Financial Intermediaries' Instability and Euro Area Macroeconomic Dynamics
European Economic Review (2017)
by Stéphane Lhuissier

- Install the latest version of Dynare (`http://www.dynare.org/`). Note that I used Dynare 4.4.3/MATLAB R2016a to estimate and simulate MS-SBVAR models.

- Folder 'constant-SBVAR': Type "Dynare Run_constantVAR.mod" to run the constant-parameters SVAR model under the Sims and Zha (1998) prior.

- Folder 'MS-SBVARs' contains all MS-SBVAR models written using the Dynare language.
  (1) Folder 'benchmark': Type "Dynare Run_msVAR.mod" to estimate and simulate the best-fit model of the paper (two independent MS processes: one MS process on shock variances and one MS on equation coefficients).

  - In the estimation procedure, several options can be modified:
    a) max_repeated_optimization_runs; (put 2 for obtaining quick results)
    b) max_number_of_stages; (put 2 for obtaining quick results)
    c) number_of_large_perturbations; (put 3 for obtaining quick results)
    d) number_of_small_perturbations. (put 3 for obtaining quick results)

  Note that the estimation procedure can be very time consuming, depending on the above options.

  - In the simulation (Gibbs-sampler) procedure, choose the
    a) number of draws to generate (mh_replic)
    b) the thinning parameter, i.e., keep every (xxx)th draw (thinning_factor)

  *The total number of draws is thinning_factor*mh_repic+drop where drop is the number of burn-in draws.*

  - In the MDD procedure, choose the number of draws to generate from the proposal distribution.

  (2) Folder 'other_specifications' contains various types of models with the following specification
    a) '2v': 2 regimes in shock variances
    b) '3v': 3 regimes in shocks variances
    c) '4v': 4 regimes in shock variances

d) '2c3v': 2 regimes in equation coefficients and 3 regimes in shock variances (not synchronized)
e) '2Fc2v': 2 regimes in coefficients of financial sector and 2 regimes in shock variances (not synchronized)
f) '2Pc2v': 2 regimes in coefficients of production sector and 2 regimes in shock variances (not synchronized)

(3) Folder 'robustness' contains all models in the robustness section
a) alternative-ordering: section VI.2.1
b) Lag4mp: section VI.2.2
c) PriorDuration-10months: section VI.1
d) PriorDuration-15months: section VI.1
e) PriorDuration-20months: section VI.1
f) Change-coefficients: section VI.3

(4) Folder 'near' contains the near MS-SBVAR model presented in section VII.

- Folder 'simulations' contains the files to replicate the economic implications of the best-fitting model
  (1) First, you need to run 'recover_draws_from_dynare.m' to recover all draws from the posterior distributions from the benchmark model. The file 'load_draws_msVAR' should be created. Skip this step if you want to run directly the original 'load_draws_msVAR' file.
  (2) Run 'run_smoothed_prob.m' to display Figure 2 (smoothed probabilities)
  (3) Run 'run_irfs.m'to display Figure 5 (impulse responses)
  (4) Run 'run_vds.m' to display Table 7 (variance decompositions)
  (5) Run 'run_ctf.m' to display Figures 6 and 7 (counterfactual simulations)

- Folder 'data' contains the dataset. The overall sample is October 1999 to June 2016.

- Folder 'library' contains all other Matlab functions. Some of them come from Tao Zha's library, Dynare's library or my own library.

Please let me know if you find any problems with the files: stephane_lhuissier@club.fr

Stéphane Lhuissier