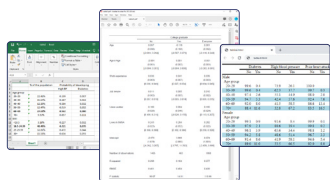


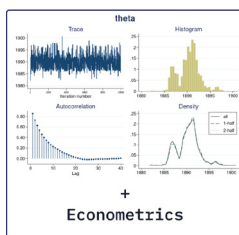
Tables



Customize tables.

Export them to Word, Excel, L^AT_EX, PDF, HTML, Markdown, and more.

Bayesian econometrics



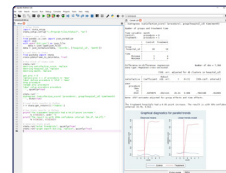
VAR, DSGE, IRF, dynamic forecasts, and panel-data models

PyStata—Python and Stata

Call Python from Stata.

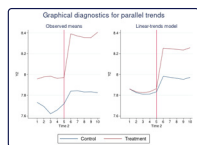
Call Stata from Python.

Exchange data, metadata, and results seamlessly.



Use Stata from Jupyter Notebook, Spyder, PyCharm IDE, and more.

Difference in differences (DID)



Evaluate the effect of a policy, a treatment, or an intervention.

Control for confounding unobserved group and time characteristics.

Use panel data or repeated cross-sections.

Interval-censored Cox model

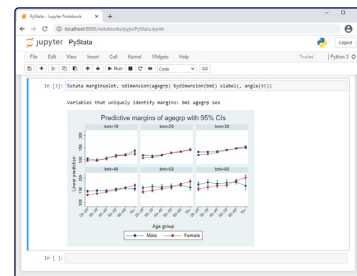
You want to model time to an event.

But you don't know the exact event times—only the intervals in which events happen.

And you don't want to make parametric assumptions.

Try an interval-censored Cox model.

Jupyter Notebook with Stata



Faster Stata

Stata is fast and keeps getting faster.

- Faster **sort** and **collapse**
- Faster **mixed** models
- Faster estimation commands
- Faster **import delimited**
- And more

Multivariate meta-analysis

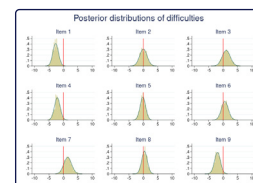


Do you have multiple effect sizes?
Do they share a common control group?
Do they share the same group of subjects?

Multivariate meta-analysis can help.

Bayesian multilevel modeling

Nonlinear, joint, SEM-like, and more.



More multilevel models.
More powerful.
Easier to use.

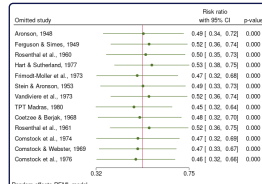
Bayesian VAR

You fit your VAR models with **var**.

You fit your Bayesian regression models with **bayes:**.

Now fit your Bayesian VAR models with **bayes: var**.

Leave-one-out meta-analysis



Are there influential studies in your data?

Use leave-one-out meta-analysis to find out.

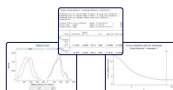
New functions for dates and times

Calculate durations, such as ages and other differences between datetimes.

Calculate relative dates, or dates from other dates, such as the previous or next birthday or anniversary relative to a reference date.

Extract individual components from datetime values and variables.

Treatment-effects lasso



When you want:

Causal inference, ATEs, potential-outcome means, double-robust estimation

And you have:

Many (maybe hundreds or thousands of) potential covariates

Use treatment-effects estimation with lasso variable selection.

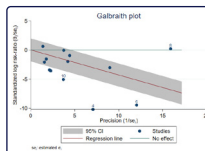
Galbraith plots

Graphically summarize meta-analysis results

- Study-specific effect sizes
- Precision of effect sizes
- Overall effect size

Detect potential outliers

Assess heterogeneity



Panel-data multinomial logit

You can model categorical outcomes with **mlogit**. You can model panel data with **xt**.

Now you can do both!

Stata's new **xtnlogit** command models categorical outcomes that change over time.

