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Model name: RSW_RP_PERS

1 HIGHREGIME

1.1 Optimisation problem

$$\max_{piH_t, yH_t, iH_t, piH_t^{\text{lag}^1}} UH_t = -0.5\left(pitH - pitCB + piH_t\right)^2 + \beta \mathrm{E}_t\left[UH_{t+1}\right] + \beta\left(1 - pH\right)\left(-\mathrm{E}_t\left[UH_{t+1}\right] + \mathrm{E}_t\left[UL_{t+1}\right]\right) - 0.5\kappa\theta^{-1} {yH_t}^2 \tag{1.1}$$

s.t. :

$$piH_{t-1} = \log etapi_{t-1} + \kappa yH_{t-1} + phipi piH_{t-2} + \beta piH_t\left(1 - phipi\right) + \beta\left(1 - phipi\right)\left(1 - pH\right)\left(-piH_t + piL_t\right) \quad \left(\lambda_t^{\text{HIGHREGIME}^1}\right) \tag{1.2}$$

$$yH_{t-1} = yH_t - \sigma\left(iH_{t-1} - piH_t\right) + \left(1 - pH\right)\left(-yH_t + yL_t\right) + \sigma\left(1 - pH\right)\left(-piH_t + piL_t\right) \quad \left(\lambda_t^{\text{HIGHREGIME}^2}\right) \tag{1.3}$$

1.2 First order conditions

$$-pitH + pitCB - piH_t + \lambda_t^{\text{HIGHREGIME}^1}\left(\beta\left(1 - phipi\right) - \beta\left(1 - phipi\right)\left(1 - pH\right)\right) + \lambda_t^{\text{HIGHREGIME}^2}\left(\sigma - \sigma\left(1 - pH\right)\right) + \left(\beta - \beta\left(1 - pH\right)\right)\left(-\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^1}\right] + \mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}\right]\right) = \tag{1.4}$$

$$pH\,\lambda_t^{\text{HIGHREGIME}^2} + \left(\beta - \beta\left(1 - pH\right)\right)\left(\kappa \mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^1}\right] - \mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^2}\right]\right) - \kappa\theta^{-1} yH_t = 0 \quad \left(yH_t\right) \tag{1.5}$$

$$-\sigma\left(\beta - \beta\left(1 - pH\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^2}\right] = 0 \quad \left(iH_t\right) \tag{1.6}$$

$$-\lambda_t^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}} + phipi\left(\beta - \beta\left(1 - pH\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^1}\right] = 0 \quad \left(piH_t^{\text{lag}^1}\right) \tag{1.7}$$

2 LOWREGIME

2.1 Optimisation problem

$$\max_{piL_t, yL_t, iL_t, piL_t^{\text{lag}^1}} UL_t = -0.5\left(-pitCB + pitL + piL_t\right)^2 + \beta \mathrm{E}_t\left[UL_{t+1}\right] + \beta\left(1 - pL\right)\left(\mathrm{E}_t\left[UH_{t+1}\right] - \mathrm{E}_t\left[UL_{t+1}\right]\right) - 0.5\kappa\theta^{-1} {yL_t}^2 \tag{2.1}$$

s.t. :

$$piL_{t-1} = \log etapi_{t-1} + \kappa yL_{t-1} + phipi piL_{t-2} + \beta pL piL_t\left(1 - phipi\right) + \beta\left(1 - phipi\right)\left(1 - pL\right)\left(piH_t - piL_t\right) \quad \left(\lambda_t^{\text{LOWREGIME}^1}\right) \tag{2.2}$$

$$yL_{t-1} = yL_t - \sigma\left(iL_{t-1} - piL_t\right) + \left(1 - pL\right)\left(yH_t - yL_t\right) + \sigma\left(1 - pL\right)\left(piH_t - piL_t\right) \quad \left(\lambda_t^{\text{LOWREGIME}^2}\right) \tag{2.3}$$

