

Documentation and replication files for “Monetary Policy in a Low Interest-Rate World” by Michael T. Kiley and John M. Roberts

The zip file containing this document includes replication files for all of the simulations reported in the paper, along with files to create many of the figures. (The exceptions, built with Excel, are noted below.)

File structure: The directory dependencies are not hard-coded, and programs within any subdirectory should work with minor (or no) adjustments to the paths defined in various “addpath” commands in the “.m” files. Models and simulation code for the two models (FRBUS and DSGE) are contained in the folders with those names. Utilities are provided in the “ELBcode” directory. Code for figures and additional utilities are contained in the “tables\_figures” directory.

Model files and simulation code: The simulation approach is similar to that in Williams (2009) and the programs are structured similarly to those used in that paper. In all cases, simulations were performed in Matlab R2013a (8.1.0.604). The model files are in Dynare format and Dynare is used to parse the models, but all simulations use custom code (that takes the matrices created by Dynare and then uses these matrices for computation). The version of Dynare used is version 4.4.3.

1. FRBUS models (FRBUS directory)
  - a. linver\_tay.mod: model under simple rule (balanced approach rule)
    - i. Simulation results obtained using run\_tay.m
  - b. linver\_itay.mod: model under estimated rule
    - i. Simulation results obtained using run\_itay.m
  - c. linver\_d.mod: model under change/commitment rule (no shadow rate)
    - i. Simulation results obtained using run\_d.m
  - d. linver\_dsh.m: model under change/commitment rule with shadow rate
    - i. Simulation results obtained using run\_dsh.m
2. DSGE models (DSGE directory)
  - a. LSW\_tay.mod: model under simple rule (balanced approach rule)
    - i. Simulation results obtained using run\_tay.m
  - b. LSW\_itay.mod: model under estimated rule
    - i. Simulation results obtained using run\_itay.m
  - c. LSW\_d.mod: model under change/commitment rule (no shadow rate)
    - i. Simulation results obtained using run\_d.m
  - d. LSW\_dsh.m: model under change/commitment rule with shadow rate
    - i. Simulation results obtained using run\_dsh.m

Programs to construct figures: The following programs produce the figures. Note that the code used to generate the figures contains routines to compute statistics from stored simulation results and readers may find such code useful for their independent analysis of simulation results.

Figure #	Programs	Figure #	Programs
1	made in Excel	6	a) figd_ecdf_tay99.m & b) fig_ecdf_tay99.m
2	fig_r_normpdf.m	7	made in Excel
3	made in Excel	8	a) dsge_riskadj.m & b) frb_riskadj.m
4	irf.m	9	a) w_frb_2t.m & b) w_dsge_2t.m
5	irf_demand.m	10	alth.m