Readme for Matlab code of

"A Macroeconomic Model with a Financial Sector"

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To get started, save the four Matlab files (*solve_equilibrium.m*, *evntfcn.m*, *investment.m* and *fnct.m*) from
https://initiative.princeton.edu/sites/princetoninitiative/files/macroeconomic_model_files/solve_equilibrium.m
https://initiative.princeton.edu/sites/princetoninitiative/files/macroeconomic_model_files/evntfcn.m
https://initiative.princeton.edu/sites/princetoninitiative/files/macroeconomic_model_files/investment.m
https://initiative.princeton.edu/sites/princetoninitiative/files/macroeconomic_model_files/fnct.m
in a folder.

Change Matlab's current directory to the folder that contains all the saved files. The main program is solve_equilibrium: to compute equilibrium type solve_equilibrium.m in the command window and press enter. The file will then produce two figures:

- Figure 1 shows important equilibrium quantities such as q, ψ, drift and volatility of η, etc.
- Figure 2 shows expert and household utility within the model.

To compute the equilibrium under a different set of parameters change line 14 of *solve_equilibrium.m*, in which parameter values are assigned. Investment adjustment cost parameter can be modified directly in the function *investment.m*.

The program can be easily modified to solve **extensions** of the model.

- *fnct.m* is a key function that programs the set of equations to compute the derivatives of θ and q using the equations from Proposition 2 of the paper.
- *solve_equilibrium.m* operates by searching for initial conditions near
- *evntfcn.m* is used to determine when integration of the differential equations should be terminated for a given set of initial conditions, and how the initial conditions should be modified on the next iteration.