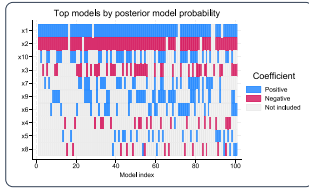


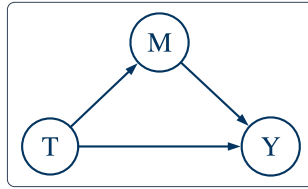
# New in STATA® 18



## Bayesian model averaging

Uncertain which predictors to use in your regression?

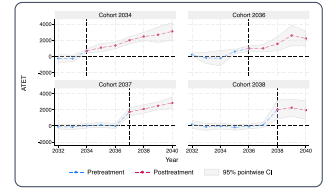
Use Bayesian model averaging to account for this uncertainty in your analysis. Explore influential models and predictors, obtain better predictions, and more.



## Causal mediation analysis

Causal analysis quantifies causal effects. Causal mediation analysis disentangles them.

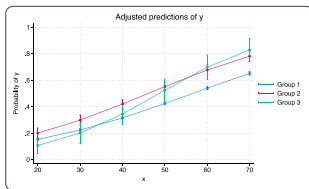
Are these effects mediated through another variable? Estimate direct and indirect effects. Calculate the proportion mediated.



## Heterogeneous DID

Estimate treatment effects that vary over groups and time. Fit models for repeated cross-sectional or panel data.

Visualize effects. Aggregate effects within group, time, or exposure to treatment.



## All-new graph style

White background • Horizontal y-axis labels • Bright color palette • Side legend • And more

You can also graph colors by variable.

Table 1. Patient characteristics by treatment status	Total
Age (years)	58.1 (SD=12.5)
Age squared	3381.2 (SD=1000.0)
Age cubed	200000.0 (SD=60000.0)
Age to the fourth power	1216700.0 (SD=300000.0)
Age to the fifth power	7042630.0 (SD=1800000.0)
Age to the sixth power	40140000.0 (SD=10000000.0)
Age to the seventh power	232149000.0 (SD=50000000.0)
Age to the eighth power	1352481000.0 (SD=250000000.0)
Age to the ninth power	7812500000.0 (SD=1500000000.0)
Age to the tenth power	43000000000.0 (SD=8000000000.0)
Age to the eleventh power	248681250000.0 (SD=45000000000.0)
Age to the twelfth power	1418519625000.0 (SD=250000000000.0)
Age to the thirteenth power	8151875000000.0 (SD=1500000000000.0)
Age to the fourteenth power	46635156250000.0 (SD=8000000000000.0)
Age to the fifteenth power	268435312500000.0 (SD=45000000000000.0)
Age to the sixteenth power	1544800000000000.0 (SD=250000000000000.0)
Age to the seventeenth power	8750000000000000.0 (SD=1500000000000000.0)
Age to the eighteenth power	48136000000000000.0 (SD=8000000000000000.0)
Age to the nineteenth power	266881250000000000.0 (SD=45000000000000000.0)
Age to the twentieth power	1470085937500000000.0 (SD=250000000000000000.0)

## Table 1

Create tables of descriptive statistics more easily with the new `dtable` command.

Export to Word, Excel, PDF, LaTeX, HTML, Markdown, and more.

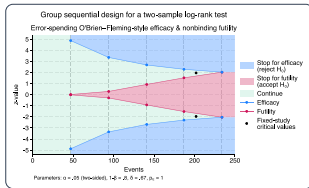
```

use persons
frink l:m countyid, frame(counties)
fralias add urban, from(counties)
regress income age i.urban
    
```

## Alias variables across frames

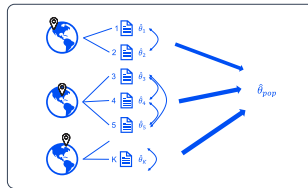
Use variables from multiple datasets as if they exist in one.

And you can now work with frame sets.



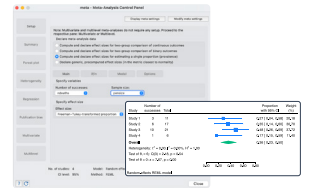
## Group sequential designs

Calculate efficacy and futility stopping bounds for clinical trials. Find required sample sizes for interim and final analyses when testing proportions, means, or survivor functions.



## Multilevel meta-analysis

Do your studies have effect sizes nested within multiple grouping levels? Use multilevel meta-analysis to account for possible dependence among the effect sizes when combining results.



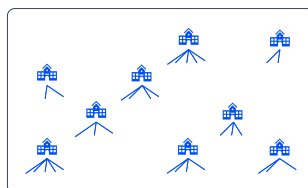
## Meta-analysis for prevalence

You asked, we delivered! Perform meta-analysis for proportion or prevalence. Produce forest plots. Explore heterogeneity. Perform subgroup analysis. And more.