2.2 First order conditions

$$pitCB - pitL - piL_t + \lambda_t^{\text{LOWREGIME}^1}\left(\beta pL\left(1-phipi\right) - \beta\left(1-phipi\right)\left(1-pL\right)\right) + \lambda_t^{\text{LOWREGIME}^2}\left(\sigma - \sigma\left(1-pL\right)\right) + \left(\beta - \beta\left(1-pL\right)\right)\left(-\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^1}\right] + \mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}\right]\right) = 0 \tag{2.4}$$

$$pL\lambda_t^{\text{LOWREGIME}^2} + \left(\beta - \beta\left(1-pL\right)\right)\left(\kappa \mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^1}\right] - \mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^2}\right]\right) - \kappa\theta^{-1} yL_t = 0 \quad (yL_t) \tag{2.5}$$

$$-\sigma\left(\beta - \beta\left(1-pL\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^2}\right] = 0 \quad (iL_t) \tag{2.6}$$

$$-\lambda_t^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}} + phipi\left(\beta - \beta\left(1-pL\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^1}\right] = 0 \quad \left(piL_t^{\text{lag}^1}\right) \tag{2.7}$$

3 EXOG

3.1 Identities

$$etapi_t = e^{\epsilon_t^{\pi}} + \phi \log etapi_{t-1} \tag{3.1}$$

4 Equilibrium relationships (after reduction)

$$piH_{t-1} - piH_t^{\text{lag}^1} = 0 \tag{4.1}$$

$$piL_{t-1} - piL_t^{\text{lag}^1} = 0 \tag{4.2}$$

$$-etapi_t + e^{\epsilon_t^{\pi}} + \phi \log etapi_{t-1} = 0 \tag{4.3}$$

$$-\lambda_t^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}} + phipi\left(\beta - \beta\left(1-pH\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^1}\right] = 0 \tag{4.4}$$

$$-\lambda_t^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}} + phipi\left(\beta - \beta\left(1-pL\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^1}\right] = 0 \tag{4.5}$$

$$pH\lambda_t^{\text{HIGHREGIME}^2} + \left(\beta - \beta\left(1-pH\right)\right)\left(\kappa \mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^1}\right] - \mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^2}\right]\right) - \kappa\theta^{-1} yH_t = 0 \tag{4.6}$$

$$pL\lambda_t^{\text{LOWREGIME}^2} + \left(\beta - \beta\left(1-pL\right)\right)\left(\kappa \mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^1}\right] - \mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^2}\right]\right) - \kappa\theta^{-1} yL_t = 0 \tag{4.7}$$

$$-yH_{t-1} + yH_t - \sigma\left(iH_{t-1} - piH_t\right) + \left(1-pH\right)\left(-yH_t + yL_t\right) + \sigma\left(1-pH\right)\left(-piH_t + piL_t\right) = 0 \tag{4.8}$$

$$-yL_{t-1} + yL_t - \sigma\left(iL_{t-1} - piL_t\right) + \left(1-pL\right)\left(yH_t - yL_t\right) + \sigma\left(1-pL\right)\left(piH_t - piL_t\right) = 0 \tag{4.9}$$

$$UH_t + 0.5\left(pitH - pitCB + piH_t\right)^2 - \beta \mathrm{E}_t\left[UH_{t+1}\right] - \beta\left(1-pH\right)\left(-\mathrm{E}_t\left[UH_{t+1}\right] + \mathrm{E}_t\left[UL_{t+1}\right]\right) + 0.5\kappa\theta^{-1} {yH_t}^2 = 0 \tag{4.10}$$

$$UL_t + 0.5\left(-pitCB + pitL + piL_t\right)^2 - \beta \mathrm{E}_t\left[UL_{t+1}\right] - \beta\left(1-pL\right)\left(\mathrm{E}_t\left[UH_{t+1}\right] - \mathrm{E}_t\left[UL_{t+1}\right]\right) + 0.5\kappa\theta^{-1} {yL_t}^2 = 0 \tag{4.11}$$

$$-pitH+pitCB-piH_t+\lambda_t^{\text{HIGHREGIME}^1}\left(\beta\left(1-phipi\right)-\beta\left(1-phipi\right)\left(1-pH\right)\right)+\lambda_t^{\text{HIGHREGIME}^2}\left(\sigma-\sigma\left(1-pH\right)\right)+\left(\beta-\beta\left(1-pH\right)\right)\left(-\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^1}\right]+\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}\right]\right)= \tag{4.12}$$

