Title

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etregress postestimation — Postestimation tools for etregress

Postestimation commands

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

Command	Description
`contrast`	contrasts and ANOVA-style joint tests of estimates
* `estat ic`	Akaike's, consistent Akaike's, corrected Akaike's, and Schwarz's Bayesian information criteria (AIC, CAIC, AICc, 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
`etable`	table of 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`	conditional treatment effects, linear predictions and their SEs, etc.
`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

* `estat ic`, `lrtest`, and `suest` are not appropriate after `etregress, twostep` or `etregress, cfunction`. `hausman` and `lrtest` are not appropriate with `svy` estimation results.

predict

Description for predict

`predict` creates a new variable containing predictions such as linear predictions, conditional treatment effects, standard errors, expected values, and probabilities.

Menu for predict

Statistics > Postestimation

Syntax for predict

After ML, twostep, or cfunction

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

After ML or cfunction

`predict` [*type*] *stub*`*` [*if*] [*in*], `scores`

statistic	Description
Main	
`xb`	linear prediction; the default
`cte`	conditional treatment effect at treatment level
`stdp`	standard error of the prediction
`stdf`	standard error of the forecast
`yctrt`	$E(y_j \mid \text{treatment} = 1)$
`ycntrt`	$E(y_j \mid \text{treatment} = 0)$
`ptrt`	$\Pr(\text{treatment} = 1)$
`xbtrt`	linear prediction for treatment equation
`stdptrt`	standard error of the 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.

`stdf` is not allowed with `svy` estimation results.

Options for predict

Main

`xb`, the default, calculates the linear prediction, $\mathbf{x}_j\mathbf{b}$.

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

`stdp` calculates the standard error of the prediction, which can be thought of as the standard error of the predicted expected value or mean for the observation's covariate pattern. The standard error of the prediction is also referred to as the standard error of the fitted value.

`stdf` calculates the standard error of the forecast, which is the standard error of the point prediction for one observation. It is commonly referred to as the standard error of the future or forecast value. By construction, the standard errors produced by `stdf` are always larger than those produced by `stdp`; see *Methods and formulas* in [R] **regress postestimation**.

`yctrt` calculates the expected value of the dependent variable conditional on the presence of the treatment: $E(y_j \mid \text{treatment} = 1)$.

`ycntrt` calculates the expected value of the dependent variable conditional on the absence of the treatment: $E(y_j \mid \text{treatment} = 0)$.

`ptrt` calculates the probability of the presence of the treatment: $\Pr(\text{treatment} = 1) = \Pr(\mathbf{w}_j\boldsymbol{\gamma} + u_j > 0)$.

`xbtrt` calculates the linear prediction for the treatment equation.

`stdptrt` calculates the standard error of the linear prediction for the treatment equation.

`scores`, not available with `twostep`, calculates equation-level score variables.

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

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

Under the constrained model, the third new variable will contain $\partial \ln L/\partial \operatorname{atanh} \rho$.

Under the constrained model, the fourth new variable will contain $\partial \ln L/\partial \ln\sigma$.

Under the general potential-outcome model, the third new variable will contain $\partial \ln L/\partial \operatorname{atanh} \rho_0$.

Under the general potential-outcome model, the fourth new variable will contain $\partial \ln L/\partial \ln\sigma_0$.

Under the general potential-outcome model, the fifth new variable will contain $\partial \ln L/\partial \operatorname{atanh} \rho_1$.

Under the general potential-outcome model, the sixth new variable will contain $\partial \ln L/\partial \ln\sigma_1$.

margins

Description for margins

`margins` estimates margins of response for linear predictions, conditional treatment effects, expected values, and probabilities.

Menu for margins

Statistics > Postestimation

Syntax for margins

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

Maximum likelihood and control-function estimation results

statistic	Description
`xb`	linear prediction; the default
`cte`	conditional treatment effect at treatment level
`yctrt`	$E(y_j \mid \text{treatment} = 1)$
`ycntrt`	$E(y_j \mid \text{treatment} = 0)$
`ptrt`	$\Pr(\text{treatment} = 1)$
`xbtrt`	linear prediction for treatment equation
`stdp`	not allowed with `margins`
`stdf`	not allowed with `margins`
`stdptrt`	not allowed with `margins`

Two-step estimation results

statistic	Description
`xb`	linear prediction; the default
`ptrt`	$\Pr(\text{treatment} = 1)$
`xbtrt`	linear prediction for treatment equation
`cte`	not allowed with `margins`
`yctrt`	not allowed with `margins`
`ycntrt`	not allowed with `margins`
`stdp`	not allowed with `margins`
`stdf`	not allowed with `margins`
`stdptrt`	not allowed with `margins`

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

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

Remarks and examples

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

When there are no interactions between the treatment variable and the outcome covariates in the constrained model, `etregress` directly estimates the ATE and the ATET; see example 1 of [CAUSAL] **etregress**.

When there are no interactions between the treatment variable and the outcome covariates in the general potential-outcome model, `etregress` directly estimates the ATE; see example 2 of [CAUSAL] **etregress**.

When there are interactions between the treatment variable and the outcome covariates, you can use `margins` after `etregress` to estimate the ATE. See example 3 and example 4 of [CAUSAL] **etregress** for examples of ATE estimation.

When there are interactions between the treatment variable and the outcome covariates in the constrained model, you can use `margins` after `etregress` to estimate the ATET. See example 5 of [CAUSAL] **etregress** for an example of ATET estimation in the constrained model.

In the general potential-outcome model, you can use `margins` after `etregress` to estimate the ATET. See example 6 of [CAUSAL] **etregress** for an example of ATET estimation in the general potential-outcome model.

Also see

[CAUSAL] **etregress** — Linear regression with endogenous treatment effects

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