

xtprobit postestimation — Postestimation tools for xtprobit

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Description

The following postestimation commands are available after `xtprobit`:

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>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>	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>test</code>	Wald tests of simple and composite linear hypotheses
<code>testnl</code>	Wald tests of nonlinear hypotheses

Syntax for predict

```
predict [type] { stub* | newvar | newvarlist } [if] [in] [, statistic
    outcome(outcome) nooffset ]
```

<i>statistic</i>	Description
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Main

xb	linear prediction; the default
pu0	probability of the specified outcome (<code>outcome()</code>) assuming that the random effect is zero
stdp	standard error of the linear prediction

If you do not specify `outcome()`, `pu0` (with one new variable specified) assumes `outcome(#1)`.

You specify one or k new variables with `pu0`, where k is the number of outcomes.

You specify one new variable with `xb` and `stdp`.

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

Menu for predict

Statistics > Postestimation > Predictions, residuals, etc.

Options for predict

Main

`xb`, the default, calculates the linear prediction.

`pu0` calculates predicted probabilities, assuming that the random effect for that observation's panel is zero ($\nu = 0$).

You specify one or k new variables, where k is the number of categories of the dependent variable.

If you specify the `outcome()` option, the probabilities will be predicted for the requested outcome only, in which case, you specify only one new variable. If you specify only one new variable and do not specify `outcome()`, `outcome(1)` is assumed.

`stdp` calculates the standard error of the linear prediction.

`outcome(outcome)` specifies the outcome for which the predicted probabilities are to be calculated. `outcome()` should contain either one value of the dependent variable or one of `#1`, `#2`, ..., with `#1` meaning the first category of the dependent variable, `#2` meaning the second category, etc.

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

Remarks and examples

► Example 1

In [example 1](#) of [\[XT\] xtoprobit](#), we modeled the tobacco and health knowledge score (`thk`)—coded 1, 2, 3, 4—among students as a function of two treatments (`cc` and `tv`) using a random-effects ordered probit model. Here we refit the model, obtain the predicted probabilities for all 4 outcomes, and list the first 10 observations.

```
. use http://www.stata-press.com/data/r13/tvsfpor
. xtset school
      panel variable:  school (unbalanced)
. xtoprobit thk prethk cc##tv
      (output omitted)
. predict pr*, pu0
      (1 missing values generated)
. list thk pr1-pr4 in 1/10
```

	thk	pr1	pr2	pr3	pr4
1.	3	.1375798	.2269989	.2788329	.3565884
2.	4	.0587658	.1472831	.2515963	.5423548
3.	3	.0587658	.1472831	.2515963	.5423548
4.	4	.0920497	.1878205	.2720888	.4480409
5.	4	.0920497	.1878205	.2720888	.4480409
6.	3	.0587658	.1472831	.2515963	.5423548
7.	2	.1375798	.2269989	.2788329	.3565884
8.	4	.0587658	.1472831	.2515963	.5423548
9.	4	.0357571	.1094559	.2204553	.6343318
10.	4	.0920497	.1878205	.2720888	.4480409

For each observation, our best guess for the predicted outcome is the one with the highest predicted probability. For example, for the very first observation in the table above, we would choose outcome 4 as the most likely to occur.

These predicted probabilities assume the random effects are zero for all panels. If you are interested in predicted probabilities that incorporate the random effects, see [\[ME\] meoprobit](#) and [\[ME\] meoprobit postestimation](#).

◀

Also see

[\[XT\] xtoprobit](#) — Random-effects ordered probit models

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