

Postestimation commands
[npgraph](#)
[References](#)

[predict](#)
[Remarks and examples](#)
[Also see](#)

[margins](#)
[Methods and formulas](#)

Postestimation commands

The following postestimation command is of special interest after `npregress kernel`:

Command	Description
npgraph	plot of conditional means

The following standard postestimation commands are also available:

Command	Description
estat summarize	summary statistics for the estimation sample
estat vce	variance–covariance matrix of the estimators (VCE)
estimates	cataloging estimation results
etable	table of estimation results
lincom	point estimates, standard errors, testing, and inference for linear combinations of parameters
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	conditional means and residuals
predictnl	point estimates, standard errors, testing, and inference for generalized predictions
test	Wald tests of simple and composite linear hypotheses
testnl	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
```

statistic	Description
Main	
mean	conditional mean of the outcome; the default
residuals	residuals

These statistics are calculated 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
Main	
mean	conditional mean of the outcome; the default
<u>r</u> esiduals	not allowed with margins
<u>d</u> erivatives	not allowed with margins
<i>options</i>	Description
SE	
nose	do not estimate standard errors; the default
vce(bootstrap)	estimate bootstrap standard errors
<u>r</u> eps(#)	equivalent to vce(bootstrap, reps(#))
seed(#)	set random-number seed to #; must also specify reps(#)
Reporting	
citype(<i>citype</i>)	method to compute bootstrap confidence intervals; default is citype(<u>p</u> ercentile)
<i>citype</i>	Description
percentile	percentile confidence intervals; the default
bc	bias-corrected confidence intervals
<u>n</u> ormal	normal-based confidence intervals

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(bootstrap)` specifies that bootstrap standard errors are reported; 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(#)`.

Reporting

`citype(citytype)` specifies the type of confidence interval to be computed. By default, bootstrap percentile confidence intervals are reported as recommended by [Cattaneo and Jansson \(2018\)](#). `citype` may be one of `percentile`, `bc`, or `normal`.

npgraph

Description for npgraph

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

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

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

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

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

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 kernel](#).

References

- Cattaneo, M. D., and M. Jansson. 2018. Kernel-based semiparametric estimators: Small bandwidth asymptotics and bootstrap consistency. *Econometrica* 86: 955–995. <https://doi.org/10.3982/ECTA12701>.
- MacDonald, K. 2018. Exploring results of nonparametric regression models. *The Stata Blog: Not Elsewhere Classified*. <https://blog.stata.com/2018/06/18/exploring-results-of-nonparametric-regression-models/>.

Also see

- [R] [npregress kernel](#) — Nonparametric kernel regression
- [R] [bootstrap postestimation](#) — Postestimation tools for bootstrap
- [U] [20 Estimation and postestimation commands](#)

Stata, Stata Press, and Mata are registered trademarks of StataCorp LLC. Stata and Stata Press are registered trademarks with the World Intellectual Property Organization of the United Nations. StataNow and NetCourseNow are trademarks of StataCorp LLC. Other brand and product names are registered trademarks or trademarks of their respective companies. Copyright © 1985–2025 StataCorp LLC, College Station, TX, USA. All rights reserved.



For suggested citations, see the FAQ on [citing Stata documentation](#).