Readme file of estimating a HANK_Model_CT

Main M files

- main_est_model_HANK_2job.m
- main_smc_2job.m
- main_j2_result.m

How to estimate a HANK_CT model

- You run a M file "**main_est_model_HANK_2job.m"**, and then, this code call the M file "**main_smc_2job.m**" which loads a csv file as data and read a csv file as prior setting from "data" folder.
- You can change the following setting of SMC in M file "**main_est_model_HANK_2job.m**".

```
39    disp('Start SMC^2 ')
40    ncores  =  8  % number of core of CPU for parallel computing
41
42    data_country = 1  % 1: Japan, 2:US
43    def_switch   = 1  % 1st deference for GDP = 1, level = 0
44
45    %% setting of SMC procedure
46    nsim      = ncores*50   % # of particles of parameters
47    nstage    = 5           % # of stages
48    npara     = 18;         % # of parameters
49    cc1       =   0.5 ;  % adjustment coefficient of SMC
50    N_Blocks = 5;     % Number of random Blocks of sampling
51
```

- You can change the following setting of HANK in M file "**main_est_model_HANK_2job.m**".

```
17    %% setting of  environment of HANK model
18     I   = 100;   % number of grids of one ASSET
19     J   = 2;       % number of grids of states of JOB
20     n_v = I*J + 1;    % number of JUMP variables (value function + inflation)
21     n_g = I*J + 2 ;   % number of ENDOGENOUS state variables (distribution + monetary + Fiscal policy)
22     n_p = 6;          % number of static relations: bond-market clearing, labor market clearing, consumption, output, tc
23     n_shocks = 3;     % number of SHOCKS, i.e., monetary policy shock, fiscal policy shock, TFP shock.
24     nEErrors = n_v;
25     nVars = n_v + n_g + n_p;
26
```

How to summarize results

- You run a M file "**main_j2_results.m**".