

**var postestimation** — Postestimation tools for var

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## Postestimation commands

The following postestimation commands are of special interest after `var`:

Command	Description
<code>fcast compute</code>	obtain dynamic forecasts
<code>fcast graph</code>	graph dynamic forecasts obtained from <code>fcast compute</code>
<code>irf</code>	create and analyze IRFs and FEVDs
<code>vargranger</code>	Granger causality tests
<code>varlmar</code>	LM test for autocorrelation in residuals
<code>varnorm</code>	test for normally distributed residuals
<code>varsoc</code>	lag-order selection criteria
<code>varstable</code>	check stability condition of estimates
<code>varwle</code>	Wald lag-exclusion statistics

The following standard postestimation commands are also available:

Command	Description
<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>forecast</code>	dynamic forecasts and simulations
<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 <code>margins</code> (profile plots, interaction plots, etc.)
<code>nlcom</code>	point estimates, standard errors, testing, and inference for nonlinear combinations of coefficients
<code>predict</code>	linear predictions and their SEs; residuals
<code>predictnl</code>	point estimates, standard errors, testing, and inference for generalized predictions
<code>test</code>	Wald tests of simple and composite linear hypotheses
<code>testnl</code>	Wald tests of nonlinear hypotheses

# predict

## Description for predict

`predict` creates a new variable containing predictions such as linear predictions and residuals.

## Menu for predict

Statistics > Postestimation

## Syntax for predict

```
predict [type] newvar [if] [in] [, statistic equation(eqno | eqname) ]
```

<i>statistic</i>	Description
Main	
<code>xb</code>	linear prediction; the default
<code>stdp</code>	standard error of the linear prediction
<code>residuals</code>	residuals

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

`xb`, the default, calculates the linear prediction for the specified equation.

`stdp` calculates the standard error of the linear prediction for the specified equation.

`residuals` calculates the residuals.

`equation(eqno | eqname)` specifies the equation to which you are referring.

`equation()` is filled in with one *eqno* or *eqname* for options `xb`, `stdp`, and `residuals`. For example, `equation(#1)` would mean that the calculation is to be made for the first equation, `equation(#2)` would mean the second, and so on. You could also refer to the equation by its name; thus, `equation(income)` would refer to the equation named `income` and `equation(hours)`, to the equation named `hours`.

If you do not specify `equation()`, the results are the same as if you specified `equation(#1)`.

For more information on using `predict` after multiple-equation estimation commands, see [\[R\] predict](#).

# margins

## Description for margins

`margins` estimates margins of response for linear predictions.

## Menu for margins

Statistics > Postestimation

## Syntax for margins

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

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

<i>statistic</i>	Description
default	linear predictions for each equation
xb	linear prediction for a specified equation
stdp	not allowed with <code>margins</code>
<u>residuals</u>	not allowed with <code>margins</code>

`xb` defaults to the first equation.

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)

Remarks are presented under the following headings:

*Model selection and inference*

*Forecasting*

## Model selection and inference

See the following sections for information on model selection and inference after `var`.

[TS] [irf](#) — Create and analyze IRFs, dynamic-multiplier functions, and FEVDs

[TS] [vargranger](#) — Pairwise Granger causality tests

[TS] [varlmar](#) — LM test for residual autocorrelation

[TS] [varnorm](#) — Test for normally distributed disturbances

[TS] [varsoc](#) — Obtain lag-order selection statistics for VAR and VEC models

[TS] [varstable](#) — Check the stability condition of VAR or SVAR estimates

[TS] [varwle](#) — Obtain Wald lag-exclusion statistics

## Forecasting

Two types of forecasts are available after you fit a VAR( $p$ ): a one-step-ahead forecast and a dynamic  $h$ -step-ahead forecast.

The one-step-ahead forecast produces a prediction of the value of an endogenous variable in the current period by using the estimated coefficients, the past values of the endogenous variables, and any exogenous variables. If you include contemporaneous values of exogenous variables in your model, you must have observations on the exogenous variables that are contemporaneous with the period in which the prediction is being made to compute the prediction. In Stata terms, these one-step-ahead predictions are just the standard linear predictions available after any estimation command. Thus `predict, xb eq(eqno | eqname)` produces one-step-ahead forecasts for the specified equation. `predict, stdp eq(eqno | eqname)` produces the standard error of the linear prediction for the specified equation. The standard error of the forecast includes an estimate of the variability due to innovations, whereas the standard error of the linear prediction does not.

The dynamic  $h$ -step-ahead forecast begins by using the estimated coefficients, the lagged values of the endogenous variables, and any exogenous variables to predict one step ahead for each endogenous variable. Then the one-step-ahead forecast produces two-step-ahead forecasts for each endogenous variable. The process continues for  $h$  periods. Because each step uses the predictions of the previous steps, these forecasts are known as dynamic forecasts. See the following sections for information on obtaining forecasts after `svar`:

[TS] **fcst compute** — Compute dynamic forecasts

[TS] **fcst graph** — Graph forecasts after `fcst compute`

## Methods and formulas

### Formulas for `predict`

`predict` with the `xb` option provides the one-step-ahead forecast. If exogenous variables are specified, the forecast is conditional on the exogenous  $\mathbf{x}_t$  variables. Specifying the `residuals` option causes `predict` to calculate the errors of the one-step-ahead forecasts. Specifying the `stdp` option causes `predict` to calculate the standard errors of the one-step-ahead forecasts.

## Also see

[TS] **var** — Vector autoregressive models<sup>+</sup>

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

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