The equations below are a typeset version of the equations contained in the script 'Initialise.R', used to initialise and parametrise the model.

$$n_f = 50 \tag{1}$$

$$s^j = \frac{1}{n_f} \qquad \forall j \in n_f \tag{2}$$

$$k = 18000 \tag{3}$$

$$k^j = Ks^j \qquad \forall j \in n_f \tag{4}$$

$$w = 1 \tag{5}$$

$$u = 0.8 \tag{6}$$

$$kappa = 0.25 \tag{7}$$

$$c = u\kappa k \tag{8}$$

$$\kappa_L = 0.065 \tag{9}$$

$$\Omega = 0.5 \tag{10}$$

$$\Omega_c^j = \Omega \qquad \forall j \in n_f \tag{11}$$

$$p_k = (1 + \Omega)w \tag{12}$$

$$K = kp_k \tag{13}$$

$$K^j = Ks^j \qquad \forall j \in n_f \tag{14}$$

$$\delta = 0.015 \tag{15}$$

$$p_c^j = (1 + \Omega^j)w \qquad \forall j \in n_f \tag{16}$$

(17) $$i = \delta k$$

(18) $$W_k = wi$$

(19) $$y = c + i$$

(20) $$i^j = is_j \qquad \forall j \in n_f$$

(21) $$c_d = c$$

(22) $$c_d^j = c_d s^j \qquad \forall j \in n_f$$

(23) $$Y = c_d \overline{p_c} + ip_k$$

(24) $$C^j = s^j p_c^j c_d \qquad \forall j \in n_f$$

(25) $$N_c = c_d + \kappa_L \kappa k(1 - \delta)$$

(26) $$W_c = N_c w$$

(27) $$W_c^j = W_c s^j \qquad \forall j \in n_f$$

(28) $$CF^j = C^j - W_c^j \qquad \forall j \in n_f$$

(29) $$YD = c_d \overline{p_c}$$

(30) $$Lev = 0.6$$

(31) $$L = Lev * K$$

(32) $$L^j = Ls^j \qquad \forall j \in n_f$$

(33) $$r_0 = 0.0125$$

(34) $$\theta = \delta$$

$$\gamma = 0.44 \tag{35}$$

$$int^j = i^j p_k - \theta L^j + \gamma CF^j \qquad \forall j \in n_f \tag{36}$$

$$gap^j = C^j - W_c^j - \theta L^j - \gamma CF^j \qquad \forall j \in n_f \tag{37}$$

$$r_L^j = \frac{(gap^j - (int^j - \gamma CF^j))}{L^j} \qquad \forall j \in n_f \tag{38}$$

$$\mu_2 = \frac{\overline{-CF^j r_0 + CF^j r_L^j}}{(L^j - \theta L^j + p_k i^j - (int^j - \gamma CF^j))(r_L^j + \theta)} \tag{39}$$

$$CAR = 0.12 \tag{40}$$

$$E_b = CARL \tag{41}$$

$$E_{fk} = 0 \tag{42}$$

$$D = L - E_b \tag{43}$$

$$D_f^j = 0 \qquad \forall j \in n_f \tag{44}$$

$$D_h = D - \sum_{j=1}^{n_f} (D_f^j) \tag{45}$$

$$E_{fc}^j = K^j + D_f^j - L^j \qquad \forall j \in n_f \tag{46}$$

$$\alpha_1 = 0.8 \tag{47}$$

$$\alpha_2 = \frac{YD - alpha1 * YD}{D_h + E_b \sum_{j=1}^{n_f} (D_f^j)} \tag{48}$$

$$V_h = D_h + \sum_{j=1}^{n_f} (D_f^j) + E_b \tag{49}$$

(50) $$\lambda_1 = 0.76$$

(51) $$\iota_1 = -1.9$$

(52) $$\iota_2 = 0.8$$

(53) $$\chi = 0.75$$

(54) $$Div_b = \overline{r_L^j} L$$

(55) $$Div_{fk} = ip_k - W_k$$

(56) $$Pr_{fc}^j = C^j - W_c^j - i^j p_k + (K^j - \delta k^j p_k + i^j p_k - K^j) - r_L^j L^j \qquad \forall j \in n_f$$

(57) $$Div_{fc}^j = Pr_f c^j \qquad \forall j \in n_f$$

(58) $$\beta_1 = \frac{\overline{r_L^j L^j + \theta L^j}}{\overline{CF^j}}$$

(59) $$\beta_2 = 0.06$$

(60) $$r_d = r_0$$

(61) $$Q^j = CF^j/(\delta + r_d) \qquad \forall j \in n_f$$

(62) $$p_k^{s,j} = p_k + \left(1 - \frac{int^j - \gamma CF^j}{i^j p_k}\right)\theta + r_d \frac{r_L^j}{\theta + r_d} p_k \qquad \forall j \in n_f$$

(63) $$\mu_1 = -\frac{\overline{\left(\left(p_k + \left(1 - \frac{(int^j - \gamma CF^j)}{(i^j p_k)}\right)\frac{r_L^j p_k}{\theta + r_d}\right)(k^j - \delta k^j) - Q^j\right)}}{\overline{(i^j p_k)^2}} \qquad \forall j \in n_f$$

(64) $$p_k^{d,j} = \frac{Q^j - \mu_1 (i^j p_k)^2}{k^j - \delta k^j} \qquad \forall j \in n_f$$

$$opt = 1.1 \tag{65}$$

$$pes = 0.9 \tag{66}$$

$$\varepsilon = -1.1 \tag{67}$$

$$\eta = -50 \tag{68}$$

$$\rho = 0.5 \tag{69}$$

$$\tau = 47 \tag{70}$$

$$\lambda_2 = 0.12 \tag{71}$$

$$\phi_g = 1 \tag{72}$$

$$\phi_{b1} = 0.6 \tag{73}$$

$$\sigma = 2.8 \tag{74}$$

$$\phi_{b2} = 0.9 \tag{75}$$

$$\phi_{div} = 8 \tag{76}$$