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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 parameters
estat ic	Akaike's, consistent Akaike's, corrected Akaike's, and Schwarz's Bayesian information criteria (AIC, CAIC, AICc, and BIC, respectively)
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
etable	table of estimation results
* hausman	Hausman's specification test
lincom	point estimates, standard errors, testing, and inference for linear combinations of parameters
* 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 parameters
predict	potential-outcome means, observed-outcome means, conditional treatment effects, etc.
predictnl	point estimates, standard errors, testing, and inference for generalized predictions
pwcompare	pairwise comparisons of parameters
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* <u>nooff</u>set]

predict [*type*] *stub*∗ [*if*] [*in*] , <u>sc</u>ores

statistic	Description
Main	
<u>pom</u>ean	potential-outcome mean (the predicted count); the default
<u>om</u>ean	observed-outcome mean (the predicted count)
cte	conditional treatment effect at treatment level
pr(*n*)	probability $\Pr(y_j = n)$
pr(*a*,*b*)	probability $\Pr(a \le y_j \le b)$
xb	linear prediction
<u>xbt</u>reat	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 $\Pr(a \le y_j \le b)$, where a and b are nonnegative integers that may be specified as numbers or variables;

> b missing ($b \ge .$) means $+\infty$;
> pr(20,.) calculates $\Pr(y_j \ge 20)$;
> pr(20,b) calculates $\Pr(y_j \ge 20)$ in observations for which $b \ge .$ and calculates
> $\Pr(20 \le y_j \le b)$ 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, probabilities, and linear predictions.

Menu for margins

Statistics > Postestimation

Syntax for margins

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

margins [*marginlist*] , <u>pre</u>dict(*statistic* ...) [<u>pre</u>dict(*statistic* ...) ...] [*options*]

statistic	Description
<u>po</u>mean	potential-outcome mean (the predicted count); the default
<u>om</u>ean	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
<u>xbt</u>reat	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

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 [CAUSAL] **etpoisson** for an example of ATE estimation. See example 3 of [CAUSAL] **etpoisson** for an example of ATET estimation.

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

Methods and formulas

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

Also see

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

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