Table 1: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
α	norm	0.300	0.0500	0.2163	0.0186
ψ	beta	0.500	0.1500	0.6356	0.1026
Φ	norm	1.250	0.1250	1.6375	0.0774
ι_w	beta	0.500	0.1500	0.6160	0.1369
ξ_w	beta	0.500	0.1000	0.7253	0.0727
ι_p	beta	0.500	0.1500	0.3352	0.1188
ξ_p	beta	0.500	0.1000	0.6847	0.0494
σ_c	norm	1.500	0.3750	1.3817	0.1270
σ_l	norm	2.000	0.7500	1.8831	0.6190
λ	beta	0.700	0.1000	0.6918	0.0435
φ	norm	4.000	1.5000	5.5767	1.0178
μ_w	beta	0.500	0.2000	0.8826	0.0547
μ_p	beta	0.500	0.2000	0.7041	0.0980
$\bar{\gamma}$	norm	0.400	0.1000	0.4182	0.0148
$100(\beta^{-1}-1)$	gamm	0.250	0.1000	0.1348	0.0530
$\bar{\pi}$	gamm	0.625	0.1000	0.8528	0.1095
$\bar{l}$	norm	0.000	2.0000	5.0242	1.0899
r_π	norm	1.500	0.2500	1.9554	0.1851
$r_{\Delta y}$	norm	0.125	0.0500	0.2323	0.0279
r_y	norm	0.125	0.0500	0.0737	0.0228
ρ	beta	0.750	0.1000	0.8038	0.0274
ρ_a	beta	0.500	0.2000	0.9494	0.0126
ρ_{ga}	norm	0.500	0.2500	0.5507	0.0914
ρ_b	beta	0.500	0.2000	0.2062	0.0872
ρ_g	beta	0.500	0.2000	0.9727	0.0084
ρ_i	beta	0.500	0.2000	0.6927	0.0604
ρ_r	beta	0.500	0.2000	0.1425	0.0705
ρ_p	beta	0.500	0.2000	0.8699	0.0474
ρ_w	beta	0.500	0.2000	0.9696	0.0121

Table 2: Results from posterior maximization (standard deviation of structural shocks)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
η^a	invg	0.100	2.0000	0.4378	0.0271
η^b	invg	0.100	2.0000	0.2412	0.0242
η^g	invg	0.100	2.0000	0.5135	0.0297
η^i	invg	0.100	2.0000	0.4244	0.0452
η^m	invg	0.100	2.0000	0.2426	0.0152
η^p	invg	0.100	2.0000	0.1251	0.0153
η^w	invg	0.100	2.0000	0.2581	0.0239

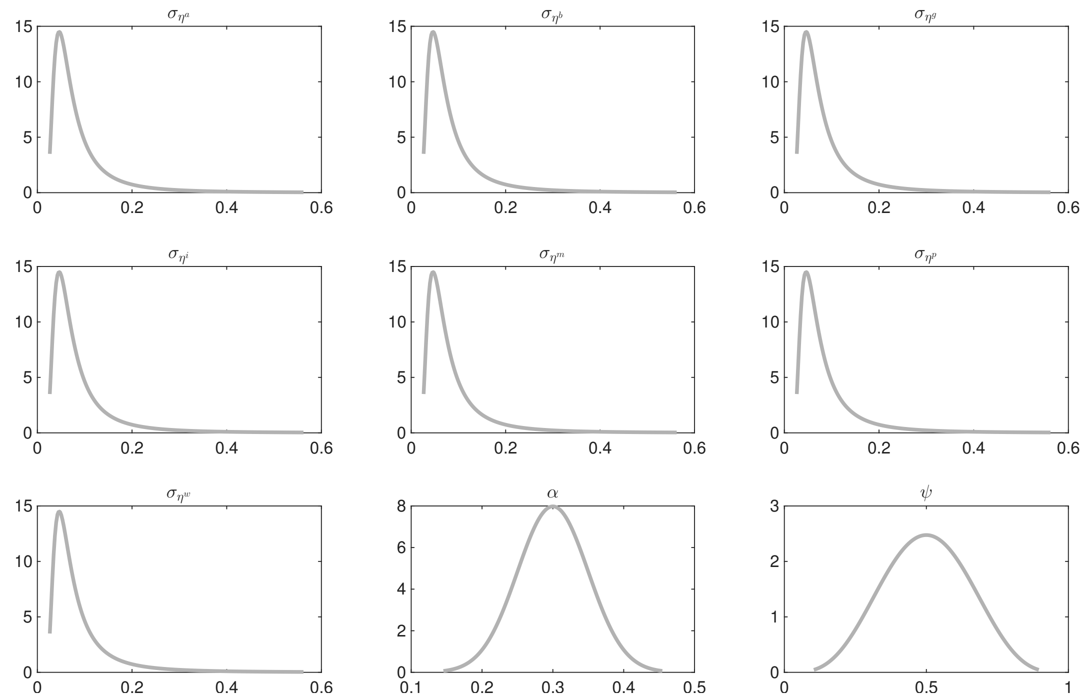

Figure 1: Priors.

