

2.1 The Problem (for PS#4)

As mentioned on the last section, you are basically asked to construct a lack of commitment of model, which is explained on pp.12-13 of the lecture note, by using Matlab. In particular, you need to solve for the constrained efficient allocation²² on this economy. The current economy is characterized as a two-sided lack of commitment model²³, which contains two agents whose income shocks exhibit perfectly negative correlation (i.e., if the agent 1 receives good shock, the agent 2 needs to receive the bad shock which is computed as the aggregate endowment minus the agent 1's income shock). The object of this exercise is to compute the consumption level for each agent in the case of each specific realization of income shock.

For the problem, we were given (i) the seven levels of income shock with equal probabilities: $y_s \in \{0.2, \dots, 0.8\}$ and $\pi_s = 1/7$, (ii) usual CRRA preference, (iii) two levels of discount factor: $\beta = 0.9$ or 0.7 , (iv) two specification of discount factors for the two agents: $\hat{\beta} = \beta$ or $\hat{\beta} = 0.9\beta$, (v) two levels of the coefficient of relative risk aversion: $\gamma = 0.5$ or 4 .