Equations for Dynare

#	Eq. Number	Description	Equation	Code
1	4.2.7	Euler equation	$(c_t^f + c_t^i)^{-\gamma} = (\beta \mathbb{E}_t(c_{t+1}^f + c_{t+1}^i)^{-\gamma})((1-\delta) + (1-\tau^*)r_{t+1})$	`(cf+ci)^(-gamma) = cbeta*(cf(+1)+ci(+1))^(-gamma)*((1-delta)+((1-taostar)*r(+1)));`
*	2nd try		$c_t^f - c_t^i = ((\beta \mathbb{E}_t(c_{t+1}^f + c_{t+1}^i)^{-\gamma})\big((1-\delta) + (1-\tau^*)r_{t+1}\big))^{\frac{1}{-\gamma}}$	`(cf+ci) = (cbeta*(cf(+1)+ci(+1))^(-gamma)*((1-delta)+((1-taostar)*r(+1))))^(1/(-gamma));`
2	4.2.9	Wages HH	$w_t = \frac{-(V q_t B_t\left[B_t\left(1-n_t^f\right)\right]^{v-1})(1-p_t\phi\tau)}{(1-\tau)}$	`w = (-(v*q*b*(b*(1-nf))^(v-1))*(1-(p*phi*tao)))/(1-tao);`
3	4.2.15	Market clearing conditions	$c_t^f = y_t^f + r_t k_t - k_{t+1}$	`cf = yf+(r*k(-1))-k;`
4	4.2.16		$c_t^i = (1-p_t)\phi\tau y_t^i$	`ci = (1-p)*phi*tao*yi;`
5	4.2.17	Total production	$y_t^i + y_t^f = c_t^i + c_t^f + k_{t+1} + g_t - r_t k_t$	`yi+yf = ci+cf+k+gsmall-(r*k(-1));`
6	4.2.18	Labour endowment	$1 = n_t^i + n_t^f$	`1 = ni+nf;`
7	4.1.7	Formal production function	$y_t^f = k_t^\alpha (n_t^f A_t)^{1-\alpha}$	`yf = (k(-1)^(alpha))*((nf*a)^(1-alpha));`
8	4.1.9	Informal production function	$y_t^i = (B_t n_t^i)^v$	`yi = (b*ni)^(v);`
9	4.2.13	Markup equations	$r_t = \alpha k_t^{\alpha-1}(n_t^f A^t)^{1-\alpha}$	`r = alpha*(k(-1)^(alpha-1))*((nf*a)^(1-alpha));`

10	4.2.14		$w_t = (1-\alpha)k_t^{\alpha}(n_t^f A_t)^{-\alpha}$	`w = (1-alpha)*(k(-1)^(alpha))*((nf*a)^(-alpha));`
11	4.1.5	Formal tec.	$A_t = \rho_{At} A_{t-1} + \varepsilon_{At}$	`log(a) = rhoa*log(a(-1))+ea;`
12	4.1.8	Informal tec.	$B_t = \rho_{Bt} B_{t-1} + \varepsilon_{Bt}$	`log(b) = rhob*log(b(-1))+eb;`
13	4.1.10	Gov. revenue from punishment	$g_t = p_t \phi \tau y_t^i$	`gsmall = p*phi*tao*yi;`
14	4.1.11	Total gov. revenue	$G_t = \tau w_t n_t^f + \tau^* r_t k_t + g_t$	`g = (tao*w*nf)+(taostar*r*k(-1))+gsmall;`
15	4.1.12	Gov. rev. after corruption	$G_t^* = (1-\chi)\, G_t$	`gstar = (1-kai)*g;`
16	4.1.13	Probability of auditing an informal	$p_t = (n_t^i) G_t^* (1 + \mu)$	`p = ni*gstar*(1+miu);`
17	4.1.14	Final transfer to household	$T_t = (1-\mu) G_t^*$	`t = (1-miu)*gstar;`
*				
I	Wrong	Euler equation labor	$\lambda_t = \dfrac{V q_t [B_t(1-n_t^f)]^{\nu-1} B_t (1 - p_t \phi \tau)}{\beta^t((1-\tau) w_t)}$	IGNORE THIS EQUATION

Steady State

#	Eq. Number	Description	Equation	Code
1	(4.2.19)	Relative Price of informal consumption	$\bar{Q} = 1$	q_ss
2	(4.2.20)	Interest rate	$\bar{R} = \frac{\frac{1}{\beta} - 1 + \delta}{(1-\tau^*)}$	r_ss
3	(4.2.21)	Capital	$\bar{K} = \bar{N}^f \bar{A} \left(\frac{\frac{1}{\beta} - 1 + \delta}{\alpha(1-\tau^*)} \right)^{\frac{1}{\alpha-1}}$	k_ss
4	(4.2.22)	Wages	$\bar{W} = (1-\alpha) \left(\frac{\frac{1}{\beta} - 1 + \delta}{\alpha(1-\tau^*)} \right)^{\frac{\alpha}{\alpha-1}}$	w_ss
5	(4.2.23)	Formal production	$\bar{Y}^f = \bar{K}^\alpha \ \bar{N}^{f^{1-\alpha}}$	yf_ss
6	(4.2.24)	Informal production	$\bar{Y}^i = (1 - \bar{N}^f)^v$	yi_ss
7	(4.2.25)	Formal labour	$\bar{N}^f = \left[1 + \frac{\bar{W}(1-\tau)}{v\bar{B}^v(1-\bar{P}\phi\tau)} \right]^{\frac{1}{v-1}}$	nf_ss

8	(4.2.26)	Informal labour	$\bar{N}^i = 1 - \bar{N}^f$	ni_ss
9	(4.2.27)	Formal consumption	$\bar{C}^f = \bar{Y}^f + \bar{K}(\bar{R} - 1)$	cf_ss
10	(4.2.28)	Informal consumption	$\bar{C}^i = \bar{Y}^i \phi\tau(1 - \bar{P})$	ci_ss
11	(4.2.29)	Probability of auditing an informal	$\bar{P} = \frac{1}{\phi\tau}$	p_ss
12	(4.2.30)	Gov. revenue from punishment	$\bar{g} = \bar{Y}^i$	gsmall_ss
13	(4.2.31)	Total gov. revenue	$\bar{G} = \tau\bar{W}\bar{N}^f + \tau^*\bar{R}\bar{K} + \bar{Y}^i$	g_ss
14	(4.2.32)	Gov. rev. after corruption	$\bar{G}^* = (1-\chi)\,\bar{G}$	gstar_ss
15	(4.2.33)	Final transfer to household	$\bar{T} = (1-\chi-\mu+\mu\chi)\,\bar{G}$	t_ss
16	(4.2.34)	Formal tech.	$\ln(A_{t+1}) = \rho_{At} \ln(A_t) + \varepsilon_{At+1}$	(enters in the Dynare block “model” and → a_ss = 1)
17	(4.2.35)	Informal tech.	$\ln(B_{t+1}) = \rho_{Bt} \ln B_t + \varepsilon_{Bt+1}$	(enters in the Dynare block “model” and → b_ss = 0.75)