ECON 8040 – TA Session 2

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Today's Session

- ⋆ Homework 2 due Friday, September 8, 9:00am
- ⋆ TA Session on Friday, September 8, 9:00am, Correll Hall 116
  - ⟶ Homework 1 grades

Question 1 – Lecture Notes

4) Show allocation is PE $\Leftrightarrow$ allocation solves Planner problem
   - $\Rightarrow$ If stuck, look at 6.a for inspiration. How do utilities change in α?
   - $\Leftarrow$ Fix Planner weights α; prove by contradiction
5) Find planner weights make Planner choose CE allocation
   - $\rightarrowtail$ Find PE allocation that is affordable with *zero* transfers
6) Negishi Method
   a) Solve Planner allocations as functions of weights $\alpha = (\alpha_1, \alpha_2)$
   b) Solve for transfers
   c) Show transfers are HD1 in α and sum to zero
   d) Solve ADCE prices and allocations
      - Find PE allocation such that transfers equal *zero*
      - Solve for prices, too!

Question 1 – Lecture Notes

7) Stochastic Arrow-Debreu Economy
    a) Show CE allocation is Pareto efficient
    b) Suppose $\pi(1) = \pi(2) = 0.5$. Solve ADCE.
8) Sequential Markets CE
9) Show equivalence of ADCE and SMCE
    - $\rightarrowtail$ Look at similar question on HW1

Question 2 – Stochastic Arrow-Debreu Economy

a) Define AD equilibrium
  - 2 consumers maximize *expected utility* subject to 1 budget constraint
  - 1 time period; 3 possible states of endowments $\mathcal{S} = \{s_1, s_2, s_3\}$
  - Thus, 3 market-clearing conditions

b) Define Pareto efficient allocation
  - Feasibility constraints
  - What is true of utilitities for consumers for all other feasible allocations?

c) Show ADCE is Pareto efficient
  - See proofs of FWT in lecture notes

Question 2 – Stochastic Arrow-Debreu Economy

d) Solve Stochastic ADCE

- WLOG normalize $p(s_1) = 1$
- FOCs wrt 3 choice variables for household i
- Replace prices on LHS of budget constraint
- Write $c^i(s_1)$ in terms of prices, endowments
- Use FOCs to write $c^i(s_2), c^i(s_3)$ in terms of prices, endowments
- Plug $c^i(s_j)$ for $i = 1, 2,\ j = 1, 2, 3$ into MCCs to solve prices
    - You'll have 3 equations for 2 unknowns, but solution is unique
- Solve allocations by replacing prices into equations for $c^i(s_j)$ you derived earlier