Replication codes for

Housing boom-bust cycles and asymmetric macroprudential policy

All MATLAB codes use Dynare v4.6.4, and the updated OccBin toolkit (Guerrieri and Iacoviello, 2015). The updated files that are compatible with Dynare v4.6.4 are available from Johannes Pfeifer's GitHub: https://github.com/JohannesPfeifer/Occbin_update. I have modified some of the OccBin toolkit functions for my use. The toolkit is saved in the folder called 'functions', which contains useful functions used in several scripts. The functions folder is added to the MATLAB path in each script.

The script *Optimal_Delta_with1OBC.m* solves the OSR minimization for the symmetric rule.

Figures 1 to 9 can be generated using the following scripts:

1. *Fig1_6_7_RUN_and_PLOT_IRF.m*
2. *Fig2_4_Plot_VarianceOverKink.m*
3. *Fig3_Optimal_Kink_with2OBCs.m*
4. *Fig5_Plot_PolicyFunctions.m*
5. *Fig8_9_Plot_GAR.m*

There are several '.mod' files, most of which are common to several versions of the model models ('variables_and_shocks.mod', 'param_calib.mod', 'model_equations.mod', 'model_initival_ss.mod' and 'shock_calibration.mod'). Comment or uncomment the relevant parameter calibration in 'param_calib.mod', depending on which IRFs you want to generate. More instructions are provided in the commented code.

Some of the data used the generate the figures is included in this repository, but large files (such as those used by *Fig2_4_Plot_VarianceOverKink*, *Fig3_Optimal_Kink_with2OBCs*, and *Fig7_8_Plot_GAR*) need to be generated using the code *run_OBC_simulations.m* first, which takes some time to run. All other files are used by several routines and are required by the OccBin toolbox.

William Gatt

April 2022