Recap for the Dynare code

05/2017

This note summarises the key equations in "Macroeconomic Volatility and Exchange Rate Pass-through under Internationalized Production" (Eyquem and Kamber, 2009).

The following error message is displayed when runnuing the code.

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There are 3 eigenvalue(s) larger than 1 in modulus for 4 forward-looking
variable(s)
The rank condition ISN'T verified!
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1 Parameter calibration

$\sigma = 1$	$\psi = 3$	$\rho_c = 0.86$	$\mu = 1$
$\phi = 1$	$\alpha = 0.2$	$\rho_a = 0.66$	$\gamma = 0.2$
$\beta = 0.99$	$\eta = 0.75$	$\phi_\pi = 1.5$	

2 Model

2.1 Domestic Block

$$\psi n_t + \sigma c_t = \omega_t - \alpha s_t \tag{1}$$

$$c_t = \mathbb{E}_t\{c_{t+1}\} - \frac{1}{\sigma_t}\Big(r - \pi_{t+1} + \alpha(\mathbb{E}_t\{s_{t+1}\} - s_t)\Big) \tag{2}$$

$$\pi_t = \beta\pi_{t+1} + \frac{(1-\eta\beta)(1-\eta)}{\eta}(\omega_t - a_t + \gamma\rho_t) \tag{3}$$

$$y_t = c_t + \frac{\alpha(\sigma\mu + (1-\alpha)(\sigma\mu - 1))}{\sigma} s_t \tag{4}$$

$$a_t + n_t = (1-\gamma)y_t + \gamma c_t + \phi\gamma(2-\gamma)\rho_t \tag{5}$$

2.2 International Block

$$\rho_t = s_t + \omega_t^* - \omega_t + a_t \tag{6}$$

$$c_t = c_t^* + (1-\alpha)/\sigma s_t \tag{7}$$

$$r_t = \mathbb{E}_t\{e_{t+1}\} - e_t \tag{8}$$

$$s_t = s_{t-1} + e_t - e_{t-1} + \pi_t^* - \pi_t \tag{9}$$

2.3 Exogneous process and Monetary Rule

$$a_t = \rho_a a_{t-1} + \varepsilon_{a,t} \tag{10}$$

$$c_t^* = \rho_c c_{t-1}^* + \varepsilon_{c,t} \tag{11}$$

$$r_t^* = 0 \tag{12}$$

$$\pi_t^* = 0 \tag{13}$$

$$r_t = \phi_\pi \pi_t \tag{14}$$