Combined subject table of contents

This is the complete contents for all manuals. Every estimation command has a postestimation entry; however, not all postestimation entries are listed here.

Getting started

Data manipulation and management
- Basic data commands
- Creating and dropping variables
- Functions and expressions
- Strings
- Dates and times
- Loading, saving, importing, and exporting data
- Combining data
- Certifying data

Utilities
- Basic utilities
- Error messages
- Stored results

Graphics
- Common graphs
- Distributional graphs
- Item response theory graphs
- Lasso graphs
- Meta-analysis graphs
- Multivariate graphs
- Quality control
- Regression diagnostic plots
- ROC analysis

Statistics
- ANOVA and related
- Basic statistics
- Bayesian analysis
- Binary outcomes
- Categorical outcomes
- Censored and truncated regression models
- Choice models
- Cluster analysis
- Correspondence analysis
- Count outcomes
- Discriminant analysis
- Do-it-yourself generalized method of moments
- Do-it-yourself maximum likelihood estimation
- Dynamic stochastic general equilibrium models
- Endogenous covariates
- Epidemiology and related
- Estimation related
- Exact statistics

Reshaping datasets
Labeling, display formats, and notes
Changing and renaming variables
Examining data
File manipulation
Miscellaneous data commands
Multiple datasets in memory
Multiple imputation
Internet
Data types and memory
Advanced utilities
Smoothing and densities
Survival-analysis graphs
Time-series graphs
More statistical graphs
Editing
Graph utilities
Graph schemes
Graph concepts
Longitudinal data/panel data
Meta-analysis
Mixed models
Multidimensional scaling and biplots
Multilevel mixed-effects models
Multiple imputation
Multivariate analysis of variance and related techniques
Nonlinear regression
Nonparametric statistics
Ordinal outcomes
Other statistics
Pharmacokinetic statistics
Power, precision, and sample size
Quality control
ROC analysis
Rotation
Sample selection models
Extended regression models
Factor analysis and principal components
Finite mixture models
Fractional outcomes
Generalized linear models
Indicator and categorical variables
Item response theory
Lasso
Latent class models
Linear regression and related
Logistic and probit regression

Matrix commands
Basics
Programming

Programming
Basics
Program control
Parsing and program arguments
Console output
Commonly used programming commands
Debugging

Other
Mata

Getting started

Getting Started with Stata for Mac
Getting Started with Stata for Unix
Getting Started with Stata for Windows

Chapter 3
Chapter 4
help
search

Resources for learning and using Stata
Stata’s help and search facilities
Display help in Stata
Search Stata documentation and other resources

Data manipulation and management

Basic data commands
Intro
Data management
codebook
Data types
Datetime
Datetime durations
Datetime relative dates
Datetime values from other software
derscribe
dedit

Introduction to data management reference manual
Introduction to data management commands
Describe data contents
Quick reference for data types
Date and time values and variables
Obtaining and working with durations
Obtaining dates and date information from other dates
Date and time conversion from other software
Describe data in memory or in file
Browse or edit data with Data Editor
### Creating and dropping variables

- `clear` ......................................................... Clear memory
- `compress` .............................................. Compress data in memory
- `date` .................................................... Date and time functions
- `drop` ................................................. Drop variables or observations
- `dyngen` ............................................. Dynamically generate new values of variables
- `egen` .................................................. Extensions to generate
- `frame copy` ...................................... Make a copy of a frame
- `frame drop` ....................................... Drop frame from memory
- `frame put` ......................................... Copy selected variables or observations to a new frame
- `frames reset` ..................................... Drop all frames from memory
- `generate` ........................................... Create or change contents of variable
- `ins.obs` ............................................. Add or insert observations
- `orthog` ........................................... Orthogonalize variables and compute orthogonal polynomials
- `rename` ............................................. Rename variable
- `save` .............................................. Save Stata dataset
- `sort` ............................................... Sort data
- `use` ................................................ Load Stata dataset
- `varmanage` ........................................... Manage variable labels, formats, and other properties

### Functions and expressions

- `Section 12.4.2.1` ................................. Unicode string functions
- `Chapter 13` ........................................ Functions and expressions
- `date` ................................................ Date and time functions
- `egen` .................................................. Extensions to generate
- `math` ............................................... Mathematical functions
- `matrix` ............................................... Matrix functions
- `program` ............................................. Programming functions
- `random` .............................................. Random-number functions
- `time` ............................................... Selecting time-span functions
- `statistic` .......................................... Statistical functions
- `string` ............................................... String functions
- `trigonometric` .................................. Trigonometric functions
Strings
- Section 12.4: Handling Unicode strings
- Section 12.4.2: Handling Unicode strings

Dates and times
- Section 12.5.3: Working with date formats
- Chapter 25: Business calendar file manipulation

Loading, saving, importing, and exporting data
- Chapter 6 (GSM, GSU, GSW): Using the Data Editor
- Chapter 22: Entering and importing data
- edit: Browse or edit data with Data Editor
- export: Overview of exporting data from Stata
- import: Overview of importing data into Stata
- import dbase: Import and export dBase files
- import delimited: Import and export delimited text data
- import excel: Import and export Excel files
- import fred: Import data from Federal Reserve Economic Data
- import haver: Import data from Haver Analytics databases
- import sas: Import SAS files
- import sasxport5: Import and export data in SAS XPORT Version 5 format
- import sasxport8: Import and export data in SAS XPORT Version 8 format
- import spss: Import SPSS files
- infile (fixed format): Import text data in fixed format with a dictionary
- infile (free format): Import unformatted text data
- infix (fixed format): Import text data in fixed format
- input: Enter data from keyboard
- jdbc: Load, write, or view data from a database with a Java API
- odbc: Load, write, or view data from ODBC sources
- outfile: Export dataset in text format
- save: Save Stata dataset
- sysuse: Use shipped dataset
- use: Load Stata dataset
- webuse: Use dataset from Stata website
Combining data

Chapter 23: Combining datasets

- append: Append datasets
- mi append: Append mi data
- cross: Form every pairwise combination of two datasets
- frget: Copy variables from linked frame
- frlink: Link frames
- joinby: Form all pairwise combinations within groups
- merge: Merge datasets
- mi merge: Merge mi data

Certifying data

- assert: Verify truth of claim
- assertnested: Verify variables nested
- checksum: Calculate checksum of file
- _datassignature: Determine whether data have changed
- datassignature: Determine whether data have changed
- notes: Place notes in data
- signestimationsample: Determine whether the estimation sample has changed

Reshaping datasets

- collapse: Make dataset of summary statistics
- contract: Make dataset of frequencies and percentages
- expand: Duplicate observations
- expandcl: Duplicate clustered observations
- fillin: Rectangularize dataset
- obs: Increase the number of observations in a dataset
- reshape: Convert data from wide to long form and vice versa
- mi reshape: Reshape mi data
- rolling: Rolling-window and recursive estimation
- separate: Create separate variables
- ssd: Making summary statistics data (sem only)
- stack: Stack data
- statsby: Collect statistics for a command across a by list
- xpose: Interchange observations and variables

Labeling, display formats, and notes

- Chapter 7 (GSM, GSU, GSW): Using the Variables Manager
- Section 12.5: Formats: Controlling how data are displayed
- Section 12.6: Dataset, variable, and value labels
- format: Set variables’ output format
- label: Manipulate labels
- label language: Labels for variables and values in multiple languages
- labelbook: Label utilities
- notes: Place notes in data
- varmanage: Manage variable labels, formats, and other properties
Changing and renaming variables

[GS] Chapter 7 (GSM, GSU, GSW) ................................. Using the Variables Manager
[U] Chapter 26 .................................................. Working with categorical data and factor variables
[D] clonevar .......................................................... Clone existing variable
[D] destring ......................................................... Convert string variables to numeric variables and vice versa
[D] dyngen .......................................................... Dynamically generate new values of variables
[D] encode .......................................................... Encode string into numeric and vice versa
[D] generate ......................................................... Create or change contents of variable
[D] mvencode ....................................................... Change missing values to numeric values and vice versa
[D] order ............................................................ Reorder variables in dataset
[D] recode .......................................................... Recode categorical variables
[D] rename .......................................................... Rename variable
[D] rename group .................................................. Rename groups of variables
[D] split ............................................................. Split string variables into parts
[D] varmanage ..................................................... Manage variable labels, formats, and other properties

Examining data

[GS] Chapter 6 (GSM, GSU, GSW) ................................. Using the Data Editor
[D] cf ................................................................. Compare two datasets
[CM] cmsummarize ................................................ Summarize variables by chosen alternatives
[D] codebook ....................................................... Describe data contents
[D] compare ......................................................... Compare two variables
[D] count ........................................................... Count observations satisfying specified conditions
[D] describe ......................................................... Describe data in memory or in file
[D] ds ................................................................. Compactly list variables with specified properties
[D] duplicates ..................................................... Report, tag, or drop duplicate observations
[D] edit ............................................................... Browse or edit data with Data Editor
[D] gsort ........................................................... Ascending and descending sort
[D] inspect .......................................................... Display simple summary of data’s attributes
[D] isid ............................................................... Check for unique identifiers
[D] lookfor ........................................................ Search for string in variable names and labels
[R] lv ................................................................. Letter-value displays
[R] misstable ....................................................... Tabulate missing values
[MI] mi describe .................................................. Describe mi data
[MI] mi misstable ................................................ Tabulate pattern of missing values
[D] pctile ........................................................... Create variable containing percentiles
[ST] stdescribe .................................................... Describe survival-time data
[R] summarize ...................................................... Summary statistics
[SVY] svy: tabulate oneway ....................................... One-way tables for survey data
[SVY] svy: tabulate twoway ...................................... Two-way tables for survey data
[P] tabdisp ......................................................... Display tables
[R] table intro ..................................................... Introduction to tables of frequencies, summaries, and command results
[R] table ......................................................... Table of frequencies, summaries, and command results
[R] table multiway ............................................... Multiway tables
[R] table oneway .................................................. One-way tabulation
[R] table regression ............................................. Table of regression results
[R] table summary ............................................... Table of summary statistics
[R] table twoway ............................................... Two-way tabulation
[R] tabstat ........................................................ Compact table of summary statistics
[R] tabulate oneway ............................................... One-way table of frequencies
[R] tabulate twoway ............................................... Two-way table of frequencies
File manipulation

[D] cd ................................. Change directory
[D] cf ............................... Compare two datasets
[D] changeeol ......................... Convert end-of-line characters of text file
[D] checksum .......................... Calculate checksum of file
[D] copy ............................. Copy file from disk or URL
[D] dir ............................... Display filenames
[D] erase ............................. Erase a disk file
[D] filefilter ........................ Convert ASCII or binary patterns in a file
[D] mkdir ............................. Create directory
[D] rmdir ............................. Remove directory
[D] type .............................. Display contents of a file
[D] unicode convertfile ......... Low-level file conversion between encodings
[D] unicode translate .......... Translate files to Unicode
[D] zipfile ............... Compress and uncompress files and directories in zip archive format

Miscellaneous data commands

[D] corr2data ........................ Create dataset with specified correlation structure
[D] drawnorm ........................ Draw sample from multivariate normal distribution
[R] dydx .......................... Calculate numeric derivatives and integrals
[D] frame change ...................... Change identity of current (working) frame
[D] frame create ...................... Create a new frame
[D] frame prefix ........................ The frame prefix command
[D] frame pwf ........................ Display name of current (working) frame
[D] frame rename ...................... Rename existing frame
[D] frames dir ....................... Display names of all frames in memory
[D] icd .............................. Introduction to ICD commands
[D] icd10 ................................ ICD-10 diagnosis codes
[D] icd10cm .......................... ICD-10-CM diagnosis codes
[D] icd10pcs .......................... ICD-10-PCS procedure codes
[D] icd9 ................................ ICD-9-CM diagnosis codes
[D] icd9p ................................ ICD-9-CM procedure codes
[D] ipolate .......................... Linearly interpolate (extrapolate) values
[D] range ............................. Generate numerical range
[D] sample .......................... Draw random sample
[D] splitsample ........................ Split data into random samples

Multiple datasets in memory

[D] frame change ...................... Change identity of current (working) frame
[D] frame copy ........................ Make a copy of a frame
[D] frame create ...................... Create a new frame
[D] frame drop ........................ Drop frame from memory
[D] frame prefix ........................ The frame prefix command
[D] frame put ........................ Copy selected variables or observations to a new frame
[D] frame pwf ........................ Display name of current (working) frame
[D] frame rename ...................... Rename existing frame
[D] frames ................................ Data frames
[D] frames dir ........................ Display names of all frames in memory
Multiple imputation

[MI] mi add ........................................ Add imputations from another mi dataset
[MI] mi append .................................. Append mi data
[MI] mi convert ................................... Change style of mi data
[MI] mi copy ...................................... Copy mi flongsep data
[MI] mi describe ................................ Describe mi data
[MI] mi erase .................................... Erase mi datasets
[MI] mi expand .................................. Expand mi data
[MI] mi export ................................... Export mi data
[MI] mi export ice ............................... Export mi data to ice format
[MI] mi export nhanes1 ........................ Export mi data to NHANES format
[MI] mi extract ................................ Extract original or imputed data from mi data
[MI] mi import ................................... Import data into mi
[MI] mi import flong ............................ Import flong-like data into mi
[MI] mi import flongsep ........................ Import flongsep-like data into mi
[MI] mi import ice ............................... Import ice-format data into mi
[MI] mi import nhanes1 ........................ Import NHANES-format data into mi
[MI] mi import wide ............................. Import wide-like data into mi
[MI] mi merge .................................... Merge mi data
[MI] mi misstable ................................. Tabulate pattern of missing values
[MI] mi passive ................................ Generate/replace and register passive variables
[MI] mi ptrace .................................. Load parameter-trace file into Stata
[MI] mi rename .................................. Rename variable
[MI] mi replace0 ................................ Replace original data
[MI] mi reset .................................... Reset imputed or passive variables
[MI] mi reshape .................................. Reshape mi data
[MI] mi set ........................................ Declare multiple-imputation data
[MI] mi split .................................... Split and join time-span records for mi data
[MI] mi update .................................. Ensure that mi data are consistent
[MI] mi varying ................................. Identify variables that vary across imputations
[MI] mi xeq ...................................... Execute command(s) on individual imputations
[MI] mi XXXset ................................. Declare mi data to be svy, st, ts, xt, etc.
[MI] noupdate option .......................... The noupdate option
[MI] Styles ............................................ Dataset styles
[MI] Workflow .................................... Suggested workflow

Utilities

Basic utilities

[GS] Chapter 13 (GSM, GSU, GSW) .......... Using the Do-file Editor—automating Stata
[U] Chapter 4 .................................... Stata’s help and search facilities
[U] Chapter 15 .................................. Saving and printing output—log files
[U] Chapter 16 .................................. Do-files
[R] about ........................................ Display information about your Stata
[D] by ............................................ Repeat Stata command on subsets of the data
[R] cls ......................................................... Clear Results window
[R] copyright ............................................... Display copyright information
[R] do ........................................................ Execute commands from a file
[R] doedit ...................................................... Edit do-files and other text files
[R] exit .......................................................... Exit Stata
[R] help ........................................................ Display help in Stata
[R] level ......................................................... Set default confidence level
[R] log ........................................................... Echo copy of session to file
[D] obs ......................................................... Increase the number of observations in a dataset
[R] postest ..................................................... Postestimation Selector
[R] #review .................................................. Review previous commands
[R] search .................................................... Search Stata documentation and other resources
[BAYES] set clevel ............................................. Set default credible level
[R] translate .................................................. Print and translate logs
[D] unicode translate ..................................... Translate files to Unicode
[R] view ........................................................ View files and logs
[D] zipfile ..................................................... Compress and uncompress files and directories in zip archive format

