Economics 314 Daily Problem #16

Spring 2020 February 26

The following equations describe Romer's basic RBC model

1.
$$Y_t = K_t^{\alpha} (A_t L_t)^{1-\alpha}$$

2.
$$K_{t+1} = K_t + Y_t - C_t - G_t - \delta K_t$$

3.
$$w_t = MPL = (1 - \alpha) \left(\frac{K_t}{A_t L_t} \right)^{\alpha} A_t$$

4.
$$r_t + \delta = MPK = \alpha \left(\frac{A_t L_t}{K_t}\right)^{1-\alpha}$$

$$5. N_{t} = e^{\bar{N}+nt}$$

6.
$$L_t = l_t N_t$$

7.
$$C_t = c_t N_t$$

8.
$$l_t = l \left[w_t, w_{t+1}^e, w_{t+2}^e, ..., r_t, \text{wealth} \right]$$

9.
$$c_t = c \left[w_t, w_{t+1}^e, w_{t+2}^e, \dots, r_t, \text{wealth} \right]$$

- 1. Suppose that there is an exogenous, positive shock to A_t . Describe how each of the endogenous variables of the model would be directly affected based on the equations above.
- 2. For each of the direct effects, describe what secondary effects would be transmitted to each of the endogenous variables.