AdvMacroHet - Assignment 1 workshop

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Introduction

- About me
  - Newly started PhD-student with Jeppe as supervisor
  - My email: jro@econ.ku.dk
  - If you have questions about the assignment or are in need of help you can send me or Jeppe an email.
- Plan:
  - Exercises from last time
  - Short introduction to the assignment.
  - My suggestion of how to approach solving it.
  - You work on the assignment.

Exercises: Questions

- Jeppe Forgot to give you an equation for the transition path:

$$\tau_t = \tau_{ss} + \phi(B_{t-1} - B_{ss}) \tag{1}$$

1. Define transition path
2. Plot the DAG
3. What do the jacobians look like?
4. Find the transition path for $G_t = G_{ss} + 0.01 G_{ss} 0.95^t$
5. What explains household savings behavior?
6. What happens to consumption inequality?

Exercise 1: Define the transition path

$$\boldsymbol{H}(\{p_t^B\}_{t\geq 0}, \underline{\boldsymbol{D}}_t) \begin{bmatrix} p_t^B B_t - (B_{t-1} + G_t + \int \tau_t z_{i,t} d\boldsymbol{D}_t \\ \tau_t - (\tau_{ss} + \phi(B_{t-1} - B_{ss})) \\ B_t - A_t^{hh} \\ \boldsymbol{D}_t - \Pi_z \underline{\boldsymbol{D}}_t \\ \underline{\boldsymbol{D}}_{t+1} - \Lambda_t \boldsymbol{D}_t \\ \forall t \in \{0, 1, \ldots\}, \text{given } \underline{\boldsymbol{D}}_t \end{bmatrix} = \boldsymbol{0}$$

where $B_{-1} = \int a_{-1} d\underline{\boldsymbol{D}}_0$ and households solve their optimization problem every period with perfect foresight in regards to prices (p^B and also τ_t here)

Solving the assignment

- Step 0: Copy+paste a similar model into your work folder.
- Step 1: Solve the household problem and check that you can simulate as well. Check policy functions to see if behavior seems reasonable.
- Step 2: Solve for the stationary equilibrium
- Step 3: Solve for the transition path of some given shock
  - Use tests to check variables remain at steady-state level if not shocked when computing transition path
- Step 4: Answer assignment questions.