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Education

Ph.D. University of Texas at Austin, Economics, May 2000.

M.S. University of Texas at Austin, Economics, May 1997.

B.A. Oberlin College, History, 1988.

Employment

8/2022 - Present:	Associate Professor with tenure Department of Economics and International Business Sam Houston State University
1/2020 - 7/2022:	Associate Professor Department of Economics and International Business Sam Houston State University
1/2016 - 12/31/2019:	Executive Director of Econometrics StataCorp
6/2001 - 1/2016:	Director of Econometrics StataCorp
8/2008 - 5/2014:	Adjunct Associate Professor Department of Economics Texas A&M University
8/2008 - 2011:	Adjunct Associate Professor Department of Health Policy and Management School of Rural Public Health Texas A&M University
1/2001 - 6/2001:	Associate Director of Econometrics StataCorp
6/1999 - 1/2001:	Senior Statistician and Developer StataCorp

Fields of specialization

Econometrics
Statistical programming
Data Science

Languages

English, first language
Spanish, fluent

Computer languages

Expert: C, Stata, and Mata, OpenMP
Proficient: Python, Fortran, Perl, Java, MPI, C++, other matrix languages and other statistical software packages

Awards and Fellowships

2023 Research award from the College of Business in Sam Houston State University
Best paper published in *Econometric Reviews* 2006-2016 for “On Two-Step Estimation of a Spatial Autoregressive Model with Autoregressive Disturbances and Endogenous Regressors”
1998-99 Society for Computational Economics Graduate Student Prize in Computational Economics
University of Texas, David Bruton Graduate Fellowship, 1997-1998
University of Texas, Graduate Tuition Fellowship, 1997-1998
University of Texas, Institute for Latin American Studies Academic Fellowship, Fall 1992
Oberlin College Academic Fellowship, September 1984-May 1988

Publications: Articles

Drukker, David M., Egger, Peter, and Prucha, Ingmar (2023). Simultaneous Equations Models with Higher-order Spatial or Social Network Interactions. *Econometric Theory*, 39(6):1144-1201, <https://doi.org/10.1017/S026646662200007X>.
Drukker, David M. 2023. Simultaneous tests and confidence bands for Stata estimation commands. *The Stata Journal* 23(2):518-544. <https://doi.org/10.1177/1536867X231175333>.
Drukker, David M. and Di Liu. 2023. posw: A command for the stepwise Neyman-orthogonal estimator. *The Stata Journal* 23(2):402-417. <https://doi.org/10.1177/1536867X231175272>.
Drukker, David M. and Di Liu. 2022. A cluster plugin method for selecting the GLM lasso tuning parameters in models for unbalanced panel data. In press at *Econometrics and Statistics*, <https://doi.org/10.1016/j.ecosta.2022.02.006>.
Drukker, David M. and Di Liu. 2022. “Finite-sample results for lasso and stepwise Neyman-orthogonal Poisson estimators”. *Econometric Reviews* 41(9) 1047-1076,

- <https://doi.org/10.1080/07474938.2022.2091363>
- Drukker, David M. (2020) Lasso and Post-lasso Inference. In P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), *SAGE Research Methods Foundations*, <https://dx.doi.org/10.4135/9781526421036936676>.
- Drukker, David M. (2017) “Two-part models are robust to endogenous selection”, *Economics Letters*, March, 152:71–72, <https://doi.org/10.1016/j.econlet.2017.01.004>
- Drukker, David M. (2016) “A generalized regression-adjustment estimator for average treatment effects from panel data”. *Stata Journal* 16(4):826–836, <https://doi.org/10.1177/1536867X1601600402>.
- Stinchcombe, M. B. and Drukker, D. M. (2013) “Regression Efficacy and the Curse of Dimensionality” in *Recent Advances and Future Directions in Causality, Prediction and Specification Analysis: Essays in Honor of Halbert L. White Jr.* Springer:New York. https://doi.org/10.1007/978-1-4614-1653-1_20.
- Drukker, D. M. and Ingmar R. Prucha (2013) “On the $I^2(q)$ test statistic for spatial dependence: finite-sample standardization and properties” *Spatial Economic Analysis* 8(3):271–292. <https://doi.org/10.1080/17421772.2013.804630>.
- Cattaneo, M. D and Drukker, D. M. (2013) “Estimation of Multivalued Treatment Effects under Conditional Independence”, *Stata Journal* 13(3). <https://doi.org/10.1177/1536867X1301300301>.
- Drukker, D. M.; Peng, H.; Prucha, I. R.; and Raciborski, R. (2013) “Creating and managing spatial-weighting matrices using the `spmat` command”, *Stata Journal* 13(2):242–286. <https://doi.org/10.1177/1536867X1301300202>.
- Drukker, D. M.; Prucha, I. R.; and Raciborski, R. (2013) “Maximum likelihood and generalized spatial two-stage least-squares estimators for a spatial-autoregressive model with spatial-autoregressive disturbances”, *Stata Journal* 13(2):221–241. <https://doi.org/10.1177/1536867X1301300201>.
- Drukker, D. M.; Prucha, I. R.; and Raciborski, R. (2013) “A command for estimating spatial-autoregressive models with spatial-autoregressive disturbances and additional endogenous variables”, *Stata Journal* 13(2):287–301. <https://doi.org/10.1177/1536867X1301300203>.
- Drukker, D. M., P. Egger, and I. Prucha (2013) “On Single Equation GMM Estimation of a Spatial Autoregressive Model with Autoregressive Disturbances”, *Econometric Reviews* 32(1): 686–733. <https://doi.org/10.1080/07474938.2013.741020>
- Drukker, D. M., and R. B. Gates (2011) “State Space Methods in Stata”, *Journal of Statistical Software* 41(10):1–25. [/urlhttps://doi.org/10.18637/jss.v041.i10](https://doi.org/10.18637/jss.v041.i10)
- Arraiz, I., and D. Drukker, H. Kelejian and I. Prucha (2010) “A spatial Cliff-Ord-type model with Heteroskedastic innovations: Small and large sample results”, *Journal of Regional Science*, 50(2):592–614. <https://doi.org/10.1177/1536867X0400400307>.
- Drukker, D. M. (2006) Importing Federal Reserve economic data. *Stata Journal* 6(3):384–

386. <https://doi.org/10.1177/1536867X0600600307>.
- Drukker, D. M. (2006) Maximum Simulated Likelihood: Introduction to a Special Issue. *Stata Journal* 6(2):153–155. <https://doi.org/10.1177/1536867X0600600201>.
- Drukker, D. M. and Gates, R. (2006) Generating Halton sequences using Mata. *Stata Journal* 6(2):214–228. <https://doi.org/10.1177/1536867X0600600204>.
- Tai-Seale, M., Drukker, D. M., et al (2005) Understanding Primary Care Physicians' Propensity to Assess Elderly Patients for Depression Using Interaction and Survey Data. *Medical Care* 43(12).
- Drukker, D. M., Abadie, A., Herr, J. L., and Imbens, G. (2004) Implementing Estimators for Average Treatment Effects in Stata. *Stata Journal* 4(3). <https://doi.org/10.1177/1536867X0400400307>
- Drukker, D. M. and Wiggins, V. (2004) Verifying the Solution from a Nonlinear Solver: A Case Study: Comment. *American Economic Review*, 94(1) March 2004:397-399. <https://doi.org/10.1257/000282804322970896>.
- Drukker, D. M. and Guan, W. (2003). Replicating the results in ‘On Efficient Estimation with Panel Data: An Empirical Comparison of Instrumental Variables Estimators’’. *Journal of Applied Econometrics* 18, p. 119.
- Drukker, D. M. (2003). Testing for serial correlation in linear panel-data models. *Stata Journal* 3(2), 168-177. <https://doi.org/10.1177/1536867X0300300206>
- Drukker, D. M. (2002). Bootstrapping a conditional moments test for normality after Tobit Estimation. *Stata Journal* (2)2, 125-139. <https://doi.org/10.1177/1536867X0200200202>
- Dusansky, R. D., Conroy, M. E., Drukker, D. M. and Kildegard, A. (1995). The Productivity of Economics Departments in the U.S.: Publications in the Core Journals, *Journal of Economic Literature*, December 1995, pp. 1966-1971.

