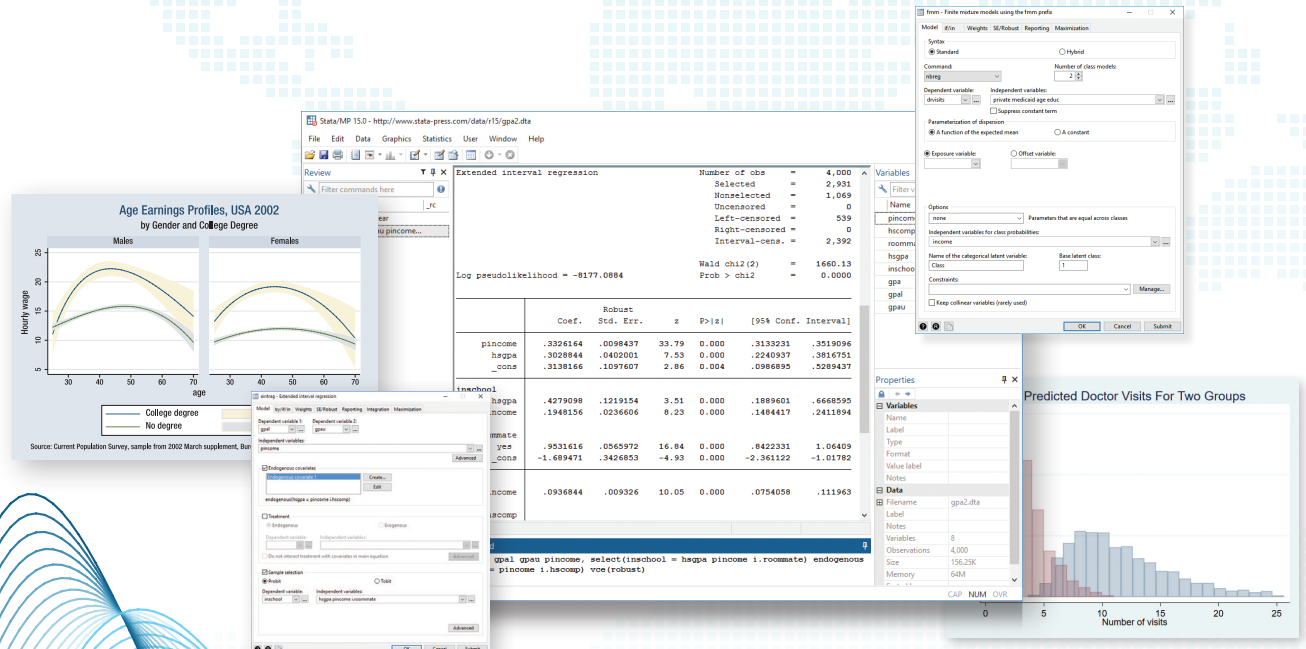
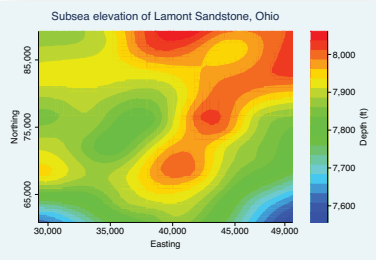
Stata® release 15

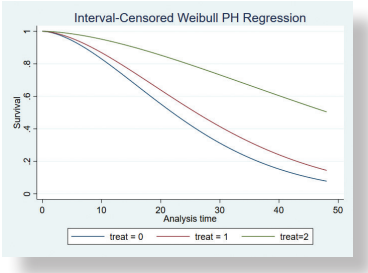


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With Stata's menus and dialogs, you get the best of both worlds. You can easily point and click or drag and drop your way to all of Stata's statistical, graphical, and data management features. Use Stata's intuitive command syntax to quickly execute commands. You can even access the dialog boxes for each command directly from the online help system, which is a great way to explore all of Stata's capabilities.

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reference category, adjacent category, grand mean, etc. • orthogonal polynomials • multiple comparison • graph estimated means and contrasts • interaction plots • more

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standardized rates • case–control • cohort • matched case–control • Mantel–Haenszel • pharmacokinetics • ROC analysis • ICD-10 • more

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Extended regression models (ERMs)
combine endogenous covariates, sample selection, and non-random treatment assignment in models for continuous, interval-censored, binary, and ordinal outcomes • more

Finite mixture models (FMMs)
17 estimators and distributions • mixtures of a single estimator • mixtures combining multiple estimators or distributions • continuous, binary, count, ordered, categorical, censored, truncated, and survival outcomes • more

Functions
statistical • random-number • mathematical • string • date and time • more

Generalized linear models (GLMs)
10 link functions • user-defined links • 7 distributions • ML and IRLS estimation • 9 variance estimators • 7 residuals • more

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IQ report for regulatory agencies such as the FDA • more

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Latent class analysis (LCA)
binary, ordinal, continuous, count, categorical, fractional, and survival items • model class membership using covariates • combine with SEM path models • expected class proportions • goodness of fit • predict class membership • more

Linear models
regression • censored outcomes • endogenous regressors • bootstrap, jackknife, robust, and cluster–robust SEs • constraints • quantile regression • GLS • more

Linearized DSGE models
specify models algebraically • solve models • estimate parameters • identification diagnostics • policy and transition matrices • IRFs • dynamic forecasts • more

