Codes for:
"Asset Pricing with Fading Memory"

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The codes mainly consist of several main functions and folders:

- The "**DataClean**" folder contains functions to construct the data used in the main paper. The functions include detailed notes of sources of raw data and links. Please download the raw data files and run the codes in the following order to generate the final data:
    1. "*CRSP.do*" constructs variables related to the aggregate US stock market, e.g., price-dividend ratios, volatility.
    2. "*import_ubs.sas*" cleans the survey data from UBS/Gallup Index of Investor Optimism.
    3. "*SurveyExpectations.do*" constructs survey-implied subjective inflation and return expectations.
    4. "*IBESConstruction.do*" constructs the aggregate analysts' long-term earnings growth expectations from I/B/E/S.
    5. "*ConstructRaw.m*" puts together all the raw data.
    6. "*ConstructFundamental.m*" constructs the variables used in the empirical analysis.
- The "**LogLinearization**" folder contains functions that solve the model with log-linearization when $\psi \neq 1$.
- The "**Parameter**" folder contains functions that load the parameter values for model simulations.
- The "**Simulation**" folder contains functions that simulate the models and calculate model moments/statistics.
- The "**SubRiskPremia**" folder contains functions that calculate the subjective risk premia for the model with $\psi = 1$ following Pohl et al. (2018).
- The "**Utility**" folder contains functions that serve as the building blocks, e.g., regressions, bootstrap, integration.
- The "**Result_Data**" function produces Table 1, 2, 3, and 8, as well as Figure 1 and 2 in the main paper.
- The "**Result_Model**" function produces Table 5, 6, and 7, as well as Figure 3 in the main paper.
- The "**NuSensitivity**" function produces the Figure D.1 in the Internet Appendix.

Progarms' versions: Stata/IC 16.1, SAS 9.2, and MATLAB R2020b.

Additional requirements to run the codes:

- The codes also require the Econometric Toolbox by James P. LeSage to run.[1] Please download through the link "Download Matlab older Econometrics functions zip file" from the website, unzip it, and put it as a "jplv7" folder with other folders.
- The codes use data moments to guide proper choices of parameters. Thus, the data should be constructed first before running the codes and put under the "Data" folder. Alternatively, corresponding parts can be replaced with user-supplied values.

The most time-consuming parts of the codes are bootstrap simulations (for bias adjustment) and calculation of subjective risk premia. The users can choose fewer simulations to speed up the process.

[1] The toolbox can be downloaded from `https://www.spatial-econometrics.com/`

References

Pohl, W., K. Schmedders, and O. Wilms. 2018. Higher-order effects in asset-pricing models with long-run risks, *Journal of Finance* 73: 1061–1111.