dsge postestimation — Postestimation tools for dsge	

Postestimation commands

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

Command	Description
estat policy	display policy matrix of estimated model
estat stable	assess stability of the system
estat transition	display transition matrix of estimated model
irf	create and analyze IRFs

The following standard postestimation commands are also available:

Command	Description
estat ic	Akaike's, consistent Akaike's, corrected Akaike's, and Schwarz's Bayesian information criteria (AIC, CAIC, AICc, and BIC, respectively)
estat summarize	summary statistics for the estimation sample
estat vce	variance–covariance matrix of the estimators (VCE)
estimates	cataloging estimation results
etable	table of estimation results
forecast	dynamic forecasts and simulations
lincom	point estimates, standard errors, testing, and inference for linear combinations of parameters
lrtest	likelihood-ratio test
nlcom	point estimates, standard errors, testing, and inference for nonlinear combinations of parameters
predict	one-step-ahead predictions, prediction errors, and other diagnostic measures
predictnl	point estimates, standard errors, testing, and inference for generalized predictions
test	Wald tests of simple and composite linear hypotheses
testnl	Wald tests of nonlinear hypotheses

predict

Description for predict

predict creates new variables containing predictions such as expected values. Predictions are available as static one-step-ahead predictions or as dynamic multistep predictions, and you can control when dynamic predictions begin.

Menu for predict

Statistics > Postestimation

Syntax for predict

predict [*type*] { *stub** | *newvarlist* } [*if*] [*in*] [, *statistic options*]

statistic	Description
Main	
xb	linear prediction for observed variables
states	linear prediction for latent state variables

options	Description
Options	
rmse(*stub** | *newvarlist*)	put estimated root mean squared errors of predicted statistics in new variables
dynamic(*time_constant*)	begin dynamic forecast at specified time
Advanced	
smethod(*method*)	method for predicting unobserved states

method	Description
onestep	predict using past information
filter	predict using past and contemporaneous information

Options for predict

Main

xb, the default, calculates the linear predictions of the observed variables.

states calculates the linear predictions of the latent state variables.

Options

rmse(*stub** | *newvarlist*) puts the root mean squared errors of the predicted statistics into the specified new variables. The root mean squared errors measure the variances due to the disturbances but do not account for estimation error.

dynamic(*time_constant*) specifies when predict starts producing dynamic forecasts. The specified *time_constant* must be in the scale of the time variable specified in tsset, and the *time_constant* must be inside a sample for which observations on the dependent variables are available. For example, dynamic(tq(2008q4)) causes dynamic predictions to begin in the fourth quarter of 2008, assuming that your time variable is quarterly; see [D] **Datetime**. If the model contains exogenous variables, they must be present for the whole predicted sample.

    Advanced

smethod(*method*) specifies the method for predicting the unobserved states, smethod(onestep) and smethod(filter), and causes different amounts of information on the dependent variables to be used in predicting the states at each time period.

    smethod(onestep), the default, causes predict to estimate the states at each time period using previous information on the dependent variables. The Kalman filter is performed on previous periods, but only the one-step predictions are made for the current period.

    smethod(filter) causes predict to estimate the states at each time period using previous and contemporaneous data by the Kalman filter. The Kalman filter is performed on previous periods and the current period. smethod(filter) may be specified only with states.

Remarks and examples

For examples of estat policy, see [DSGE] **Intro 1**, [DSGE] **Intro 3a**, and [DSGE] **Intro 3c**.

For examples of estat transition, see [DSGE] **Intro 1**, [DSGE] **Intro 3a**, and [DSGE] **Intro 3b**.

For an example of estat stable, see [DSGE] **Intro 5**.

For examples of irf after dsge, see [DSGE] **Intro 1**, [DSGE] **Intro 3b**, and [DSGE] **Intro 3c**.

For an example of forecast after dsge, see [DSGE] **Intro 1**.

For examples of predict after dsge, see [DSGE] **Intro 3a**.

Methods and formulas

Estimating the unobserved states is the key to predicting the observed variables.

By default and with the smethod(onestep) option, predict estimates the state in each period by applying the Kalman filter to all previous periods and only making the one-step prediction to the current period.

With the smethod(filter) option, predict estimates the states in each period by applying the Kalman filter on all previous periods and the current period. The computational difference between smethod(onestep) and smethod(filter) is that smethod(filter) performs the update step on the current period while smethod(onestep) does not. The statistical difference between smethod(onestep) and smethod(filter) is that smethod(filter) uses contemporaneous information on the observed variables while smethod(onestep) does not.

The observed control variables are predicted by plugging in the estimated states.

Also see

[DSGE] **dsge** — Linear dynamic stochastic general equilibrium models

[DSGE] **estat policy** — Display policy matrix

[DSGE] **estat stable** — Check stability of system

[DSGE] **estat transition** — Display state transition matrix

[TS] **forecast** — Econometric model forecasting

[TS] **irf** — Create and analyze IRFs, dynamic-multiplier functions, and FEVDs

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