THE MONETARY APPROACH TO THE BALANCE OF PAYMENTS

CHAPTER 6

265-266

$$\int_0^\infty [u(c_t) + v(m_t)] \exp(-\beta_t)\, dt \qquad (6.1)$$

$$\dot{M}_t = E_t y + E_t \tau_t - E_t c_t \qquad (6.2)$$

$$\dot{m}_t = \frac{\dot{M}_t}{E_t} - \varepsilon_t m_t \qquad (6.3)$$

$$\dot{m}_t = y + \tau_t - c_t - \varepsilon_t m_t \qquad (6.4)$$

$$H = u(c_t) + v(m_t) + \lambda_t (y + \tau_t - c_t - \varepsilon_t m_t) \qquad (6.5)$$

$$\frac{\partial H}{\partial c_t} = u'(c_t) - \lambda_t = 0 \qquad (6.6)$$

$$\dot{\lambda}_t = \beta \lambda_t - \frac{\partial H}{\partial m_t} = (\beta + \varepsilon)\lambda_t - v'(m_t) \qquad (6.7)$$

$$u'(c_t) = \lambda_t,$$

$$\underbrace{\frac{v'(m_t)}{\lambda_t} - \varepsilon_t}_{\text{"Net dividend"}} + \underbrace{\frac{\dot{\lambda_t}}{\lambda_t}}_{\text{Capital gain}} = \beta \qquad (6.8)$$

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$$\dot{c}_t = -\frac{1}{u''(c_t)}[v'(m_t) - (\beta + \varepsilon_t)u'(c_t)] \qquad (6.9)$$

$$\dot{h}_t = \frac{\dot{M}_t}{P_t} - \tau_t \qquad (6.10)$$

$$\frac{\dot{D}_t}{D_t} = \theta\ _t \qquad (6.11)$$

$$\dot{h}_t = \dot{m}_t \qquad (6.12)$$

$$\tau_t = \varepsilon_t m_t \qquad (6.13)$$

$$\dot{h}_t = y - c_t \qquad (6.14)$$

$$\dot{m}_t = y - c_t \qquad (6.15)$$

$$c_{ss} = y, \qquad (6.16)$$

$$v(m_{ss}) = u'(y)(\beta + \varepsilon), \qquad (6.17)$$

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$$m_{ss} = L(y, \beta + \ \varepsilon), \qquad (6.18)$$

$$\begin{bmatrix} \dot{c}_t \\ \dot{m}_t \end{bmatrix} = \begin{bmatrix} \beta+\varepsilon \frac{-v''(m_{ss})}{u''(y)} \\ -1 & 0 \end{bmatrix} \begin{bmatrix} c_t - y \\ m_t - m_{ss} \end{bmatrix} \qquad (6.19)$$

$$(\beta + \varepsilon)\, u'(c_t) = v'(m_t) \qquad (6.20)$$

$$\int_0^\infty [\log(c_t^T) + \log(c_t^N) + \log(z_t)\ ] \exp(-\beta_t)\, dt, \qquad (6.21)$$

$$P_t \equiv \sqrt{P_t^T P_t^N} \qquad (6.22)$$

$$\int_0^\infty \left[\log(c_t^T) + \log(c_t^N) + \log(m_t) + \left(\frac{1}{2}\right) \log(e_t)\right] \exp(-\beta_t)\, dt \qquad (6.23)$$

$$\dot{m}_t = y_t^T + \frac{y_t^N}{e_t} + \tau_t - c_t^T - \frac{c_t^N}{e_t} - \varepsilon_t m_t \qquad (6.24)$$

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$m_{ss} = L(y, \beta + \varepsilon),$ (6.18)

$\begin{bmatrix} \dot{c}_t \\ \dot{m}_t \end{bmatrix} = \begin{bmatrix} \beta+\varepsilon \frac{-v''(m_{ss})}{u''(y)} & \\ -1 & 0 \end{bmatrix} \begin{bmatrix} c_t - y \\ m_t - m_{ss} \end{bmatrix}$ (6.19)

$(\beta + \varepsilon)\, u'(c_t) = v'(m_t)$ (6.20)

$\int_0^\infty [\log(c_t^T) + \log(c_t^N) + \log(z_t)\ ] \exp(-\beta_t)\, dt,$ (6.21)

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$\int_0^\infty \left[\log(c_t^T) + \log(c_t^N) + \log(m_t) + \left(\frac{1}{2}\right) \log(e_t)\right] \exp(-\beta_t)\, dt$ (6.23)

$\dot{m}_t = y_t^T + \frac{y_t^N}{e_t} + \tau_t - c_t^T - \frac{c_t^N}{e_t} - \varepsilon_t m_t$ (6.24)