Error messages

[U] Chapter 8 ................................................. Error messages and return codes
[P] error ........................................................ Display generic error message and exit
[R] Error messages ......................................... Error messages and return codes
[P] rmsg ......................................................... Return messages

Stored results

[U] Section 13.5 ............................................ Accessing coefficients and standard errors
[U] Section 18.8 ............................................ Accessing results calculated by other programs
[U] Section 18.9 ............................................ Accessing results calculated by estimation commands
[U] Section 18.10 .......................................... Storing results
[P] creturn ..................................................... Return c-class values
[P] ereturn ..................................................... Post the estimation results
[R] estimates ................................................. Save and manipulate estimation results
[R] estimates describe ..................................... Describe estimation results
[R] estimates for ............................................ Repeat postestimation command across models
[R] estimates notes ......................................... Add notes to estimation results
[R] estimates replay ....................................... Redisplay estimation results
[R] estimates save ......................................... Save and use estimation results
[R] estimates selected ..................................... Show selected coefficients
[R] estimates stats ......................................... Model-selection statistics
[R] estimates store ......................................... Store and restore estimation results
[R] estimates table ......................................... Compare estimation results
[R] estimates title .......................................... Set title for estimation results
[P] _return .................................................... Preserve stored results
[P] return ...................................................... Return stored results
[R] Stored results .......................................... Stored results

Internet

[U] Chapter 29 ............................................. Using the Internet to keep up to date
[R] ado update .............................................. Update community-contributed packages
[D] checksum ............................................... Calculate checksum of file
[D] copy ....................................................... Copy file from disk or URL
[R] net .................. Install and manage community-contributed additions from the Internet
[R] net search .................. Search the Internet for installable packages
[R] netio .................. Control Internet connections
[R] sj .................. Stata Journal and STB installation instructions
[R] ssc .................. Install and uninstall packages from SSC
[R] update .................. Check for official updates
[D] use .................. Load Stata dataset

Data types and memory

[U] Chapter 6 .................. Managing memory
[U] Section 12.2.2 .................. Numeric storage types
[U] Section 12.4 .................. Strings
[U] Section 12.4.2 .................. Handling Unicode strings
[U] Section 13.12 .................. Precision and problems therein
[U] Chapter 24 .................. Working with strings
[D] compress .................. Compress data in memory
[D] Data types .................. Quick reference for data types
[D] memory .................. Memory management
[D] Missing values .................. Quick reference for missing values
[D] recast .................. Change storage type of variable

Advanced utilities

[D] assert .................. Verify truth of claim
[D] assertnested .................. Verify variables nested
[D] cd .................. Change directory
[D] changeeol .................. Convert end-of-line characters of text file
[D] checksum .................. Calculate checksum of file
[D] copy .................. Copy file from disk or URL
[P] _datasignature .................. Determine whether data have changed
[D] datasignature .................. Determine whether data have changed
[R] db .................. Launch dialog
[P] Dialog programming .................. Dialog programming
[D] dir .................. Display filenames
[P] discard .................. Drop automatically loaded programs
[D] erase .................. Erase a disk file
[P] file .................. Read and write text and binary files
[D] filefilter .................. Convert ASCII or binary patterns in a file
[D] hexdump .................. Display hexadecimal report on file
[D] mkdir .................. Create directory
[R] more .................. The —more— message
[R] query .................. Display system parameters
[P] quietly .................. Quietly and noisily perform Stata command
[D] rmdir .................. Remove directory
[R] set .................. Overview of system parameters
[R] set cformat .................. Format settings for coefficient tables
[R] set_defaults .................. Reset system parameters to original Stata defaults
[R] set emptycells .................. Set what to do with empty cells in interactions
[R] set iter .................. Control iteration settings
[P] set locale_functions .................. Specify default locale for functions
[P] set locale_ui .................. Specify a localization package for the user interface
[R] set rng .................. Set which random-number generator (RNG) to use
Graphics

Common graphs

[G-1]  Graph intro ............................................. Introduction to graphics
[G-2]  graph ...................................................... The graph command
[G-2]  graph bar .................................................... Bar charts
[G-2]  graph box .................................................... Box plots
[G-2]  graph close ................................................ Close Graph windows
[G-2]  graph combine ............................................ Combine multiple graphs
[G-2]  graph copy ................................................. Copy graph in memory
[G-2]  graph describe .......................................... Describe contents of graph in memory or on disk
[G-2]  graph dir ................................................... List names of graphs in memory and on disk
[G-2]  graph display ............................................. Display graph stored in memory
[G-2]  graph dot ................................................... Dot charts (summary statistics)
[G-2]  graph drop ................................................ Drop graphs from memory
[G-2]  graph export ............................................... Export current graph
[G-2]  graph manipulation ...................................... Graph manipulation commands
[G-2]  graph matrix .............................................. Matrix graphs
[G-2]  graph other ............................................... Other graphics commands
[G-2]  graph pie .................................................... Pie charts
[G-2]  graph play .................................................. Apply edits from a recording on current graph
[G-2]  graph print ............................................... Print a graph
[G-2]  graph query ............................................... List available schemes and styles
[G-2]  graph rename .............................................. Rename graph in memory
[G-2]  graph replay .............................................. Replay multiple graphs
[G-2]  graph save ............................................... Save graph to disk
[G-2]  graph set .................................................. Set graphics options
[G-2]  graph twoway ............................................. Twoway graphs
Distributional graphs

[R]  cumul                    Cumulative distribution
[R]  Diagnostic plots         Distributional diagnostic plots
[R]  dotplot                  Comparative distribution dotplots
[R]  histogram                Histograms for continuous and categorical variables
[R]  marginsplot              Graph results from margins (profile plots, etc.)
[G-2] palette                Display palettes of available selections
Combined subject table of contents

**Item response theory graphs**
- [MV] biplot .......................... Biplots
- [IRT] irtgraph icc ......................... Item characteristic curve plot
- [IRT] irtgraph iif ....................... Item information function plot
- [IRT] irtgraph tcc ...................... Test characteristic curve plot
- [IRT] irtgraph tif ...................... Test information function plot

**Lasso graphs**
- [LASSO] bicplot .......................... Plot Bayesian information criterion function after lasso
- [LASSO] coefpath .......................... Plot path of coefficients after lasso
- [LASSO] cvplot .......................... Plot cross-validation function after lasso

**Meta-analysis graphs**
- [META] estat bubbleplot ..................... Bubble plots after meta regress
- [META] meta forestplot ...................... Forest plots
- [META] meta funnelplot ..................... Funnel plots
- [META] meta galbraithplot ................... Galbraith plots
- [META] meta labbeplot ..................... L’Abbé plots

**Multivariate graphs**
- [MV] biplot ............................. Biplots
- [MV] ca postestimation .................. Postestimation tools for ca and camat
- [MV] ca postestimation plots .......... Postestimation plots for ca and camat
- [MV] cluster dendrogram ............... Dendrograms for hierarchical cluster analysis
- [MV] mca postestimation ................ Postestimation tools for mca
- [MV] mca postestimation plots .......... Postestimation plots for mca
- [MV] mds postestimation .............. Postestimation tools for mds, mdsmat, and mdslong
- [MV] mds postestimation plots ........ Postestimation plots for mds, mdsmat, and mdslong
- [MV] procrustes postestimation ........ Postestimation tools for procrustes
- [MV] scoreplot .......................... Score and loading plots
- [MV] screeplot .......................... Scree plot of eigenvalues

**Quality control**
- [R] QC ................................. Quality control charts
- [R] cusum ............................... Cusum plots and tests for binary variables
- [R] serrbar ............................... Graph standard error bar chart

**Regression diagnostic plots**
- [R] regress postestimation diagnostic plots ............... Postestimation plots for regress

**ROC analysis**
- [R] estat classification .................. Classification statistics and table
- [R] estat gof ............................. Pearson or Hosmer–Lemeshow goodness-of-fit test
- [R] logistic postestimation ............ Postestimation tools for logistic
- [R] lroc ................................. Compute area under ROC curve and graph the curve
- [R] lsens ............................... Graph sensitivity and specificity versus probability cutoff
- [R] roccomp ............................. Tests of equality of ROC areas
### Combined subject table of contents

<table>
<thead>
<tr>
<th>Category</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postestimation tools for rocfit</td>
<td>rocfit postestimation</td>
<td>Postestimation tools for rocfit</td>
</tr>
<tr>
<td>Plot marginal and covariate-specific ROC curves after rocreg</td>
<td>rocregplot</td>
<td>Plot marginal and covariate-specific ROC curves after rocreg</td>
</tr>
<tr>
<td>Nonparametric ROC analysis</td>
<td>roctab</td>
<td>Nonparametric ROC analysis</td>
</tr>
<tr>
<td>Univariate kernel density estimation</td>
<td>kdensity</td>
<td>Univariate kernel density estimation</td>
</tr>
<tr>
<td>Lowess smoothing</td>
<td>lowess</td>
<td>Lowess smoothing</td>
</tr>
<tr>
<td>Kernel-weighted local polynomial smoothing</td>
<td>lpoly</td>
<td>Kernel-weighted local polynomial smoothing</td>
</tr>
<tr>
<td>Life tables for survival data</td>
<td>ltable</td>
<td>Life tables for survival data</td>
</tr>
<tr>
<td>Confidence intervals for means and percentiles of survival time</td>
<td>stci</td>
<td>Confidence intervals for means and percentiles of survival time</td>
</tr>
<tr>
<td>Tests of proportional-hazards assumption after stcox</td>
<td>stcox PH-assumption tests</td>
<td>Tests of proportional-hazards assumption after stcox</td>
</tr>
<tr>
<td>Plots of proportional-hazards assumption after stintcox</td>
<td>stintcox PH-assumption plots</td>
<td>Plots of proportional-hazards assumption after stintcox</td>
</tr>
<tr>
<td>Tabulate failure rates and rate ratios</td>
<td>strate</td>
<td>Tabulate failure rates and rate ratios</td>
</tr>
<tr>
<td>Graph the survivor or related function</td>
<td>sts graph</td>
<td>Graph the survivor or related function</td>
</tr>
<tr>
<td>Graphs of Bayesian IRFs, dynamic-multiplier functions, and FEVDs</td>
<td>bayesirf graph</td>
<td>Graphs of Bayesian IRFs, dynamic-multiplier functions, and FEVDs</td>
</tr>
<tr>
<td>Tabulate and graph autocorrelations</td>
<td>corrgram</td>
<td>Tabulate and graph autocorrelations</td>
</tr>
<tr>
<td>Graph cumulative spectral distribution</td>
<td>cumpsp</td>
<td>Graph cumulative spectral distribution</td>
</tr>
<tr>
<td>Plot parametric autocorrelation and autocovariance functions</td>
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<td>Graph forecasts after fcast compute</td>
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<td>Combined graphs of IRFs, dynamic-multiplier functions, and FEVDs</td>
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<td>xcorr</td>
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<td>Graph results from the ciwidth command</td>
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<td>Epitab</td>
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<td>fp postestimation</td>
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<td>grmeanby</td>
<td>Graph means and medians by categorical variables</td>
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<td>Calculate pharmacokinetic measures</td>
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<td>Panel-data line plots</td>
<td>xtline</td>
<td>Panel-data line plots</td>
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Editing

[G-1] Graph Editor .................................................. Graph Editor

Graph utilities

[G-2] set graphics .................................................. Set whether graphs are displayed
[G-2] set printcolor ............................................. Set how colors are treated when graphs are printed
[G-2] set scheme .................................................. Set default scheme

Graph schemes

[G-4] Schemes intro .............................................. Introduction to schemes
[G-4] Scheme economist ........................................ Scheme description: economist
[G-4] Scheme s1 .................................................. Scheme description: s1 family
[G-4] Scheme s2 .................................................. Scheme description: s2 family
[G-4] Scheme sj .................................................. Scheme description: sj

Graph concepts

[G-4] Concept: lines ............................................... Using lines
[G-4] Concept: repeated options ......................... Interpretation of repeated options
[G-4] text ............................................................. Text in graphs

Statistics

ANOVA and related

[U] Chapter 27 .............................................. Overview of Stata estimation commands
[R] anova ...................................................... Analysis of variance and covariance
[R] contrast .................................................. Contrasts and linear hypothesis tests after estimation
[R] icc .................................................... Intraclass correlation coefficients
[R] loneway ............................................... Large one-way ANOVA, random effects, and reliability
[MV] manova ............................................... Multivariate analysis of variance and covariance
[ME] meglm .................................................. Multilevel mixed-effects generalized linear model
[ME] mixed ................................................ Multilevel mixed-effects linear regression
[R] oneway ................................................. One-way analysis of variance
[R] pkcross ................................................ Analyze crossover experiments
[R] pkshape ............................................... Reshape (pharmacokinetic) Latin-square data
[R] pwcompare ............................................. Pairwise comparisons
[R] regress ............................................... Linear regression
[XT] xtreg ............................................... Fixed-, between-, and random-effects and population-averaged linear models

Basic statistics

[R] anova ...................................................... Analysis of variance and covariance
[R] bitest .................................................. Binomial probability test
[R] ci .................................................... Confidence intervals for means, proportions, and variances
[R] correlate ............................................. Correlations of variables
[D] egen ................................................ Extensions to generate
[R] esize ................................................ Effect size based on mean comparison
[R] icc .................................................. Intraclass correlation coefficients
[R] mean .................................................. Estimate means
[R] misstable ............................................. Tabulate missing values
### Bayesian analysis

