Tarea 1

Macroeconomía II

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Dado que $U(c_t, l_t) = \gamma \ln c_t + \eta(1 - e_t l_t) - \frac{\theta}{2}(e_t - 1)^2$ entonces resolvemos el siguiente problema:

$$\max_{\{c_t, l_t\}_{t=0}^{\infty}} \quad \gamma \ln c_t + \eta(1 - e_t l_t) - \frac{\theta}{2}(e_t - 1)^2$$

$$st: \quad c_t + i_t = y_t$$

$$y_t = A_t k_t^{\alpha} (e_t l_t)^{1-\alpha}$$

$$k_{t+1} = (1 - \delta) k_t + \xi_t i_t$$

$$\gamma, \eta, \theta > 0$$

Las ecuaciones resultantes del proceso de optimización son las siguientes:

$$E_{t-1}[\frac{\gamma}{c_t}(1-\alpha)\frac{y_t}{e_t l_t} - \eta] = 0 \tag{1}$$

$$\frac{\gamma}{c_t}(1-\alpha)\frac{y_t}{e_t l_t} - \eta = \frac{\theta(e_t - 1)}{l_t} \tag{2}$$

$$\frac{1}{c_t \xi_t} = \beta[\alpha\frac{\gamma}{c_{t+1}}\frac{y_{t+1}}{k_{t+1}} + (1-\delta)\frac{\gamma}{c_{t+1}}\frac{1}{xi_{t+1}} \tag{3}$$

$$y_t = c_t + i_t \tag{4}$$

$$k_{t+1} = (1-\delta)k_t + \xi_t i_t \tag{5}$$

$$y_t = A_t k_t^{\alpha}(e_t l_t)^{1-\alpha} \tag{6}$$

$$\ln A_t = \rho \ln A_{t-1} + u_1 \tag{7}$$

$$\ln \xi_t = \rho_\xi \ln \xi_{t-1} + u_2 \tag{8}$$

$$u_1 \sim N(o, \sigma_A^2)$$

$$u_2 \sim N(o, \sigma_\xi^2)$$