Real-Time Forecasting with a Mixed-Frequency VAR

Matlab Code Instruction

http://economics.sas.upenn.edu/~schorf/research.htm

MF denotes mixed frequency. Notice that there are four m-files that start with MF. But among them only two are important. These are <u>MF BVAR PRIOR</u> and <u>MF BVAR MAIN</u>. <u>MF BVAR PRIOR</u> runs grid search in order to obtain the set of hyperparameters that maximizes the marginal data density (MDD). The computation of the MDD is done in <u>vm mdd final</u> (go to "Main Files"). Once the hyperparameters are obtained, <u>MF BVAR MAIN</u> will make inference and produce nowcasts/forecasts. Files that end with SUB are subroutines that are called upon by either one of the two main files (i.e., <u>MF BVAR PRIOR</u> and <u>MF BVAR MAIN</u>). Note that m-files for QF-VAR and QF-AR2 are constructed similarly. In sum,

1. MF-VAR(11)

   - MF BVAR PRIOR: computes MDD
     - MF BVAR PRIOR SUB, vm mdd final
   - MF BVAR MAIN: generates parameter estimates and forecasts
     - MF BVAR MAIN SUB

2. QF-VAR(11)

   - QF BVAR PRIOR: computes MDD
   - QF BVAR MAIN: generates parameter estimates and forecasts
     - QF BVAR MAIN SUB

3. QF-AR(2)

   - QF AR PRIOR: computes MDD
     - QF AR PRIOR SUB
   - QF AR MAIN: generates parameter estimates and forecasts
     - QF AR MAIN SUB

4. MIDAS: runs MIDAS regression (utilizes GDP and one monthly indicator)

   - MIDAS ALL: runs MIDAS regression (utilizes GDP and eight monthly indicators)

5. m-files that generate figures

   - COMPARE PIT, COMPUTE LOGDET, COMPUTE RMSE
   - COMPUTE RMSE MIDAS, CONVERGENCE STAT, PLOT RECESSION

6. Go to "Other Files" for variants of MF-VAR and QF-VAR.

NOTE: Some m-files are not compatible with "MATLAB Release 2013" (due to changes in the SVD implementation). We recommend using "Release 2011" instead.