- **Section 27.33** Bayesian analysis
- **Intro** Introduction to Bayesian analysis
- **Bayesian commands** Introduction to commands for Bayesian analysis
- **Bayesian estimation** Bayesian estimation commands
- **Bayesian postestimation** Postestimation tools for bayesmh and the bayes prefix
- **bayes** Bayesian regression models using the bayes prefix
- **bayes: betareg** Bayesian beta regression
- **bayes: binreg** Bayesian generalized linear models: Extensions to the binomial family
- **bayes: biprobit** Bayesian bivariate probit regression
- **bayes: clogit** Bayesian conditional logistic regression
- **bayes: cloglog** Bayesian complementary log–log regression
- **bayes: dsge** Bayesian linear dynamic stochastic general equilibrium models
- **bayes: dsge postestimation** Postestimation tools for bayes: dsge and bayes: dsgenl
- **bayes: dgennl** Bayesian nonlinear dynamic stochastic general equilibrium models
- **bayes: fracreg** Bayesian fractional response regression
- **bayes: glm** Bayesian generalized linear models
- **bayes: gnbreg** Bayesian generalized negative binomial regression
- **bayes: heckman** Bayesian Heckman selection model
- **bayes: heckoprobit** Bayesian ordered probit model with sample selection
- **bayes: heckprobit** Bayesian heteroskedastic ordered probit regression
- **bayes: hetprobit** Bayesian heteroskedastic probit regression
- **mvtest** Multivariate tests
- **oneway** One-way analysis of variance
- **proportion** Estimate proportions
- **prtest** Tests of proportions
- **pwmean** Pairwise comparisons of means
- **ranksum** Equality tests on unmatched data
- **ratio** Estimate ratios
- **regress** Linear regression
- **sdtest** Variance-comparison tests
- **signrank** Equality tests on matched data
- **statsby** Collect statistics for a command across a by list
- **summarize** Summary statistics
- **table intro** Introduction to tables of frequencies, summaries, and command results
- **table** Table of frequencies, summaries, and command results
- **table hypothesis tests** Table of hypothesis tests
- **table multiway** Multiway tables
- **table oneway** One-way tabulation
- **table regression** Table of regression results
- **table summary** Table of summary statistics
- **table twoway** Two-way statistics
- **tabstat** Compact table of summary statistics
- **tabulate oneway** One-way table of frequencies
- **tabulate twoway** Two-way table of frequencies
- **tabulate, summarize()** One- and two-way tables of summary statistics
- **total** Estimate totals
- **ttest** t tests (mean-comparison tests)
- **ztest** z tests (mean-comparison tests, known variance)
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bayes: hetreg</td>
<td>Bayesian heteroskedastic linear regression</td>
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<tr>
<td>bayes: intreg</td>
<td>Bayesian interval regression</td>
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<td>bayes: logistic</td>
<td>Bayesian logistic regression, reporting odds ratios</td>
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<tr>
<td>bayes: logit</td>
<td>Bayesian logistic regression, reporting coefficients</td>
</tr>
<tr>
<td>bayes: mecloglog</td>
<td>Bayesian multilevel complementary log–log regression</td>
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<td>bayes: meglm</td>
<td>Bayesian multilevel generalized linear model</td>
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<td>bayes: meintreg</td>
<td>Bayesian multilevel interval regression</td>
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<td>bayes: melogit</td>
<td>Bayesian multilevel logistic regression</td>
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<tr>
<td>bayes: menbreg</td>
<td>Bayesian multilevel negative binomial regression</td>
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<td>bayes: meologit</td>
<td>Bayesian multilevel ordered logistic regression</td>
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<td>bayes: mepoisson</td>
<td>Bayesian multilevel Poisson regression</td>
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<td>bayes: meprob</td>
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<td>bayes: mestreg</td>
<td>Bayesian multilevel parametric survival models</td>
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<td>bayes: metobit</td>
<td>Bayesian multilevel tobit regression</td>
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<td>bayes: mixed</td>
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<td>Bayesian linear regression</td>
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<td>Bayesian parametric survival models</td>
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<td>Bayesian truncated negative binomial regression</td>
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<td>bayes: tobit</td>
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<td>Bayesian vector autoregressive models</td>
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<tr>
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<td>Bayesian random-effects ordered logistic model</td>
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<td>Bayesian random-effects linear model</td>
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<td>Bayesian IRFs, dynamic-multiplier functions, and FEVDs</td>
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<td>Obtain Bayesian IRFs, dynamic-multiplier functions, and FEVDs</td>
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### Binary outcomes

<table>
<thead>
<tr>
<th>Command</th>
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<td>Tables of Bayesian IRFs, dynamic-multiplier functions, and FEVDs</td>
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<td>Bayesian models using Metropolis–Hastings algorithm</td>
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<td>User-defined evaluators with bayesmh</td>
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<td>Bayesian predictions</td>
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<td>Bayesian statistics after Bayesian estimation</td>
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<td>Gelman–Rubin convergence diagnostics</td>
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<td>Bayesian information criteria and Bayes factors</td>
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<td><code>bayesstats ppvalues</code></td>
<td>Bayesian predictive p-values and other predictive summaries</td>
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<td><code>bayestest model</code></td>
<td>Hypothesis testing using model posterior probabilities</td>
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<td>Check the stability condition of Bayesian VAR estimates</td>
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### Binary outcomes

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<td><code>Section 27.4</code></td>
<td>Binary outcomes</td>
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<td><code>Bayesian estimation</code></td>
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<td>Generalized linear models: Extensions to the binomial family</td>
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<td>Bivariate probit regression</td>
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<td>Complementary log–log regression</td>
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<td>Double-selection lasso logistic regression</td>
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<td>Exact logistic regression</td>
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<td>Fitting finite mixture models</td>
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<td>Generalized linear models</td>
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<td>Probit model with sample selection</td>
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<td>Partialing-out lasso logistic regression</td>
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<td>Probit regression</td>
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<td>Receiver operating characteristic (ROC) regression</td>
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<td>Inverse-probability weighting</td>
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<td><code>teffects ipwra</code></td>
<td>Inverse-probability-weighted regression adjustment</td>
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<td><code>teffects nnmatch</code></td>
<td>Nearest-neighbor matching</td>
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Categorical outcomes

<table>
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<tr>
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<td>Propensity-score matching</td>
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<td>[TE]</td>
<td>teffects ra</td>
<td>Regression adjustment</td>
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<td>[TE]</td>
<td>telasso</td>
<td>Treatment-effects estimation using lasso</td>
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<td>[LASSO]</td>
<td>xpologit</td>
<td>Cross-fit partialing-out lasso logistic regression</td>
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<tr>
<td>[XT]</td>
<td>xtcloglog</td>
<td>Random-effects and population-averaged cloglog models</td>
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<tr>
<td>[XT]</td>
<td>xtprobit</td>
<td>Extended random-effects probit regression</td>
</tr>
<tr>
<td>[XT]</td>
<td>xtrclogit</td>
<td>Fixed-effects, random-effects, and population-averaged logit models</td>
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<tr>
<td>[XT]</td>
<td>xtrcprobit</td>
<td>Random-effects and population-averaged probit models</td>
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Censored and truncated regression models

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<td>[ERM]</td>
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<td>Extended interval regression</td>
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<td>Heckman selection model</td>
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<td>Ordered probit model with sample selection</td>
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<tr>
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<td>heckprobit</td>
<td>Probit model with sample selection</td>
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<tr>
<td>[R]</td>
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<td>Interval regression</td>
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<td>meintreg</td>
<td>Multilevel mixed-effects interval regression</td>
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<tr>
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<td>Multilevel mixed-effects parametric survival models</td>
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<td>[ME]</td>
<td>metobit</td>
<td>Multilevel mixed-effects tobit regression</td>
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<td>Cox proportional hazards model for interval-censored survival-time data</td>
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<td>Parametric models for interval-censored survival-time data</td>
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<td>Treatment-effects estimation for observational survival-time data</td>
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<td>[XT]</td>
<td>xtheckman</td>
<td>Random-effects regression with sample selection</td>
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<td>[XT]</td>
<td>xtintreg</td>
<td>Random-effects interval-data regression models</td>
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<td>xtstreg</td>
<td>Random-effects parametric survival models</td>
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<td>[XT]</td>
<td>xttobit</td>
<td>Random-effects tobit models</td>
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</table>
Choice models

- Section 27.10: Choice models
- Intro: Introduction
- Intro 1: Interpretation of choice models
- Intro 2: Data layout
- Intro 4: Estimation commands
- Intro 5: Models for discrete choices
- Intro 6: Models for rank-ordered alternatives
- Intro 7: Models for panel data
- Intro 8: Random utility models, assumptions, and estimation
- cmchoiceset: Tabulate choice sets
- cmclogit: Conditional logit (McFadden’s) choice model
- cmmixlogit: Mixed logit choice model
- cmprobit: Multinomial probit choice model
- cmrologit: Rank-ordered logit choice model
- cmroprobit: Rank-ordered probit choice model
- cmsample: Display reasons for sample exclusion
- cmset: Declare data to be choice model data
- cmsummarize: Summarize variables by chosen alternatives
- cmtab: Tabulate chosen alternatives
- cmxtmixlogit: Panel-data mixed logit choice model
- margins: Adjusted predictions, predictive margins, and marginal effects
- nlogit: Nested logit regression

Cluster analysis

- Section 27.22: Multivariate analysis
- Multivariate: Introduction to multivariate commands
- cluster: Introduction to cluster-analysis commands
- cluster dendrogram: Dendrograms for hierarchical cluster analysis
- cluster generate: Generate grouping variables from a cluster analysis
- cluster kmeans and kmedians: Kmeans and kmedians cluster analysis
- cluster linkage: Hierarchical cluster analysis
- cluster notes: Cluster analysis notes
- cluster programming subroutines: Add cluster-analysis routines
- cluster programming utilities: Cluster-analysis programming utilities
- cluster stop: Cluster-analysis stopping rules
- cluster utility: List, rename, use, and drop cluster analyses
- clustermat: Introduction to clustermat commands
- matrix dissimilarity: Compute similarity or dissimilarity measures
- measure_option: Option for similarity and dissimilarity measures

Correspondence analysis

- ca: Simple correspondence analysis
- mca: Multiple and joint correspondence analysis

Count outcomes

- Chapter 20: Estimation and postestimation commands
- Section 27.8: Count outcomes
- Section 27.15.3: Discrete outcomes with panel data
## Bayesian estimation

**Bayesian estimation commands**

- `cpoisson` - Censored Poisson regression
- `dspoisson` - Double-selection lasso Poisson regression
- `eteffects` - Endogenous treatment-effects estimation
- `etpoisson` - Poisson regression with endogenous treatment effects
- `expoisson` - Exact Poisson regression
- `fmm estimation` - Fitting finite mixture models
- `heckoissen` - Poisson regression with sample selection
- `menbreg` - Multilevel mixed-effects negative binomial regression
- `mepoisson` - Multilevel mixed-effects Poisson regression
- `nbreg` - Negative binomial regression
- `poisson` - Poisson regression
- `popoisson` - Partialing-out lasso Poisson regression
- `teffects aipw` - Augmented inverse-probability weighting
- `teffects ipwra` - Inverse-probability-weighted regression adjustment
- `teffects nnmatch` - Nearest-neighbor matching
- `teffects psmatch` - Propensity-score matching
- `teffects ra` - Regression adjustment
- `telasso` - Treatment-effects estimation using lasso
- `tnbreg` - Truncated negative binomial regression
- `tpoisson` - Truncated Poisson regression
- `xpopoisson` - Cross-fit partialing-out lasso Poisson regression
- `xtnbreg` - Fixed-effects, random-effects, & population-averaged negative binomial models
- `xtpoisson` - Fixed-effects, random-effects, and population-averaged Poisson models
- `zinb` - Zero-inflated negative binomial regression
- `zip` - Zero-inflated Poisson regression

## Discriminant analysis

- **Canonical linear discriminant analysis**
  - `candisc` - Canonical linear discriminant analysis
- **Discriminant analysis**
  - `discrim` - Discriminant analysis
  - `discrim estat` - Postestimation tools for discrim
  - `discrim knn` - kth-nearest-neighbor discriminant analysis
  - `discrim lda` - Linear discriminant analysis
  - `discrim logistic` - Logistic discriminant analysis
  - `discrim qda` - Quadratic discriminant analysis
  - `scoreplot` - Score and loading plots
  - `screeplot` - Scree plot of eigenvalues

## Do-it-yourself generalized method of moments

- **Generalized method of moments (GMM)**
  - `Section 27.23` - Generalized method of moments
- **Generalized method of moments estimation**
  - `gmm` - Generalized method of moments estimation
- **Introduction to matrix commands**
  - `matrix` - Introduction to matrix commands

## Do-it-yourself maximum likelihood estimation

- **Introduction to matrix commands**
  - `matrix` - Introduction to matrix commands
- **Maximum likelihood estimation**
  - `ml` - Maximum likelihood estimation
  - `mlexp` - Maximum likelihood estimation of user-specified expressions
Dynamic stochastic general equilibrium models

[U] Section 27.28 Dynamic stochastic general equilibrium (DSGE) models

[DSGE] Intro ................................................................. Introduction
[DSGE] Intro 1 .............................................. Introduction to DSGEs
[DSGE] Intro 2 ........................................ Learning the syntax
[DSGE] Intro 3 ................................................ Classic DSGE examples
[DSGE] Intro 3a ............................................. New Keynesian model
[DSGE] Intro 3b .............................................. New Classical model
[DSGE] Intro 3c ............................................. Financial frictions model
[DSGE] Intro 3d ........................................... Nonlinear New Keynesian model
[DSGE] Intro 3e ........................................... Nonlinear New Classical model
[DSGE] Intro 3f ...................................................... Stochastic growth model
[DSGE] Intro 4 ........................................... Writing a DSGE in a solvable form
[DSGE] Intro 4a ............................................. Specifying a shock on a control variable
[DSGE] Intro 4b ............................................. Including a lag of a control variable
[DSGE] Intro 4c ............................................. Including a lag of a state variable
[DSGE] Intro 4d ................................... Including an expectation dated by more than one period ahead
[DSGE] Intro 4e ............................................. Including a second-order lag of a control
[DSGE] Intro 4f ............................................. Including an observed exogenous variable
[DSGE] Intro 4g ...................................................... Correlated state variables
[DSGE] Intro 5 ...................................................... Stability conditions
[DSGE] Intro 6 .............................................................. Identification
[DSGE] Intro 7 .............................................................. Convergence problems
[DSGE] Intro 8 ............................................................. Wald tests vary with nonlinear transforms
[DSGE] Intro 9 .............................................................. Bayesian estimation
[DSGE] Intro 9a ...................................................... Bayesian estimation of a New Keynesian model
[DSGE] Intro 9b ...................................................... Bayesian estimation of stochastic growth model
[DSGE] dsge ...................................................... Linear dynamic stochastic general equilibrium models
[DSGE] dsge postestimation ..................................... Postestimation tools for dsge
[DSGE] dsgenl ..................................................... Nonlinear dynamic stochastic general equilibrium models
[DSGE] dsgenl postestimation ..................................... Postestimation tools for dsgenl
[DSGE] estat covariance ........................................... Display estimated covariances of model variables
[DSGE] estat policy ..................................................... Display policy matrix
[DSGE] estat stable ...................................................... Check stability of system
[DSGE] estat steady ...................................................... Display steady state of nonlinear DSGE model
[DSGE] estat transition ...................................................... Display state transition matrix

Endogenous covariates

[U] Chapter 20 ........................................ Overview of Stata estimation commands
[U] Chapter 27 ...................................................... Extended interval regression
[ERM] eintreg ..................................................... Extended ordered probit regression
[ERM] eoprobit ..................................................... Extended probit regression
[ERM] eprobit ..................................................... Extended linear regression
[ERM] eregress ..................................................... Endogenous treatment-effects estimation
[TE] eteffects ..................................................... Poisson regression with endogenous treatment effects
[TE] etpoisson ..................................................... Linear regression with endogenous treatment effects
[TS] forecast ..................................................... Econometric model forecasting
[R] gmm ..................................................... Generalized method of moments estimation
[R] ivpoisson ..................................................... Poisson model with continuous endogenous covariates
[R] ivprobit ..................................................... Probit model with continuous endogenous covariates
Also see Multilevel mixed-effects models, Survival analysis, Structural equation modeling, and Treatment effects.
### Estimation related