$$pitCB-pitL-piL_t+\lambda_t^{\text{LOWREGIME}^1}\left(\beta pL\left(1-phipi\right)-\beta\left(1-phipi\right)\left(1-pL\right)\right)+\lambda_t^{\text{LOWREGIME}^2}\left(\sigma-\sigma\left(1-pL\right)\right)+\left(\beta-\beta\left(1-pL\right)\right)\left(-\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^1}\right]+\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}\right]\right)=0 \tag{4.13}$$

$$-piH_{t-1}+\log etapi_{t-1}+\kappa yH_{t-1}+phipipiH_{t-1}^{\text{lag}^1}+\beta piH_t\left(1-phipi\right)+\beta\left(1-phipi\right)\left(1-pH\right)\left(-piH_t+piL_t\right)=0 \tag{4.14}$$

$$-piL_{t-1}+\log etapi_{t-1}+\kappa yL_{t-1}+phipipiL_{t-1}^{\text{lag}^1}+\beta pLpiL_t\left(1-phipi\right)+\beta\left(1-phipi\right)\left(1-pL\right)\left(piH_t-piL_t\right)=0 \tag{4.15}$$

$$-\sigma\left(\beta-\beta\left(1-pH\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{HIGHREGIME}^2}\right]=0 \tag{4.16}$$

$$-\sigma\left(\beta-\beta\left(1-pL\right)\right)\mathrm{E}_t\left[\lambda_{t+1}^{\text{LOWREGIME}^2}\right]=0 \tag{4.17}$$

5 Steady state relationships (after reduction)

$$piH_{\text{ss}}-piH_{\text{ss}}^{\text{lag}^1}=0 \tag{5.1}$$

$$piL_{\text{ss}}-piL_{\text{ss}}^{\text{lag}^1}=0 \tag{5.2}$$

$$-etapi_{\text{ss}}+e^{\phi\log etapi_{\text{ss}}}=0 \tag{5.3}$$

$$-\lambda_{\text{ss}}^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}+phipi\lambda_{\text{ss}}^{\text{HIGHREGIME}^1}\left(\beta-\beta\left(1-pH\right)\right)=0 \tag{5.4}$$

$$-\lambda_{\text{ss}}^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}+phipi\lambda_{\text{ss}}^{\text{LOWREGIME}^1}\left(\beta-\beta\left(1-pL\right)\right)=0 \tag{5.5}$$

$$pH\lambda_{\text{ss}}^{\text{HIGHREGIME}^2}+\left(\beta-\beta\left(1-pH\right)\right)\left(-\lambda_{\text{ss}}^{\text{HIGHREGIME}^2}+\kappa\lambda_{\text{ss}}^{\text{HIGHREGIME}^1}\right)-\kappa\theta^{-1}yH_{\text{ss}}=0 \tag{5.6}$$

$$pL\lambda_{\text{ss}}^{\text{LOWREGIME}^2}+\left(\beta-\beta\left(1-pL\right)\right)\left(-\lambda_{\text{ss}}^{\text{LOWREGIME}^2}+\kappa\lambda_{\text{ss}}^{\text{LOWREGIME}^1}\right)-\kappa\theta^{-1}yL_{\text{ss}}=0 \tag{5.7}$$

$$\left(1-pH\right)\left(-yH_{\text{ss}}+yL_{\text{ss}}\right)-\sigma\left(iH_{\text{ss}}-piH_{\text{ss}}\right)+\sigma\left(1-pH\right)\left(-piH_{\text{ss}}+piL_{\text{ss}}\right)=0 \tag{5.8}$$

$$\left(1-pL\right)\left(yH_{\text{ss}}-yL_{\text{ss}}\right)-\sigma\left(iL_{\text{ss}}-piL_{\text{ss}}\right)+\sigma\left(1-pL\right)\left(piH_{\text{ss}}-piL_{\text{ss}}\right)=0 \tag{5.9}$$

$$UH_{\text{ss}}+0.5\left(pitH-pitCB+piH_{\text{ss}}\right)^2-\beta UH_{\text{ss}}-\beta\left(1-pH\right)\left(-UH_{\text{ss}}+UL_{\text{ss}}\right)+0.5\kappa\theta^{-1}{yH_{\text{ss}}}^2=0 \tag{5.10}$$