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$$y_t^T = Z^T (n_t^T)^{\alpha} \quad (6.25)$$

$$y_t^N = Z^N n_t^N \quad (6.26)$$

$$n = n_t^T + n_t^N \quad (6.27)$$

$$\frac{1}{c_t^T} = \lambda_t \quad (6.28)$$

$$\frac{1}{c_t^N} = \frac{\lambda_t}{e_t} \quad (6.29)$$

$$\alpha Z^T (n_t^T)^{\alpha-1} = \frac{Z^N}{e_t} \quad (6.30)$$

$$\dot{\lambda}_t = (\beta + \varepsilon_t)\lambda_t - \frac{1}{m_t} \quad (6.31)$$

285-86

$$\frac{c_t^N}{c_t^T} = e_t \quad (6.32)$$

$$\frac{c_t^T}{c_t^N} = \frac{\alpha Z^T (n_t^T)^{\alpha-1}}{Z^N} \quad (6.33)$$

$$c_t^N = y_t^N \quad (6.34)$$

$$\dot{m}_t = y_t^T - c_t^T \quad (6.35)$$

$$\dot{c}_t^T = c_t^T \left(\frac{c_t^T}{m_t} - \beta - \varepsilon_t \right) \quad (6.36)$$

$$\dot{m}_t = Z^T (n_t^T)^{\alpha} - c_t^T \quad (6.37)$$

$$c_t^T = \frac{\alpha Z^T (n - n_t^T)}{(n_t^T)^{1-\alpha}} \quad (6.38)$$

286, 289 & 292

$$n_t^T = \psi(c_t^T) \qquad (6.39)$$

$$\dot{m}_t = Z^T[\psi(c_t^T)]^\alpha - c_t^T \qquad (6.40)$$

$$m_{ss} = \frac{c_{ss}^T}{\beta+\varepsilon} \qquad (6.41)$$

$$c_{ss}^T = Z^T[\psi(c_t^T)]^\alpha \qquad (6.42)$$

$$\frac{dy_{ss}^T}{dy_{ss}^N} = -\alpha \frac{Z^T}{Z^N}\left(\frac{y_{ss}^T}{Z^T}\right)^{1-1/\alpha} < 0 \qquad (6.43)$$

$$y_t \equiv y_t^T + \frac{y_t^N}{e_t} \qquad (6.44)$$

297 & 299-300

$$v'(m_t) = (\beta + \varepsilon_t)u'(y) \qquad (6.45)$$

$$\frac{\dot{m}_t}{m_t} = \mu - \varepsilon_t \qquad (6.46)$$

$$\dot{m}_t = m_t\left[\mu + \beta - \frac{v'(m_t)}{u'(y)}\right] \qquad (6.47)$$

$$\frac{v'(m_t)}{u'(y)} = \mu + \beta \qquad (6.48)$$

$$\int_0^\infty [\log(c_t) + \log(x_t)] \exp(-\beta t)\, dt \qquad (6.49)$$

$$qx_t = f_t \qquad (6.50)$$

$$(1 - q)x_t = m_t \qquad (6.51)$$

$$a_t \equiv m_t + f_t \qquad (6.52)$$

$$\dot{a}_t = y + \tau_t - c_t - \varepsilon_t m_t \qquad (6.53)$$

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$$\dot{x}_t = y - \tau_t - c_t - (1 - q)\varepsilon_t x_t \qquad (6.54)$$

$$\frac{1}{c_t} = \lambda_t \qquad (6.55)$$

$$\dot{\lambda}_t = \beta\lambda_t - \frac{\partial H}{\partial x_t} = \lambda_t[\beta + (1 - q)\varepsilon_t] - \frac{1}{x_t} \qquad (6.56)$$

$$\tau_t = \frac{\dot{M}_t}{E_t} \qquad (6.57)$$

$$\dot{f}_t = y - c_t \qquad (6.58)$$

$$\dot{c}_t = c_t\left[\frac{c_t}{x_t} - \beta - (1 - q)\varepsilon_t\right] \qquad (6.59)$$

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$$\varepsilon_t = \mu - \frac{\dot{x}_t}{x_t} \qquad (6.60)$$

$$\varepsilon_t = \mu - \frac{y - c_t}{q x_t} \qquad (6.61)$$

$$\dot{c}_t = c_t \left[\frac{y}{x_t} - \beta - \frac{1}{2}\mu \right] \qquad (6.62)$$

$$\dot{x}_t = 2(y - c_t) \qquad (6.63)$$

$$c_{ss} = y \qquad (6.64)$$

$$x_{ss} = \frac{y}{\beta + \frac{1}{2}\mu} \qquad (6.65)$$