- **BIC note** ........................................... Calculating and interpreting BIC  
- **constraint** ............................................ Define and list constraints  
- **eform_option** ...................................... Displaying exponentiated coefficients  
- **Estimation options** ................................ Estimation options  
- **fp** ..................................................... Fractional polynomial regression  
- **Maximize** ............................................ Details of iterative maximization  
- **mfp** .................................................. Multivariable fractional polynomial models  
- **mkspine** ............................................. Linear and restricted cubic spline construction  
- **stepwise** ............................................ Stepwise estimation  
- **vce_option** .......................................... Variance estimators  
- **XT vce_options** ...................................... Variance estimators

### Exact statistics

- **Section 27.8** ....................................... Count outcomes  
- **Section 27.11** ...................................... Exact estimators  
- **bitest** ................................................ Binomial probability test  
- **centile** ............................................. Report centile and confidence interval  
- **ci** ..................................................... Confidence intervals for means, proportions, and variances  
- **dstdize** .............................................. Direct and indirect standardization  
- **Epitab** ............................................... Tables for epidemiologists  
- **exlogistic** .......................................... Exact logistic regression  
- **expoisson** ......................................... Exact Poisson regression  
- **ksmirnov** .......................................... Kolmogorov–Smirnov equality-of-distributions test  
- **loneway** ............................................ Large one-way ANOVA, random effects, and reliability  
- **power oneproportion** ......................... Power analysis for a one-sample proportion test  
- **ranksum** ............................................ Equality tests on unmatched data  
- **roctab** ............................................. Nonparametric ROC analysis  
- **symmetry** ........................................... Symmetry and marginal homogeneity tests  
- **tabulate twoway** ................................ Two-way table of frequencies  
- **tetrachoric** ........................................ Tetrachoric correlations for binary variables

### Extended regression models

- **ERM ERM options** ............................... Extended regression model options  
- **ERM Intro 1** ........................................ An introduction to the ERM commands  
- **ERM Intro 2** ....................................... The models that ERMs fit  
- **ERM Intro 3** ....................................... Endogenous covariates features  
- **ERM Intro 4** ....................................... Endogenous sample-selection features  
- **ERM Intro 5** ....................................... Treatment assignment features  
- **ERM Intro 6** ....................................... Panel data and grouped data model features  
- **ERM Intro 7** ....................................... Model interpretation  
- **ERM Intro 8** ....................................... A Rosetta stone for extended regression commands  
- **ERM Intro 9** ....................................... Conceptual introduction via worked example  
- **ERM eintreg** ....................................... Extended interval regression  
- **ERM eintreg postestimation** .................. Postestimation tools for eintreg and xteintreg  
- **ERM eintreg predict** ............................. predict after eintreg and xteintreg  
- **ERM eoprobit** ...................................... Extended ordered probit regression  
- **ERM eoprobit postestimation** ............... Postestimation tools for eoprobit and xteoprobit  
- **ERM eoprobit predict** ........................... predict after eoprobit and xteoprobit  
- **ERM eprobit** ....................................... Extended probit regression  
- **ERM eprobit postestimation** ............... Postestimation tools for eprobit and xteoprobit
Factor analysis and principal components

alpha ............... Compute interitem correlations (covariances) and Cronbach’s alpha
canon ........................... Canonical correlations
factor .......................... Factor analysis
pca .......................... Principal component analysis
rotate ........................ Orthogonal and oblique rotations after factor and pca
rotatemat ........................ Orthogonal and oblique rotations of a Stata matrix
scoreplot ........................ Score and loading plots
screeplot ........................ Scree plot of eigenvalues
tetrachoric ........................ Tetrachoric correlations for binary variables

Finite mixture models

Section 27.26 .............................. Finite mixture models (FMMs)
estat eform ............................. Display exponentiated coefficients
estat lcmean ............................ Latent class marginal means
estat lcprob ........................... Latent class marginal probabilities
Example 1a ............................. Mixture of linear regression models
Example 1b ............................. Covariates for class membership
Example 1c ............................. Testing coefficients across class models
Example 1d ............................. Component-specific covariates
Example 2 ............................. Mixture of Poisson regression models
[FMM] Example 3 ......................................................... Zero-inflated models
[FMM] Example 4 ..................................................... Mixture cure models for survival data
[FMM] fmm ................................................................. Finite mixture models using the fmm prefix
[FMM] fmm estimation .................................................. Fitting finite mixture models
[FMM] fmm intro ............................................................ Introduction to finite mixture models
[FMM] fmm postestimation .............................................. Postestimation tools for fmm
[FMM] fmm: betareg ...................................................... Finite mixtures of beta regression models
[FMM] fmm: cloglog ....................................................... Finite mixtures of complementary log–log regression models
[FMM] fmm: glm ............................................................. Finite mixtures of generalized linear regression models
[FMM] fmm: intreg ........................................................ Finite mixtures of interval regression models
[FMM] fmm: ivregress ................................................. Finite mixtures of linear regression models with endogenous covariates
[FMM] fmm: logits ........................................................ Finite mixtures of logistic regression models
[FMM] fmm: mlogit ......................................................... Finite mixtures of multinomial (polytomous) logistic regression models
[FMM] fmm: nbreg ........................................................ Finite mixtures of negative binomial regression models
[FMM] fmm: ologit ......................................................... Finite mixtures of ordered logistic regression models
[FMM] fmm: oprobit ..................................................... Finite mixtures of ordered probit regression models
[FMM] fmm: pointmass ............................................... Finite mixtures models with a density mass at a single point
[FMM] fmm: poisson ..................................................... Finite mixtures of Poisson regression models
[FMM] fmm: probit ......................................................... Finite mixtures of probit regression models
[FMM] fmm: regess ....................................................... Finite mixtures of linear regression models
[FMM] fmm: streg ......................................................... Finite mixtures of parametric survival models
[FMM] fmm: tobit ......................................................... Finite mixtures of tobit regression models
[FMM] fmm: tpoisson ................................................. Finite mixtures of truncated Poisson regression models
[FMM] fmm: truncreg .................................................. Finite mixtures of truncated linear regression models

Fractional outcomes

[BAYES] bayes: betareg ...................................................... Bayesian beta regression
[BAYES] bayes: fracreg .................................................... Bayesian fractional response regression
[R] betareg ................................................................. Beta regression
[TE] eteffects ............................................................ Endogenous treatment-effects estimation
[FMM] fmm: betareg ...................................................... Finite mixtures of beta regression models
[R] fracreg ............................................................... Fractional response regression
[TE] teffects ipw .......................................................... Inverse-probability weighting
[TE] teffects nnmatch .................................................. Nearest-neighbor matching
[TE] teffects psmatch .................................................. Propensity-score matching

Generalized linear models

[U] Chapter 20 ............................................................... Estimation and postestimation commands
[U] Section 27.9 .......................................................... Generalized linear models
[BAYES] bayes: glm ....................................................... Bayesian generalized linear models
[R] binreg ................................................................. Generalized linear models: Extensions to the binomial family
[FMM] fmm: glm ........................................................... Finite mixtures of generalized linear regression models
[R] fracreg ............................................................... Fractional response regression
[R] glm ................................................................. Generalized linear models
[XT] xtgee ............................................................... Fit population-averaged panel-data models by using GEE

Indicator and categorical variables

[U] Section 11.4.3 ........................................................ Factor variables
[U] Chapter 26 ............................................................ Working with categorical data and factor variables
[R] fvset ................................................................. Declare factor-variable settings
Item response theory

Section 27.27  .......................................................... Item response theory (IRT)

Control Panel  ........................................................... IRT Control Panel

DIF  .......................................................... Introduction to differential item functioning

diflogistic  .......................................................... Logistic regression DIF

difmh  .......................................................... Mantel–Haenszel DIF

estat greport  .......................................................... Report estimated group IRT parameters

estat report  .......................................................... Report estimated IRT parameters

irt 1pl  .......................................................... One-parameter logistic model

irt 2pl  .......................................................... Two-parameter logistic model

irt 3pl  .......................................................... Three-parameter logistic model

irt constraints  .......................................................... Specifying constraints

irt grm  .......................................................... Graded response model

irt hybrid  .......................................................... Hybrid IRT models

irt nrm  .......................................................... Nominal response model

irt pcm  .......................................................... Partial credit model

irt rsm  .......................................................... Rating scale model

irt, group()  .......................................................... IRT models for multiple groups

irtgraph icc  .......................................................... Item characteristic curve plot

irtgraph iif  .......................................................... Item information function plot

irtgraph tcc  .......................................................... Test characteristic curve plot

irtgraph tif  .......................................................... Test information function plot

Lasso

Section 27.29  .......................................................... Lasso

Collinear covariates  .................................................. Treatment of collinear covariates

Inference examples  .................................................. Examples and workflow for inference

Inference requirements  .................................................. Requirements for inference

Lasso inference intro  .................................................. Introduction to inferential lasso models

Lasso intro  .......................................................... Introduction to lasso

bicplot  .......................................................... Plot Bayesian information criterion function after lasso

coeopath  .......................................................... Plot path of coefficients after lasso

cvplot  .......................................................... Plot cross-validation function after lasso

deslogit  .......................................................... Double-selection lasso logistic regression

despoisson  .......................................................... Double-selection lasso Poisson regression

dslogit  .......................................................... Double-selection lasso logistic regression

elasticnet  .......................................................... Elastic net for prediction and model selection

estimates store  .................................................. Saving and restoring estimates in memory and on disk

lasso  .......................................................... Lasso for prediction and model selection

lasso examples  .................................................. Examples of lasso for prediction

lasso fitting  .................................................. The process (in a nutshell) of fitting lasso models

lasso inference postestimation  .................................. Postestimation tools for lasso inferential models

lasso options  .................................................. Lasso options for inferential models

lasso postestimation  .................................................. Postestimation tools for lasso for prediction

lassocoef  .......................................................... Display coefficients after lasso estimation results

lassogof  .......................................................... Goodness of fit after lasso for prediction

lassoinfo  .......................................................... Display information about lasso estimation results

lassoknots  .......................................................... Display knot table after lasso estimation

lassoselect  .......................................................... Select lambda after lasso

poivregress  .......................................................... Partialing-out lasso instrumental-variables regression

pologit  .......................................................... Partialing-out lasso logistic regression
Latent class models

Section 27.25 Latent class models
estat lcmean Latent class marginal means
estat lcpred Latent class marginal probabilities
Example 50g Latent class model
Example 52g Latent profile model
Example 53g Finite mixture Poisson regression
Intro 2 Learning the language: Path diagrams and command language
Intro 5 Tour of models

Linear regression and related

Chapter 20 Estimation and postestimation commands
Chapter 27 Overview of Stata estimation commands
areg Linear regression with a large dummy-variable set
Bayesian estimation Bayesian estimation commands
cnsreg Constrained linear regression
cnsreg Constraint list
estat lcprob Latent class marginal probabilities
estat lcmean Latent class marginal means
didregress Difference-in-differences estimation
dsregress Double-selection lasso linear regression
dregress Errors-in-variables estimation
eivreg Extended linear regression
etregress Linear regression with endogenous treatment effects
etpoisson Poisson regression with endogenous treatment effects
etregress Linear regression with endogenous treatment effects
fmm estimation Fitting finite mixture models
fp Fractional polynomial regression
frontier Stochastic frontier models
glm Generalized linear models
heckman Heckman selection model
hetregress Heteroskedastic linear regression
ivpoisson Poisson model with continuous endogenous covariates
ivregress Single-equation instrumental-variables regression
ivregress Single-equation instrumental-variables regression
ivtobit Tobit model with continuous endogenous covariates
lpo1 Kernel-weighted local polynomial smoothing
meglm Multilevel mixed-effects generalized linear model
meta mvregress Multivariate meta-regression
meta reg Multivariate meta-regression
mfp Multivariable fractional polynomial models
mixed Multilevel mixed-effects linear regression
mvreg Multivariate regression
nestreg Nested model statistics
newey Regression with Newey–West standard errors
povregress Partialing-out lasso Poisson regression
povregress Partialing-out lasso linear regression
sqrtlasso Square-root lasso for prediction and model selection
xpovregress Cross-fit partialing-out lasso Poisson regression
xregress Cross-fit partialing-out lasso linear regression
Logistic and probit regression

[TS] prais ................................. Prais–Winsten and Cochrane–Orcutt regression
[TS] qreg ........................................ Quantile regression
[TS] reg3 .................................. Three-stage estimation for systems of simultaneous equations
[TS] regress .................................. Linear regression
[TS] rocall ................................ Parametric ROC models
[TS] rreg .................................... Robust regression
[TS] stcox ................................ Cox proportional hazards model
[TS] stcrreg ................................ Competing-risks regression
[TS] stepwise ................................ Stepwise estimation
[TS] stintcox ................................ Cox proportional hazards model for interval-censored survival-time data
[TS] stintreg ................................ Parametric models for interval-censored survival-time data
[TS] streg .................................. Parametric survival models
[TS] sureg ................................ Zellner’s seemingly unrelated regression
[TS] tnbreg ................................ Truncated negative binomial regression
[TS] vmls ..................................... Variance-weighted least squares

[LASSO] xpoivregress ........................ Cross-fit partialing-out lasso instrumental-variables regression
[LASSO] xproregress ........................ Cross-fit partialing-out lasso linear regression
[XT] xtabond .................................. Arellano–Bond linear dynamic panel-data estimation
[XT] xtdidregress ............................. Fixed-effects difference-in-differences estimation
[XT] xtdpd ...................................... Linear dynamic panel-data estimation
[XT] xtdpdys .................................. Arellano–Bover/Blundell–Bond linear dynamic panel-data estimation
[XT] xtreg .................................... Extended random-effects linear regression
[XT] xtgee ..................................... Fit population-averaged panel-data models by using GEE
[XT] xtngls ..................................... Fit panel-data models by using GLS
[XT] xtheckman ................................ Hausman–Taylor estimator for error-components models
[XT] xtvreg ................................ Instrumental variables and two-stage least squares for panel-data models
[XT] xtpcse ................................ Linear regression with panel-corrected standard errors
[XT] xtc ........................................ Random-coefficients model
[XT] xtr ...................................... Random-effects panel-data models
[XT] xtregar ................................ Fixed- and random-effects linear models with an AR(1) disturbance
[XT] xtsrereg ................................. Random-effects parametric survival models

Logistic and probit regression

[TS] Chapter 20 .............................. Overview of Stata estimation commands
[TS] Chapter 27 ............................. Bivariate probit regression
[TS] biprobit ................................... Bivariate probit regression
[TS] clogit ..................................... Conditional (fixed-effects) logistic regression
[TS] cloglog .................................. Complementary log–log regression
[CM] cmmlogit ................................ Conditional logit (McFadden’s) choice model
[CM] cmmlongit ................................ Multinomial logit choice model
[CM] cmmprobit ................................ Multinomial probit choice model
[CM] cmrlogit ................................ Rank-ordered logit choice model
[CM] cmrprobit ................................ Rank-ordered probit choice model
[CM] cmxlongit ................................ Panel-data mixed logit choice model
[LASSO] dslogit ................................ Double-selection lasso logistic regression
[ERM] eoprobit ................................ Extended ordered probit regression
[ERM] eprobit .................................. Extended probit regression
[ERM] exlogistic ................................ Exact logistic regression
[TS] hekckoprobit ............................ Ordered probit model with sample selection
[TS] heckprobit .............................. Probit model with sample selection
### Longitudinal data/panel data