$$UL_{\text{ss}}+0.5\left(-pitCB+pitL+piL_{\text{ss}}\right)^2-\beta UL_{\text{ss}}-\beta\left(1-pL\right)\left(UH_{\text{ss}}-UL_{\text{ss}}\right)+0.5\kappa\theta^{-1}{yL_{\text{ss}}}^2=0 \tag{5.11}$$

$$-pitH+pitCB-piH_{\text{ss}}+\lambda_{\text{ss}}^{\text{HIGHREGIME}^1}\left(\beta\left(1-phipi\right)-\beta\left(1-phipi\right)\left(1-pH\right)\right)+\lambda_{\text{ss}}^{\text{HIGHREGIME}^2}\left(\sigma-\sigma\left(1-pH\right)\right)+\left(\beta-\beta\left(1-pH\right)\right)\left(-\lambda_{\text{ss}}^{\text{HIGHREGIME}^1}+\lambda_{\text{ss}}^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}\right)=0 \tag{5.12}$$

$$pitCB - pitL - piL_{\text{ss}} + \lambda_{\text{ss}}^{\text{LOWREGIME}^1} \left(\beta pL \left(1 - phipi\right) - \beta \left(1 - phipi\right) \left(1 - pL\right)\right) + \lambda_{\text{ss}}^{\text{LOWREGIME}^2} \left(\sigma - \sigma \left(1 - pL\right)\right) + \left(\beta - \beta \left(1 - pL\right)\right) \left(-\lambda_{\text{ss}}^{\text{LOWREGIME}^1} + \lambda_{\text{ss}}^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}\right) = 0 \tag{5.13}$$

$$-piH_{\text{ss}} + \log etapi_{\text{ss}} + \kappa yH_{\text{ss}} + phipipiH_{\text{ss}}^{\text{lag}^1} + \beta piH_{\text{ss}} \left(1 - phipi\right) + \beta \left(1 - phipi\right) \left(1 - pH\right) \left(-piH_{\text{ss}} + piL_{\text{ss}}\right) = 0 \tag{5.14}$$

$$-piL_{\text{ss}} + \log etapi_{\text{ss}} + \kappa yL_{\text{ss}} + phipipiL_{\text{ss}}^{\text{lag}^1} + \beta pLpiL_{\text{ss}} \left(1 - phipi\right) + \beta \left(1 - phipi\right) \left(1 - pL\right) \left(piH_{\text{ss}} - piL_{\text{ss}}\right) = 0 \tag{5.15}$$

$$-\sigma \lambda_{\text{ss}}^{\text{HIGHREGIME}^2} \left(\beta - \beta \left(1 - pH\right)\right) = 0 \tag{5.16}$$

$$-\sigma \lambda_{\text{ss}}^{\text{LOWREGIME}^2} \left(\beta - \beta \left(1 - pL\right)\right) = 0 \tag{5.17}$$

6 Parameter settings

$$\beta = 0.99 \tag{6.1}$$

$$\kappa = 0.2465 \tag{6.2}$$

$$\phi = 0.95 \tag{6.3}$$

$$phipi = 0.8 \tag{6.4}$$

$$pitH = 0 \tag{6.5}$$

$$pitCB = 0 \tag{6.6}$$

$$pitL = 2 \tag{6.7}$$

$$pH = 0.99 \tag{6.8}$$

$$pL = 0.99 \tag{6.9}$$

$$\sigma = 1 \tag{6.10}$$

$$\theta = 6 \tag{6.11}$$

7 Steady-state values

	Steady-state value
$etapi$	1
iH	-0.0207
iL	-1.9792
$\lambda^{\text{HIGHREGIME}^1}$	0.0027
$\lambda^{\text{HIGHREGIME}^2}$	0
$\lambda^{\text{LOWREGIME}^1}$	-0.0082
$\lambda^{\text{LOWREGIME}^2}$	0
$\lambda^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$	0.0021
$\lambda^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$	-0.0064
piH	0
piL	-1.9999
piH^{lag^1}	0
piL^{lag^1}	-1.9999
yH	0.0161
yL	-0.0484
UH	-0.0019
UL	-0.0034

