

VC-BayesianEstimation

license [BSD 3-clause](#) version [v1.6.1](#)

Codes used to estimate a Dynamic Stochastic General Equilibrium (DSGE) model using Bayesian Estimation techniques.

Requirements

Matlab (R)

The codes were tested using Matlab (R) R2014a with the following toolboxes

- Symbolic Toolbox
- Statistical Toolbox
- Optimization Toolbox

LaTeX

LaTeX is used by some tools to compile certain documents.

`epstopdf` , included in most LaTeX releases, is used by some tools.

Additional codes and packages

Codes from [Vasco Cúrdia](#):

- [VC-Tools](#), version [v1.8.0](#)

Codes from [Chris Sims](#):

- [gensys](#)
- [optimize](#)
- [KF](#)

Usage example

The script `SetDSGE.m` is an example of how to setup the model and estimate it using this package.

The main structure for setup

1. Set file names for the data input and the output
2. Set parameters list and priors
3. Set list of observation variables
4. Set list of State space variables
5. Set list of iid shocks
6. Generate symbolic variables
7. Construct any necessary auxiliary definitions (optional)
8. Set observation equations
9. Set state Equations

The above 9 steps will set up the model. After setup the Bayesian estimation proceeds by finding the mode of the posterior using `MaxPost.m` and then generating MCMC samples, using `MCMC.m`. Analysis of estimation results is done with `MCMCAnalysis.m`.

See the example `SetDSGE.m` for basic options and how to call the sequence of steps in more detail.

Reports in pdf format are generated along the way.

Additional Information

Each of the functions and scripts contains help at the beginning of the codes, including options and flags. This help can be accessed in an interactive Matlab (R) session using the `help` or `doc` commands:

```
help SetDSGE
```

or

```
doc SetDSGE
```