# New in Stata<sup>®</sup> 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.

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### Heterogeneous DID

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in one.

And

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.

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Alias variables across frames Use variables from multiple datasets as if they exist



### All-new graph style

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

You can also graph colors by variable.



### 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.



# Robust inference for linear models

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



#### Table 1

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

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



### 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.



### Wild cluster bootstrap

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

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### 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.

RERI = ERR <sub>++</sub> - ERR <sub>-+</sub> - ERR <sub>+-</sub> ERR = 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.



### 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.

Coefficients for 401k across quantiles

2000

1500



### Lasso for Cox model

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

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

<ul> <li>arimasoc oga</li> <li>Fitting models</li> </ul>	p (9):	done			
Lag-order sele	ction criteria				
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ARMA(0,1)	-435.0753	3	876.1597	886.4123	880.291
ARMA(0,2)	-361.249	4	738.4981	744.1802	736.019
ARMA(1,0)	-292.3313	3	598.6625	600.9241	594.083
ARMA(1,1)	-281.5762	4	571.1524	584.8345	576.673
ARMA(1,2)	-275.3697	5	568.7395	577.8422	567.641
ARMA(2,8)	-276.5956	4	561.1912	574.8733	566.712
ARMA(2,1)	-273.9052	5	557.8104	574.9131	564.712
ARMA(2,2)	-273.2799	6	558.5599	579.0831	566.842
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## 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.



### IV fractional probit model

Modeling a proportion or rate?

Have endogeneous covariates?

Fit your model with ivfprobit.



### 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.



### 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.

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#### 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 ...

IV quantile regression

Estimate effects of covariates on quantiles of the

outcome's conditional distribution. Account for

endogeneity. Plot coefficients across quantiles.

### Corrected and consistent AICs

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

### Boost-based regular expressions

Regular expression functions now use Boost.

More features.

More functions.

### New spline functions

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

### 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.

### Vectorized numerical integration

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

### More

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

### stata.com/new

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