Appendix

Equilibrium System

Households:

Euler equation:

$$u'(c_t^{e_H}) = \beta \mathbf{E}_t \left[(1+i_{t+1}) \left[e_{t+1}^H u'(c_{t+1}^{e_H}) + e_{t+1}^L u'(c_{t+1}^{e_L}) + u_{t+1} u'(c_{t+1}^u) + (1-l_{t+1}) u'(c_{t+1}^n)\right]\right] \tag{1}$$

Constraints:

$$x_t = b_{t+1} + (1+i_t)a_t - (1+i_t)b_t \tag{2}$$

$$c_t^{e_L} = x_t + (1-\tau_t)w_t^L \tag{3}$$

$$c_t^u = x_t + \tau_t^u \tag{4}$$

$$c_t^n = x_t \tag{5}$$

$$\begin{aligned} a_{t+1} = x_t + &(1-\tau_t)[e_t^H w_t^H + e_t^L w_t^L] + (1-\tau_t)D_t + u_t \tau_t^u + \\ &- [e_t^H c_t^{e_H} + e_t^L c_t^{e_L} + u_t c_t^u + (1-l_t)c_t^n] \end{aligned} \tag{6}$$

Employment accumulation:

$$e_t^x = \rho_t^x e_{t-1}^x + f_{x,t}^s s_t^x, \;\; for \;\; x \in \{H, L\} \tag{7}$$

with searchers s_t^x given by:

$$s_t^x = l_t^x - \rho_t^x e_{t-1}^x, \ for \ \ x \in \{H, L\} \tag{8}$$

Participation condition:

$$\begin{aligned} MRS_{N,C,t}^x - \Omega_t^x =& f_{x,t}^s \left[(1-\tau_t) w_t^x - \Upsilon_t^x \right] + \\ &+ f_{x,t}^s \beta \mathbf{E}_t \rho_{t+1}^x \frac{(1 - f_{x,t+1}^s)}{f_{x,t+1}^s} \frac{u'(c_{t+1}^{e_H})}{u'(c_t^{e_H})} (MRS_{N,C,t+1}^x - \Omega_{t+1}^x), \ for \ \ x \in \{H, L\} \end{aligned} \tag{9}$$

where:

$$MRS_{N,C,t}^x = \frac{\xi^x * (\mu^x - l_t^x)^{1-\phi}}{u'(c_t^{e_H})} \tag{10}$$

and:

$$\Omega_t^x = \tau_t^u + (c_t^n - c_t^u) + \frac{u(c_t^u) - (u(c_t^n) + \xi_t^x)}{u'(c_t^{e_H})} \tag{11}$$

$$\Upsilon_t^x = \tau_t^u + (c_t^{e_x} - c_t^u) + \frac{u(c_t^u) - (u(c_t^{e_x}) - (2+\iota)\chi_t^x)}{u'(c_t^{e_H})}, \quad for \ \ x \in \{H, L\} \tag{12}$$

Asset market equilibrium:

$$b_{t+1} = a_{t+1} = \bar{b}_t \tag{13}$$

Firms:

Optimal hiring:

$$\frac{k_t^H}{f_{H,t}^v} = q_t^H z_t - w_t^H + \mathbf{E}_t \left\{ \Lambda_{t,t+1} \rho_{t+1}^H \frac{k_{t+1}^H}{f_{H,t+1}^v} \right\} \tag{14}$$

$$\frac{k_t^L}{f_{L,t}^v} = q_t^L z_t - w_t^L + \mathbf{E}_t \left\{ \Lambda_{t,t+1} \rho_{t+1}^L \frac{k_{t+1}^L}{f_{L,t+1}^v} \right\} \tag{15}$$

Discount factor:

$$\Lambda_{t,t+1} = \beta \mathbf{E}_t \left\{ \frac{(1-\tau_{t+1}) u'(c_{t+1}^{e_H})}{(1-\tau_t) u'(c_t^{e_H})} \right\} \tag{16}$$

Dividends definition:

$$d_{H,t}^w = q_t^H z_t e_t^H - w_t^H e_t^H - k_t^H v_t^H \tag{17}$$

$$d_{L,t}^w = q_t^L z_t e_t^L - w_t^L e_t^L - k_t^L v_t^L \tag{18}$$

Desired sector-specific price:

$$\frac{p_{x,t}^*}{P_t} = \frac{p_{x,t}^A}{p_{x,t}^B}, \ for \ x \in \{H, L\} \tag{19}$$

with:

$$p_{x,t}^A = \frac{\varepsilon_p}{\varepsilon_p - 1} q_t^x \Psi_t^x + \mathbf{E}_t \Lambda_{t,t+1} (1-\theta) \pi_{t+1,t}^{\epsilon_p} p_{x,t+1}^A \tag{20}$$