Publications: Unrefereed articles

- Cong, R. and Drukker, D. M. (2001). Treatment Effects Models. *Stata Technical Bulletin*, 55, 25-33.
- Drukker, D. M. (2000). On the Manipulability of Wald Tests in Box-Cox Regression Models. *Stata Technical Bulletin*, 54, 36-42.
- Drukker, D. M. (2000). Box-Cox Regression Models. *Stata Technical Bulletin*, 54, 27-36.

Publications: Books

- Drukker, D. M. ed. (2011) *Advances in Econometrics: Missing Data Methods: Cross-Sectional Methods and Applications*, Volume 27A. Emerald Group Publishing:Bingley, UK.
- Drukker, D. M. ed. (2011) *Advances in Econometrics: Missing Data Methods: Time-Series Methods and Applications*, Volume 27B. Emerald Group Publishing:Bingley, UK.

Papers under review

“Tests and confidence bands for multiple one-sided comparisons”. Given a revise and resubmit at *The Stata Journal*. https://www.researchgate.net/publication/369619321_Tests_and_confidence_bands_for_multiple_one-sided_comparisons

“`posis`: Stata command for the sure-independence-screening Neyman-orthogonal estimator”. Given a revise and resubmit at *The Stata Journal*. https://www.researchgate.net/publication/370210880_posis_Stata_command_for_the_sure-independence-screening_Neyman-orthogonal_estimator

Current working papers

Drukker, David M. (2014) “Quantile treatment effect estimation from censored data by regression adjustment”.

Work in progress

Estimating the effect of a covariate in a sparse high-dimensional ordinal-logistic model

In a sparse, high-dimensional model, there are a few covariates of interest and more covariates that could be included as control variables than can be handled using the sample size at hand. Covariate selection is used to determine which of the many control covariates must be included to reliably estimate the causal effects of the few covariates of interest.

This project has derived, implemented and tested new estimators for the effect of a variable in a sparse, high-dimensional model, when the outcome follows an ordinal-logistic model. There are two papers in this project.

One paper derives a new Neyman-orthogonal (NO) estimator estimator for a coefficient on a covariate of interest in a sparse, high-dimensional ordinal-logistic regression model. NO estimators generalize partialing-out estimators to make a second-stage estimator robust to first stage estimation, and NO estimators do so using estimated bias-removal parameters. Key to deriving the NO estimator is finding a regression-like structure to estimate the bias-removal parameters. This paper derives a new representation of the scores of the ordinal logistic model that produces a feasible regression-like structure to estimate the bias-removal parameters as part of the derivation of the NO estimator.

A second paper derives double-robust estimators for the average treatment effect (ATE) and average treatment effect on the treated (ATET). A literature review found that there was no paper deriving regression-adjustment estimators, inverse-probability-weighted estimators, or double-robust estimators for the ATE and ATET when the outcome comes from an ordinal logistic model. This paper derives these estimators and shows the double-robust estimators are NO estimators that are robust to first-stage covariate selection when the outcome is generated by

a sparse high-dimensional model.

It has been funded by 2022 COBA Summer Research Grant and by an Individual Scholarship Grant from Sam Houston State University.

Some implications of underlying variables models for models for the conditional mean of a fractional outcome

The econometric literature on modeling the conditional mean of a fractional outcome is dominated by the Papke-Wooldridge model (PWM) derived by Papke and Wooldridge (Journal of Applied Econometrics 1996, 11:619-632) and the two-part fractional model (TPFM) derived by Ramalho and Da Silva (Quantitative Finance 2009 9:621–636). The PWM and TPFM directly model the fractional outcome instead of creating the fractional outcome from models for the underlying variables. This paper uses closed-form derivations and simulation methods to compare the PWM and the TPFM with some underlying-variables models (UVMs) and it develops two new estimators based on the UVMs. Key to these comparisons are some closed-form results on when the conditional expectation (CE) of the fractional outcome is, or is not, monotonic given the UVMs. The comparisons reveal a case in which the TPFM (with linearly entering covariates) captures the non-monotonic form of the CE of the fractional outcome but the PWM (with linearly entering covariates) cannot. (The PWM implies a monotonic CE of the fractional outcome when the covariates enter linearly.) The closed-form results also show that the CE of the fractional outcome is monotonic when there is no with-zeros process and the covariates enter the UVM linearly.

It has been funded by 2023 COBA Summer Research Grant and by an Individual Scholarship Grant from Sam Houston State University.

Recent Teaching

Fall 2023

Introduction to Statistics for Business majors

Introduction to Econometrics for Business majors

Spring 2023

Introduction to Statistics for Business majors

Fall 2022

Introduction to Statistics for Business majors

Introduction to Econometrics for Business majors

Spring 2022

Introduction to Python for Data Science

Introduction to Statistics for Business majors

Introduction to Econometrics for Business majors

Fall 2021

Introduction to Statistics for Business majors (2 sections)
Introduction to Econometrics for Business majors

Spring 2021

Introduction to Statistics for Business majors
Introduction to Econometrics for Business majors (2 sections)

Research Grants

Principal investigator of “A Semi-structural approach to modelling fractional outcomes”
Sam Houston State University, College of Business Administration Summer Research Grant and University Individual Scholarship grant
Summer 2023.

Principal investigator of “Estimating the effect of a covariate in a sparse, high-dimensional ordinal-logistic model”
Sam Houston State University, College of Business Administration Summer Research Grant and University Individual Scholarship grant
Summer 2022.

Co-Principal investigator of Phase I of “New Methods of Inference and Software for the Empirical analysis of Network Generated Data”, NIA grant number 1R43AG056199-01 received on March 15, 2017 and completed on September 30, 2018.
This project was joint work with Guido Kuersteiner (University of Maryland) and Ingmar Prucha (University of Maryland).
In this \$100,000 grant, we derived, implemented and simulated a new generalized method of moments estimator for the parameters of a panel-data social-interaction model with endogenous network formation.

Co-Principal investigator of Phase II of “New Methods and Software for Spatial-Regression Analysis”, NIA grant number 2R44AG027622-02 9/30/2007-1/31/2010.
This project was joint work with Ingmar Prucha of the University of Maryland.
In this \$750,000 grant, we derived, implemented and simulated new estimators for the parameters of spatial-autoregressive models that accommodate static and dynamic panel-data frameworks.

