$$q_t = 1 \tag{1}$$

$$1 = sdf_{t+1} \left(theta\, z_{t+1}\, k_t^{theta-1} + 1 - delta \right) \tag{2}$$

$$k_t = i_t + (1 - delta)\; k_{t-1} \tag{3}$$

$$z_t = rho\, z_{t-1} + 1 - rho + eps\_z_t \tag{4}$$

$$sdf_t = \frac{1}{1+r} \left(\frac{c_t}{c_{t-1}} \right)^{(-gamma)} \tag{5}$$

$$c_t = z_t\, k_{t-1}^{theta} - i_t \tag{6}$$