Brief Instructions

The source code in this folder produces numerical results in “A Ramsey Theory of Financial Distortions” by Marco Bassetto and Wei Cui.

Main files:

You should simply run the MATLAB files with names that begin with a capital letter. Run these files in the following order.

- Figures_1_2.m:

Producing Figure 1 and Figure 2.

- Parameterization.m:

Calibrating the parameters. Note you need to install AMPL to run the calculation in the background. There is a free version that one can use.

- Tables_1_2.m:

Producing Table 1 and Table 2. Note you need to install AMPL to run the calculation in the background. There is a free version that one can use.

- Figures_3_4_transition.m:

Producing Figure 3 and Figure 4. Note you need to install AMPL to run the calculation in the background.

Supporting files:

MATLAB functions: eqm_unconstrained.m, eqm_kink.m, eqm_constrained.m, and cut_off_PSI.m are all supporting functions.

plot_comparison_wei.m will be called in Figures_3_4_transition.m to produce transition dynamics. If AMPL is not available to be called in Figures_3_4_transition.m, then plot_comparison_wei.m itself can plot the saved result directly.

steady_state_transition_AMPL folder:

This folder contains AMPL files for computations.

*.run files give specific instructions to AMPL to run models that are *.mod files. You do not need to run them in AMPL to obtain the results. They are also supporting files for the MATLAB files above.

ss_unconstrained_cali.run: calibrate parameters using ss_unconstrained.mod.
ss_unconstrained.mod: the model with unconstrained steady state that is readable by AMPL.

ss_unconstrained.run: run the unconstrained model with given parameters using ss_unconstrained.mod.

table_1.run and table_2.run: run the constrained model with comparative statics, using ss_constrained.mod.

ss_constrained.mod: the model with constrained steady state that is readable by AMPL.

transition_ramsey_traditional.run: run transition dynamics of a traditional Ramsey problem (i.e., a neoclassical model), using transition_ramsey_traditional.mod. Note that both the transitions with and without fiscal shocks are computed.

transition_ramsey.run: run transition dynamics of financing-constrained Ramsey problem, using transition_ramsey.mod. Note that both the transitions with and without fiscal shocks are computed.

writing_data_to_AMPL.m and writing_data_from AMPL.m: communicate data between AMPL and MATLAB.

AMPLscalar.m: write floating point scalar to AMPL data file. This file is obtained from MATLAB Central File Exchange that allows free and open-source MATLAB/SIMULINK code sharing. Open the file to check details.