

Replication Package README

“Behavioral New Keynesian Models: Learning vs. Cognitive Discounting”
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1 Overview

The replication package contains the codes needed to run the Bayesian estimation for the different model specifications analyzed in the paper.

2 Software

- MATLAB (including Statistics and Machine Learning Toolbox).

3 Folder Structure

- `01_Estimation/`: run `run_table_1.m`.

This folder contains the codes needed for the estimation. The main file to run is `run_table_1.m`, which produces the estimates shown in Table 1. In `run_table_1.m`, choose one model at a time by uncommenting the matching likelihood calls and the matching `S_d` line:

- RE: use `likelihood_BNKRE` and `S_d=zeros(T,7,D/thin)`.
- EE: use `likelihood_BNKEE` and `S_d=zeros(T,10,D/thin)`.
- IH: use `likelihood_BNKIH` and `S_d=zeros(T,15,D/thin)`.

The likelihood choice appears twice in the script: once before the MCMC loop and once inside the loop for the proposed draw. Both places should be changed consistently.

- `02_Estimation_wnews/`: run `run_table_2.m`.

Table 2 uses a manual switch across model columns. In `run_table_2.m`, choose one model at a time by uncommenting the matching likelihood calls and the matching `S_d` line:

- RE: use `likelihood_BNKRE` and `S_d=zeros(T,7,D/thin)`.
- EE: use `likelihood_BNKEE` and `S_d=zeros(T,10,D/thin)`.
- IH: use `likelihood_BNKIH` and `S_d=zeros(T,15,D/thin)`.

The likelihood choice appears twice in the script: once before the MCMC loop and once inside the loop for the proposed draw. Both places should be changed consistently.

In addition, choose the sample manually in `run_table_2.m`: the pre-Volcker sample is `1954:III–1979:II`, and the post-Volcker sample is `1982:I–2007:II`. Run each model/sample combination needed for the table.

The remaining estimations in the robustness section are based on fixing some of the parameters, changing some of the priors, or minor model differences.

- `03_ForwardGuidance/`: run `run_figure_1.m`.

The code shows the output of the forward guidance experiment under different values of cognitive discounting.