Co-Principal investigator of Phase I of “New Methods and Software for Spatial-Regression Analysis”, NIA grant number 1 R43 AG027622-01A1” was received on September 1, 2006 and completed on November 30, 2006.
This project was joint work with Ingmar Prucha of the University of Maryland.
In this \$100,000 grant, we derived, implemented and simulated the estimator cross-sectional for the parameters of a Cliff-Ord-type spatial-autoregressive model with heteroskedastic errors discussed in Arraiz et al (2007). We also showed that a frequently applied maximum-likelihood estimator produces severely biased estimates when the errors are heteroskedastic.

Principal investigator of Phase II of “Creating Commercial Parallel Statistical Software”,

NIA grant number 2 R44 AG019542-02, was received in 2004 and finished on April 31, 2006.

In this \$7500,000 grant, we demonstrated that further extensions of the algorithm I derived produce speedup close to their theoretical limits in a surprising large number of cases. The Stata team produced the first version of Stata-MP out of this project.

Principal investigator of Phase I of “Creating Commercial Parallel Statistical Software”, NIA grant number R44 AG019542-02, was received and finished in 2002.

In this \$100,000 grant, we demonstrated that an algorithm I derived for parallelizing a commercial statistical package produces speedups close to their theoretical limits in some special cases. We also extended the algorithm.

Editorial

Associate Editor:

Econometric Reviews, April 2006–April 2015

Guest editor:

Special issue on maximum-simulated likelihood, *Stata Journal* 2006 6(2).

Reviewer:

Advances in Econometrics, Econometric Reviews, Econometrics Journal, Economic Inquiry, Empirical Economics, International Regional Science Review, Journal Applied Accounting, Journal of Econometrics, Journal of Econometric Methods, Journal of Statistical Software, Marine Policy, PLOS ONE, Stata Journal, and Spatial Economic Analysis.

Editor for Stata Press

I was the content editor for the following Stata press books. I carefully read each book from cover to cover, corrected any errors, suggested amendments and additions to the content, and provided any needed econometric or programming advice.

Microeconometrics Using Stata Second Edition by A. Colin Cameron and Pravin K. Trivedi

Microeconometrics Using Stata First Edition and Revised Edition by A. Colin Cameron and Pravin K. Trivedi

An Introduction to Modern Econometrics Using Stata by Christopher F. Baum

Regression Models for Categorical Dependent Variables Using Stata First, Second, and Third Editions by J. Scott Long and Jeremy Freese

The Workflow of Data Analysis Using Stata, by J. Scott Long

Health Econometrics Using Stata by Partha Deb, Edward C. Norton and Willard G. Manning

Financial Econometrics Using Stata by Simona Boffelli and Giovanni Urga

Significant General Contributions to Stata

This section documents significant contributions that I have made to Stata, that do not show up in my published work. For the specific contributions to code and manual entries see the version specific entries below.

I derived an extension to Belloni, Chernozhukov, Chen, and Hansen (2012) algorithm for selecting the lasso penalty parameter for Poisson models. This extension allowed the plug-in method to be the default method for the inferential lasso commands released in Stata 16. This extension is documented in Drukker and Liu (2022, *Econometrics Reviews*) and Drukker and Liu (2022, *Econometrics and Statistics*).

I derived extensions of the nonlinear estimators in Belloni, Chernozhukov, and Wei (2016) to the double-machine-learning/Cross fit approach derived in Chernozhukov, Chetverikov, Demirer, Duflo, Hansen, Newey, Robins (2018). These extensions made possible the Stata commands `xpopoisson` and `xpologit`.

I derived, designed, and implemented the stacked-estimating-equations framework that provides a unified approach to the smooth estimators for average treatment effects and average treatment effects on the treated implemented in `teffects`. I presented this extension to the literature at LSU and the Karolinska Institute in 2013. I decided not to publish it, because stacking the moment conditions is too simple an idea. However, this unified approach provides the foundation for the generality and elegance of `teffects`.

The stacked-moment-condition framework is also the basis for the estimation methodology implemented in `ivpoisson`, `eteffects`, and `steffects`.

The inverse probability weighted estimators and the IPW regression adjustment estimators implemented in `steffects` are based on my extensions to the literature.

Stata-MP was the first commercial statistical-software package to be parallelized. I designed the original algorithm while in graduate school and I guided the original project through two grants that funded the proof-of-concept development.

The Stata command `sspace` that estimates the parameters of linear state-space models uses a method-of-moments estimator that I derived to obtain its starting values. This estimator is consistent, extremely fast and reliable.

The Stata command `mgarch dvech` that estimates the parameters of diagonal-vech multivariate GARCH models uses analytic derivatives that I derived. These recursive derivatives are very involved. The internal document listing the results that I derived, but cannot release, is 27 pages.

Econometric References

Colin Cameron, Professor of Economics, University of California at Davis, Phone: (530) 564-0630, Email: accameron@ucdavis.edu

Ingmar Prucha, Distinguished University Professor and Professor of Economics, University of Maryland, Phone: (301) 405-3499, Email: prucha@econ.umd.edu

Jeffrey M. Wooldridge, University Distinguished Professor, Department of Economics, Michigan State University, Phone: (517) 353-5972, E-mail: wooldri1@msu.edu

Stata commands and manual entries

Stata Commands and Manual Entries for Stata version 16

Part of the team that implemented the suite of commands for lasso methods and post-lasso inferential methods

Part of the team that implemented series methods in the `npregress` command for non-parametric and semiparametric estimation and inference

Part of the team that extended the extended regression (ERM) commands to panel data

Part of the team that implemented linear programming and univariate integration methods for user defined functions in Mata

Part of the team that extended the commands for dynamic stochastic general equilibrium (DSGE) estimation and inference

Stata Commands and Manual Entries for Stata version 15

Part of the team that implemented the suite of commands for spatial autoregressive models

Part of the team that implemented the extended regression (ERM) commands

Part of the team that implemented the commands for dynamic stochastic general equilibrium (DSGE) estimation and inference

Part of the team that implemented the `npregress` command for nonparametric and semiparametric estimation and inference

Part of the team that implemented stream random numbers in Stata

Part of the team that implemented the `asmixlogit` command to estimate the parameters of mixed-logit models

Part of the team that implemented the `threshold` command that estimates the parameters of threshold models

Part of the team that implemented the `import fred` command that imports data from the St. Louis Fed database FRED

Part of the team that implemented new commands for tests for panel cointegration

Part of the team that implemented tests for multiple structural breaks

Stata Commands and Manual Entries for Stata version 14

Designed, coauthored code, and coauthored manual entries for `steffects` command that estimates average-treatment effects for survival-time data. The implemented estimators are extensions to the literature that I derived.

