

**cmmixlogit postestimation** — Postestimation tools for cmmixlogit

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Also see

## 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, consistent Akaike's, corrected Akaike's, and Schwarz's Bayesian information criteria (AIC, CAIC, AICc, 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
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 `cmxmixlogit` used casewise deletion (the default); if `cmxmixlogit` 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
pr	probability alternative is chosen; the default
xb	linear prediction
<u>scores</u>	not allowed with margins

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  $\beta^m$ . 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] cmmlxlogit for details.

## Also see

[CM] **cmxlogit** — Mixed logit choice model

[CM] **margins** — Adjusted predictions, predictive margins, and marginal effects

[U] **20 Estimation and postestimation commands**

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