HOMEWORK 4

Volkan Eroztekin

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The Model

Household problem

$max_{a_{t+1}} U(z_t w_t \bar{l} + r_t a_t - a_{t+1}) + \beta E v(z_{t+1}, a_{t+1})$

Firm's problem

max $max_{K_{t+1}, N_t} \sum \frac{K_t^a N_t^{1-a} - w_t N_t - r_t K_t + (1-\delta) K_t}{\prod r_i}$

FOC: $K_{t+1} \rightarrow a K_{t+1}^{a-1} N_{t+1}^{1-a} - r_{t+1} + (1-\delta) = 0$

$N_t \rightarrow (1-a) K_t^a N_t^{-a} - w_t = 0$