

## eivreg postestimation — Postestimation tools for eivreg

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## Postestimation commands

The following postestimation commands are available after `eivreg`:

Command	Description
<code>contrast</code>	contrasts and ANOVA-style joint tests of estimates
<code>estat summarize</code>	summary statistics for the estimation sample
<code>estat vce</code>	variance–covariance matrix of the estimators (VCE)
<code>estimates</code>	cataloging estimation results
<code>forecast</code>	dynamic forecasts and simulations
<code>lincom</code>	point estimates, standard errors, testing, and inference for linear combinations of coefficients
<code>linktest</code>	link test for model specification
<code>margins</code>	marginal means, predictive margins, marginal effects, and average marginal effects
<code>marginsplot</code>	graph the results from margins (profile plots, interaction plots, etc.)
<code>nlcom</code>	point estimates, standard errors, testing, and inference for nonlinear combinations of coefficients
<code>predict</code>	predictions, residuals, influence statistics, and other diagnostic measures
<code>predictnl</code>	point estimates, standard errors, testing, and inference for generalized predictions
<code>pwcompare</code>	pairwise comparisons of estimates
<code>test</code>	Wald tests of simple and composite linear hypotheses
<code>testnl</code>	Wald tests of nonlinear hypotheses

# predict

## Description for predict

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

## Menu for predict

Statistics > Postestimation

## Syntax for predict

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

<i>statistic</i>	Description
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Main

<code>xb</code>	linear prediction; the default
<code>residuals</code>	residuals
<code>stdp</code>	standard error of the prediction
<code>stdf</code>	standard error of the forecast
<code>pr(<i>a,b</i>)</code>	$\Pr(a < y_j < b)$
<code>e(<i>a,b</i>)</code>	$E(y_j   a < y_j < b)$
<code>ystar(<i>a,b</i>)</code>	$E(y_j^*), y_j^* = \max\{a, \min(y_j, b)\}$

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

where  $a$  and  $b$  may be numbers or variables;  $a$  missing ( $a \geq .$ ) means  $-\infty$ , and  $b$  missing ( $b \geq .$ ) means  $+\infty$ ; see [U] 12.2.1 **Missing values**.

## Options for predict

Main

`xb`, the default, calculates the linear prediction.

`residuals` calculates the residuals, that is,  $y_j - \mathbf{x}_j\mathbf{b}$ .

`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 1 observation and 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**.

`pr(a,b)` calculates  $\Pr(a < \mathbf{x}_j\mathbf{b} + u_j < b)$ , the probability that  $y_j|\mathbf{x}_j$  would be observed in the interval  $(a, b)$ .

$a$  and  $b$  may be specified as numbers or variable names;  $lb$  and  $ub$  are variable names;

`pr(20,30)` calculates  $\Pr(20 < \mathbf{x}_j \mathbf{b} + u_j < 30)$ ;

`pr(lb,ub)` calculates  $\Pr(lb < \mathbf{x}_j \mathbf{b} + u_j < ub)$ ; and

`pr(20,ub)` calculates  $\Pr(20 < \mathbf{x}_j \mathbf{b} + u_j < ub)$ .

$a$  missing ( $a \geq .$ ) means  $-\infty$ ; `pr(.,30)` calculates  $\Pr(-\infty < \mathbf{x}_j \mathbf{b} + u_j < 30)$ ;

`pr(lb,30)` calculates  $\Pr(-\infty < \mathbf{x}_j \mathbf{b} + u_j < 30)$  in observations for which  $lb \geq .$

and calculates  $\Pr(lb < \mathbf{x}_j \mathbf{b} + u_j < 30)$  elsewhere.

$b$  missing ( $b \geq .$ ) means  $+\infty$ ; `pr(20,.)` calculates  $\Pr(+\infty > \mathbf{x}_j \mathbf{b} + u_j > 20)$ ;

`pr(20,ub)` calculates  $\Pr(+\infty > \mathbf{x}_j \mathbf{b} + u_j > 20)$  in observations for which  $ub \geq .$

and calculates  $\Pr(20 < \mathbf{x}_j \mathbf{b} + u_j < ub)$  elsewhere.

`e(a,b)` calculates  $E(\mathbf{x}_j \mathbf{b} + u_j | a < \mathbf{x}_j \mathbf{b} + u_j < b)$ , the expected value of  $y_j | \mathbf{x}_j$  conditional on  $y_j | \mathbf{x}_j$  being in the interval  $(a, b)$ , meaning that  $y_j | \mathbf{x}_j$  is truncated.  $a$  and  $b$  are specified as they are for `pr()`.

`ystar(a,b)` calculates  $E(y_j^*)$ , where  $y_j^* = a$  if  $\mathbf{x}_j \mathbf{b} + u_j \leq a$ ,  $y_j^* = b$  if  $\mathbf{x}_j \mathbf{b} + u_j \geq b$ , and  $y_j^* = \mathbf{x}_j \mathbf{b} + u_j$  otherwise, meaning that  $y_j^*$  is censored.  $a$  and  $b$  are specified as they are for `pr()`.

## margins

### Description for margins

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

### Menu for margins

Statistics > Postestimation

### Syntax for margins

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

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

<i>statistic</i>	Description
<code>xb</code>	linear prediction; the default
<code>pr(<i>a,b</i>)</code>	$\Pr(a < y_j < b)$
<code>e(<i>a,b</i>)</code>	$E(y_j   a < y_j < b)$
<code>ystar(<i>a,b</i>)</code>	$E(y_j^*), y_j^* = \max\{a, \min(y_j, b)\}$
<code>stdp</code>	not allowed with <code>margins</code>
<code>stdf</code>	not allowed with <code>margins</code>
<code>residuals</code>	not allowed with <code>margins</code>

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

For the full syntax, see [\[R\] margins](#).

### Also see

[\[R\] eivreg](#) — Errors-in-variables regression

[\[U\] 20 Estimation and postestimation commands](#)