Coauthored manual entry and supervised code development for `eteffects` for estimating average treatment effects when the treatments are assigned endogenously (Enrique Pinzon, developer)

Coauthored manual entry and supervised code development for `betareg` that estimates the parameters beta regression models for outcomes in $(0, 1)$ under quasi maximum likelihood. (Di Liu, developer)

Coauthored manual entry and supervised code development for `mswitch` that estimates the parameters of autoregressive and dynamic-regressive markov switching models. (Ashish Rajbhandari, developer)

Coauthored manual entry and supervised code development of `churdle` that implements the Cragg hurdle regression estimator. (Enrique Pinzon, developer)

Coauthored manual entry and supervised code development of `cpoisson` that implements censored Poisson regression estimator. (Lu Jin, developer)

Coauthored manual entry and supervised code development of the Stata implementation of the Mersenne Twister random number generator. (Kreshna Gopal, developer)

Coauthored manual entry and supervised code development of the Stata implementation of the Mersenne Twister random number generator. (Kreshna Gopal, developer)

Coauthored manual entry and supervised code development of Stata and Mata functions that compute the distribution, density and random numbers from the exponential and Weibull distributions. This project used my method for certifying accuracy. (Fang Wang, developer)

Stata Commands and Manual Entries for Stata version 13

Designed, coauthored code, and coauthored manual entries for `teffects` command that estimates average-treatment effects by regression-adjustment, inverse-probability weighting, augmented inverse-probability weighting, and inverse-probability weighted regression adjustment, nearest-neighbor matching, and matching on estimated propensity score. (See Stata manual entries, `teffects ra`, `teffects ipw`, `teffects ipwra`, `teffects aipw`, `teffects nnmatch`, `teffects psmatch`, `teffects intro advanced`, `teffects multivalued`, Richard Gates coauthored the code.

Coauthored manual entry and supervised code development for `ivpoisson` for estimating the parameters of conditional exponential mean models with endogenous variables. (Charles Lindsey, developer)

Coauthored manual entry and supervised code development for `etpoisson` for estimating the parameters of an endogenous treatment poisson-regression model. (Charles

Lindsey, developer)

Coauthored manual entry and supervised code development of Stata and Mata functions that compute the distribution, inverse distribution and density from the student t distribution, the noncentral student t distribution and the noncentral F distribution. This project used a new method that I derived to check the accuracy of the implementations. Each of these distributions is computed by approximation methods. All the approximation methods use tricks to compute objects quickly and they work in double precision. For each distribution, I derived slower, more accurate approximating functions and implemented them in C routines that use 100-decimal digit accuracy. These slow but highly accurate computations were used to check that the fast, double precision methods implemented in Stata and Mata were sufficiently accurate. (Kreshna Gopal, developer)

Stata Commands and Manual Entries for Stata version 12

Wrote manual entry and supervised code development for `ucm` for Harvey-type unobserved components models (Richard Gates, developer)

Wrote manual entry and supervised code development `arfima` for estimating the parameters of ARFIMA models (Richard Gates, developer)

Coauthored manual entries and supervised code development for `mgarch ccc`, `mgarch dcc`, and `mgarch vcc`, for estimating the parameters of CCC MGARCH, DCC MGARCH, and VCC MGARCH models (Rafal Raciborski, developer)

Wrote manual entry and supervised code for `psdensity` for estimating the spectral density using the parametric estimates from ARMA, ARFIMA, and UCM models (Richard Gates, developer)

Wrote manual entry, coauthored code, and supervised code development for `tsfilter` for filtering and decomposing time series by Chistiano-Fitzgerald band-pass filter, Baxter-King band-pass filter, Hodrick-Prescott high-pass filter, and Butterworth high-pass filter (Edward Jones, developer)

Stata Commands and Manual Entries for Stata version 11

Wrote code and manual entry for `dvech` which estimates the parameters of the diagonal `vech` multivariate GARCH model

`dvech` uses analytic derivatives, which I derived and programmed

Coauthored code and manual entry and supervised development of `sspace` which estimates the parameters of linear state-space models by maximum likelihood using the Kalman filter and De Jong's diffuse Kalman filter (Richard Gates and Edward Jones, codevelopers)

This command uses a new estimator for starting values that I derived. This estimator identifies the parameters by stacking the nonlinear least-squares equations for the first and second moments.

Coauthored code and manual entry for `dfactor` which estimates the parameters of a dynamic factor model by maximum likelihood (Richard Gates and Edward Jones, codevelopers)

Stata Commands and Manual Entries for Stata version 10

Wrote code and manual entries for `xtdpd` and `xtdpdsys` which estimate the parameters of linear dynamic panel-data models using the Arellano-Bover system estimator

Wrote code and manual entries for several new functions for Mata matrix language

Stata Commands and Manual Entries for Stata version 9.0

Co-authored with William Gould the code and manual entries for the Mata functions that interface to LAPACK and BLAS routines, which perform numerical linear algebraic operations

Wrote code and manual entry for `fcast`, a Stata command that computes and graphs dynamic forecasts and their confidence intervals for VAR, SVAR and VECM models.

Wrote code and manual entries for the `irf` command, and its subcommands `irf add`, `irf cgraph`, `irf create`, `irf ctable`, `irf describe`, `irf drop`, `irf graph`, `irf rename`, `irf set`, and `irf table`. This suite provides a complete framework for the estimation, inference and presentation of impulse-response functions and forecast-error variance decompositions after VARs, SVARs and VECMs. The manual entry includes an introduction to the methods and how to interpret the results.

Wrote manual entry `vec` which provides an introduction to estimation, inference, specification testing and interpreting VECM models using the commands that I wrote.

Wrote code and manual entry for `vec`, a command for estimating VECMs with optional identification constraints. The command includes an estimator of the variance of the estimator of the long-run impact parameters when there are constraints on the short-run adjustment parameters that I derived and discuss in “Some further results on Estimation and Inference in the presence of Constraints on α in a cointegrating VAR”.

Wrote code and manual entry for `vec1mar`, a Stata command that performs the standard LM test for serial correlation in the residuals from a VECM.

Wrote code and manual entry for `vecnorm`, a Stata command that implements several tests for the normality of the disturbances from a VECM.

Wrote code and manual entry for `vecsoc`, a Stata command that implements the likelihood-ratio and several information-criteria methods for selecting the lag order of a VECM.

Wrote code and manual entry for `vecstable`, a Stata command that checks the eigenvalue stability condition after estimating the parameters of a VECM.

Stata Commands and Manual Entries for Stata version 8.0

Wrote code and manual entry for `tsappend`, a Stata utility command for adding observations to time-series and panel datasets.

Wrote manual entry for `tssmooth`, an overview of the commands in Stata that implement exponential and moving-average methods for smoothing or forecasting time-series data.

Wrote code and manual entry for `tssmooth dexponential`, a Stata command that implements the double exponential smoother/forecast method for time-series data.

Wrote code and manual entry for `tssmooth exponential`, a Stata command that implements the single exponential smoother/forecast method for time-series data.

Wrote code and manual entry for `tssmooth hwinters`, a Stata command that implements the Holt-Winters smoother/forecast method for time-series data.

Wrote code and manual entry for `tssmooth ma`, a Stata command that implements the moving-average smoother/forecast method for time-series data.

Wrote code and manual entry for `tssmooth shwinters`, a Stata command that implements the Holt-Winters seasonal smoother/forecast method for time-series data.

Manual entry `var intro`, an introduction to Vector Autoregression (VAR) models in Stata.

Wrote code and manual entry for `var`, a Stata command for estimating the parameters of Vector Autoregressive models.

Wrote code and manual entry for `var svar`, a Stata command for estimating the parameters of Structural Vector Autoregressive (SVAR) models.

Wrote code and manual entry for `var basic`, a Stata command for estimating the parameters in a simple VAR and graphing the impulse-response functions.

Manual entry `varfcast`, an introduction to dynamic forecasts using the results of the Stata commands `var` or `svar`.

Wrote code and manual entries for the Stata commands `varfcast clear`, `varfcast compute`, `varfcast graph` that provide an environment for producing and displaying dynamic forecasts based on the estimates obtained from `var` or `svar`.