8 The solution of the 1st order perturbation

Matrix P

	$etapi_{t-1}$	iH_{t-1}	iL_{t-1}	piH_{t-1}	piL_{t-1}	$piH_{t-1}^{\text{lag}^1}$	$piL_{t-1}^{\text{lag}^1}$	yH_{t-1}	yL_{t-1}
$etapi_t$	0.95	0	0	0	0	0	0	0	0
iH_t	−8109.1373	−7.0346	7.121	5967.7856	−163.955	−5522.7592	132.0006	−32.7973	1.1574
iL_t	−86.4454	0.0008	−7.1	−0.8717	127.6919	0.7026	−117.9682	0.0041	−1.0523
piH_t	−5.05	0	0	5.102	−0.1041	−4.0816	0.0833	−0.0202	0.0006
piL_t	−2.5512	0	0	−0.026	5.1541	0.0208	−4.1233	0.0001	−0.0307
$piH_t^{\text{lag}^1}$	0	0	0	1	0	0	0	0	0
$piL_t^{\text{lag}^1}$	0	0	0	0	1	0	0	0	0
yH_t	314.385	1.3009	−1.2573	−317.6261	6.4817	254.1009	−5.1854	2.2679	−0.0693
yL_t	105.5163	−0.0044	41.3501	1.0767	−213.1706	−0.8614	170.5364	−0.0077	2.2807

Matrix Q

	ϵ^{π}
$etapi$	1
iH	−1355.9943
iL	−14.3033
piH	0
piL	0
piH^{lag^1}	0
piL^{lag^1}	0
yH	0
yL	0

Matrix R

	$etapi_{t-1}$	iH_{t-1}	iL_{t-1}	piH_{t-1}	piL_{t-1}	$piH_{t-1}^{\text{lag}^1}$	$piL_{t-1}^{\text{lag}^1}$
$\lambda_t^{\text{HIGHREGIME}^1}$	−753292.161	−553.6177	1083.6189	579732.8846	−26093.2637	−532367.5156	22299.288
$\lambda_t^{\text{HIGHREGIME}^2}$	83.0178	0.0625	−0.1218	−63.5359	2.8921	58.4868	−2.4731
$\lambda_t^{\text{LOWREGIME}^1}$	−260586.2362	3.8616	−18155.8024	−4425.8716	402055.8445	3782.3863	−368655.41
$\lambda_t^{\text{LOWREGIME}^2}$	85.5602	−0.0013	6.1044	1.4612	−131.2999	−1.2495	120.6755
$\lambda_t^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$	−124226.593	−92.4713	181.4621	94997.2441	−4332.2135	−87486.2434	3704.9419
$\lambda_t^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$	−42534.3851	0.6399	−3000.8484	−727.1404	65221.6942	621.8577	−59969.532
UH_t	13.9888	0	0.0744	−0.2786	−1.9913	1.1001	1.7864
UL_t	−34.3598	0	0.0008	0.0022	1.0317	−0.0011	−3.8714

Matrix S

	ϵ^{π}
$\lambda^{\text{HIGHREGIME}^1}$	−107127.1888
$\lambda^{\text{HIGHREGIME}^2}$	12.0579
$\lambda^{\text{LOWREGIME}^1}$	−36724.1369
$\lambda^{\text{LOWREGIME}^2}$	12.3099
$\lambda^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$	−18088.9945
$\lambda^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$	−6134.7786
UH	12.1022
UL	−33.6196

9 Model statistics

9.1 Basic statistics

	Steady-state value	Std. dev.	Variance	Loglin
$etapi$	1	0.1303	0.017	Y
iH	-0.0207	191.9455	36843.0774	Y
iL	-1.9792	2.0269	4.1082	Y
$\lambda^{\text{HIGHREGIME}^1}$	0.0027	10335.6952	106826594.4718	Y
$\lambda^{\text{HIGHREGIME}^2}$	0	1.1627	1.3519	N
$\lambda^{\text{LOWREGIME}^1}$	-0.0082	3542.6886	12550642.2407	Y
$\lambda^{\text{LOWREGIME}^2}$	0	1.187	1.409	N
$\lambda^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$	0.0021	1737.9387	3020431.0324	Y
$\lambda^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$	-0.0064	589.4457	347446.2292	Y
piH	0	0.5011	0.2511	N
piL	-1.9999	0.2531	0.0641	Y
piH^{lag^1}	0	0.5011	0.2511	N
piL^{lag^1}	-1.9999	0.2531	0.0641	Y
yH	0.0161	144.362	20840.3795	Y
yL	-0.0484	48.4503	2347.4304	Y
UH	-0.0019	1.5297	2.3399	Y
UL	-0.0034	4.2417	17.9917	Y

