

Package Name: BVAR

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Add-in Type: Global

Default Proc Name: bvar

Default Menu Text: Bayesian VAR

Interface: Dialog

Description: This add-in performs the Sims-Zha (1998 – International Economic Review) Bayesian Vector Autoregression model, as calculated by the SZBVAR method in the R package MSBVAR (<http://cran.r-project.org/web/packages/MSBVAR/index.html>). This add-in provides an interface to the R package, that lets you set options, then sends the data over to R, estimates the BVAR, and then displays the results. Impulse responses may also be calculated (for which the IRF method in MSBVAR is used).

Use:

This add-in will only work on undated, monthly, quarterly or annual data.

Note that this Add-in uses a COM connection to R. If a COM connection cannot be established, an error will occur. In this case you should consult your EViews documentation on running R from within EViews. The R connection may take a while to complete. This add-in was built with R.2.10.1, and MSBVAR 0.4.0

When the add-in is run, a dialog will appear asking you to specify the Bayesian VAR:

In the first box you should list the names of the endogenous variables you wish to include in the BVAR. The second box lets you specify the number of lags to include. Following that, you may specify the prior distribution, from either Normal-Wishart or Normal-Flat. The estimation sample box lets you specify the sample of observations that will be used for estimation.

The edit fields on the right of the dialog let you set the parameters that will be used in the specification of the BVAR estimation. They are named following the convention in the R MSBVAR package:

lambda0 [0; 1] - Overall tightness of the prior (discounting of prior scale).

lambda1 [0; 1] - Standard deviation or tightness of the prior around the AR(1) parameters.

lambda3 - Lag decay (> 0 , with 1=harmonic)

lambda4 - Standard deviation or tightness around the intercept > 0

mu5 - Sum of coefficients prior weight ≥ 0 . Larger values imply difference stationarity.

mu6 - Dummy initial observations or drift prior ≥ 0 . Larger values allow for common

trends.

qm - Frequency of the data for lag decay equivalence.

Finally, if you wish to calculate impulse responses, you should check the impulse response box, and provide a number of periods over which you would like the impulses to be calculated.

Once you have specified your BVAR, and hit "OK", the Add-in will send your data over to R and perform the calculations. This might take a while.

Once the estimation has completed, a Spool object will appear showing you the estimation results for your BVAR. If you selected to perform impulse responses, a table of the responses, along with corresponding graphs will also be shown in the spool.

Command line:

Syntax: bvar(options) lags var1 var2

The BVAR command should be followed by an integer specifying the number of lags, and then a space delimited list of variables to include in the BVAR.

Options

L0=num	Set Lambda0. <i>num</i> should be a value between 0 and 1
L1=num	Set Lambda1. <i>num</i> should be a value between 0 and 1
L3=num	Set Lambda3. <i>num</i> should be a value greater than 1
L4=num	Set Lambda4. <i>num</i> should be greater than 0
Mu5=num	Set Mu5. <i>num</i> should be greater than or equal to 0
Mu6=num	Set Mu6. <i>num</i> should be greater than or equal to 0
QM=int	Set QM. <i>int</i> should be a positive integer.
Prior=key	Set the prior distribution. <i>key</i> should be 0 (Normal/Wishart) or 1 (Normal/flat)
Irfper=int	Perform impulse responses, with a period length of <i>int</i> .