**LASSO**
- hetoprobit: Heteroskedastic ordered probit regression
- hetprobit: Heteroskedastic probit model
- irt 1pl: One-parameter logistic model
- irt 2pl: Two-parameter logistic model
- irt 3pl: Three-parameter logistic model
- irt grm: Graded response model
- irt hybrid: Hybrid IRT models
- irt nrm: Nominal response model
- irt pcn: Partial credit model
- ivprobit: Probit model with continuous endogenous covariates
- logistic: Logistic regression, reporting odds ratios
- logit: Logistic regression, reporting coefficients
- melogit: Multilevel mixed-effects logistic regression
- meologit: Multilevel mixed-effects ordered logistic regression
- meoprobit: Multilevel mixed-effects ordered probit regression
- meprobit: Multilevel mixed-effects probit regression
- mepoisson: Multilevel mixed-effects Poisson regression
- meoprobit: Multilevel mixed-effects ordered probit regression
- meologit: Multilevel mixed-effects ordered logistic regression
- melogit: Multilevel mixed-effects logistic regression

**XT**
- nlogit: Nested logit regression
- ologit: Ordered logistic regression
- oprobit: Ordered probit regression
- xprobit: Probit model with continuous endogenous covariates
- xlogit: Fixed-effects, random-effects, and population-averaged logit models
- xtmlogit: Fixed-effects and random-effects multinomial logit models
- xtoprob: Random-effects ordered logistic models
- xtoprobit: Random-effects ordered probit models

**CM**
- nlogit: Nested logit regression

**R**
- xprobit: Probit model with continuous endogenous covariates
- xlogit: Fixed-effects, random-effects, and population-averaged logit models
- xtmlogit: Fixed-effects and random-effects multinomial logit models
- xtoprob: Random-effects ordered logistic models
- xtoprobit: Random-effects ordered probit models
- zilogit: Zero-inflated ordered logit regression
- zioprobit: Zero-inflated ordered probit regression

**[LASSO]**
- pologit: Partialing-out lasso logistic regression
- xpologit: Cross-fit partialing-out lasso logistic regression

**[XT]**
- xtcllog: Random-effects and population-averaged cloglog models
- xteprobit: Extended random-effects ordered probit regression
- xteprobit: Extended random-effects probit regression
- xteprobit: Extended random-effects ordered probit regression
- xteprobit: Extended ordered probit regression
- xteprobit: Extended ordered probit regression
- xteprobit: Random-effects ordered logistic models
- xteprobit: Random-effects ordered probit models

**[R]**
- pologit: Partialing-out lasso logistic regression
- xpologit: Cross-fit partialing-out lasso logistic regression

**[U]**
- Chapter 20: Estimation and postestimation commands
- Section 27.15: Panel-data models
- didregress: Difference-in-differences estimation
- eintreg: Extended interval regression
- eoprobit: Extended ordered probit regression
- eprobit: Extended probit regression
- eregress: Extended linear regression
- meologit: Multilevel mixed-effects ordered logistic regression
- meoprobit: Multilevel mixed-effects ordered probit regression
- mepoisson: Multilevel mixed-effects Poisson regression
- meprobit: Multilevel mixed-effects probit regression
Meta-analysis

- Section 27.18
- Intro bubbleplot
- estat heterogeneity
- estat recovariance
- estat sd
- meta
- meta bias
- meta data
<table>
<thead>
<tr>
<th>[META]</th>
<th>meta esize</th>
<th>Compute effect sizes and declare meta-analysis data</th>
</tr>
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<tr>
<td>[META]</td>
<td>meta forestplot</td>
<td>Forest plots</td>
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<td>meta galbraithplot</td>
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<td>L’Abbé plots</td>
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<td>Multivariate meta-regression</td>
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<td>meta regress</td>
<td>Meta-analysis regression</td>
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<td>[META]</td>
<td>meta set</td>
<td>Declare meta-analysis data using generic effect sizes</td>
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<td>meta summarize</td>
<td>Summarize meta-analysis data</td>
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<td>meta trimfill</td>
<td>Nonparametric trim-and-fill analysis of publication bias</td>
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<td>meta update</td>
<td>Update, describe, and clear meta-analysis settings</td>
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</tbody>
</table>

**Mixed models**

| [U] | Chapter 20 | Estimation and postestimation commands |
| [U] | Section 27.16 | Multilevel mixed-effects models |
| [R] | anova | Analysis of variance and covariance |
| [ME] | estat df | Calculate degrees of freedom for fixed effects |
| [ME] | estat group | Summarize the composition of the nested groups |
| [ME] | estat icc | Estimate intraclass correlations |
| [ME] | estat recovariance | Display estimated random-effects covariance matrices |
| [ME] | estat sd | Display variance components as standard deviations and correlations |
| [R] | icc | Intraclass correlation coefficients |
| [MV] | manova | Multivariate analysis of variance and covariance |
| [ME] | me | Introduction to multilevel mixed-effects models |
| [ME] | mecloglog | Multilevel mixed-effects complementary log–log regression |
| [ME] | meglm | Multilevel mixed-effects generalized linear model |
| [ME] | meintreg | Multilevel mixed-effects interval regression |
| [ME] | melogit | Multilevel mixed-effects logistic regression |
| [ME] | menbreg | Multilevel mixed-effects negative binomial regression |
| [ME] | mepoisson | Multilevel mixed-effects Poisson regression |
| [ME] | meologit | Multilevel mixed-effects ordered logistic regression |
| [ME] | meoprobit | Multilevel mixed-effects ordered probit regression |
| [ME] | meprobit | Multilevel mixed-effects logistic regression |
| [ME] | mestreg | Multilevel mixed-effects parametric survival models |
| [ME] | metobit | Multilevel mixed-effects tobit regression |
| [ME] | mixed | Multilevel mixed-effects linear regression |
| [XT] | xtcloglog | Random-effects and population-averaged cloglog models |
| [XT] | xtintreg | Random-effects interval-data regression models |
| [XT] | xtlogit | Fixed-effects, random-effects, and population-averaged logit models |
| [XT] | xtologit | Random-effects ordered logistic models |
| [XT] | xtoprobit | Random-effects ordered probit models |
| [XT] | xtprobit | Random-effects and population-averaged probit models |
| [XT] | xtc | Random-coefficients model |
| [XT] | xtreg | Fixed-, between-, and random-effects and population-averaged linear models |
| [XT] | xttobit | Random-effects tobit models |

**Multidimensional scaling and biplots**

| [MV] | biplot | Biplots |
| [MV] | mds | Multidimensional scaling for two-way data |
| [MV] | mdslong | Multidimensional scaling of proximity data in long format |
| [MV] | mdsmat | Multidimensional scaling of proximity data in a matrix |
| [MV] | measure_option | Option for similarity and dissimilarity measures |

**Multilevel mixed-effects models**

| [U] | Section 27.16 | Multilevel mixed-effects models |
| [BAYES] | Bayesian estimation | Bayesian estimation commands |
| [ME] | me | Introduction to multilevel mixed-effects models |
| [ME] | meclomlog | Multilevel mixed-effects complementary log–log regression |
| [ME] | meglm | Multilevel mixed-effects generalized linear model |
| [ME] | meintreg | Multilevel mixed-effects interval regression |
| [ME] | melogit | Multilevel mixed-effects logistic regression |
| [ME] | menbreg | Multilevel mixed-effects negative binomial regression |
| [ME] | menl | Nonlinear mixed-effects regression |
| [ME] | meologit | Multilevel mixed-effects ordered logistic regression |
| [ME] | meoprob | Multilevel mixed-effects ordered probit regression |
| [ME] | mepoisson | Multilevel mixed-effects Poisson regression |
| [ME] | meprobit | Multilevel mixed-effects probit regression |
| [ME] | mestreg | Multilevel mixed-effects parametric survival models |
| [ME] | metobit | Multilevel mixed-effects tobit regression |
| [ME] | mixed | Multilevel mixed-effects linear regression |

**Multiple imputation**

| [U] | Section 27.31 | Multiple imputation |
| [MI] | Intro | Introduction to mi |
| [MI] | Intro substantive | Introduction to multiple-imputation analysis |
| [MI] | Estimation | Estimation commands for use with mi estimate |
| [MI] | mi estimate | Estimation using multiple imputations |
| [MI] | mi estimate using | Estimation using previously saved estimation results |
| [MI] | mi estimate postestimation | Postestimation tools for mi estimate |
| [MI] | mi impute | Impute missing values |
| [MI] | mi impute chained | Impute missing values using chained equations |
| [MI] | mi impute intreg | Impute using interval regression |
| [MI] | mi impute logit | Impute using logistic regression |
| [MI] | mi impute mlogit | Impute using multinomial logistic regression |
| [MI] | mi impute monotone | Impute missing values in monotone data |
| [MI] | mi impute mprobit | Impute using multivariate normal regression |
| [MI] | mi impute nbreg | Impute using negative binomial regression |
| [MI] | mi impute ologit | Impute using ordered logistic regression |
| [MI] | mi impute pmm | Impute using predictive mean matching |
| [MI] | mi impute poisson | Impute using Poisson regression |
| [MI] | mi impute regress | Impute using linear regression |
| [MI] | mi impute truncreg | Impute using truncated regression |
| [MI] | mi impute usermethod | User-defined imputation methods |
| [MI] | mi predict | Obtain multiple-imputation predictions |
| [MI] | mi test | Test hypotheses after mi estimate |

**Multivariate analysis of variance and related techniques**

| [U] | Section 27.22 | Multivariate analysis |
| [MV] | canon | Canonical correlations |
| [MV] | hotelling | Hotelling’s $T^2$ generalized means test |
### Nonlinear regression

- **[R]** boxcox
- **[ME]** menl
- **[R]** nl
- **[R]** nlsur

### Nonparametric statistics

- **[R]** bitest
- **[R]** bootstrap
- **[R]** bsample
- **[R]** bstat
- **[R]** centile
- **[R]** cusum
- **[R]** kdensity
- **[R]** ksmirnov
- **[R]** kwallis
- **[R]** lowess
- **[R]** lpoly
- **[R]** npregress intro
- **[R]** npregress kernel
- **[R]** npregress series
- **[R]** nptrend
- **[R]** prtest
- **[R]** qreg
- **[R]** ranksum
- **[R]** roc
- **[R]** roccomp
- **[R]** rocreg
- **[R]** roctab
- **[R]** runtest
- **[R]** signrank
- **[R]** simulate
- **[R]** smooth
- **[R]** spearman
- **[R]** symmetry
- **[R]** tabulate twoway

### Ordinal outcomes

- **[U]** Chapter 20
- **[BAYES]** Bayesian estimation
- **[CM]** cmrologit
- **[CM]** cmroprob
- **[ERM]** eoprobit
- **[FMM]** fmm estimation
- **[R]** heckoprobit

---

**Multivariate analysis of variance and covariance**

**Multivariate regression**

**Multivariate tests of covariances**

**Multivariate tests of means**

**Box–Cox regression models**

**Nonlinear mixed-effects regression**

**Nonlinear least-squares estimation**

**Estimation of nonlinear systems of equations**

**Binomial probability test**

**Bootstrap sampling and estimation**

**Sampling with replacement**

**Report centile and confidence interval**

**Cusum plots and tests for binary variables**

**Univariate kernel density estimation**

**Kolmogorov–Smirnov equality-of-distributions test**

**Kruskal–Wallis equality-of-populations rank test**

**Lowess smoothing**

**Kernel-weighted local polynomial smoothing**

**Introduction to nonparametric regression**

**Nonparametric kernel regression**

**Nonparametric series regression**

**Tests for trend across ordered groups**

**Tests of proportions**

**Quantile regression**

**Equality tests on unmatched data**

**Receiver operating characteristic (ROC) analysis**

**Tests of equality of ROC areas**

**Receiver operating characteristic (ROC) regression**

**Plot marginal and covariate-specific ROC curves after rocreg**

**Nonparametric ROC analysis**

**Test for random order**

**Equality tests on matched data**

**Monte Carlo simulations**

**Robust nonlinear smoother**

**Spearman’s and Kendall’s correlations**

**Symmetry and marginal homogeneity tests**

**Two-way table of frequencies**

**Estimation and postestimation commands**

**Bayesian estimation commands**

**Rank-ordered logit choice model**

**Rank-ordered probit choice model**

**Extended ordered probit regression**

**Fitting finite mixture models**

**Ordered probit model with sample selection**
[R] hetoprobit .................................. Heteroskedastic ordered probit regression
[IRT] irt grm .................................. Graded response model
[IRT] irt pcm .................................. Partial credit model
[IRT] irt rsm .................................. Rating scale model
[ME] meologit ................................... Multilevel mixed-effects ordered logistic regression
[ME] meoprobit ................................ Multilevel mixed-effects ordered probit regression
[R] ologit .................................. Ordered logistic regression
[R] oprobit .................................. Ordered probit regression
[XT] xteoprobit ................................ Extended random-effects ordered probit regression
[XT] xtologit ................................ Random-effects ordered logistic models
[XT] xtoprobit ................................ Random-effects ordered probit models
[R] ziologit .................................. Zero-inflated ordered logit regression
[R] zioprobit .................................. Zero-inflated ordered probit regression

Other statistics

[MV] alpha .................................. Compute interitem correlations (covariances) and Cronbach’s alpha
[R] ameans .................................. Arithmetic, geometric, and harmonic means
[R] brier .................................. Brier score decomposition
[R] centile .................................. Report centile and confidence interval
[R] kappa .................................. Interrater agreement
[MV] mvtest correlations ......................... Multivariate tests of correlations
[R] pcorr .................................. Partial and semipartial correlation coefficients
[D] pctlint .................................. Create variable containing percentiles
[D] range .................................. Generate numerical range

Pharmacokinetic statistics

[U] Section 27.21 .................................. Pharmacokinetic data
[R] pk .................................. Pharmacokinetic (biopharmaceutical) data
[R] pkcollapse ................................ Generate pharmacokinetic measurement dataset
[R] pkcross .................................. Analyze crossover experiments
[R] pkequiv .................................. Perform bioequivalence tests
[R] pkexamine ................................ Calculate pharmacokinetic measures
[R] pkshape ................................ Reshape (pharmacokinetic) Latin-square data
[R] pksumm .................................. Summarize pharmacokinetic data

Power, precision, and sample size

[U] Section 27.32 .................................. Power, precision, and sample-size analysis
[PSS-1] Intro .................................. Introduction to power, precision, and sample-size analysis
[PSS-2] Intro (power) .................................. Introduction to power and sample-size analysis for hypothesis tests
[PSS-3] ciwidth .................................. Precision and sample-size analysis for CIs
[PSS-3] ciwidth onemean ......................... Precision analysis for a one-mean CI
[PSS-3] ciwidth onedeviance ................. Precision analysis for a one-variance CI
[PSS-3] ciwidth pairedmeans ................. Precision analysis for a paired-means-difference CI
[PSS-3] ciwidth twomeans ................. Precision analysis for a two-means-difference CI
[PSS-3] ciwidth usemethod .................. Add your own methods to the ciwidth command
[PSS-3] ciwidth, graph .......................... Graph results from the ciwidth command
[PSS-3] ciwidth, table .......................... Produce table of results from the ciwidth command
[PSS-3] GUI (ciwidth) ........................ Graphical user interface for precision and sample-size analysis
[PSS-2] GUI (power) ........................ Graphical user interface for power and sample-size analysis
[PSS-2] power .................................. Power and sample-size analysis for hypothesis tests
Combined subject table of contents

