

# 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

- 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

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

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