Wrote code and Manual entry for `vargranger`, a Stata command for performing pairwise Granger Causality tests after `var` or `svar`.

Manual entry `varirf` that provides an introduction the estimation and interpretation of impulse-response functions and forecast-error variance decompositions after `var` and `svar`.

Wrote code and manual entries for `varirf add`, `varirf cgraph`, `varirf create`, `varirf ctable`, `varirf describe`, `varirf graph`, and `varirf table`. These Stata commands provide an environment for obtaining, interpreting and maintaining estimates of various impulse-response functions and forecast-error variance decompositions in Stata after `var` and `svar`.

Wrote code and manual entries for `varlmar`, a Stata command that performs the standard LM test for serial correlation in the residuals of a VAR or SVAR model.

Wrote code and manual entry for `varnorm`, a Stata command that implements several tests for the normality of the disturbances from a VAR or SVAR model.

Wrote code and manual entry for `varsoc`, a Stata command that implements the Likelihood-Ratio and several Information Criteria methods for selecting the lag order of a VAR or SVAR model.

Wrote code and manual entry for `varstable`, a Stata command that checks the eigenvalue stability condition after estimating the parameters of a VAR or SVAR model.

Stata Commands and Manual Entries for Stata version 8.0 with Weihua Guan

Wrote manual entry and supervised code development for `xthtaylor`, a Stata command that implements the Hausman-Taylor and Amemiya-McCurdy instrumental variables estimators for random-effects models in which some of the covariates are correlated with the unobserved individual level effects.

Coauthored manual entry and supervised code development for `frontier`, a Stata command that implements estimators for the parameters of Stochastic Frontier models in which the log-inefficiency term is distributed, $N(0, \sigma^2)$, truncated normal, with mean μ and variance σ^2 or exponential with variance σ^2 .

Coauthored manual entry and supervised code development for `xtfrontier`, a Stata command that implements estimators for the parameters of Stochastic Frontier panel data models in which the log-inefficiency term is assumed to be either time-invariant or decaying over time in a parametric fashion.

Stata Commands and Manual Entries for Stata version 7.0

Wrote code and manual entry for `xtivreg`, a Stata command that implements Instrumental Variables estimators for random-effects (both EC2SLS and G2SLS), fixed-effects, between-effects and first-differenced models.

Wrote code and manual entry for `xtabond`, a Stata command that implements the Arellano-Bond estimator for dynamic panel data models.

Wrote code and manual entry for `xtregar`, a Stata command that implements the Baltagi-Wu and Baltagi-Li estimators for fixed- and random- effects panel data models with an AR(1) error term.

Wrote code and manual entry for `boxcox`, a Stata command that estimates the parameters of a Box-Cox model by ML.

Recent Seminars and talks

1. A new Neyman-orthogonal estimator for the coefficient in a high-dimensional ordinal logit model. Seminar in the Department of Finance and Economics at Texas State University, 1 March 2024.

2. Inference after covariate selection: An approach and some software. Invited keynote talk at ERMAS 2023, 28 July 2023, Bucharest Romania.
3. A Neyman-orthogonal estimator for an ordered logistic model, Texas Camp Econometrics, 26 February 2023.
4. Consider using stepwise-based Neyman-orthogonal estimators, Southern Economic Association (91st Annual Meeting), 21 November 2021
5. Some Neyman-orthogonal estimators in Stata, 2021 Stata Economics Virtual Symposium, 10 November 2021
6. Intervalos de confianza simultáneos en Stata, Conferencia Stata México 2021, 14 de octubre 2021
7. Algunos estimadores ortogonales de Neyman en Stata, Conferencia Stata México 2021, 13 de octubre 2021

This was the keynote presentation for this conference

8. Using the stepwise Neyman-orthogonal estimators in Stata, Canadian Stata Conference, 23 September 2021 (Virtual)
9. Finite-sample performance of partialling-out estimators for the Poisson model, Academy of Economics and Finance Virtual 2021 Conference, 11 February 2021
10. Finite-sample performance of partialling-out estimators for the Poisson model, Bank of Canada and University of Orléans, 3 December 2020, (Virtual)
11. Finite-sample performance of partialling-out estimators for the Poisson model, Department of Economics and International Business, Sam Houston State University, 23 October 2020
12. Using the lasso for causal inference in Stata, at the WHY Kentucky Symposium on Policy Evaluation and Causal Inference 14 March 2020
13. Estimating the ATE for an ordinal outcome from difficult data, Department of Economics and International Business, Sam Houston State University, 24 April 2020
14. The performance of the partialing-out Poisson estimator with different methods for selecting the lasso tuning parameters, Department of Economics, Syracuse University, 28 February 2020

15. The performance of the partialing-out Poisson estimator with different methods for selecting the lasso tuning parameters, 25th Texas Camp Econometrics, 23 February 2020
16. The performance of the partialing-out Poisson estimator with different methods for selecting the lasso tuning parameters, Department of Economics, University of Maryland, 18 November 2019
17. The performance of the partialing-out Poisson estimator with different methods for selecting the lasso tuning parameters, Department of Economics, Boston College, 5 November 2019
18. A plug-in for Poisson lasso and the relative performance of several partialing-out Poisson estimators for high-dimensional models, Harvard School of Public Health, 4 November 2019
19. A plug-in for Poisson lasso and the relative performance of several partialing-out Poisson estimators for high-dimensional models, Tilburg University, Department of Econometrics and Operations Research, 23 October 2019
20. Using Python in a Stata estimation command, (3 hour talk), Department of Economics, Carlos III, 18 October 2019
21. Inference for parameters of interest after lasso model selection, Spanish Stata User Group meeting, Madrid, 17 October 2019
22. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), Department of Economics, Carlos III, 16 October 2019
23. Using Python in a Stata estimation command, (3 hour talk), European Central Bank, 14 October 2019
24. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), European Central Bank, 14 October 2019
25. A plug-in for Poisson lasso and the relative performance of several partialing-out Poisson estimators for high-dimensional models, Bank of Canada Conference on Microeconometrics, Survey Methodology, and Data Science, 26 September 2019
26. Estimating causal effects from endogenously assigned treatments and endogenously selected samples, The Bank of Canada, 25 September 2019
27. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), The Bank of Canada, 25 September 2019

28. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), The Bank of Canada, 25 September 2019
29. A plug-in for Poisson lasso and the relative performance of several partialing-out Poisson estimators for high-dimensional models, Econometric Seminar, Department of Economics and International Business, Sam Houston State University, 20 September 2019
30. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), The Institut des politiques publiques (IPP), 12 September 2019
31. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), Department of Economics, University of Bordeaux, 11 September 2019
32. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), Department of Economics, University of Orléans, 10 September 2019
33. Using Python in a Stata estimation command, (5 hour talk), Department of Economics, University of Orléans, 9 September 2019
34. Inference for parameters of interest after lasso model selection, Stata Conference, London, 6 September 2019
35. Using Python in a Stata estimation command, (3 hour talk), Cass Business School, 4 September 2019
36. Using the lasso in Stata for prediction and for inference in high-dimensional models, (3 hour talk), Biostatistics Research Group, University of Leicester, UK, 3 September 2019
37. Usando el lasso en Stata para hacer predicciones e inferencia en modelos de alta dimensión, 3 hours in Spanish, from slides in Spanish, Universidad Galileo, Guatemala City, Guatemala, 14 August 2019
38. Inference for parameters of interest after lasso model selection, Stata Conference, Chicago, 12 July 2019
39. A partialled-out plugin-lasso estimator: Some finite sample results, Canadian Economics Association, 31 May 2019
40. Inference for parameters of interest after lasso model selection, Canadian Stata Users Group meeting, 30 May 2019

