Replication Files – README

1 Quantitative Model

1.1 Description of files

All the files to compute and simulate the quantitative model in Section 2 are in the folder "codes_model."

a. Computation of the different economies.

- **solve_indexed.f90**: Fortran file that solves the model.
- **sim_indexed.f90**: Fortran file that uses the solution to generate simulations.
- **get_moments.m**: Matlab file that generates business cycle statistics from the simulations.

b. Other files that are needed to run the Fortran codes.

- **calibration_all.txt**: This file contains the parameter values.
- **solve_and_sim.sh**: (Optional) Bash script to run all files from the command line.

1.2 How to run the codes

The "benchmark" and the "indexed-debt" models are obtained when setting the value for "phi_param" in calibration_all.txt at zero or one, respectively.

All Fortran codes invoke subroutines from the IMSL library. Access (i.e. a working license) is needed to run the codes.

The parameters governing the grid configuration are specified in the "module param" at the beginning of each Fortran code. The file with the calibration parameter values must be saved in the same directory that .f90 files are saved.

The sequence for successfully running the codes is:

1. First, run **solve_indexed.f90**,
2. Second, run **sim_indexed.f90**,
3. Third, run **get_moments.m**.

File **solve_and_sim.sh** runs steps 1 to 3 all from one call (Optional).

2 Empirical Results

The folder "codes_empirics" has the following files:

- **empirical_script.R**: an R script with all the regressions,
- numerous Excel files containing the raw data.

The script reads the data and produces all the regression results in the paper. The only software needed to run this code is R (with the necessary packages installed, all mentioned at the beginning of the script).

It is necessary that the execution of the lines of code is done in the order specified, since in some cases new information and computations are added to the main database. We label each section of the code according to the table in the paper that it replicates. The only exception is Table 5, which itself is made of a collection of coefficients estimates in different regressions. Theses different regressions are in Appendix B, and the R script replicates them.

As we move from table to table, we also compute the test for the equality of certain coefficients of interest (following the formula in footnote 19). This is also done within **empirical_script.R**. The p-values for these different test are then presented in Tables 4 and 6.

In addition, the R script presents results for the analysis of two exogenous shocks that are not presented in the paper but only in the letter to the referees: natural disasters and negative shocks to the price of exportable commodities.