The model

$$y_t = Y_t - \overline{Y}_t \tag{1}$$

$$\overline{Y}_t = \overline{Y}_{t-1} - \theta(\overline{U}_t - \overline{U}_{t-1}) - (1-\theta)(\overline{U}_{t-1} - \overline{U}_{t-20})/19 + G_t^{\overline{Y}}/4 + \varepsilon_t^{\overline{Y}} \tag{2}$$

$$G_t^{\overline{Y}} = \tau G_{SS}^{\overline{Y}} + (1-\tau) G_{t-1}^{\overline{Y}} + \varepsilon_t^{G^{\overline{Y}}} \tag{3}$$

$$y_t = \rho_1 y_{t-1} - \frac{\rho_2}{100}(\pi 4_{t-1} - \pi 4_{t-1}^{LTE}) + \varepsilon_t^y \tag{4}$$

$$\pi 4_t = \pi 4_{t-1} + \beta y_t + \Omega(y_t - y_{t-1}) + \varepsilon_t^{\pi 4} \tag{5}$$

$$\pi 4_t^{LTE} = \pi 4_{t-1}^{LTE} + \varepsilon_t^{\pi 4^{LTE}} \tag{6}$$

$$u_t = \overline{U}_t - U_t \tag{7}$$

$$\overline{U}_t = \overline{U}_{t-1} + G_t^{\overline{U}} - \frac{\omega}{100} y_{t-1} - \frac{\lambda}{100}(\overline{U}_{t-1} - U^{ss}) + \varepsilon_t^{\overline{U}} \tag{8}$$

$$G_t^{\overline{U}} = (1-\alpha) G_{t-1}^{\overline{U}} + \varepsilon_t^{G^{\overline{U}}} \tag{9}$$

$$u_t = \phi_1 u_{t-1} + \phi_2 y_t + \varepsilon_t^u \tag{10}$$

$$c_t = C_t - \overline{C}_t \tag{11}$$

$$\overline{C}_t = \overline{C}_{t-1} + G_t^{\overline{C}} + \varepsilon_t^{\overline{C}} \tag{12}$$

$$G_t^{\overline{C}} = (1-\delta) G_{t-1}^{\overline{C}} + \varepsilon_t^{G^{\overline{C}}} \tag{13}$$

$$c_t = \kappa_1 c_{t-1} + \kappa_2 y_t + \varepsilon_t^c \tag{14}$$

Model in IRIS

```
LGDP = LGDP_BAR + Y;
LGDP_BAR = LGDP_BAR{-1} + G/4 + RES_LGDP_BAR
    - lab_share*(UNR_BAR - UNR_BAR{-1}) -(1-lab_share)*(UNR_BAR{-1} - UNR_BAR{-20})/19;
G = (1-tau)*G{-1} + tau*growth_ss + RES_G;
Y = rho1*Y{-1} - rho2/100*(PIE4{-1} - PIELTE{-1}) + RES_Y;
GROWTH = 4*(LGDP - LGDP{-1});
GROWTH4 = LGDP - LGDP{-4};
GROWTH_BAR = 4*(LGDP_BAR - LGDP_BAR{-1});
GROWTH4_BAR = LGDP_BAR - LGDP_BAR{-4};

PIELTE = PIELTE{-1} + RES_PIELTE;
PIE4 = PIE4{-1} + beta*Y + omega*(Y - Y{-1}) + RES_PIE;

UNR_GAP = UNR_BAR - UNR;
UNR_BAR = UNR_BAR{-1} + UNR_G
    - parhist/100*Y{-1} - lambda/100*(UNR_BAR{-1} - unr_ss) + RES_UNR_BAR;
UNR_G = (1-alpha)*UNR_G{-1} + RES_UNR_G;
UNR_GAP = phi1*UNR_GAP{-1} + phi2*Y + RES_UNR_GAP;

CAPU = CAPU_BAR + CAPU_GAP;
CAPU_BAR = CAPU_BAR{-1} + CU_G + RES_CAPU_BAR;
CU_G = (1 - delta)*CU_G{-1} + RES_CU_G;
CAPU_GAP = kappa1*CAPU_GAP{-1} + kappa2*Y + RES_CAPU_GAP;
```