

nprogr postestimation — Postestimation tools for nprogr

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Postestimation commands

The following postestimation command is of special interest after `nprogr`:

Command	Description
<code>nprogr</code>	plot of conditional means

The following standard postestimation commands are also available:

Command	Description
<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>lincom</code>	point estimates, standard errors, testing, and inference for linear combinations of coefficients
<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>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 conditional mean of the outcome, residuals, or derivatives of the mean function.

Menu for predict

Statistics > Postestimation

Syntax for predict

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

```
predict [type] { stub* | newvarlist } [if] [in], derivatives
```

<i>statistic</i>	Description
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Main

<code>mean</code>	conditional mean of the outcome; the default
<code>residuals</code>	residuals

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

`mean`, the default, calculates the conditional mean of the outcome variable.

`residuals` calculates the residuals.

`derivatives` calculates the derivatives of the conditional mean.

margins

Description for margins

`margins` estimates margins of the conditional mean.

Menu for margins

Statistics > Postestimation

Syntax for margins

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

<i>statistic</i>	Description
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Main

<code>mean</code>	conditional mean of the outcome; the default
<code><u>r</u>esiduals</code>	not allowed with <code>margins</code>
<code><u>d</u>erivatives</code>	not allowed with <code>margins</code>

<i>options</i>	Description
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SE

<code>nose</code>	do not estimate standard errors; the default
<code>vce(<i>vcetype</i>)</code>	<i>vcetype</i> may be <code>nose</code> or <code>bootstrap</code>
<code><u>r</u>eps(#)</code>	equivalent to <code>vce(bootstrap, reps(#))</code>
<code>seed(#)</code>	set random-number seed to #; must also specify <code>reps(#)</code>

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

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

Options for margins

SE

`nose` suppresses calculation of the VCE and standard errors. This is the default.

`vce(vcetype)` specifies the type of standard error reported, which may be either that no standard errors are reported (`nose`; the default) or that bootstrap standard errors are reported (`bootstrap`); see [R] [vce_option](#).

We recommend that you select the number of replications using `reps(#)` instead of specifying `vce(bootstrap)`, which defaults to 50 replications. Be aware that the number of replications needed to produce good estimates of the standard errors varies depending on the problem.

`reps(#)` specifies the number of bootstrap replications to be performed. Specifying this option is equivalent to specifying `vce(bootstrap, reps(#))`.

`seed(#)` sets the random-number seed. You must specify `reps(#)` with `seed(#)`.

npgraph

Description for npgraph

npgraph plots the conditional mean estimated by npregress overlaid on a scatterplot of the data. npgraph is available only after fitting models with one covariate.

Syntax for npgraph

```
npgraph [if] [in] [, options]
```

<i>options</i>	Description
Plot	
<i>marker_options</i>	change look of markers (color, size, etc.)
<i>marker_label_options</i>	add marker labels; change look or position
<i>noscatter</i>	suppress scatterplot
Smoothed line	
<i>lineopts</i> (<i>cline_options</i>)	affect rendition of the smoothed line
Add plots	
<i>addplot</i> (<i>plot</i>)	add other plots to the generated graph
Y axis, X axis, Titles, Legend, Overall	
<i>twoway_options</i>	any options other than by() documented in [G-3] <i>twoway_options</i>

Options for npgraph

Plot

marker_options affect the rendition of markers drawn at the plotted points, including their shape, size, color, and outline; see [G-3] *marker_options*.

marker_label_options specify if and how the markers are to be labeled; see [G-3] *marker_label_options*.

noscatter suppresses superimposing a scatterplot of the observed data over the smooth. This option is useful when the number of resulting points would be so large as to clutter the graph.

Smoothed line

lineopts(*cline_options*) affects the rendition of the smoothed line; see [G-3] *cline_options*.

Add plots

addplot(*plot*) provides a way to add other plots to the generated graph; see [G-3] *addplot_option*.

Y axis, X axis, Titles, Legend, Overall

twoway_options are any of the options documented in [G-3] *twoway_options*, excluding by(). These include options for titling the graph (see [G-3] *title_options*) and for saving the graph to disk (see [G-3] *saving_option*).

Remarks and examples

[stata.com](http://www.stata.com)

For examples of margins after `npregress`, see [example 4](#), [example 5](#), and [example 6](#) in [\[R\] npregress](#).

For examples of `marginsplot`, see [example 7](#) in [\[R\] npregress](#).

For an example of `npgraph`, see [example 2](#) in [\[R\] npregress](#).

Methods and formulas

The formulas used by `predict` and `margins` for the conditional mean function and the mean marginal effect of a covariate are given in *Methods and formulas* of [\[R\] npregress](#).

Also see

[\[R\] npregress](#) — Nonparametric regression

[\[R\] bootstrap postestimation](#) — Postestimation tools for bootstrap

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