First Order Conditions:

Households

$$
\begin{aligned}
u_t &= c_t^{\nu_{EZ}} (1-L)^{(1-\nu_{EZ})} \\
ev_t &= v_{t+1}^{1-\gamma_{EZ}} \\
v_t &= (1-\beta) u_t^{\frac{1-\gamma_{EZ}}{\theta_{EZ}}} + \beta \left(ev_t^{\frac{1}{\theta_{EZ}}} \right)^{\frac{\theta_{EZ}}{1-\gamma_{EZ}}} \\
\frac{1-\nu_{EZ}}{\nu_{EZ}} \frac{c_t}{1-L_t} &= P_m (1-\alpha) \frac{Y_t}{L_t} \\
\Lambda_t &= \left(\frac{u_{t+1}}{u_t} \right)^{\frac{1-\gamma_{EZ}}{\theta_{EZ}}} \frac{c_t}{c_{t+1}} \left(v_{t+1}^{\frac{1-\gamma_{EZ}}{ev_t}} \right)^{1-\frac{1}{\theta_{EZ}}} \\
\beta \Lambda_t R_{t+1} &= 1
\end{aligned}
$$

Financial Intermediaries

$$
\begin{aligned}
\nu_t &= (1-\theta)\beta\Lambda_{t+1}(R_{k,t+1} - R_t) + \beta\Lambda_{t+1}\theta x_{t+1}\nu_{t+1} \\
\eta_t &= (1-\theta) + \beta\Lambda_{t+1}\theta z_{t+1}\eta_{t+1} \\
\phi_t &= \frac{\eta_t}{\lambda - \nu_t} \\
z_t &= (R_{k,t+1} - R_t)\phi_{t-1} + R_{t-1} \\
x_t &= \frac{\phi_t}{\phi_{t-1}} z_t \\
Q_t K_t &= \phi_t N_t \\
N_t &= N_{et} + N_{nt} \\
N_{et} &= \theta z_t N_{t-1} (-e_{Ne,t}) \\
N_{nt} &= \omega Q_t \xi_t K_{t-1}
\end{aligned}
$$

Final good producer

$$
\begin{aligned}
R_{k,t} &= P_{mt} \alpha \frac{Y_{mt}}{K_{t-1}} + \xi_t \frac{Q_t - \delta_t}{Q_{t-1}} \\
Y_{mt} &= a_t \xi_t U_t K_{t-1}^{\alpha} L_t^{1-\alpha}
\end{aligned}
$$

Capital Good Producer

$$
\begin{aligned}
Q_t &= 1 + \frac{\eta_i}{2} \left(\frac{I_n + I_{ss}}{I_{n,\tau-1} + I_{ss}} - 1 \right)^2 + \eta_i \left(\frac{I_n + I_{ss}}{I_{n,\tau-1} + I_{ss}} - 1 \right) \frac{I_n + I_{ss}}{I_{n,\tau-1} + I_{ss}} \\
&\quad - \beta\Lambda_{t+1}\eta_i \left(\frac{I_n + I_{ss}}{I_n + I_{ss}} - 1 \right) \left(\frac{I_n + I_{ss}}{I_n + I_{ss}} \right)^2 \\
\delta_t &= \delta_c + \frac{b}{1+\zeta} U_t^{1+\zeta} \\
P_{mt} \alpha \frac{Y_{m,t}}{U_t} &= b U_t^{\zeta} \xi_t K_{t-1} \\
In &= I_t - \delta - t\xi_t K_{t-1} \\
K_t &= \xi_t K_{t-1} + In \\
G_t &= G_{ss} g_t
\end{aligned}
$$

Equilibrium

$$
\begin{aligned}
Y_t &= c_t + G_t I_t + \frac{\eta_i}{2}\left(\frac{I_n + I_{ss}}{I_{n,t-1} + I_{ss}} - 1\right)^2 (I_n + I_{ss}) \\
Y_{mt} &= Y_t D_t \\
D_t &= \gamma D_{t-1} \pi_{t-1}^{-\gamma_P \epsilon} \pi^{\epsilon} + (1-\gamma)\left(\frac{1-\gamma \pi_{t-1}^{\gamma_P(1-\gamma)} \pi^{\gamma-1}}{1-\gamma}\right)^{\frac{-\epsilon}{1-\gamma}} \\
x_t &= \frac{1}{P_{mt}} \\
F_t &= Y_t P_{mt} + \beta\gamma\Lambda_{t+1}\pi_{t+1}^{\epsilon}\pi^{-\epsilon\gamma_P} F_{t+1} \\
Z_t &= Y_t + \beta\gamma\Lambda_{t+1}\pi_{t+1}^{\epsilon-1}\pi_t^{\gamma_P(1-\epsilon)} Z_{t+1} \\
\pi_t^* &= \frac{\epsilon}{\epsilon-1}\frac{F_t}{Z_t}\pi_t \\
\pi^{1-\epsilon} &= \gamma \pi_{t-1}^{\gamma_P(1-\epsilon)} + (1-\gamma)(\pi_t^*)^{1-\epsilon} \\
i_t &= R_t \pi_{t+1} \\
i_t &= i_{t-1}^{\rho_i}\left(\frac{1}{\beta}\pi_t^{\kappa_\pi}\left(\frac{X_t}{\frac{\epsilon}{\epsilon-1}}\right)^{\kappa_y}\right)^{1-\rho_i} e_{it}
\end{aligned}
$$

shocks

$$
\begin{aligned}
a &= \rho_a a_{t-1} - e_a \\
\xi_t &= \rho_\xi \xi_{t-1} - e_\xi \\
g_t &= \rho_g * g_{t-1} \\
K_{eff,t} &= \xi_t K_{t-1} \\
w_t &= P_{mt}(1-\alpha)\frac{Y_t}{L_t} \\
VMPK_t &= P_{mt}\alpha\frac{Y}{\xi_t K_{t-1}} \\
W_{elf,t} &= \log(C_t - hhC_{t-1}) - \frac{\chi L_t^{1+\varphi}}{1+\varphi} + \beta * W_{elf,t+1} \\
prem &= \frac{R_{k,t+1}}{R_t}
\end{aligned}
$$