

$$g = \phi \left( 1 + \lambda \left( Z_D + V_D - 1 \right) \right) \quad (1)$$

$$g Z_D = \phi \left( Z_D + V_D \left( 1 - \lambda \right) \right) \quad (2)$$

$$V_D = \zeta Z_D^{1-\eta} N_D^\eta \quad (3)$$

$$J = \lambda H + J \phi \left( 1 - \lambda \right) \Lambda \quad (4)$$

$$H = \Pi + \phi H \Lambda \quad (5)$$

$$\Pi = \frac{1}{\vartheta} \frac{1}{\mathcal{M}} Y_D^W \quad (6)$$

$$\zeta \eta J \left( \frac{Z_D}{N_D} \right)^{1-\eta} = 1 + f'(\cdot) \left| \frac{g N_D}{N_D} + f(\cdot) \right| - \Lambda f'(\cdot) \left| \left( \frac{g N_D}{N_D} \right)^2 \right. \quad (7)$$

$$Y_D = Y_D^W \quad (8)$$

$$Y_D^W = \left( \frac{K_D}{g} \right)^\alpha L^{1-\alpha} \quad (9)$$

$$Y_D = N_D + C_D + (1 + g(\cdot)) I_D \quad (10)$$

$$\Lambda = \frac{\beta U_{CD}}{U_{CD}} g^{(-\rho)} \quad (11)$$

$$U_{CD} = \left( C_D - \Gamma_D \frac{\chi}{1+\epsilon} L^{1+\epsilon} \right)^{(-\rho)} + \mu_D \gamma \left( \frac{\Gamma_D}{g C_D} \right)^{1-\gamma} \quad (12)$$

$$\mu_D = \beta \left( 1 - \gamma \right) g^{(-\rho)} \mu_D \left( \frac{g C_D}{\Gamma_D} \right)^\gamma - L^{1+\epsilon} \frac{\chi}{1+\epsilon} \left( C_D - \Gamma_D \frac{\chi}{1+\epsilon} L^{1+\epsilon} \right)^{(-\rho)} \quad (13)$$

$$\left( C_D - \Gamma_D \frac{\chi}{1+\epsilon} L^{1+\epsilon} \right)^{(-\rho)} \Gamma_D \chi L^\epsilon \frac{1}{U_{CD}} = (1 - \alpha) \frac{1}{\mathcal{M}} \frac{\vartheta - 1}{\vartheta} \frac{Y_D}{L} \quad (14)$$

$$\Gamma_D = C_D^\gamma \left( \frac{\Gamma_D}{g} \right)^{1-\gamma} \quad (15)$$

$$K_D = I_D + \frac{K_D}{g} \left( 1 - \delta \right) \quad (16)$$

$$Q = 1 + g(\cdot) \left| \frac{g I_D}{I_D} g'(\cdot) \right| - g'(\cdot) \left| \Lambda \left( \frac{g I_D}{I_D} \right)^2 \right. \quad (17)$$

$$Q = \Lambda \left( \frac{\alpha Y_D^W g (\vartheta - 1)}{\vartheta \mathcal{M} K_D} + (1 - \delta) Q \right) \quad (18)$$

$$\log (\zeta) = \log (\zeta) \rho_{\zeta} + 0.1 \epsilon^{\chi} \quad (19)$$

$$\mathcal{R}_D = V_D J \quad (20)$$

$$f(\cdot)| = \frac{\psi_N}{2} \left( \frac{g N_D}{N_D} - g^{BGP} \right)^2 \quad (21)$$

$$f'(\cdot)| = \psi_N \left( \frac{g N_D}{N_D} - g^{BGP} \right) \quad (22)$$

$$g(\cdot)| = \frac{\psi_I}{2} \left( \frac{g I_D}{I_D} - g^{BGP} \right)^2 \quad (23)$$

$$g'(\cdot)| = \psi_I \left( \frac{g I_D}{I_D} - g^{BGP} \right) \quad (24)$$