiparametric estimation, endogenous regressors, and multivariate models. Panel-data topics include GMM estimation of dynamic models, linear mixed models, the incidental parameters problem, and nonlinear models for probit, tobit, and sample selection.

The rest of the book presents many advanced topics that should be a part of the microeconometrician's toolbox in a concise, accessible treatment drawing from examples of interest to economists. For example, the book contains chapters on survival analysis, mixture models and unobserved heterogeneity, competing risks, measurement-error models, stratified and clustered samples, and missing data. A chapter is devoted to treatment-effects estimation, including matching, differences in differences, and instrumental variables estimators.

*Microeconometrics: Methods and Applications* can serve as both a textbook and a timely reference for practitioners looking for a compendium of recent developments in econometrics.

The table of contents, as well as online ordering information, can be found at <http://www.stata.com/bookstore/mma.html>. You may also order using the enclosed bookstore order form.

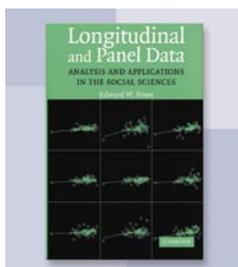


Title: *Introductory Econometrics: A Modern Approach, 3rd edition*  
 Authors: Jeffrey M. Wooldridge  
 Publisher: South-Western  
 Copyright: 2006  
 ISBN: 0-324-28978-2  
 Pages: 890; hardcover  
 Price: \$129.00

### Introductory Econometrics: A Modern Approach, 3rd edition

*Introductory Econometrics: A Modern Approach, 3rd edition*, by Jeffrey M. Wooldridge, exemplifies a modern approach to econometrics in its choice of topics and its treatment of standard material. In the third edition, the treatments of ordinary least squares, instrumental variables, and panel-data estimators have been greatly improved by reordering the assumptions. Also, important additions have been made to the chapters on heteroskedasticity, specification errors, and limited dependent variables. The result is that an excellent introductory book has been made even better.

The table of contents, as well as online ordering information, can be found at <http://www.stata.com/bookstore/ie.html>. You may also order using the enclosed bookstore order form.



Title: *Longitudinal and Panel Data*  
 Authors: Edward W. Frees  
 Publisher: Cambridge University Press  
 Copyright: 2004  
 ISBN: 0-521-53538-7  
 Pages: 467; paperback  
 Price: \$39.75

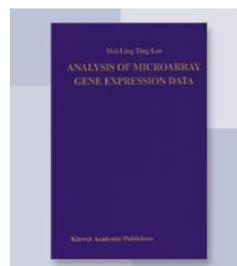
### Longitudinal and Panel Data: Analysis and Applications in the Social Sciences

*Longitudinal and Panel Data* is among the most complete of texts devoted to panel-data methodology and, although it is organized as a graduate text, will also serve as a valuable reference. Since the

technology associated with analyzing panel data is quickly evolving, it is important to have such a current survey of the various models and estimation techniques available.

Beginning with linear fixed-effects models, the discussion proceeds naturally toward linear random-effects models and linear mixed models (including details on estimation, prediction, and inference). Instrumental variables and dynamic-panel models are then covered, followed by chapters covering binary dependent variables, generalized linear models, and categorical/survival models. One of the greatest strengths of this text is its detailed discussion of the various estimation methods and how they apply to the various models: maximum likelihood, restricted maximum likelihood, generalized estimating equations, generalized method of moments, and Kalman filters, to name just a few.

The table of contents, as well as online ordering information, can be found at <http://www.stata.com/bookstore/lpd.html>. You may also order using the enclosed bookstore order form.



Title: *Analysis of Microarray Gene Expression Data*  
 Authors: Mei-Ling Ting Lee  
 Publisher: Kluwer  
 Copyright: 2004  
 ISBN: 0-792-37087-2  
 Pages: 371; hardcover  
 Price: \$60.25

### Analysis of Microarray Gene Expression Data

Microarrays are ordered sets of DNA molecules of known sequence. Usually rectangular in shape, they can consist of thousands of genes per sample. Microarray technology allows the simultaneous measurement of gene expression for the thousands of genes in each sample. The resulting data can then be used in various ways, such as in diagnosing tumors, drug effect profiling, and grouping genes with similar expression patterns to identify genes that contribute to common functions.

Microarray technology results in datasets with a small-to-moderate number of observations on (potentially) thousands of variables. This is opposite of the way data are usually collected, so this book can help you identify statistical methods that are appropriate (and which methods need to be modified to be made appropriate). Because thousands of gene expressions are measured simultaneously, the data are inherently noisy. This text also describes ways to minimize noise and experimental variation.

The statistical analysis methods covered in this text include transformations to normality, ANOVA and basic design, multiple testing, permutation tests, mixture models, power and sample size, cluster analysis and other multivariate methods, and advanced topics, such as neural networks.

The table of contents, as well as online ordering information, can be found at <http://www.stata.com/bookstore/amged.html>. You may also order using the enclosed bookstore order form.

## Latest NetCourse™ schedule

Stata NetCourses are a convenient, inexpensive, web-based way to learn how to exploit the full power of Stata. Courses are divided into a series of lectures that are posted to the web site each Friday, and participants can post questions and comments to a discussion board. We also offer NetCourseNow, a way for you to choose the time and pace of a NetCourse.

To enroll, use the enclosed order form or visit <http://www.stata.com/netcourse>.

### NC-101. Introduction to Stata

Syllabus: <http://www.stata.com/netcourse/nc101.html>

<b>Prerequisites</b>
Stata 9
<b>Dates offered</b>
October 14 – November 25, 2005
<b>Course Leaders</b>
Kevin Crow, Kerry Kammire, Ryman Tiu, and Derek Wagner
<b>Enrollment deadlines</b>
October 13
<b>Price</b>
\$95

### NC-151. Introduction to Stata programming

Syllabus: <http://www.stata.com/netcourse/nc151.html>

<b>Prerequisites</b>
Stata 9; basic knowledge of using Stata interactively
<b>Dates offered</b>
October 14 – November 25, 2005
<b>Course Leaders</b>
Kevin Crow, Kerry Kammire, Ryman Tiu, and Derek Wagner
<b>Enrollment deadlines</b>
October 13
<b>Price</b>
\$125

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