Matrix programming—Mata
interactive sessions • large-scale development projects • optimization • matrix inversions • decompositions • eigenvalues and eigenvectors • LAPACK engine • real and complex numbers • string matrices • interface to Stata datasets and matrices • numerical derivatives • object-oriented programming • more

Multilevel mixed-effects models
continuous, binary, count, ordered, and survival outcomes • two-, three-, and higher-level models • generalized linear models • nonlinear models • random intercepts • random slopes • crossed random effects • BLUPs of effects and fitted values • residual error structures • support for survey data • more

Multiple imputation
nine univariate imputation methods • multivariate normal imputation • chained equations • transform parameters • joint tests of parameter estimates • predictions • more

Multivariate methods
factor analysis • principal components • discriminant analysis • rotation • multidimensional scaling • correspondence analysis • dendrograms • more

Nonparametric methods
Wilcoxon–Mann–Whitney, Wilcoxon signed ranks, and Kruskal–Wallis tests • Spearman and Kendall correlations • Kolmogorov–Smirnov tests • exact binomial CIs • survival data • ROC analysis • smoothing • bootstrapping • more

Nonparametric regression
multiple covariates • discrete and continuous covariates • 10 kernels, including Li–Racine • point estimates and CIs • automatic optimal bandwidth selection • slices of response surface with CIs and associated plots • more

Panel/longitudinal data
random and fixed effects • robust standard errors • continuous, binary, count, ordered, censored, and survival outcomes • GEE • dynamic panel-data models • instrumental variables • panel unit-root and panel cointegration tests • more

Power and sample size
power • sample size • effect size • minimum detectable effect • means • proportions • variances • correlations • ANOVA • regression • cluster randomized designs • case–control studies • cohort studies • contingency tables • survival analysis • balanced or unbalanced designs • results in tables or graphs • more

Reproducible documents
Markdown • webpages • Excel • Word • PDF • more

Resampling and simulation methods
bootstrap • jackknife • Monte Carlo simulation • permutation tests • more

SEM (Structural equation modeling)
graphical path-diagram builder • standardized and unstandardized estimates • modification indices • direct and indirect effects • continuous, binary, count, ordinal, and survival outcomes • multilevel models • random slopes and intercepts • factor scores • groups and tests of invariance • goodness of fit • handles MAR data by FIML • survey data • more

Spatial autoregressive models
spatial lags of dependent variable, independent variables, and autoregressive errors • fixed and random effects in panel data • endogenous covariates • analyze spillover effects • more

Survey methods
multistage designs • bootstrap, BRR, jackknife, linearized, and SDR SEs • poststratification • DEFF • predictive margins • means, proportions, ratios, and totals • virtually all estimators supported • more

Survival analysis
Kaplan–Meier and Nelson–Aalen graphs • Cox regression (frailty) • parametric models (frailty, random effects) • competing risks • hazards • time-varying covariates • left-, right-, and interval-censoring • multilevel models • more

Tests, predictions, and effects
Wald tests • LR tests • linear and nonlinear combinations • predictions and generalized predictions • marginal means • least-squares means • adjusted means • marginal and partial effects • forecast models • Hausman tests • more

Time series
ARIMA • ARFIMA • ARCH/GARCH • VAR • VECM • multivariate GARCH • unobserved components model • dynamic factors • state-space models • Markov-switching model • tests for structural breaks • threshold regression • forecasts • impulse–response functions • unit-root tests • filters and smoothers • more

Treatment effects/Causal Inference
inverse-probability weight (IPW) • doubly robust methods • propensity-score matching • regression adjustment • covariate matching • multilevel treatments • endogenous treatments • average treatment effects (ATEs) • ATEs on the treated • potential-outcome means (POMs) • continuous, binary, count, fractional, and survival outcomes • more

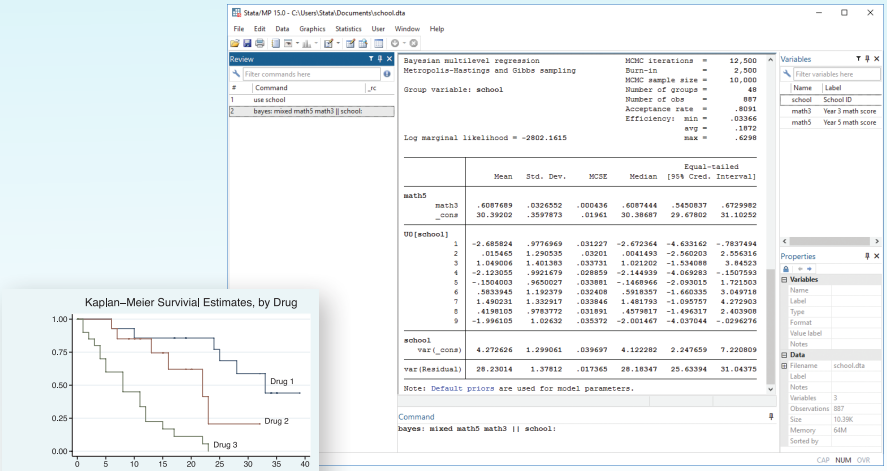
User-written maximum likelihood
write likelihood using simple expressions, script programs, or Mata matrix programs • numeric or analytic derivatives • automatic support for survey data • perform linear and nonlinear tests, or even marginal analyses • automatic MLE, robust, bootstrap, and jackknife SEs • more

Other statistical methods
kappa measure of interrater agreement • Cronbach's alpha • stepwise regression • tests of normality • more

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