

cmmixlogit postestimation — Postestimation tools for cmmixlogit

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Postestimation commands

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

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>estimates</code>	cataloging estimation results
<code>etable</code>	table of estimation results
* <code>hausman</code>	Hausman's specification test
<code>lincom</code>	point estimates, standard errors, testing, and inference for linear combinations of coefficients
* <code>lrtest</code>	likelihood-ratio test
<code>margins</code>	adjusted predictions, predictive margins, and 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>	probabilities, etc.
<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

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

predict

Description for predict

`predict` creates a new variable containing predictions such as probabilities or linear predictions.

Menu for predict

Statistics > Postestimation

Syntax for predict

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

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

<i>statistic</i>	Description
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Main

<code>pr</code>	probability alternative is chosen; the default
<code>xb</code>	linear prediction

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

`predict` omits missing values casewise if `cmmlxlogit` used casewise deletion (the default); if `cmmlxlogit` used alternativewise deletion (option `altwise`), `predict` uses alternativewise deletion.

Options for predict

Main

`pr`, the default, calculates the probability of choosing each alternative.

`xb` calculates the linear prediction.

`scores` calculates the scores for each coefficient in $e(b)$. This option requires a new variable list of length equal to the number of columns in $e(b)$. Otherwise, use the `stub*` syntax to have `predict` generate enumerated variables with prefix `stub`.

margins

Description for margins

`margins` estimates margins of response for probabilities and linear predictions.

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 alternative is chosen; the default
<code>xb</code>	linear prediction
<code>scores</code>	not allowed with <code>margins</code>

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

For more details, see [CM] [margins](#).

Methods and formulas

The predicted probability of case i choosing alternative a is

$$\hat{P}_{ia} = \frac{1}{M} \sum_{m=1}^M P_{ia}(\beta^m)$$

where M is the number of random draws and $P_{ia}(\beta^m)$ are the logistic probabilities,

$$P_{ia}(\beta^m) = \frac{e^{\mathbf{x}_{ia}\beta_i^m + \mathbf{w}_{ia}\alpha + \mathbf{z}_i\delta_a}}{\sum_{a=1}^A e^{\mathbf{x}_{ia}\beta_i^m + \mathbf{w}_{ia}\alpha + \mathbf{z}_i\delta_a}}$$

evaluated at the simulated coefficients β^m . The linear predictions are

$$\frac{1}{M} \sum_{m=1}^M \mathbf{x}_{ia}\beta_i^m + \mathbf{w}_{ia}\alpha + \mathbf{z}_i\delta_a$$

See [Methods and formulas](#) in [CM] [cmmixlogit](#) for details.

Also see

[CM] [cmmixlogit](#) — Mixed logit choice model

[CM] [margins](#) — Adjusted predictions, predictive margins, and marginal effects

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