9.2 Correlation matrix

	etaqpi	*iH*	*iL*	$\lambda^{\text{HIGHREGIME}^1}$	$\lambda^{\text{HIGHREGIME}^2}$	$\lambda^{\text{LOWREGIME}^1}$	$\lambda^{\text{LOWREGIME}^2}$	λ^{HIGHR}
etaqpi	1	-0.117	-0.116	-0.499	0.436	-0.498	0.436	-
iH		1	1	0.593	-0.716	0.595	-0.716	0
iL			1	0.592	-0.715	0.594	-0.715	0
$\lambda^{\text{HIGHREGIME}^1}$				1	-0.986	1	-0.986	0
$\lambda^{\text{HIGHREGIME}^2}$					1	-0.986	1	-0
$\lambda^{\text{LOWREGIME}^1}$						1	-0.986	0
$\lambda^{\text{LOWREGIME}^2}$							1	-0
$\lambda^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$								
$\lambda^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$								
piH								
piL								
piH^{lag^1}								
piL^{lag^1}								
yH								
yL								
UH								
UL								

9.3 Cross correlations with the reference variable (iH)

	$\sigma[\cdot]$ rel. to $\sigma[iH]$	iH_{t-5}	iH_{t-4}	iH_{t-3}	iH_{t-2}	iH_{t-1}	iH_t	iH_{t+1}	iH_{t+2}	iH_{t+3}	iH
$etaqpi_t$	0.001	0.042	0.036	-0.019	-0.113	0.435	-0.117	-0.098	-0.081	-0.065	-0.0
iH_t	1	-0.002	0.009	0.043	0.04	-0.576	1	-0.576	0.04	0.043	0.0
iL_t	0.011	-0.002	0.009	0.043	0.04	-0.575	1	-0.577	0.04	0.043	0.0
$\lambda_t^{\text{HIGHREGIME}^1}$	53.847	-0.015	0.003	0.073	0.141	-0.71	0.593	0.093	-0.007	-0.021	-0.0
$\lambda_t^{\text{HIGHREGIME}^2}$	0.006	0.013	-0.005	-0.072	-0.129	0.733	-0.716	0.017	0.017	0.016	0.0
$\lambda_t^{\text{LOWREGIME}^1}$	18.457	-0.015	0.003	0.073	0.141	-0.71	0.595	0.092	-0.008	-0.021	-0.0
$\lambda_t^{\text{LOWREGIME}^2}$	0.006	0.013	-0.005	-0.072	-0.129	0.733	-0.716	0.017	0.017	0.016	0.0
$\lambda_t^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$	9.054	-0.014	0.004	0.073	0.135	-0.728	0.657	0.055	-0.03	-0.024	-0.0
$\lambda_t^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$	3.071	-0.014	0.004	0.073	0.135	-0.728	0.657	0.054	-0.03	-0.024	-0.0
piH_t	0.003	-0.017	-0.017	0	0.071	0.149	-0.667	0.466	0.177	0.016	-0.0
piL_t	0.001	-0.017	-0.017	0	0.071	0.149	-0.667	0.466	0.176	0.016	-0.
$piH_t^{\text{lag}^1}$	0.003	-0.014	-0.017	-0.017	0	0.071	0.149	-0.667	0.466	0.177	0.0
$piL_t^{\text{lag}^1}$	0.001	-0.014	-0.017	-0.017	0	0.071	0.149	-0.667	0.466	0.176	0.0
yH_t	0.752	-0.012	-0.011	0.004	0.062	0.098	-0.744	0.868	-0.156	-0.091	-0.0
yL_t	0.252	-0.012	-0.011	0.004	0.062	0.098	-0.743	0.868	-0.157	-0.091	-0.0
UH_t	0.008	0.04	0.033	-0.026	-0.124	0.46	-0.003	-0.389	0.067	-0.004	-0.0
UL_t	0.022	-0.041	-0.035	0.023	0.121	-0.457	0.049	0.28	-0.012	0.028	0.0