Linear regression		Number of obs = 88,833	
Cluster (var. _cluster)	4,475	Cluster (var. _id)	88,833
Wald chi2(1)	10.24	Prob > chi2	0.0016
F(1, 88,833)	10.24	R-squared	0.0001
Prob > F	0.0016	Adj R-squared	0.0000
Max LR = 8.475		Max LR = 8.475	

## Robust inference for linear models

Stata's robust features for linear models became even more robust.



## Wild cluster bootstrap

Small number of clusters? Unequal observations per cluster? No problem! Wild cluster bootstrap handles them all.

$$RERI = ERR_{++} - ERR_{+-} - ERR_{-+}$$

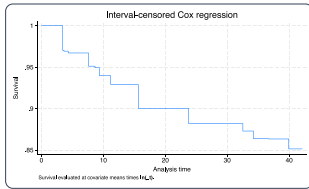
$$ERR = \text{Excess relative risk}$$

## RERI

How do exposures interact to increase risk?

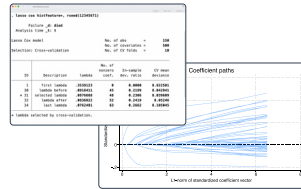
Use `reri` to find out.





### TVCs with interval-censored Cox model

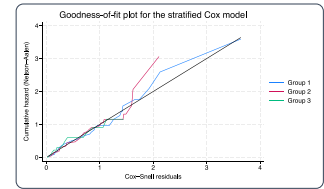
Incorporate time-varying covariates in your interval-censored Cox analysis, including prediction and plots of survivor and other functions.



### Lasso for Cox model

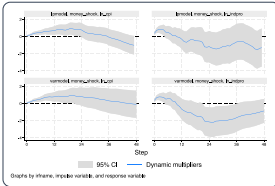
Select variables in a Cox model using lasso and elastic net.

Compute predictions. Graph survivor, failure, and other functions.



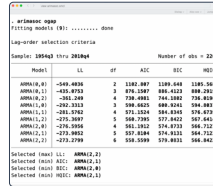
### GOF plots for survival models

Want to know whether your survival model fits your data well? **estat gofplot** makes this easy. Use it with right-censored and interval-censored data, parametric and semiparametric models, and more.



### Local projections for IRFs

Estimate impulse-response functions (IRFs) via local projections. Test hypotheses of multiple IRF coefficients. Graph IRFs, orthogonalized IRFs, and dynamic multipliers.



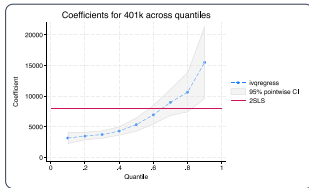
### ARIMA and ARFIMA model selection

Compare potential ARIMA or ARFIMA models using AIC, BIC, and HQIC. Select the best number of autoregressive and moving-average terms.



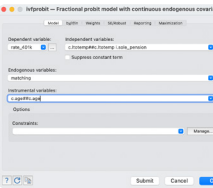
### Flexible demand systems

Estimate demand for a basket of goods. Evaluate sensitivity to price and expenditure changes. Choose from eight demand systems, including Cobb-Douglas, translog, AIDS, and QUAIDS.



### IV quantile regression

Estimate effects of covariates on quantiles of the outcome's conditional distribution. Account for endogeneity. Plot coefficients across quantiles.

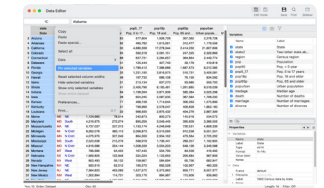


### IV fractional probit model

Modeling a proportion or rate?

Have endogeneous covariates?

Fit your model with **ivfprobit**.



### Interface enhancements

**Data Editor**—Pinnable rows and columns, tooltips for truncated text, variable labels in headers, and much more.

**Do-file Editor**—Automatic backups and syntax highlighting for user-defined keywords.

## And even more ...

### Corrected and consistent AICs

Compare models using consistent AIC (CAIC). Or, if you have a small sample size, use corrected AIC (AICc).

### New spline functions

Revamped spline generation tool—new **makespline**—supports B-splines and generates splines for multiple variables at once.

### Vectorized numerical integration

Approximate multiple numerical integrals simultaneously. Adaptive Gauss-Kronrod and Simpson methods. Robustness to singular points.

### Boost-based regular expressions

Regular expression functions now use Boost.

More features.

More functions.

### New reporting features

**putdocx**: Bookmarks in paragraphs and tables, image text for voice software, and SVG images in Word.

**putexcel**: Freeze worksheets, add page breaks, include hyperlinks, and insert headers/footers in Excel.

### More

- Week-related datetime functions
- Export to SPSS
- Bacon treatment-effects decomposition
- And even more