[PSS-2] power cmh        Power and sample size for the Cochran–Mantel–Haenszel test
[PSS-2] power cox       Power analysis for the Cox proportional hazards model
[PSS-2] power exponential Power analysis for a two-sample exponential test
[PSS-2] power logrank   Power analysis for the log-rank test
[PSS-2] power logrank, cluster Power analysis for the log-rank test, CRD
[PSS-2] power mcc       Power analysis for matched case–control studies
[PSS-2] power onecorrelation Power analysis for a one-sample correlation test
[PSS-2] power onemean   Power analysis for a one-sample mean test
[PSS-2] power onemean, cluster Power analysis for a one-sample mean test, CRD
[PSS-2] power oneproportion Power analysis for a one-sample proportion test
[PSS-2] power oneproportion, cluster Power analysis for a one-sample proportion test, CRD
[PSS-2] power oneslope   Power analysis for a slope test in a simple linear regression
[PSS-2] power onevariance Power analysis for a one-sample variance test
[PSS-2] power oneway     Power analysis for one-way analysis of variance
[PSS-2] power pairedmeans Power analysis for a two-sample paired-means test
[PSS-2] power pairedproportions Power analysis for a two-sample paired-proportions test
[PSS-2] power pcorr     Power analysis for a partial-correlation test in a multiple linear regression
[PSS-2] power repeated   Power analysis for repeated-measures analysis of variance
[PSS-2] power rsquared   Power analysis for an $R^2$ test in a multiple linear regression
[PSS-2] power trend      Power analysis for the Cochran–Armitage trend test
[PSS-2] power twocorrelations Power analysis for a two-sample correlations test
[PSS-2] power twomeans   Power analysis for a two-sample means test
[PSS-2] power twomeans, cluster Power analysis for a two-sample means test, CRD
[PSS-2] power twoproportions Power analysis for a two-sample proportions test
[PSS-2] power twoproportions, cluster Power analysis for a two-sample proportions test, CRD
[PSS-2] power twovariances Power analysis for a two-sample variances test
[PSS-2] power twoway     Power analysis for two-way analysis of variance
[PSS-2] power usermethod Add your own methods to the power command
[PSS-2] power, graph     Graph results from the power command
[PSS-2] power, table     Produce table of results from the power command
[PSS-4] Unbalanced designs Specifications for unbalanced designs

Quality control

[R] QC                       Quality control charts
[R] cusum                   Cusum plots and tests for binary variables
[R] serrbar                 Graph standard error bar chart

ROC analysis

[U] Section 27.4.3           ROC analysis
[R] roc                      Receiver operating characteristic (ROC) analysis
[R] roccomp                  Tests of equality of ROC areas
[R] rocfit                   Parametric ROC models
[R] rocfit postestimation    Postestimation tools for rocfit
[R] rocreg                   Receiver operating characteristic (ROC) regression
[R] rocreg postestimation    Postestimation tools for rocreg
[R] rocregplot               Plot marginal and covariate-specific ROC curves after rocreg
[R] roctab                   Nonparametric ROC analysis
Rotation

[MV] procrustes ......................................................... Procrustes transformation
[MV] rotate ......................................................... Orthogonal and oblique rotations after factor and pca
[MV] rotatemat ....................................................... Orthogonal and oblique rotations of a Stata matrix

Sample selection models

[U] Chapter 20 ......................................................... Estimation and postestimation commands
[U] Section 27.13 ...................................................... Models with endogenous sample selection
[BAYES] Bayesian estimation ....................................... Bayesian estimation commands
[ERM] eintreg .......................................................... Extended interval regression
[ERM] eoprobit .......................................................... Extended ordered probit regression
[ERM] eprobit ........................................................... Extended probit regression
[ERM] eregress .......................................................... Extended linear regression
[TE] etpoisson .......................................................... Poisson regression with endogenous treatment effects
[TE] etregress ........................................................... Linear regression with endogenous treatment effects
[R] heckman ............................................................ Heckman selection model
[R] heckoprobit ....................................................... Ordered probit model with sample selection
[R] heckpoisson ....................................................... Poisson regression with sample selection
[R] heckprob ........................................................... Probit model with sample selection
[XT] xteintreg .......................................................... Extended random-effects interval regression
[XT] xteoprobit .......................................................... Extended random-effects ordered probit regression
[XT] xteprobit ........................................................... Extended random-effects probit regression
[XT] xteregress .......................................................... Extended random-effects linear regression
[XT] xtheckman ........................................................ Random-effects regression with sample selection

Simulation/resampling

[R] bootstrap .......................................................... Bootstrap sampling and estimation
[R] bsample ............................................................ Sampling with replacement
[R] jackknife .......................................................... Jackknife estimation
[R] permute ............................................................. Monte Carlo permutation tests
[R] simulate ............................................................ Monte Carlo simulations

Spatial autoregressive models

[U] Section 27.19 ......................................................... Spatial autoregressive models
[SP] Intro ................................................................. Introduction to spatial data and SAR models
[SP] Intro 1 ................................................................. A brief introduction to SAR models
[SP] Intro 2 ................................................................. The W matrix
[SP] Intro 3 ................................................................. Preparing data for analysis
[SP] Intro 4 ................................................................. Preparing data: Data with shapefiles
[SP] Intro 5 ................................................................. Preparing data: Data containing locations (no shapefiles)
[SP] Intro 6 ................................................................. Preparing data: Data without shapefiles or locations
[SP] Intro 7 ................................................................. Example from start to finish
[SP] Intro 8 ................................................................. The Sp estimation commands
[SP] estat moran ......................................................... Moran’s test of residual correlation with nearby residuals
[SP] grmap ................................................................. Graph choropleth maps
[SP] spbalance .......................................................... Make panel data strongly balanced
[SP] spcompress ......................................................... Compress Stata-format shapefile
[SP] spdistance .......................................................... Calculator for distance between places
[SP] spgenerate ........................................................ Generate variables containing spatial lags
[SP] spivregress ........................................................ Spatial autoregressive models with endogenous covariates
### Standard postestimation tests, tables, and other analyses

<table>
<thead>
<tr>
<th>Reference</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[U]</td>
<td>Section 13.5</td>
<td>Accessing coefficients and standard errors</td>
</tr>
<tr>
<td>[U]</td>
<td>Chapter 20</td>
<td>Estimation and postestimation commands</td>
</tr>
<tr>
<td>[R]</td>
<td>contrast</td>
<td>Contrasts and linear hypothesis tests after estimation</td>
</tr>
<tr>
<td>[R]</td>
<td>correlate</td>
<td>Correlations of variables</td>
</tr>
<tr>
<td>[R]</td>
<td>estat</td>
<td>Postestimation statistics</td>
</tr>
<tr>
<td>[R]</td>
<td>estat ic</td>
<td>Display information criteria</td>
</tr>
<tr>
<td>[R]</td>
<td>estat summarize</td>
<td>Summarize estimation sample</td>
</tr>
<tr>
<td>[R]</td>
<td>estat vce</td>
<td>Display covariance matrix estimates</td>
</tr>
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<td>estimates</td>
<td>Save and manipulate estimation results</td>
</tr>
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<td>[R]</td>
<td>estimates describe</td>
<td>Describe estimation results</td>
</tr>
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<td>estimates for</td>
<td>Repeat postestimation command across models</td>
</tr>
<tr>
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<td>estimates notes</td>
<td>Add notes to estimation results</td>
</tr>
<tr>
<td>[R]</td>
<td>estimates replay</td>
<td>Redisplay estimation results</td>
</tr>
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<td>estimates save</td>
<td>Save and use estimation results</td>
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<td>forecast</td>
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<td>[TS]</td>
<td>forecast adjust</td>
<td>Adjust variables to produce alternative forecasts</td>
</tr>
<tr>
<td>[TS]</td>
<td>forecast clear</td>
<td>Clear current model from memory</td>
</tr>
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<td>[TS]</td>
<td>forecast coefvector</td>
<td>Specify an equation via a coefficient vector</td>
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<td>[TS]</td>
<td>forecast create</td>
<td>Create a new forecast model</td>
</tr>
<tr>
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<td>forecast describe</td>
<td>Describe features of the forecast model</td>
</tr>
<tr>
<td>[TS]</td>
<td>forecast drop</td>
<td>Drop forecast variables</td>
</tr>
<tr>
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<td>forecast estimates</td>
<td>Add estimation results to a forecast model</td>
</tr>
<tr>
<td>[TS]</td>
<td>forecast exogenous</td>
<td>Declare exogenous variables</td>
</tr>
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<td>forecast identity</td>
<td>Add an identity to a forecast model</td>
</tr>
<tr>
<td>[TS]</td>
<td>forecast list</td>
<td>List forecast commands composing current model</td>
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</tbody>
</table>
### Structural equation modeling

| [TS] | forecast query | Check whether a forecast model has been started |
| [TS] | forecast solve | Obtain static and dynamic forecasts |
| [R]  | hausman        | Hausman specification test |
| [R]  | lincom         | Linear combinations of parameters |
| [R]  | linktest       | Specification link test for single-equation models |
| [R]  | lrtest         | Likelihood-ratio test after estimation |
| [R]  | margins, contrast | Contrasts of margins |
| [R]  | margins, pwcompare | Pairwise comparisons of margins |
| [CM] | margins | Adjusted predictions, predictive margins, and marginal effects |
| [R]  | marginsplot    | Graph results from margins (profile plots, etc.) |
| [R]  | predict        | Obtain predictions, residuals, etc., after estimation |
| [R]  | predictnl      | Obtain nonlinear predictions, standard errors, etc., after estimation |
| [R]  | suest          | Seemingly unrelated estimation |
| [R]  | test           | Test linear hypotheses after estimation |
| [R]  | testnl         | Test nonlinear hypotheses after estimation |

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**Combined subject table of contents**

<table>
<thead>
<tr>
<th>39</th>
<th>Structural equation modeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>[U]</td>
<td>Section 27.24</td>
</tr>
<tr>
<td>[SEM]</td>
<td>Builder</td>
</tr>
<tr>
<td>[SEM]</td>
<td>Builder, generalized</td>
</tr>
<tr>
<td>[SEM]</td>
<td>Intro 1</td>
</tr>
<tr>
<td>[SEM]</td>
<td>Intro 2</td>
</tr>
<tr>
<td>[SEM]</td>
<td>Intro 3</td>
</tr>
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</tr>
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</tr>
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</tr>
<tr>
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<td>Intro 10</td>
</tr>
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</tr>
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</tr>
<tr>
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</tr>
<tr>
<td>[SEM]</td>
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</tr>
<tr>
<td>[SEM]</td>
<td>estat lcpinf</td>
</tr>
<tr>
<td>[SEM]</td>
<td>estat mindices</td>
</tr>
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<tr>
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<td>estat sd</td>
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<tr>
<td>Example</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>Example 1</td>
<td>Creating a dataset from published covariances</td>
</tr>
<tr>
<td>Example 2</td>
<td>Testing that coefficients are equal, and constraining them</td>
</tr>
<tr>
<td>Example 3</td>
<td>Seemingly unrelated regression</td>
</tr>
<tr>
<td>Example 4</td>
<td>Single-factor measurement model</td>
</tr>
<tr>
<td>Example 5</td>
<td>Two-parameter logistic IRT (Rasch) model</td>
</tr>
<tr>
<td>Example 6</td>
<td>Two-level measurement model (multilevel, generalized response)</td>
</tr>
<tr>
<td>Example 7</td>
<td>Estimation and interpretation of MIMIC model</td>
</tr>
<tr>
<td>Example 8</td>
<td>Creating summary statistics data from raw data</td>
</tr>
<tr>
<td>Example 9</td>
<td>Fitting a model with data missing at random</td>
</tr>
<tr>
<td>Example 10</td>
<td>One- and two-level mediation models (multilevel)</td>
</tr>
<tr>
<td>Example 11</td>
<td>Logistic regression</td>
</tr>
<tr>
<td>Example 12</td>
<td>Ordered probit and ordered logit</td>
</tr>
<tr>
<td>Example 13</td>
<td>Multinomial logistic regression</td>
</tr>
<tr>
<td>Example 14</td>
<td>Random-intercept and random-slope models (multilevel)</td>
</tr>
<tr>
<td>Example 15</td>
<td>Three-level model (multilevel, generalized response)</td>
</tr>
<tr>
<td>Example 16</td>
<td>Crossed models (multilevel)</td>
</tr>
<tr>
<td>Example 17</td>
<td>Two-level multinomial logistic regression (multilevel)</td>
</tr>
<tr>
<td>Example 18</td>
<td>One- and two-level mediation models (multilevel)</td>
</tr>
<tr>
<td>Example 19</td>
<td>Tobit regression</td>
</tr>
<tr>
<td>Example 20</td>
<td>Interval regression</td>
</tr>
<tr>
<td>Example 21</td>
<td>Heckman selection model</td>
</tr>
<tr>
<td>Example 22</td>
<td>Endogenous treatment-effects model</td>
</tr>
<tr>
<td>Example 23</td>
<td>Exponential survival model</td>
</tr>
</tbody>
</table>
Survey data

[U] Chapter 20 ........................................ Estimation and postestimation commands
[U] Section 27.30 ........................................ Survey data
[SVY] Survey ................................................ Introduction to survey commands
[SVY] bootstrap_options ................................ More options for bootstrap variance estimation
[SVY] brr_options .......................................... More options for BRR variance estimation
[SVY] Calibration .......................................... Calibration for survey data
### Survival analysis

<table>
<thead>
<tr>
<th>Command</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>st</td>
<td>Survival-time data</td>
</tr>
<tr>
<td>snapspan</td>
<td>Convert snapshot data to time-span data</td>
</tr>
<tr>
<td>ltable</td>
<td>Life tables for survival data</td>
</tr>
<tr>
<td>Discrete</td>
<td>Discrete-time survival analysis</td>
</tr>
<tr>
<td>ct</td>
<td>Count-time data</td>
</tr>
<tr>
<td>ctset</td>
<td>Declare data to be count-time data</td>
</tr>
<tr>
<td>cttost</td>
<td>Convert count-time data to survival-time data</td>
</tr>
<tr>
<td>Discrete</td>
<td>Discrete-time survival analysis</td>
</tr>
<tr>
<td>st</td>
<td>Cox proportional hazards model</td>
</tr>
<tr>
<td>stcox</td>
<td>Cox proportional hazards model after stcox</td>
</tr>
<tr>
<td>stcox PH-assumption tests</td>
<td>Tests of proportional-hazards assumption after stcox</td>
</tr>
<tr>
<td>stci</td>
<td>Confidence intervals for means and percentiles of survival time</td>
</tr>
<tr>
<td>stcox PH-assumption tests</td>
<td>Competing-risks regression</td>
</tr>
<tr>
<td>stcurve</td>
<td>Plot the survivor or related function after streg, stcox, and others</td>
</tr>
<tr>
<td>stdescribe</td>
<td>Describe survival-time data</td>
</tr>
<tr>
<td>stepwise</td>
<td>Stepwise estimation</td>
</tr>
</tbody>
</table>
Also see Time series, multivariate

Time series, multivariate

[ST] stfill ............................... Fill in by carrying forward values of covariates
[ST] stgen ................................. Generate variables reflecting entire histories
[ST] stintcox ............................ Cox proportional hazards model for interval-censored survival-time data
[ST] stintcox PH-assumption plots  Plots of proportional-hazards assumption after stintcox
[ST] streg ................................. Parametric models for interval-censored survival-time data
[ST] stir .................................. Report incidence-rate comparison
[ST] sttime ............................... Calculate person-time, incidence rates, and SMR
[ST] strate ................................ Tabulate failure rates and rate ratios
[ST] streg .................................. Parametric survival models
[ST] sts .................................... Generate, graph, list, and test the survivor and related functions
[ST] sts generate ........................ Create variables containing survivor and related functions
[ST] sts graph ........................... Graph the survivor or related function
[ST] sts list .............................. List the survivor or related function
[ST] sts test .............................. Test equality of survivor functions
[ST] stset ................................. Declare data to be survival-time data

[MI] mi XXXset ............................ Declare mi data to be svy, st, ts, xt, etc.
[ST] stsplit ............................. Split and join time-span records
[MI] mi stsplit ............................ Split and join time-span records for mi data
[ST] stsum ................................ Summarize survival-time data
[TE] stteffects ipw ......................... Survival-time inverse-probability weighting
[TE] stteffects ipwra ..................... Survival-time inverse-probability-weighted regression adjustment
[TE] stteffects ra ........................ Survival-time regression adjustment
[TE] stteffects wra ........................ Survival-time weighted regression adjustment
[ST] sttocc ............................... Convert survival-time data to case–control data
[ST] sttocc ............................... Convert survival-time data to count-time data
[ST] stvary ................................ Report variables that vary over time
[XT] xtstreg ............................... Random-effects parametric survival models

Also see Power, precision, and sample size.