9.4 Autocorrelations

	Lag 1	Lag 2	Lag 3	Lag 4	Lag 5
etaqpi	0.713	0.471	0.271	0.11	-0.016
iH	-0.576	0.04	0.043	0.009	-0.002
iL	-0.576	0.04	0.043	0.009	-0.002
$\lambda^{\text{HIGHREGIME}^1}$	0.08	-0.085	-0.096	-0.085	-0.074
$\lambda^{\text{HIGHREGIME}^2}$	-0.074	-0.071	-0.066	-0.06	-0.054
$\lambda^{\text{LOWREGIME}^1}$	0.079	-0.085	-0.096	-0.085	-0.074
$\lambda^{\text{LOWREGIME}^2}$	-0.074	-0.071	-0.066	-0.06	-0.054
$\lambda^{\text{HIGHREGIME}^{\text{piH}^{\text{lag}^1}}}$	-0.005	-0.109	-0.083	-0.065	-0.055
$\lambda^{\text{LOWREGIME}^{\text{piL}^{\text{lag}^1}}}$	-0.006	-0.109	-0.083	-0.065	-0.056
piH	0.226	-0.072	-0.122	-0.114	-0.1
piL	0.225	-0.072	-0.122	-0.114	-0.1
piH^{lag^1}	0.226	-0.072	-0.122	-0.114	-0.1
piL^{lag^1}	0.225	-0.072	-0.122	-0.114	-0.1
yH	-0.317	-0.138	-0.011	0.015	0.012
yL	-0.317	-0.138	-0.011	0.015	0.012
UH	0.566	0.206	0.258	0.182	0.064
UL	0.644	0.326	0.279	0.164	0.037

10 Impulse response functions

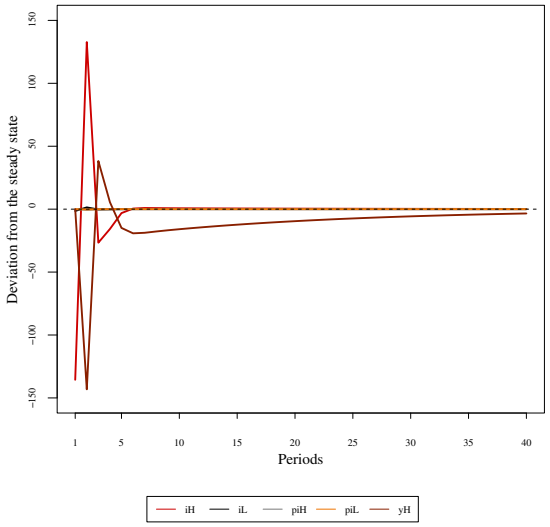

Figure 1: Impulse responses (iH, iL, piH, piL, yH) to ϵ^{π} shock

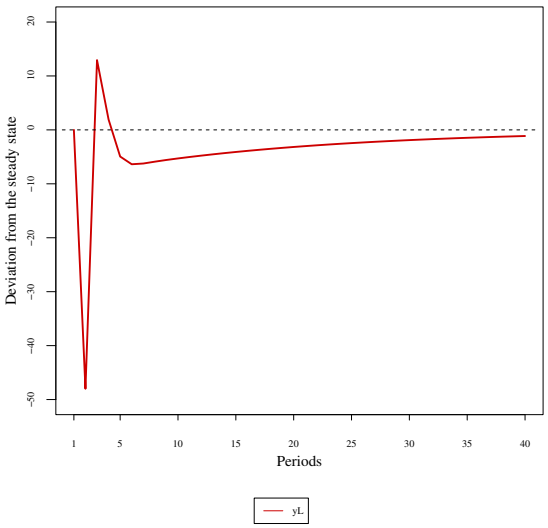

Figure 2: Impulse response (yL) to ϵ^{π} shock