

$$y_t = c_{M_t} + x_t \quad (1)$$

$$(1-a)b(1-\eta)C_t^{(-e)}c_{H_t}^e h_{H_t}^{(-1)} = (1-b)l_t^{(-1)} \quad (2)$$

$$y_t C_t^{(-e)} a b (1-\tau_h) (1-\theta) c_{M_t}^{e-1} h_{M_t}^{(-1)} = (1-b)l_t^{(-1)} \quad (3)$$

$$\beta C_{t+1}^{(-e)} \left(a (1-\delta_H) c_{M_{t+1}}^{e-1} + (1-a) \eta c_{H_{t+1}}^e k_{H_t}^{(-1)} \right) = c_{M_t}^{e-1} C_t^{(-e)} a \lambda \quad (4)$$

$$\beta C_{t+1}^{(-e)} c_{M_{t+1}}^{e-1} (1+r_{t+1}(1-\tau_k) + \tau_k \delta_M - \delta_M) = c_{M_t}^{e-1} C_t^{(-e)} \lambda \quad (5)$$

$$y_t \theta k_{M_{t-1}}^{(-1)} = r_t \quad (6)$$

$$h_{M_t}^{(-1)} y_t (1-\theta) = w_t \quad (7)$$

$$y_t = k_{M_{t-1}}^\theta (h_{M_t} z_{M_t})^{1-\theta} \quad (8)$$

$$C_t = c_{M_t}^a c_{H_t}^{1-a} \quad (9)$$

$$l_t = 1 - h_{H_t} - h_{M_t} \quad (10)$$

$$c_{H_t} = k_{H_{t-1}}^\eta (h_{H_t} z_{H_t})^{1-\eta} \quad (11)$$

$$x_{M_t} = \lambda k_{M_t} - k_{M_{t-1}} (1-\delta_M) \quad (12)$$

$$x_{H_t} = k_{H_t} \lambda - (1-\delta_H) k_{H_{t-1}} \quad (13)$$

$$x_t = x_{M_t} + x_{H_t} \quad (14)$$

$$k_t = k_{H_t} + k_{M_t} \quad (15)$$

$$T_t = h_{M_t} \tau_h w_t + k_{M_{t-1}} \tau_k r_t - \tau_k \delta_M k_{M_{t-1}} \quad (16)$$

$$\log(z_{M_t}) = \rho_M \log(z_{M_{t-1}}) + \epsilon_{M_t} \quad (17)$$

$$\log(z_{H_t}) = \rho_H \log(z_{H_{t-1}}) + \epsilon_{H_t} \quad (18)$$