

Readme File for the Replication Codes on Macro-Finance Decoupling: Robust Evaluations of Macro Asset Pricing Models

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1 Software

- MATLAB (R2020b or newer version).

2 Replication Codes for the Empirical Application

The m files for the empirical application are contained in the folder named "Empirical Application".

- Main files:
 - [Data.mat](#): the data file
 - [gmm_cue.m](#): the file used to calculate the continuous updated GMM estimator and related statistics such as the weight matrix, the J test statistic and the Jacobian matrix of the moment conditions
 - [conditional_inference.m](#): the file used to conduct the conditional specification test
 - [J_test_vs_CC_test.m](#): the file applying the J test and the conditional specification test
 - [CS_13_34.m](#): the file used to calculate the model uncertainty sets.
- Output:
 - [J_and_CC.mat](#): the data file which contains the results from the J test and the conditional specification test

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- [CS13_p5.mat](#): the joint model uncertainty set for the average return of government bills and the equity premium with calibrated $p = 0.5\%$
- [CS13_p7.mat](#): the joint model uncertainty set for the average return of government bills and the equity premium with calibrated $p = 0.7\%$
- [CS13_p9.mat](#): the joint model uncertainty set for the average return of government bills and the equity premium with calibrated $p = 0.9\%$
- [CS34_p5.mat](#): the joint model uncertainty set for the volatility of excess equity return and the equity premium with calibrated $p = 0.5\%$
- [CS34_p7.mat](#): the joint model uncertainty set for the volatility of excess equity return and the equity premium with calibrated $p = 0.7\%$
- [CS34_p9.mat](#): the joint model uncertainty set for the volatility of excess equity return and the equity premium with calibrated $p = 0.9\%$.

3 Replication Codes for Simulation Studies

The m files for this simulation studies are contained in the folder named "Simulation".

3.1 Disaster Risk Model

- Main file:
 - [DR_Simulation.m](#): the file used to conduct simulation in the disaster risk model
- Output:
 - [DR_J_and_CC_1.mat](#): the data file contains the simulation results with parameter space (of θ) $[3\%, 9\%]$
 - [DR_J_and_CC_2.mat](#): the data file contains the simulation results with parameter space (of θ) $[2\%, 10\%]$

3.2 Long-Run Risk Model

- Main file:
 - [LRR_Simulation.m](#): the file used to conduct simulation in the long-run risk model
- Output:
 - [LRR_J_and_CC_1.mat](#): the data file contains the simulation results with parameter space (of θ) $[3\%, 9\%]$
 - [LRR_J_and_CC_2.mat](#): the data file contains the simulation results with parameter space (of θ) $[2\%, 10\%]$

3.3 Power Envelopes

- Main file:
 - [PE_Simulation.m](#): the file used to conduct simulation on the power envelopes.
- Output:
 - [PE_WeakID_1_0_40_1_1.mat](#): the data file contains the simulation results on the benchmark case with $q = 1$
 - [PE_WeakID_1_0_40_2_1.mat](#): the data file contains the simulation results on the benchmark case with $q = 2$
 - [PE_WeakID_1_0_20_2_1.mat](#): the data file contains the simulation results on the deviation case 1 with $\rho = 0.2$
 - [PE_WeakID_1_0_80_2_1.mat](#): the data file contains the simulation results on the deviation case 1 with $\rho = 0.8$
 - [PE_WeakID_1_10_40_1_1.mat](#): the data file contains the simulation results on the deviation case 2 with $q = 1$
 - [PE_WeakID_1_10_40_2_1.mat](#): the data file contains the simulation results on the deviation case 2 with $q = 2$

- [PE_WeakID_2_0_40_1_1.mat](#): the data file contains the simulation results on the deviation case 3 with $q = 1$
- [PE_WeakID_2_0_40_2_1.mat](#): the data file contains the simulation results on the deviation case 3 with $q = 2$.