### varbasic postestimation — Postestimation tools for varbasic

Postestimation commands predict margins Remarks and examples Also see

# **Postestimation commands**

The following postestimation commands are of special interest after varbasic:

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

The following standard postestimation commands are also available:

| Description   |  |
|---|--|
| Akaike's, consistent Akaike's, corrected Akaike's, and Schwarz's Bayesian information criteria (AIC, CAIC, AICc, and BIC, respectively) |  |
| summary statistics for the estimation sample  |  |
| variance-covariance matrix of the estimators (VCE)  |  |
| cataloging estimation results   |  |
| table of estimation results   |  |
| dynamic forecasts and simulations   |  |
| point estimates, standard errors, testing, and inference for linear combinations of parameters  |  |
| likelihood-ratio test   |  |
| marginal means, predictive margins, marginal effects, and average marginal effects  |  |
| graph the results from margins (profile plots, interaction plots, etc.)   |  |
| point estimates, standard errors, testing, and inference for nonlinear combinations of parameters                                       |  |
| linear predictions and their SEs; residuals   |  |
| point estimates, standard errors, testing, and inference for generalized predictions  |  |
| Wald tests of simple and composite linear hypotheses  |  |
| 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)]

| statistic         | Description                             |
|-------------------|---|
| Main              |   |
| xb                | linear prediction; the default          |
| stdp              | standard error of the linear prediction |
| <u>r</u> esiduals | 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**

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 the xb, stdp, and residuals options. 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 | ) | [options] |

| statistic         | Description                                |
|-------------------|--|
| default           | linear predictions for each equation       |
| xb                | linear prediction for a specified equation |
| stdp              | not allowed with margins                   |
| <u>r</u> esiduals | not allowed with margins                   |

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**

#### Example 1

All the postestimation commands discussed in [TS] **var postestimation** work after varbasic. Suppose that we are interested in testing the hypothesis that there is no autocorrelation in the vector autoregressive disturbances. Continuing example 1 from [TS] **varbasic**, we now use varlmar to test this hypothesis.

. use https://www.stata-press.com/data/r19/lutkepohl2
(Quarterly SA West German macro data, Bil DM, from Lutkepohl 1993 Table E.1)
. varbasic dln\_inv dln\_inc dln\_consump if qtr<=tq(1978q4)
(output omitted)</pre>

. varlmar

Lagrange-multiplier test

| lag | chi2   | df | Prob > chi2 |
|-----|--------|----|-------------|
| 1   | 5.5871 | 9  | 0.78043     |
| 2   | 6.3189 | 9  | 0.70763     |

HO: no autocorrelation at lag order

Because we cannot reject the null hypothesis of no autocorrelation in the residuals, this test does not indicate any model misspecification.

## Also see

[TS] varbasic — Fit a simple VAR and graph IRFs or FEVDs

[U] 20 Estimation and postestimation commands

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