Time series, multivariate

[U] Section 11.4.4 ............................ Time-series varlists
[U] Section 13.10 ............................ Time-series operators
[U] Chapter 20 ............................. Estimation and postestimation commands
[U] Section 27.14 ............................ Time-series models
[TS] Time series ............................ Introduction to time-series commands
[BAYES] bayesirf graph ........................ Graphs of Bayesian IRFs, dynamic-multiplier functions, and FEVDs
[TS] dfactor ................................. Dynamic-factor models
[TS] fcast compute ........................ Compute dynamic forecasts after var, svar, or vec
[TS] fcast graph ............................ Graph forecasts after fcast compute
[TS] forecast .............................. Econometric forecasting
[TS] forecast adjust ........................ Adjust variables to produce alternative forecasts
[TS] forecast clear ........................ Clear current model from memory
[TS] forecast coefvector .................... Specify an equation via a coefficient vector
[TS] forecast create ........................ Create a new forecast model
[TS] forecast describe ........................ Describe features of the forecast model
[TS] forecast drop ........................... Drop forecast variables
[TS] forecast estimates ...................... Add estimation results to a forecast model
[TS] forecast exogenous .................... Declare exogenous variables
[TS] forecast identity ........................ Add an identity to a forecast model
[TS] forecast list ............................ List forecast commands composing current model
[TS] forecast query ........................ Check whether a forecast model has been started
Time series, univariate

[TS]forecast solve .................................................. Obtain static and dynamic forecasts
[TS]irf ................................................................. Create and analyze IRFs, dynamic-multiplier functions, and FEVDs
[TS]irf add ............................................................ Add results from an IRF file to the active IRF file
[TS]irf cgraph ......................................................... Combined graphs of IRFs, dynamic-multiplier functions, and FEVDs
[TS]irf create ....................................................... Obtain IRFs, dynamic-multiplier functions, and FEVDs
[TS]irf ctable ......................................................... Combined tables of IRFs, dynamic-multiplier functions, and FEVDs
[TS]irf describe ....................................................... Describe an IRF file
[TS]irf drop .............................................................. Drop IRF results from the active IRF file
[TS]irf graph ............................................................. Graphs of IRFs, dynamic-multiplier functions, and FEVDs
[TS]irf oglraph ......................................................... Overlay graphs of IRFs, dynamic-multiplier functions, and FEVDs
[TS]irf rename ......................................................... Rename an IRF result in an IRF file
[TS]irf set ............................................................... Set the active IRF file
[TS]irf table ............................................................ Tables of IRFs, dynamic-multiplier functions, and FEVDs
[TS]mgarch ............................................................. Multivariate GARCH models
[TS]mgarch ccc ....................................................... Constant conditional correlation multivariate GARCH models
[TS]mgarch dcc ....................................................... Dynamic conditional correlation multivariate GARCH models
[TS]mgarch dvech ..................................................... Diagonal vech multivariate GARCH models
[TS]mgarch vcc ....................................................... Varying conditional correlation multivariate GARCH models
[TS]rolling .............................................................. Rolling-window and recursive estimation
[TS]sspace .............................................................. State-space models
[TS]tsappend .......................................................... Add observations to a time-series dataset
[TS]tsfill ................................................................. Fill in gaps in time variable
[TS]tsline ................................................................. Time-series line plots
[TS]tsreport ............................................................ Report time-series aspects of a dataset or estimation sample
[TS]tsrevar .............................................................. Time-series operator programming command
[TS]tsset ................................................................. Declare data to be time-series data
[TS]var intro ............................................................. Introduction to vector autoregressive models
[TS]var svar .............................................................. Structural vector autoregressive models
[TS]var ................................................................. Vector autoregressive models
[TS]varbasic ........................................................... Fit a simple VAR and graph IRFs or FEVDs
[TS]vargranger ........................................................ Pairwise Granger causality tests after var or svar
[TS]varlmar ............................................................. LM test for residual autocorrelation after var or svar
[TS]varnorm ............................................................. Test for normally distributed disturbances after var or svar
[TS]varsoc .............................................................. Obtain lag-order selection statistics for VARs and VECMs
[TS]varstable .......................................................... Check the stability condition of VAR or SVAR estimates
[TS]varwle ............................................................... Obtain Wald lag-exclusion statistics after var or svar
[TS]vec intro ........................................................... Introduction to vector error-correction models
[TS]vec ................................................................. Vector error-correction models
[TS]veclmar ............................................................ LM test for residual autocorrelation after vec
[TS]vecnorm ............................................................. Test for normally distributed disturbances after vec
[TS]vecrank ............................................................. Estimate the cointegrating rank of a VECM
[TS]vecktable .......................................................... Check the stability condition of VECM estimates
[TS]xcorr ................................................................. Cross-correlogram for bivariate time series

Time series, univariate

[U] Section 11.4.4 ..................................................... Time-series varlists
[U] Section 13.10 ....................................................... Time-series operators
[U] Chapter 20 ....................................................... Estimation and postestimation commands
[U] Section 27.14 ..................................................... Time-series models
[TS] Time series ........................................................ Introduction to time-series commands
[TS] arch ................................................................. Autoregressive conditional heteroskedasticity (ARCH) family of estimators
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>arima</code></td>
<td>Autoregressive fractionally integrated moving-average models</td>
</tr>
<tr>
<td><code>arima</code></td>
<td>ARIMA, ARMAX, and other dynamic regression models</td>
</tr>
<tr>
<td><code>corgram</code></td>
<td>Tabulate and graph autocorrelations</td>
</tr>
<tr>
<td><code>cumsp</code></td>
<td>Graph cumulative spectral distribution</td>
</tr>
<tr>
<td><code>dfgls</code></td>
<td>DF-GLS unit-root test</td>
</tr>
<tr>
<td><code>dfuller</code></td>
<td>Augmented Dickey–Fuller unit-root test</td>
</tr>
<tr>
<td><code>estat acplot</code></td>
<td>Plot parametric autocorrelation and autocovariance functions</td>
</tr>
<tr>
<td><code>estat aroots</code></td>
<td>Check the stability condition of ARIMA estimates</td>
</tr>
<tr>
<td><code>estat sbcusum</code></td>
<td>Cumulative sum test for parameter stability</td>
</tr>
<tr>
<td><code>estat sbknown</code></td>
<td>Test for a structural break with a known break date</td>
</tr>
<tr>
<td><code>estat sbsingle</code></td>
<td>Test for a structural break with an unknown break date</td>
</tr>
<tr>
<td><code>forecast</code></td>
<td>Econometric model forecasting</td>
</tr>
<tr>
<td><code>forecast adjust</code></td>
<td>Adjust variables to produce alternative forecasts</td>
</tr>
<tr>
<td><code>forecast clear</code></td>
<td>Clear current model from memory</td>
</tr>
<tr>
<td><code>forecast coefvector</code></td>
<td>Specify an equation via a coefficient vector</td>
</tr>
<tr>
<td><code>forecast create</code></td>
<td>Create a new forecast model</td>
</tr>
<tr>
<td><code>forecast describe</code></td>
<td>Describe features of the forecast model</td>
</tr>
<tr>
<td><code>forecast drop</code></td>
<td>Drop forecast variables</td>
</tr>
<tr>
<td><code>forecast estimates</code></td>
<td>Add estimation results to a forecast model</td>
</tr>
<tr>
<td><code>forecast exogenous</code></td>
<td>Declare exogenous variables</td>
</tr>
<tr>
<td><code>forecast identity</code></td>
<td>Add an identity to a forecast model</td>
</tr>
<tr>
<td><code>forecast list</code></td>
<td>List forecast commands composing current model</td>
</tr>
<tr>
<td><code>forecast query</code></td>
<td>Check whether a forecast model has been started</td>
</tr>
<tr>
<td><code>forecast solve</code></td>
<td>Obtain static and dynamic forecasts</td>
</tr>
<tr>
<td><code>mswitch</code></td>
<td>Markov-switching regression models</td>
</tr>
<tr>
<td><code>newey</code></td>
<td>Regression with Newey–West standard errors</td>
</tr>
<tr>
<td><code>pergram</code></td>
<td>Periodogram</td>
</tr>
<tr>
<td><code>pperron</code></td>
<td>Phillips–Perron unit-root test</td>
</tr>
<tr>
<td><code>prais</code></td>
<td>Prais–Winsten and Cochrane–Orcutt regression</td>
</tr>
<tr>
<td><code>psdensity</code></td>
<td>Parametric spectral density estimation after arima, arfima, and ucm</td>
</tr>
<tr>
<td><code>regress</code></td>
<td>Postestimation tools for regress with time series</td>
</tr>
<tr>
<td><code>rolling</code></td>
<td>Rolling-window and recursive estimation</td>
</tr>
<tr>
<td><code>sspace</code></td>
<td>State-space models</td>
</tr>
<tr>
<td><code>threshold</code></td>
<td>Threshold regression</td>
</tr>
<tr>
<td><code>tsappend</code></td>
<td>Add observations to a time-series dataset</td>
</tr>
<tr>
<td><code>tsfill</code></td>
<td>Fill in gaps in time variable</td>
</tr>
<tr>
<td><code>tsfilter</code></td>
<td>Filter a time series for cyclical components</td>
</tr>
<tr>
<td><code>tsfilter bk</code></td>
<td>Baxter–King time-series filter</td>
</tr>
<tr>
<td><code>tsfilter bw</code></td>
<td>Butterworth time-series filter</td>
</tr>
<tr>
<td><code>tsfilter cf</code></td>
<td>Christiano–Fitzgerald time-series filter</td>
</tr>
<tr>
<td><code>tsfilter hp</code></td>
<td>Hodrick–Prescott time-series filter</td>
</tr>
<tr>
<td><code>tsline</code></td>
<td>Time-series line plots</td>
</tr>
<tr>
<td><code>tsreport</code></td>
<td>Report time-series aspects of a dataset or estimation sample</td>
</tr>
<tr>
<td><code>tsrevar</code></td>
<td>Time-series operator programming command</td>
</tr>
<tr>
<td><code>tsset</code></td>
<td>Declare data to be time-series data</td>
</tr>
<tr>
<td><code>tssmooth</code></td>
<td>Smooth and forecast univariate time-series data</td>
</tr>
<tr>
<td><code>tssmooth dexpontial</code></td>
<td>Double-exponential smoothing</td>
</tr>
<tr>
<td><code>tssmooth exponential</code></td>
<td>Single-exponential smoothing</td>
</tr>
<tr>
<td><code>tssmooth hwinters</code></td>
<td>Holt–Winters nonseasonal smoothing</td>
</tr>
<tr>
<td><code>tssmooth ma</code></td>
<td>Moving-average filter</td>
</tr>
<tr>
<td><code>tssmooth nl</code></td>
<td>Nonlinear filter</td>
</tr>
</tbody>
</table>
Compared subject table of contents

Transforms and normality tests

- **boxcox** [R] Box–Cox regression models
- **fp** [R] Fractional polynomial regression
- **ladder** [R] Ladder of powers
- **lnskew0** [R] Find zero-skewness log or Box–Cox transform
- **mfp** [R] Multivariable fractional polynomial models
- **swilk** [U] Shapiro–Wilk and Shapiro–Francia tests for normality
- **sktest** [R] Skewness and kurtosis tests for normality

Treatment effects

- **Section 27.20** [U] Treatment-effects models
- **DID intro** [TE] Introduction to difference-in-differences estimation
- **didregress** [TE] Difference-in-differences estimation
- **eintreg** [ERM] Extended interval regression
- **eoprobit** [ERM] Extended ordered probit regression
- **eregress** [ERM] Extended probit regression
- **eteffects** [TE] Endogenous treatment-effects estimation
- **etpoisson** [TE] Poisson regression with endogenous treatment effects
- **etregress** [TE] Linear regression with endogenous treatment effects
- **eteffects intro** [TE] Treatment-effects estimation for observational survival-time data
- **stteffects intro** [TE] Introduction to treatment effects for observational survival-time data
- **stteffects ipw** [TE] Survival-time inverse-probability weighting
- **stteffects ipwra** [TE] Survival-time inverse-probability-weighted regression adjustment
- **stteffects ra** [TE] Survival-time regression adjustment
- **stteffects wra** [TE] Survival-time weighted regression adjustment
- **tebalance** [TE] Check balance after teffects or stteffects estimation
- **tebalance box** [TE] Covariate balance box
- **tebalance density** [TE] Covariate balance density
- **tebalance overid** [TE] Test for covariate balance
- **tebalance summarize** [TE] Covariate-balance summary statistics
- **teffects intro** [TE] Treatment-effects estimation for observational data
- **teffects aipw** [TE] Augmented inverse-probability weighting
- **teffects intro advanced** [TE] Advanced introduction to treatment effects for observational data
- **teffects ipw** [TE] Inverse-probability weighting
- **teffects ipwra** [TE] Inverse-probability-weighted regression adjustment
- **teffects multivalued** [TE] Multivalued treatment effects
- **teffects nnmatch** [TE] Nearest-neighbor matching
- **teffects psmatch** [TE] Propensity-score matching
- **teffects ra** [TE] Regression adjustment
- **telasso** [TE] Treatment-effects estimation using lasso
- **teoverlap** [TE] Overlap plots
Matrix commands

