Title

etpoisson postestimation — Postestimation tools for etpoisson

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Postestimation commands

The following standard postestimation commands are available after `etpoisson`:

Command	Description
`contrast`	contrasts and ANOVA-style joint tests of estimates
`estat ic`	Akaike's and Schwarz's Bayesian information criteria (AIC and BIC)
`estat summarize`	summary statistics for the estimation sample
`estat vce`	variance–covariance matrix of the estimators (VCE)
`estat (svy)`	postestimation statistics for survey data
`estimates`	cataloging estimation results
* `hausman`	Hausman's specification test
`lincom`	point estimates, standard errors, testing, and inference for linear combinations of coefficients
* `lrtest`	likelihood-ratio test
`margins`	marginal means, predictive margins, marginal effects, and average marginal effects
`marginsplot`	graph the results from margins (profile plots, interaction plots, etc.)
`nlcom`	point estimates, standard errors, testing, and inference for nonlinear combinations of coefficients
`predict`	predictions, probabilities, and treatment effects
`predictnl`	point estimates, standard errors, testing, and inference for generalized predictions
`pwcompare`	pairwise comparisons of estimates
`suest`	seemingly unrelated estimation
`test`	Wald tests of simple and composite linear hypotheses
`testnl`	Wald tests of nonlinear hypotheses

* `hausman` and `lrtest` are not appropriate with `svy` estimation results.

predict

Description for predict

`predict` creates a new variable containing predictions such as counts, conditional treatment effects, probabilities, and linear predictions.

Menu for predict

Statistics > Postestimation

Syntax for predict

`predict` [*type*] *newvar* [*if*] [*in*] [, *statistic* `nooffset`]

`predict` [*type*] { *stub*`*` | $newvar_{\text{reg}}$ $newvar_{\text{treat}}$ $newvar_{\text{athrho}}$ $newvar_{\text{lnsigma}}$ }
[*if*] [*in*] , `scores`

statistic	Description
Main	
`pomean`	potential-outcome mean (the predicted count); the default
`omean`	observed-outcome mean (the predicted count)
`cte`	conditional treatment effect at treatment level
`pr(`*n*`)`	probability $\Pr(y_j = n)$
`pr(`*a*`,`*b*`)`	probability $\Pr(a \leq y_j \leq b)$
`xb`	linear prediction
`xbtreat`	linear prediction for treatment equation

These statistics are available both in and out of sample; type `predict ... if e(sample) ...` if wanted only for the estimation sample.

Options for predict

Main

`pomean`, the default, calculates the potential-outcome mean.

`omean` calculates the observed-outcome mean.

`cte` calculates the treatment effect, the difference of potential-outcome means, conditioned on treatment level.

`pr(`n`)` calculates the probability $\Pr(y_j = n)$, where n is a nonnegative integer that may be specified as a number or a variable.

`pr(`a`,`b`)` calculates the probability $\Pr(a \leq y_j \leq b)$, where a and b are nonnegative integers that may be specified as numbers or variables;

b missing ($b \geq .$) means $+\infty$;
`pr(20,.)` calculates $\Pr(y_j \geq 20)$;
`pr(20,`b`)` calculates $\Pr(y_j \geq 20)$ in observations for which $b \geq .$ and calculates $\Pr(20 \leq y_j \leq b)$ elsewhere.

`pr(.,`b`)` produces a syntax error. A missing value in an observation of the variable a causes a missing value in that observation for `pr(`a`,`b`)`.

`xb` calculates the linear prediction for the dependent count variable, which is $\mathbf{x}_j\boldsymbol{\beta}$ if neither `offset()` nor `exposure()` was specified; $\mathbf{x}_j\boldsymbol{\beta}+\text{offset}_j^{\beta}$ if `offset()` was specified; or $\mathbf{x}_j\boldsymbol{\beta}+\ln(\text{exposure}_j)$ if `exposure()` was specified.

`xbtreat` calculates the linear prediction for the endogenous treatment equation, which is $\mathbf{w}_j\boldsymbol{\gamma}$ if `offset()` was not specified in `treat()` and $\mathbf{w}_j\boldsymbol{\gamma}+\text{offset}_j^{\alpha}$ if `offset()` was specified in `treat()`.

`nooffset` is relevant only if you specified `offset()` or `exposure()` when you fit the model. It modifies the calculations made by `predict` so that they ignore the offset or exposure variable. `nooffset` removes the offset from calculations involving both the `treat()` equation and the dependent count variable.

`scores` calculates equation-level score variables.

The first new variable will contain $\partial \ln L/\partial(\mathbf{x}_j\boldsymbol{\beta})$.

The second new variable will contain $\partial \ln L/\partial(\mathbf{w}_j\boldsymbol{\gamma})$.

The third new variable will contain $\partial \ln L/\partial \operatorname{atanh} \rho$.

The fourth new variable will contain $\partial \ln L/\partial \ln\sigma$.

margins

Description for margins

`margins` estimates margins of response for counts, conditional treatment effects, probabilites, and linear predictions.

Menu for margins

Statistics > Postestimation

Syntax for margins

`margins` [*marginlist*] [, *options*]

`margins` [*marginlist*] , `predict(`*statistic* ...`)` [`predict(`*statistic* ...`)` ...] [*options*]

statistic	Description
`pomean`	potential-outcome mean (the predicted count); the default
`omean`	observed-outcome mean (the predicted count)
`cte`	conditional treatment effect at treatment level
`pr(`n`)`	probability $\Pr(y_j = n)$
`pr(`a`,`b`)`	probability $\Pr(a \leq y_j \leq b)$
`xb`	linear prediction
`xbtreat`	linear prediction for treatment equation

Statistics not allowed with `margins` are functions of stochastic quantities other than `e(b)`.

For the full syntax, see [R] **margins**.

Remarks and examples

stata.com

The average treatment effect (ATE) and the average treatment effect on the treated (ATET) are the parameters most frequently estimated by postestimation techniques after `etpoisson`.

You can use the `margins` command (see [R] **margins**) after `etpoisson` to estimate the ATE or ATET. See example 2 of [TE] **etpoisson** for an example of ATE estimation. See example 3 of [TE] **etpoisson** for an example of ATET estimation.

See example 1 of [TE] **etpoisson** for an example using `lincom` after `etpoisson`.

Methods and formulas

See *Methods and formulas* of [TE] **etpoisson** for details.

Also see

[TE] **etpoisson** — Poisson regression with endogenous treatment effects

[U] **20 Estimation and postestimation commands**