Package Name: CONFCAST
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Add-in Type: VAR
Default Proc Name: confcast
Default Menu Text: Conditional Forecast
Interface: Dialog and command line

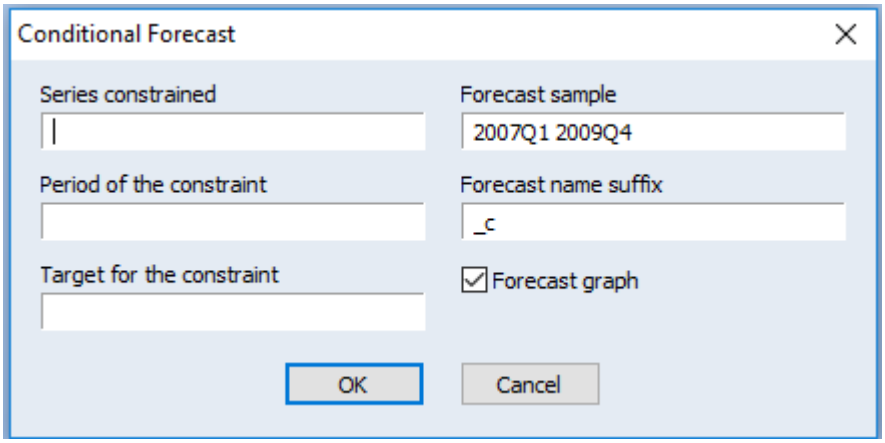
Description

This add-in allows you to perform a conditional forecast from Vector Auto Regression models. Conditional forecasting is a special case of Kalman smoothing (e.g see Clarida and Coyle 1984). Doan, Litterman and Sims (1984) use the following procedure to calculate conditional forecasts.

1. Linear constraint upon future values of VAR is transformed into an equivalent constraint on the orthogonalized innovations using cholesky triangular decomposition method.
2. The least squares estimation of constrained innovations is computed.
3. Constrained innovations are translated back into non-orthogonalized shocks.
4. Then VAR model is forecast with those added shocks.

Dialog

Upon running the add-in from the menus, a dialog will appear:



The first box lets you specify the series constrained for conditional forecasting. On the next box enter period of the constraint. On the third box enter target values for constrained variables. Target value should be change (e.g. percentage change if the variable is in log form). The base (old) value is the last

observation of the sample. For instance, if your constrained variable is in log form, then you can constrain the annual growth rate of variable. Please keep the constraint as loose as possible. Other boxes are optional.

Command line:

var01.confcast “loggdp loggdp” “2010q4 2011q4” “0.05 0.10”

this command constrains annual gdp growth rate to 5 percent for two period.

var01.confcast(fsamp=”2010q1 2012q4”,suf=_cf, graph=0) “loggdp loggdp” “2010q4 2011q4” “0.05 0.10”

Options

fsamp	Forecast sample (default=12 steps)
suf	Conditional forecast suffix (default = _c)
graph	Display forecast graphs (default = 1)

References:

Clarida, Richard H., and Coyle, Diane (1984), “Conditional Projection by Means of Kalman Filtering.” Mimeo, National Bureau of Economic Research 1984.

Doan, T., Litterman, R., and Sims, C., 1984. Forecasting and Conditional Projection Using Realistic Prior Distributions, Econometric Reviews 3, 1-100.