41. Estimating causal effects from extended regression models, PLIO Alumni Conference, April 5 & 6, 2019
42. Robust-to-endogenous-selection estimators for two-part models, hurdle models, and zero-inflated models, Italian Stata Users' Group Meeting 15 November 2018
43. Estimating causal effects from endogenously assigned treatments and endogenously selected samples, Università degli studi di Bergamo, 16 November 2018
44. Robust-to-endogenous-selection estimators for two-part models, hurdle models, and zero-inflated models, Università degli studi di Bergamo, 16 November 2018
45. Robust-to-endogenous-selection estimators for two-part models, hurdle models, and zero-inflated models, Italian Stata Users' Group Meeting 15 November 2018
46. Estimating causal effects from endogenously assigned treatments and endogenously selected samples, Milano Bicocca, 14 November 2018
47. Estimating causal effects from endogenously assigned treatments and endogenously selected samples, Einaudi Institute for Economics and Finance (EIEF), 13 November 2018
48. Robust-to-endogenous-selection estimators for two-part models, hurdle models, and zero-inflated models, University of Zurich, Department of Economics, 23 October 2018
49. Robust-to-endogenous-selection estimators for two-part models, hurdle models, and zero-inflated models, Erasmus University, Department of Econometrics, 18 October 2018
50. Estimating the ATE of an endogenously assigned treatment from a sample with endogenous selection by regression adjustment using an extended regression model, Mexican Stata Users Group meeting, 16–17 August 2018
51. Estimating effects from extended regression models, Texas Camp Econometrics, 24 & 25 February 2018
52. Estimating effects from extended regression models, Toulouse School of Economics, 11 December 2017
53. Estimating average treatment effects from extended regression models, UK Stata User Group Meeting, 8 September 2017
54. Estimating average treatment effects from extended regression models, Nordic and Baltic Stata User Group Meeting, 1 September 2017

55. Estimating effects from extended regression models, CIDE-Stata Lecture in Econometrics and Statistics, 21 August 2017
56. Estimating average treatment effects from extended regression models, Stata Conference; Baltimore, MD, 28 July 2017.
57. Estimating average treatment effects from extended regression models, Canadian Stata User Group Meeting, 9 June 9 2017
58. Estimating treatment effects from observational data using Stata, CIMPOD: National Institutes of Health, 27 February 2017
59. Estimating treatment effects from observational data using Stata, Nordic and Baltic Stata User Group Meeting, 13 September 2016
60. Estimating treatment effects from observational data using Stata, UK Stata Users Group meeting, London, 8 & 9 September 2016
61. Solving the two-step estimation problem using GMM, Catholic University of Lueven, 5 September 2016
62. Estimating treatment effects from observational data using Stata, Organization for Economic Co-operation and Development (Paris, France), 1 September 2016
63. Solving the two-step estimation problem using GMM, Bank of France, 2 September 2016
64. What does your model say? It may depend on who is asking: Conditional versus population-averaged inference, Stata Conference, Chicago, 28 July 2016.
65. Estimating treatment effects from observational data using Stata, Department of Economics, Rice University, 7 April 2016
66. Estimating treatment effects from observational data using Stata, Social Science Research Commons, Indiana University, 31 March 2016
67. Estimating survival-time treatment effects from observational data, Italian Stata Users Group meeting, 12 November 2015
68. Estimating treatment effects from observational data using Stata, Department of Economics, Bocconi University, 11 October 2015
69. Estimating treatment effects from observational data using Stata, Department of Economics, UC Berkeley, 1 October 2015

70. Estimating average treatment effects using Stata, German Stata Users Group, 26 June 2015
71. Estimating survival-time treatment effects from observational data, Japanese Stata Users Group meeting 28 August 2015
72. Estimating treatment effects from observational data using Stata Institute for Policy Research Northwestern University 23 April 2015
73. Estimating treatment effects from observational data using Stata Bank of Canada, 17 April 2015
74. A General framework for smooth treatment-effects estimators from observational data, University of Victoria, 10 October 2014
75. “Estimating average treatments in Stata”, German Stata Users Group meeting, 13 June, 2013
76. “Estimating average treatments in Stata”, Italian Stata Users Group meeting, October 14–15, 2013
77. “A stacked estimating-equations approach to estimating treatment effects”, Department of Biostatistics, Karolinska Institutet, September 30, 2013
78. “Estimating average treatments in Stata”, Nordic and Baltic Stata Users Group meeting, September 27, 2013
79. “A stacked estimating-equations approach to estimating treatment effects”, Department of Economics, Louisiana State University, September 12, 2013
80. “Some Stata commands for endogeneity in nonlinear panel-data models”, 19th International Panel Data Conference, Cass Business School, London, 4-5 July 2013
81. “A stacked estimating-equations approach to estimating treatment effects”, Department of Economics, Louisiana State University, October 5 and 6, 2012
82. Methodological and Empirical Advances in Financial Analysis, The University of Sydney, “Advanced time-series analysis using Stata”, February 9 and 10, 2012
83. “Some cross-sectional spatial-econometric estimators”, Department of Economics, University of Davis at Davis, October 17 and 18, 2011
84. Italian Stata User’s Group meeting November 17, 2011

85. Centro de Estudios Monetarios y Financieros (CEMFI), Madrid, September 26, 2011
86. University of Carlos III, Madrid, September 21 and 23,2011
87. Bank of Spain, Madrid, September 19 and 20, 2011
88. Italian Stata User's Group meeting November 11 and 12, 2010
89. University of Bergamo; Department of Economics; November 4,5,8, and 9 of 2010
90. Cass Business School, November 1 and 2, 2010
91. Institute for Social and Economic Research, University of Essex, October 28, 2010
92. Bank of England, London, October 27, 2010
93. Spanish Stata User group Meeting, Madrid, September 14, 2010
94. Centro de Estudios Monetarios y Financieros (CEMFI), Madrid, September 9-10, 2010
95. Fourth World Conference of the Spatial Econometrics Association Chicago June 12, 2010
96. 2010 German Stata Users Group meeting, June 25, 2010
97. 2009 Italian Stata Users Group meeting November 2009
98. Department of Economics, University of Bergamo, November 2009
99. Cass Business School, November 2009
100. UNC Chapel Hill, Odum Institute, October 2009
101. UNC Charlotte, Department of Political Science, October 2009
102. IZA, Bonn, September 2009
103. Seminars on Stata, Washington, D.C. October 2009
104. New York Federal Reserve Bank, October 2008
105. University of Toronto, September 2008
106. Summer North American Stata Users Group meeting, July 2008
107. SUNY Binghamton, October 2007

108. Ente Luigi Einaudi, September 2007
109. Italian Stata Users group meeting, September 2007
110. Texas A&M University, Department of Political Science, September 2007
111. Texas A&M University, Department of Economics, September 2007
112. NERA (White Plains), September 2007
113. New York Federal Reserve Bank, September 2007
114. Queen's University, School of Business, May 2007
115. Texas A&M University, Department of Economics, February 2007
116. New York Federal Reserve Bank, October 2006
117. Indiana University, Department of Economics, October 2006
118. U.K. Stata User's Group Meeting, London, September 2006
119. North American Stata User's Group Meeting, Boston, July 2006
120. University of California at Davis, Department of Economics, May 2006
121. New York Federal Reserve Bank, December 2005
122. NERA (White Plains), December 2005
123. University of Maryland, Department of Economics, October 2005
124. Southern Methodist University, Department of Economics, September 2005
125. German Stata User's Group Meeting, Berlin, April 2005
126. Universidad de Carlos III, Departamento de Salud Pública, April 2005
127. Texas Camp Econometrics Camp, February 2005
128. Texas A&M University, Department of Economics, November 2004

Recent short courses

1. Understanding difference-in-difference methods by simulation, Department of Finance and Economics at Texas State University, 2 March 2024.