Bayesian panel-data models

bayes: +

```
xtreg
xtlogit
xtprobit
xtologit
xtoprobit
xtmlogit
xtpoisson
xtnbreg
```

Zero-inflated ordered logit model

Need to model an ordinal outcome?

Have excess zeros (or responses in the lowest category)?

ziologit is the answer.

Nonparametric tests for trend



Do responses have an increasing or decreasing trend? Find out using

Cochran–Armitage test
Jonckheere–Terpstra test
Linear-by-linear test
Cuzick's test with ranks

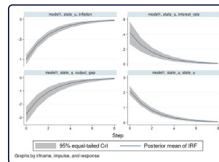
Lasso with clustered data

Your data have ... many variables.

Your data have ... clusters of observations.

Your lasso for prediction, model selection, or inference can now select variables while accounting for clustering.

Bayesian IRF and FEVD analysis



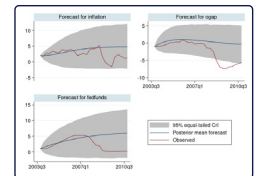
What is the effect of a shock over time?

What is the mean or median of the effect for a distribution of probable scenarios?

Bayesian IRF analysis answers these questions and more.

Bayesian dynamic forecasting

After VAR, you want a dynamic forecast.



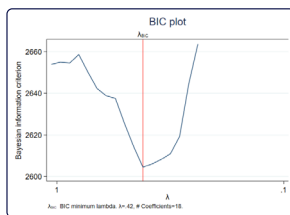
After Bayesian estimation, you want statistics of posterior distributions.

Estimate both. Visualize both.

BIC for lasso penalty selection

Which variables should lasso include?

BIC for lasso penalty selection can tell you.



Bayesian linear and nonlinear DSGEs

bayes:

+

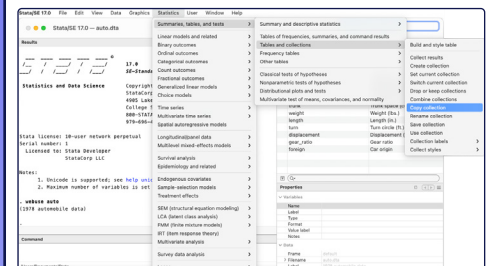
$$\begin{aligned} p_t &= \beta E_t(p_{t+1}) + \kappa \pi_t \\ \pi_t &= E_t(\pi_{t+1}) - (r_t - E_t(r_{t+1}) - g_t) \\ r_t &= \frac{1}{\psi} p_t + u_t \\ u_{t+1} &= \rho_u u_t + \varepsilon_{t+1} \\ g_{t+1} &= \rho_g g_t + \zeta_{t+1} \end{aligned}$$

Forming rational expectations of the future is hard.

DSGE models include these expectations.

Prior information helps.

Stata on Apple Silicon



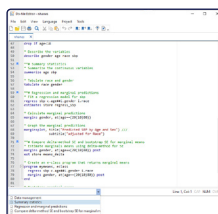
Do-file Editor enhancements

Persistent bookmarks

Navigation Control

Syntax highlighting for Java, XML, and more

Autocompletion for quotes, parentheses, and brackets

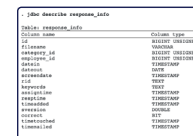


Intel Math Kernel Library (MKL)

Mata functions and operators use heavily optimized LAPACK routines underpinned by the Intel Math Kernel Library.

Use your favorite Stata commands like always; underlying functions are faster, so you get results faster.

JDBC



Connecting Stata to databases is now easier.

Want to access data from Oracle, MySQL, Amazon Redshift, Snowflake, Microsoft SQL Server, and others? Use **jdbc**.

Want one driver that works on Windows, Mac, and Linux? Use **jdbc**.

Java integration

Use Java interactively (like JShell) from within Stata.

Embed Java code in do-files.

Embed Java code in ado-files.

Compile and execute Java code "on the fly" without external programs.

H2O integration

Start a new H2O cluster or connect to an existing one.

Manipulate data on an H2O cluster.

Access the capabilities of H2O directly in Stata.