

hetprobit postestimation — Postestimation tools for hetprobit

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Postestimation commands

The following postestimation commands are available after `hetprobit`:

Command	Description
<code>contrast</code>	contrasts and ANOVA-style joint tests of estimates
<code>estat ic</code>	Akaike's and Schwarz's Bayesian information criteria (AIC and BIC)
<code>estat summarize</code>	summary statistics for the estimation sample
<code>estat vce</code>	variance–covariance matrix of the estimators (VCE)
<code>estat (svy)</code>	postestimation statistics for survey data
<code>estimates</code>	cataloging estimation results
* <code>forecast</code>	dynamic forecasts and simulations
* <code>hausman</code>	Hausman's specification test
<code>lincom</code>	point estimates, standard errors, testing, and inference for linear combinations of coefficients
<code>linktest</code>	link test for model specification
* <code>lrtest</code>	likelihood-ratio test
<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>suest</code>	seemingly unrelated estimation
<code>test</code>	Wald tests of simple and composite linear hypotheses
<code>testnl</code>	Wald tests of nonlinear hypotheses

* `forecast`, `hausman`, and `lrtest` are not appropriate with `svy` estimation results.

predict

Description for predict

`predict` creates a new variable containing predictions such as probabilities, linear predictions, and standard deviations.

Menu for predict

Statistics > Postestimation

Syntax for predict

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

```
predict [type] { stub* | newvarreg newvarlnsigma2 } [if] [in] , scores
```

<i>statistic</i>	Description
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Main

`pr` probability of a positive outcome; the default

`xb` linear prediction

`sigma` standard deviation of the error term

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

`pr`, the default, calculates the probability of a positive outcome.

`xb` calculates the linear prediction.

`sigma` calculates the standard deviation of the error term.

`nooffset` is relevant only if you specified `offset(varname)` for `hetprobit`. It modifies the calculations made by `predict` so that they ignore the offset variable; the linear prediction is treated as $\mathbf{x}_j\mathbf{b}$ rather than as $\mathbf{x}_j\mathbf{b} + \text{offset}_j$.

`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 $\partial \ln L / \partial (\mathbf{z}_j\boldsymbol{\gamma})$.

margins

Description for margins

`margins` estimates margins of response for probabilities, linear predictions, and standard deviations.

Menu for margins

Statistics > Postestimation

Syntax for margins

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

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

<i>statistic</i>	Description
<code>pr</code>	probability of a positive outcome; the default
<code>xb</code>	linear prediction
<code>sigma</code>	standard deviation of the error term

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

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

Remarks and examples

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

Once you have fit a model, you can use the `predict` command to obtain the predicted probabilities for both the estimation sample and other samples; see [U] [20 Estimation and postestimation commands](#) and [R] [predict](#). `predict` without arguments calculates the predicted probability of a positive outcome. With the `xb` option, `predict` calculates the index function combination, $\mathbf{x}_j\mathbf{b}$, where \mathbf{x}_j are the independent variables in the j th observation and \mathbf{b} is the estimated parameter vector. With the `sigma` option, `predict` calculates the predicted standard deviation, $\sigma_j = \exp(\mathbf{z}_j\boldsymbol{\gamma})$.

▷ Example 1

We use `predict` to compute the predicted probabilities and standard deviations based on the model in [example 2](#) in [\[R\] hetprobit](#) to compare these with the actual values:

```
. predict phat
(option pr assumed; Pr(y))
. generate diff_p = phat - p
. summarize diff_p
```

Variable	Obs	Mean	Std. Dev.	Min	Max
diff_p	1,000	.0082805	.0103027	-.0169849	.0396469

```
. predict sigmahat, sigma
. generate diff_s = sigmahat - sigma
. summarize diff_s
```

Variable	Obs	Mean	Std. Dev.	Min	Max
diff_s	1,000	-.2579493	.2126614	-.7661171	-.000025

◀

Also see

[\[R\] hetprobit](#) — Heteroskedastic probit model

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