2. Understanding difference-in-difference methods by simulation and example, 26 July 2023, National Bank of Romania and Bucharest University of Economic Studies.
3. Inference after covariate selection: An introduction and some Stata commands, 26 July 2022, Universitatea Babeş-Bolya.
4. Lasso Using Stata: Methods for prediction and inference, 16-19 June 2020, Zoom
5. Lasso Using Stata: Methods for prediction and inference, 21 and 22 November 2019, Washington, DC
6. Causal inference using Stata: Estimating average treatment effects, November 19 & 20, 2019, Washington, DC
7. Using the lasso for prediction and for inference in high-dimensional models, (6 hour course), Centre for microdata methods and practice (cemmap), 21 October 2019
8. Implementing an estimation command in Stata and Mata, University of Portsmouth, 1 September 2019
9. Implementing an estimation command in Stata and Mata, Estimate/MSU, 10 June 2019
10. Solving the two-step estimation problem using gmm in Stata, Università degli studi di Bergamo, 16 November 2018
11. Implementing an estimation command in Stata and Mata, ETH, 26 October 2018
12. Implementing an estimation command in Stata and Mata, University of Zurich, 24 October 2018
13. Implementing an estimation command in Stata and Mata, Tilburg University 22 October 2018
14. Implementing an estimation command in Stata and Mata, Erasmus University, 19 October 2018
15. Implementing an estimation command in Stata and Mata, European Central Bank, 23 July 2018
16. Implementing an estimation command in Stata and Mata, Banque du France, 8 December 2017
17. Implementing an estimation command in Stata and Mata, University of Lille, 7 December 2017

18. Solving the two-step estimation problem using gmm in Stata, Bank of England, 6 December 2017
19. Implementing an estimation command in Stata and Mata, University of Warwick, 5 December 2017
20. Implementing an estimation command in Stata and Mata, Cemmap - centre for microdata methods and practice, 4 December 2017
21. Solving the two-step estimation problem using gmm in Stata, IMF, 23 October 2017
22. Implementing an estimation command in Stata and Mata, London School of Economics, 12 September 2017
23. Estimating causal effects from endogenously assigned treatments and endogenously selected samples, Karolinska Institute, 5 September 2017
24. Implementing an estimation command in Stata and Mata, Karolinska Institute, 4 September 2017
25. Implementing an estimation command in Stata and Mata, Bank of Canada, 8 June 2017
26. Programming an estimation command in Stata and Mata, Department of Economics, Texas A&M University, 17 November 2016
27. Programming an estimation command in Stata and Mata, Department of Economics, Rice University, 5 November 2016
28. Programming an estimation command in Stata and Mata, Department of Economics, University of Oslo, 14 September 2016
29. Estimating average treatment effects using Stata, Stata Summer School, Stockholm, 11–12 August 2016
30. Programming an estimation command in Stata and Mata, Stata Summer School, Stockholm, 10 August 2016
31. Programming an estimation command in Stata and Mata, Social Science Research Commons, Indiana University, 1 April 2016
32. Programming an estimation command in Stata and Mata, Department of Economics, University of Maryland, 5 February 2016

33. Programming an estimation command in Stata and Mata, Institute of Sociology, Universität Bern, 20 November 2015
34. Programming an estimation command in Stata and Mata, Einaudi Institute for Economics and Finance (Bank of Italy), 14 November 2015
35. Programming an estimation command in Stata and Mata, European University Institute (Florence, Italy), 13 November 2015
36. Programming an estimation command in Stata and Mata, UC Berkeley, 2 October 2015
37. Programming an estimation command in Stata and Mata, Methodological and Empirical Advances in Financial Analysis (MEAFA), University of Sydney, 3 July 2015
38. Estimating average treatment effects using Stata, Methodological and Empirical Advances in Financial Analysis (MEAFA), University of Sydney, 1 & 2 July 2015
39. Solving the two-step estimation problem using GMM, IAB Germany, 24 June 2015
40. Programming an estimation command in Stata and Mata, WZB, Berlin Germany, 22 June 2015
41. Panel data analysis using Stata and Programming an estimation command in Stata and Mata, FDIC, 26–28 May 2015
42. Programming an estimation command in Stata and Mata, Center for Econometric Practice, Georgetown University, 7 & 8 May 2015
43. Estimating average treatment effects using Stata, Washington DC, 4 & 5 May 2015
44. Programming an estimation command in Stata and Mata, Booth School of Business, The University of Chicago, 25 April 2015
45. Programming an estimation command in Stata and Mata, Institute for Policy Research, Northwestern University, 24 April 2015
46. Programming an estimation command in Stata and Mata, Bank of Canada, 16 April 2015
47. Programming an estimation command in Stata and Mata, Department of Economics, University of Victoria, 11 October 2014
48. Programming an estimation command in Stata and Mata, Department of Economics, University of Michigan, 14 July 2014

49. Panel-data analysis using Stata in the ICPSR Summer Program, July 7–July 11, 2014
50. Programming an estimation command in Stata and Mata, IAB Nuremburg Germany, 10 June 2014
51. Estimating treatment effects using Stata, Stata Public Training, Washington DC, March 6 and 7, 2014
52. Microeconometrics using Stata, Department of Economics, University of Bergamo, 11–12 November 2013
53. Estimating treatment effects using Stata, Stata Public Training, Washington DC, October 24 and 25, 2013
54. Programming an estimation command in Stata and Mata, Stata Public Training, Washington DC, October 22 and 23, 2013
55. Programming an estimation command in Stata and Mata, Department of Economics, University of Texas at Austin, September 20, 2013
56. Programming an estimation command in Stata and Mata in the ICPSR Summer Program, June 17–June 18, 2013
57. Panel-data analysis using Stata in the ICPSR Summer Program, June 10–June 14, 2013
58. Panel-data analysis using Stata in the ICPSR Summer Program, July 9–July 13, 2012
59. Two-day course “Panel-data analysis using Stata”; Washington, DC; April 18 and 19, 2012
60. Two-day course “Programming an estimation command in Stata and Mata”; Washington, DC; March 8 and 9, 2012
61. Two-day course “Econometric analysis of time-series using Stata”; Washington, DC; March 6 and 7, 2012
62. “Programming an estimation command in Stata and Mata”, School of Economic, Political and Policy Sciences, University of Texas at Dallas, February 25, 2012
63. One-day course on treatment-effect estimation, Venice Italy November 18, 2011
64. Panel-data analysis using Stata in the ICPSR Summer Program, July 18–June 22, 2011

65. Spatial Econometrics Advanced Institute, Rome June 2011
66. Programming an estimation command in Stata and Mata, Center for Microdata Methods and Practice, October 28, 2010
67. Panel-data analysis using Stata in the ICPSR Summer Program, June 14–June 18, 2010
68. Panel-data analysis using Stata in the ICPSR Summer Program, June 29–July 3, 2009
69. Panel-data analysis using Stata in the ICPSR Summer Program, June 2–6, 2008
70. An introduction to panel-data analysis using Stata, July 29, 2010, SOEP Conference
71. An introduction to panel-data analysis using Stata, July 8, 2008, SOEP Conference

Blog posts

I have contributed many posts to the Stata blog. These provide information about how I teach introductory econometrics and programming.

