random-access-memory

Replication Guide: DMM Model Analysis

This document provides the necessary steps to replicate the utility loss results (Table 1 & 2) and the Impulse Response Functions (IRFs) from Cooley & Hansen (1989).

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1. Replication: Table 2 and IRFs

To generate the results for the varying values of g, use the `dmm_base.mod` file.

Step 1: Baseline and Sensitivity Runs

You must run the model five separate times, manually adjusting the value of the parameter g in the `.mod` file before each run:

- **Values to test:** $g \in \{0.99, 1.0, 1.024, 1.19, 1.41\}$
- **Important:** For each run, ensure you update the filename in the `verbatim` block (or the export function) to match the parameter value (e.g., `steady_state_values_g_1_19.csv`). This prevents overwriting previous results and makes sure the files are ready to be fed into R for processing

Step 2: Generate IRFs

Run the dedicated IRF script to produce the dynamic responses of the system: * Execute: `dmm_irfs.mod` in Dynare.

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2. Replication: Table 1 (Simulations)

Table 1 focuses on simulation results under different growth/policy assumptions. Run the following three files sequentially:

File to Run	Description
`dmm_g_constant_simul.mod`	Baseline simulation with constant growth (no AR(1) Process).
`dmm_g_015_simul.mod`	Simulation with $g = 0.15$ parameters.
`dmm_g_15_simul.mod`	Simulation with $g = 1.5$ parameters.

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3. R Studio: Data Processing & Final Tables

Once the Dynare simulations have generated, use R to compile the final tables and charts.

Setup & Execution

1. Open the provided `.Rmd` (R Markdown) file in R Studio.
2. Make sure to set your FRED API Key in you environment file
3. **Check Dependencies:** Ensure all required packages are installed. The `require()` function will tell you if any package is missing
4. **One-Click Run:** Click the **Knit** or **Run All** button. The script is configured to automatically ingest the CSV files generated in the previous steps and output the formatted replication tables.

   Note: If you encounter a "package not found" error, run `install.packages("package_name")` in the R console before re-running the `.Rmd`.
