

$$\frac{1}{1+r_t} = \beta E_t \left[\left(\frac{C_{t+1}}{C_t} \right)^{-\sigma} \left(\frac{1+\tau_{VAT,t}}{1+\tau_{VAT,t+1}} \right) \frac{1}{(1+\pi_{t+1})} \right] \quad (1) \text{ Euler equation}$$

$$L_t = \left(\frac{w_t}{(1+\tau_{VAT,t})} \right)^{\frac{1}{\eta}} C_t^{-\frac{\sigma}{\eta}} \quad (2) \text{ Labor-leisure tradeoff equation}$$

$$MC_{t,t}^R = (1+\tau_t^P) w_t \quad (3) \text{ Marginal cost definition}$$

$$\Lambda_t Y_t = L_t \quad (4) \text{ Production function}$$

$$\Lambda_t = (1-\mu) (1+\pi_t^O)^{-\varepsilon} (1+\pi_t)^\varepsilon + (1+\pi_t)^\varepsilon \mu \Lambda_{t-1} \quad (5) \text{ Price dispersion index evolution}$$

$$(1+\pi_t^O) = \frac{\varepsilon}{\varepsilon-1} (1+\pi_t) \frac{x_t^1}{x_t^2} \quad (6) \text{ Pricing equation}$$

$$x_t^1 = Y_t MC_t^R + \left(\mu \frac{1}{1+r_t} \right) E_t (1+\pi_{t+1})^{1+\varepsilon} x_{t+1}^1 \quad (7) \text{ Auxiliary variable pricing 1}$$

$$x_t^2 = Y_t + \left(\mu \frac{1}{1+r_t} \right) E_t x_{t+1}^2 (1+\pi_{t+1})^\varepsilon \quad (8) \text{ Auxiliary variable pricing 2}$$

$$\tau_{VAT,t} C_t + \tau_t^P w_t L_t = G_t \quad (9) \text{ Government budget constraint}$$

$$G_t = \Delta_G Y_t \quad (10) \text{ Law of government expenditure}$$

$$(1+\pi_t)^{1-\varepsilon} = (1-\mu) (1+\pi_t^O)^{1-\varepsilon} + \mu \quad (11) \text{ Evolution of price index}$$

$$\frac{(1+r_t)}{(1+r^T)} = \left(\frac{(1+r_{t-1})}{(1+r^T)} \right)^{\phi_R} \left[\frac{(1+\tau_{VAT,t}) (1+\pi_t)}{(1+\tau_{VAT,t-1}) (1+\pi_{t-1})} \right]^{\phi_\pi} \left[\frac{\left(\frac{Y_t}{Y_{t-1}} \right)}{\left(\frac{g_Y}{g_Y} \right)} \right]^{1-\phi_\pi} \quad (12) \text{ Interest rate rule}$$

$$Y_t = C_t + G_t \quad (13) \text{ Goods market equilibrium}$$