Programming blog posts

Programming an estimation command in Stata: Preparing to write a plugin

Writing a function in another language (like C, C++, or Java) that Stata calls is known as writing a plugin for Stata or as writing a dynamic-link library (DLL) for Stata. In this post, I discuss the tradeoffs of writing a plugin/DLL, and I discuss a simple program whose calculations I will replace with plugins in subsequent posts.

Programming an estimation command in Stata: Writing a C plugin

Writing a function in another language (like C, C++, or Java) that Stata calls is known as writing a plugin for Stata or as writing a dynamic-link library (DLL) for Stata. In this post, I write a plugin in C that implements the calculations performed by `mymean_work()` in `mymean11.ado`, discussed in Programming an estimation command in Stata: Preparing to write a plugin.

Programming an estimation command in Stata: Writing a C++ plugin

A function written in another language (like C, C++, or Java) that Stata calls is known as a plugin for Stata or as a dynamic-link library (DLL) for Stata. In this post, I write a plugin in C++ that implements the calculations performed by

`mymean_work()` in `mymean11.ado`, discussed in Programming an estimation command in Stata: Preparing to write a plugin.

Programming an estimation command in Stata: Writing a Java plugin
A function written in another language (like C, C++, or Java) that Stata calls is known as a plugin for Stata or as a dynamic-link library (DLL) for Stata. In this post, I write a plugin in Java that implements the calculations performed by `mymean_work()` in `mymean11.ado`, discussed in Programming an estimation command in Stata: Preparing to write a plugin.

Programming an estimation command in Stata: Writing an `estat` postestimation command, 20 October 2016

Programming an estimation command in Stata: Consolidating your code, 18 May 2016

Programming an estimation command in Stata: Nonlinear least-squares estimators, 12 May 2016

Programming an estimation command in Stata: Certifying your command, 31 March 2016

Programming an estimation command in Stata: Making `predict` work, 17 March 2016

Programming an estimation command in Stata: Adding analytical derivatives to a poisson command using Mata, 2 March 2016

Programming an estimation command in Stata: Allowing for robust or cluster-robust standard errors in a poisson command using Mata, 23 February 2016

Programming an estimation command in Stata: Handling factor variables in a poisson command using Mata, 17 February 2016

Programming an estimation command in Stata: Handling factor variables in `optimize()`, 9 February 2016

Programming an estimation command in Stata: A poisson command using Mata, 2 February 2016

Programming an estimation command in Stata: Using `optimize()` to estimate Poisson parameters, 28 January 2016

Programming an estimation command in Stata: A review of nonlinear optimization using Mata, 26 January 2016

Programming an estimation command in Stata: Adding robust and cluster-robust VCEs to our Mata-based OLS command, 19 January 2016

Programming an estimation command in Stata: An OLS command using Mata, 12 January 2016

Programming an estimation command in Stata: Computing OLS objects in Mata, 5 January 2016

Programming an estimation command in Stata: A first ado-command using Mata, 29 December 2015

Programming an estimation command in Stata: Mata functions, 22 December 2015

Programming an estimation command in Stata: Mata 101, 15 December 2015

Programming an estimation command in Stata: Using a subroutine to parse a complex option, 8 December 2015
Programming an estimation command in Stata: Allowing for options, 1 December 2015
Programming an estimation command in Stata: Allowing for sample restrictions and factor variables, 25 November 2015
Programming an estimation command in Stata: A better OLS command, 24 November 2015
Programming an estimation command in Stata: A first command for OLS, 19 November 2015
Programming an estimation command in Stata: Using Stata matrix commands and functions to compute OLS objects, 17 November 2015
Programming an estimation command in Stata: A first ado-command, 10 November 2015
Programming an estimation command in Stata: Global macros versus local macros, 3 November 2015
Programming an estimation command in Stata: Where to store your stuff, 27 October 2015
Programming estimators in Stata: Why you should, 20 October 2015

Econometrics/Statistics blog posts

Quantile regression allows covariate effects to differ by quantile, 27 September 2016
An ordered-probit inverse probability weighted (IPW) estimator, 13 September 2016
Exact matching on discrete covariates is the same as regression adjustment, 16 August 2016
Probability differences and odds ratios measure conditional-on-covariate effects and population-parameter effects, 26 July 2016
Doctors versus policy analysts: Estimating the effect of interest, 19 July 2016
A simulation-based explanation of consistency and asymptotic normality, 18 April 2016
Understanding the generalized method of moments (GMM): A simple example, 3 December 2015
Efficiency comparisons by Monte Carlo simulation, 13 October 2015
Maximum likelihood estimation by mlexp: A chi-squared example, 8 October 2015
Monte Carlo simulations using Stata, 6 October 2015
Using gmm to solve two-step estimation problems, 8 December 2014

Software Contributions

David M. Drukker & Di Liu, 2023. "POSW_POSIS: Stata module to implement the partialling-out estimator based on iterative sure independence screening," Statis-

- tical Software Components S459200, Boston College Department of Economics, revised 04 May 2023.
- David M. Drukker, 2023. "SOTABLE: Stata module to produce tests and confidence bands for multiple comparisons of two-sided or one-sided hypotheses," Statistical Software Components S459197, Boston College Department of Economics. Also available at the Stata Journal.
- David M. Drukker, 2014. "MQGAMMA: Stata module to estimate quantiles of potential-outcome distributions," Statistical Software Components S457854, Boston College Department of Economics.
- Matias D. Cattaneo & David M. Drukker & Ashley Holland, 2012. "POPARMS: Stata module for potential outcome parameter estimation," Statistical Software Components S457511, Boston College Department of Economics, revised 27 Nov 2012. Also available at the Stata Journal.
- David M. Drukker & Hua Peng & Ingmar Prucha & Rafal Raciborski, 2011. "SPPACK: Stata module for cross-section spatial-autoregressive models," Statistical Software Components S457245, Boston College Department of Economics, revised 04 Dec 2018. Also available at the Stata Journal.
- David M. Drukker, 2006. "FREDUSE: Stata module to Import FRED (Federal Reserve Economic Database) data," Statistical Software Components S456707, Boston College Department of Economics, revised 08 Jul 2015. Also available at the Stata Journal.
- Alberto Abadie & Jane Leber Herr & Guido W. Imbens & David M. Drukker, 2004. "NNMATCH: Stata module to compute nearest-neighbor bias-corrected estimators," Statistical Software Components S439701, Boston College Department of Economics. Also available at the Stata Journal.
- David M. Drukker, 2003. "Testing for serial correlation in linear panel-data models", the Stata Journal
- Christopher F Baum & David M. Drukker, 2000. "IVGMM0: Stata module to perform instrumental variables via GMM," Statistical Software Components S410601, Boston College Department of Economics, revised 16 Mar 2004.