and:

$$p_{x,t}^B = \Psi_t^x + \mathbf{E}_t \Lambda_{t,t+1} (1-\theta) \pi_{t+1,t}^{\epsilon_p - 1} p_{x,t+1}^B \tag{21}$$

and :

$$\Psi_t^x = (\frac{P_t^x}{P_t})^{\epsilon_p - \epsilon_s} Y_t \tag{22}$$

Sector-specific and aggregate prices:

$$\frac{P_t^x}{P_t} = \left(\theta(\frac{p_{x,t}^*}{P_t})^{1-\epsilon_p} + (1-\theta)(\frac{P_{t-1}^x}{P_t})^{1-\epsilon_p}\right)^{\frac{1}{1-\epsilon_p}},\ for\ x \in \{H, L\} \tag{23}$$

$$P_t = \left[\gamma^H (P_t^H)^{1-\epsilon_s} + \gamma^L (P_t^L)^{1-\epsilon_s}\right]^{\frac{1}{1-\epsilon_s}} \rightarrow 1 = \left[\gamma^H (\frac{P_t^H}{P_t})^{1-\epsilon_s} + \gamma^L (\frac{P_t^L}{P_t})^{1-\epsilon_s}\right]^{\frac{1}{1-\epsilon_s}} \tag{24}$$

Output:

$$\varsigma_t^x Y_t^x = z_t e_t^x,\ for\ x \in \{H, L\} \tag{25}$$

where Y_t^x is defined as:

$$Y_t^x = \gamma^x (\frac{P_t^x}{P_t})^{-\epsilon_s} Y_t,\ for\ x \in \{H, L\} \tag{26}$$

Price dispersion:

$$\varsigma_t^x = \theta(\frac{p_{x,t}^*}{P_t^x})^{-\epsilon_p} + (1-\theta)(\frac{P_t^x}{P_{t-1}^x})^{\epsilon_p} \varsigma_{t-1}^x,\ for\ x \in \{H, L\} \tag{27}$$

Total dividends:

$$D_t = d_t^H + d_t^L \tag{28}$$

$$\text{where :} \tag{29}$$

$$d_t^x = Y_t (\frac{P_t^x}{P_t})^{1-\epsilon_s} - \frac{1}{\gamma^x} q_t^x z_t e_t^x + d_{x,t}^w,\ for\ x \in \{H, L\} \tag{30}$$

Government

Government budget constraint:

$$\tau_t [e_t^H w_t^H + D_t + e_t^L w_t^L] = u_t \tau_t^u \tag{31}$$

Unemployment Insurance:

$$\tau_t^u = 0.5 * \bar{w}_{t-1}^L + \varepsilon_{\tau,t} \tag{32}$$

Taylor rule:

$$1 + i_t = (1 + \bar{i})(\frac{P_t}{P_{t-1}})^{\psi} e^{\epsilon_{it}}$$

Labor Market:

Job finding rate:

$$f_{x,t}^s = \alpha_m^x (\frac{v_t^x}{s_t^x})^{1-\alpha}, \ for \ x \in \{H, L\} \tag{33}$$

Job filling rate:

$$f_{x,t}^v = \alpha_m^x (\frac{v_t^x}{s_t^x})^{-\alpha}, \ for \ x \in \{H, L\} \tag{34}$$

Wages:

Bargained wage:

$$w_{x,t}^* = \vartheta \left(q_t^x z_t + \mathbf{E}_t \Lambda_{t,t+1} \rho_{t+1}^x f_{x,t+1}^s \frac{k_{t+1}^x}{f_{x,t+1}^v} \right) + (1 - \vartheta) \frac{\Upsilon_t^x}{1 - \tau_t} \tag{35}$$

Shocks:

Productivity:

$$log(z_t) = (1 - \rho_z)log(\bar{z}) + \rho_z log(z_{t-1}) + \sigma_z \varepsilon_{z,t} \tag{36}$$

Separation:

$$log(\rho_t^x) = (1 - \rho_\rho^x)log(\bar{\rho^x}) + \rho_\rho^x log(\rho_{t-1}^x) + \sigma_{\rho^x} \varepsilon_{\rho^x,t}, \;\; for \;\; x \in \{H, L\} \tag{37}$$

Borrowing:

$$\bar{b}_t = (1 - \rho_b)(\bar{b}) + \rho_b \bar{b}_{t-1} + \sigma_b \varepsilon_{b,t} \tag{38}$$

Monetary policy:

$$\epsilon_{it} = \rho_i \epsilon_{i,t-1} + \sigma_i \varepsilon_{it} \tag{39}$$