Basics

[U] Chapter 14 .............................. Matrix expressions
[P] matlist ................................. Display a matrix and control its format
[P] matrix ................................. Introduction to matrix commands
[P] matrix define ........................ Matrix definition, operators, and functions
[P] matrix utility ........................ List, rename, and drop matrices

Programming

[P] ereturn ................................. Post the estimation results
[P] matrix accum ........................ Form cross-product matrices
[P] matrix rowjoinbyname ............... Join rows while matching on column names
[P] matrix rownames ........................ Name rows and columns
[P] matrix score ............................. Score data from coefficient vectors
[R] ml ................................. Maximum likelihood estimation

Other

[P] makecns ............................... Constrained estimation
[P] matrix dissimilarity .................. Compute similarity or dissimilarity measures
[P] matrix eigenvalues .................... Eigenvalues of nonsymmetric matrices
[P] matrix get ............................... Access system matrices
[P] matrix mkmat ........................ Convert variables to matrix and vice versa
[P] matrix svd .............................. Singular value decomposition
[P] matrix symeigen ....................... Eigenvalues and eigenvectors of symmetric matrices

Mata

[D] putmata ............................... Put Stata variables into Mata and vice versa

Programming

Basics

[U] Chapter 18 .............................. Programming Stata
[U] Section 18.3 .............................. Macros
[U] Section 18.11 ............................ Ado-files
[P] comments ............................... Add comments to programs
[P] fvexpand ............................... Expand factor varlists
[P] macro ................................. Macro definition and manipulation
[P] program ............................... Define and manipulate programs
[P] return ................................. Return stored results
### Program control

<table>
<thead>
<tr>
<th>Section 18.11.1</th>
<th>Program control</th>
</tr>
</thead>
<tbody>
<tr>
<td>capture</td>
<td>Capture return code</td>
</tr>
<tr>
<td>continue</td>
<td>Break out of loops</td>
</tr>
<tr>
<td>error</td>
<td>Display generic error message and exit</td>
</tr>
<tr>
<td>foreach</td>
<td>Loop over items</td>
</tr>
<tr>
<td>forvalues</td>
<td>Loop over consecutive values</td>
</tr>
<tr>
<td>if</td>
<td>if programming command</td>
</tr>
<tr>
<td>version</td>
<td>Version control</td>
</tr>
<tr>
<td>while</td>
<td>Looping</td>
</tr>
</tbody>
</table>

### Parsing and program arguments

<table>
<thead>
<tr>
<th>Section 18.4</th>
<th>Parsing and program arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>confirm</td>
<td>Argument verification</td>
</tr>
<tr>
<td>gettoken</td>
<td>Low-level parsing</td>
</tr>
<tr>
<td>levelsof</td>
<td>Distinct levels of a variable</td>
</tr>
<tr>
<td>numlist</td>
<td>Parse numeric lists</td>
</tr>
<tr>
<td>syntax</td>
<td>Parse Stata syntax</td>
</tr>
<tr>
<td>tokenize</td>
<td>Divide strings into tokens</td>
</tr>
</tbody>
</table>

### Console output

<table>
<thead>
<tr>
<th>Section 12.4.2</th>
<th>Console output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialog programming</td>
<td>Dialog programming</td>
</tr>
<tr>
<td>display</td>
<td>Display strings and values of scalar expressions</td>
</tr>
<tr>
<td>smcl</td>
<td>Stata Markup and Control Language</td>
</tr>
<tr>
<td>tabdisp</td>
<td>Display tables</td>
</tr>
<tr>
<td>unicode</td>
<td>Unicode utilities</td>
</tr>
</tbody>
</table>

### Commonly used programming commands

<table>
<thead>
<tr>
<th>byable</th>
<th>Make programs byable</th>
</tr>
</thead>
<tbody>
<tr>
<td>#delimit</td>
<td>Change delimiter</td>
</tr>
<tr>
<td>exit</td>
<td>Exit from a program or do-file</td>
</tr>
<tr>
<td>fvrevar</td>
<td>Factor-variables operator programming command</td>
</tr>
<tr>
<td>mark</td>
<td>Mark observations for inclusion</td>
</tr>
<tr>
<td>matrix</td>
<td>Introduction to matrix commands</td>
</tr>
<tr>
<td>more</td>
<td>Pause until key is pressed</td>
</tr>
<tr>
<td>nopreserve option</td>
<td>Preserve and restore data</td>
</tr>
<tr>
<td>quietly</td>
<td>Quietly and noisily perform Stata command</td>
</tr>
<tr>
<td>scalar</td>
<td>Scalar variables</td>
</tr>
<tr>
<td>smcl</td>
<td>Stata Markup and Control Language</td>
</tr>
<tr>
<td>sortpreserve</td>
<td>Sort within programs</td>
</tr>
<tr>
<td>timer</td>
<td>Time sections of code by recording and reporting time spent</td>
</tr>
<tr>
<td>tsrevar</td>
<td>Time-series operator programming command</td>
</tr>
</tbody>
</table>

### Debugging

<table>
<thead>
<tr>
<th>pause</th>
<th>Program debugging command</th>
</tr>
</thead>
<tbody>
<tr>
<td>timer</td>
<td>Time sections of code by recording and reporting time spent</td>
</tr>
<tr>
<td>trace</td>
<td>Debug Stata programs</td>
</tr>
</tbody>
</table>
Advanced programming commands

[U] Section 12.4.2.5 Sorting strings containing Unicode characters
[RPT] Appendix for putdocx Appendix for putdocx entries
[RPT] Appendix for putpdf Appendix for putpdf entries
[P] Automation Automation
[P] break Suppress Break key
[P] char Characteristics
[M-2] class Exit class-oriented programming (classes)
[P] class Class programming
[P] class exit Class programming utility
[P] classutil Exit class-member program and return result
[M-5] _docx*() Generate Office Open XML (.docx) document
[RPT] doc2pdf Convert a Word (.docx) document to a PDF file
[RPT] Dynamic documents intro Introduction to dynamic documents
[RPT] Dynamic tags Dynamic tags for text files
[RPT] dyndoc Convert dynamic Markdown document to HTML or Word (.docx) document
[RPT] dyntext Process Stata dynamic tags in text file
[P] estat programming Controlling estat after community-contributed commands
[P] _estimates Manage estimation results
[P] Estimation command How to program an estimation command
[P] file Read and write text and binary files
[P] findfile Find file in path
[P] frame post Post results to dataset in another frame
[P] H2O intro Introduction to integration with H2O
[RPT] html2docx Convert an HTML file to a Word (.docx) document
[P] include Include commands from file
[P] Java integration Java integration for Stata
[P] Java intro Introduction to Java in Stata
[P] Java plugin Introduction to Java plugins
[P] Java utilities Java utilities
[P] javacall Call a Java plugin
[M-5] LinearProgram() Linear programming
[P] macro Macro definition and manipulation
[P] macro lists Manipulate lists
[RPT] markdown Convert Markdown document to HTML file or Word (.docx) document
[R] ml Maximum likelihood estimation
[M-5] moptimize() Model optimization
[M-5] optimize() Function optimization
[M-5] Pdf*() Create a PDF file
[P] plugin Load a plugin
[P] postfile Post results in Stata dataset
[P] _predict Obtain predictions, residuals, etc., after estimation programming command
[P] program properties Properties of user-defined programs
[RPT] putdocx begin Add a table from a collection to an Office Open XML (.docx) file
[RPT] putdocx collect Add a table from a collection to an Office Open XML (.docx) file
[RPT] putdocx intro Introduction to generating Office Open XML (.docx) files
[RPT] putdocx pagebreak Add breaks to an Office Open XML (.docx) file
[RPT] putdocx paragraph Add text or images to an Office Open XML (.docx) file
[RPT] putdocx table Add tables to an Office Open XML (.docx) file
[RPT] putexcel Export results to an Excel file
[RPT] putexcel advanced Export results to an Excel file using advanced syntax

Combined subject table of contents 49
Put Stata variables into Mata and vice versa

Create a PDF file

Add a table from a collection to a PDF file

Introduction to generating PDF files

Add breaks to a PDF file

Add text or images to a PDF file

Add tables to a PDF file

Introduction to using Python and Stata together

Introduction to using Python and Stata together

Call Python from Stata

Python package pystata to call Stata from Python

Numerical integration

Preserve stored results

Remove collinear variables

Robust variance estimates

Create and manipulate sersets

Save and restore data snapshots

Unabbreviate variable list

Unabbreviate command name

Language-specific Unicode collators

Low-level file conversion between encodings

Control variable abbreviation

View source code

Excel file I/O class

Report bootstrap results

Add cluster-analysis routines

Cluster-analysis programming utilities

Factor-variables operator programming command

Compute similarity or dissimilarity measures

Programmer’s alternative to mi extract

Survival analysis subroutines for programmers

Details for programmers

Time-series operator programming command

Organize Stata files

Description of .dta file format

Low-level file conversion between encodings

Translate files to Unicode

Introduction

How to read this manual
Intro 2 .................................................. A tour of concepts and commands
Intro 3 .......................................................... Workflow outline
Intro 4 .......................................................... Overview of commands
Intro 5 .......................................................... Other tabulation commands
Appendix for collect style cell ........................................ Appendix for collect style cell
collect clear .......................................................... Clear all collections in memory
collect combine ...................................................... Combine collections
collect copy .......................................................... Copy a collection
collect create .......................................................... Create a new collection
collect dims ......................................................... List dimensions in a collection
collect dir .......................................................... Display names of all collections in memory
collect export ....................................................... Export table from a collection
collect get .......................................................... Collect results from a Stata command
collect label .......................................................... Manage custom labels in a collection
collect layout .......................................................... Specify table layout for the current collection
collect levelsof ...................................................... List levels of a dimension
collect preview ...................................................... Preview the table in a collection
collect recode ....................................................... Recode dimension levels in a collection
collect remap .......................................................... Remap tags in a collection
collect rename .......................................................... Rename a collection
collect save .......................................................... Save a collection to disk
collect set ........................................................... Set the current (active) collection
collect stars .......................................................... Add stars for significant results in a collection
collect style _cons .................................................... Collection styles for intercept position
collect style autolevels .............................................. Collection styles for automatic dimension levels
collect style cell ..................................................... Collection styles for cells
collect style clear ..................................................... Clear all collection styles
collect style column .................................................. Collection styles for column headers
collect style header ................................................... Collection styles for hiding and showing header components
collect style html .................................................... Collection styles for HTML files
collect style putdocx .................................................. Collection styles for putdocx
collect style putpdf .................................................... Collection styles for putpdf
collect style row ....................................................... Collection styles for row headers
collect style save ..................................................... Save collection styles to disk
collect style showbase .............................................. Collection styles for displaying base levels
collect style showempty ............................................. Collection styles for displaying empty cells
collect style showomit ............................................... Collection styles for displaying omitted coefficients
collect style table ................................................... Collection styles for table headers
collect style use ..................................................... Use collection styles from disk
collect use .......................................................... Use a collection from disk
Collection principles ................................................. Tags, dimensions, levels, and layout from first principles
Example 1 .......................................................... Table of means, standard deviations, and correlations
Example 2 .......................................................... Table of medians and rank-sum test results
Example 3 .......................................................... Table of comparative summary statistics
Example 4 .......................................................... Table of $t$ test results
Example 5 .......................................................... Table of regression coefficients and confidence intervals
Example 6 .......................................................... Table comparing regression results
Example 7 .......................................................... Table of regression results using survey data
Predefined styles ..................................................... Predefined collection styles
set collect_double ................................................... Storage type settings for collections
set collect_label ..................................................... Label settings for collections
Automated document and report creation

[U] Chapter 21 ... Creating reports
[RPT] Appendix for putdocx ... Appendix for putdocx entries
[RPT] Appendix for putpdf ... Appendix for putpdf entries
[RPT] Intro ... Introduction to reporting manual
[RPT] docx2pdf ... Convert a Word (.docx) document to a PDF file
[RPT] Dynamic documents intro ... Introduction to dynamic documents
[RPT] Dynamic tags ... Dynamic tags for text files
[RPT] dyndoc ... Convert dynamic Markdown document to HTML or Word (.docx) document
[RPT] dyntext ... Process Stata dynamic tags in text file
[RPT] html2docx ... Convert an HTML file to a Word (.docx) document
[RPT] markdown ... Convert Markdown document to HTML file or Word (.docx) document
[RPT] putdocx begin ... Create an Office Open XML (.docx) file
[RPT] putdocx collect ... Add a table from a collection to an Office Open XML (.docx) file
[RPT] putdocx intro ... Introduction to generating Office Open XML (.docx) files
[RPT] putdocx pagebreak ... Add breaks to an Office Open XML (.docx) file
[RPT] putdocx paragraph ... Add text or images to an Office Open XML (.docx) file
[RPT] putdocx table ... Add tables to an Office Open XML (.docx) file
[RPT] putexcel ... Export results to an Excel file
[RPT] putexcel advanced ... Export results to an Excel file using advanced syntax
[RPT] putpdf begin ... Create a PDF file
[RPT] putpdf collect ... Add a table from a collection to a PDF file
[RPT] putpdf intro ... Introduction to generating PDF files
[RPT] putpdf pagebreak ... Add breaks to a PDF file
[RPT] putpdf paragraph ... Add text or images to a PDF file
[RPT] putpdf table ... Add tables to a PDF file
[RPT] set docx ... Format settings for blocks of text

Interface features

[GS] Chapter 1 (GSM, GSU, GSW) ... Introducing Stata—sample session
[GS] Chapter 2 (GSM, GSU, GSW) ... The Stata user interface
[GS] Chapter 3 (GSM, GSU, GSW) ... Using the Viewer
[GS] Chapter 6 (GSM, GSU, GSW) ... Using the Data Editor
[GS] Chapter 7 (GSM, GSU, GSW) ... Using the Variables Manager
[GS] Chapter 13 (GSM, GSU, GSW) ... Using the Do-file Editor—automating Stata
[GS] Chapter 15 (GSM, GSU, GSW) ... Editing graphs
[P] Dialog programming ... Dialog programming
[R] doedit ... Edit do-files and other text files
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>edit</code></td>
<td>Browse or edit data with Data Editor</td>
</tr>
<tr>
<td><code>set locale ui</code></td>
<td>Specify a localization package for the user interface</td>
</tr>
<tr>
<td><code>sleep</code></td>
<td>Pause for a specified time</td>
</tr>
<tr>
<td><code>smcl</code></td>
<td>Stata Markup and Control Language</td>
</tr>
<tr>
<td><code>unicode locale</code></td>
<td>Unicode locale utilities</td>
</tr>
<tr>
<td><code>varmanage</code></td>
<td>Manage variable labels, formats, and other properties</td>
</tr>
<tr>
<td><code>viewsource</code></td>
<td>View source code</td>
</tr>
<tr>
<td><code>window fopen</code></td>
<td>Display open/save dialog box</td>
</tr>
<tr>
<td><code>window manage</code></td>
<td>Manage window characteristics</td>
</tr>
<tr>
<td><code>window menu</code></td>
<td>Create menus</td>
</tr>
<tr>
<td><code>window programming</code></td>
<td>Programming menus and windows</td>
</tr>
<tr>
<td><code>window push</code></td>
<td>Copy command into History window</td>
</tr>
<tr>
<td><code>window stopbox</code></td>
<td>Display message box</td>
</tr>
</tbody>
</table>