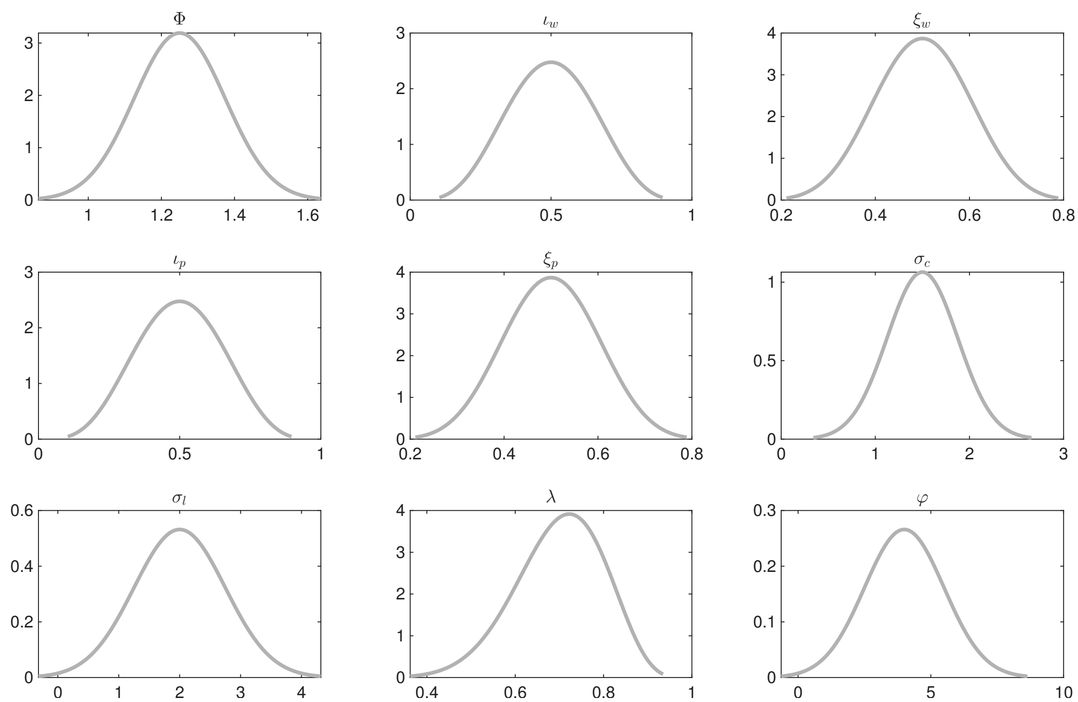

Figure 2: Priors.

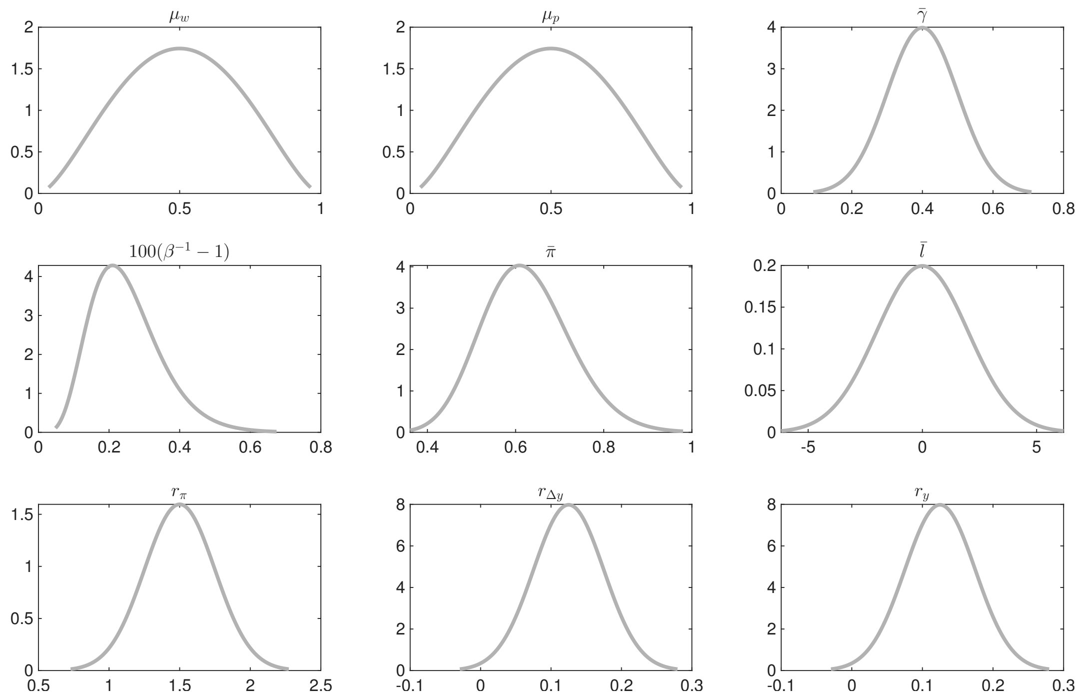

Figure 3: Priors.

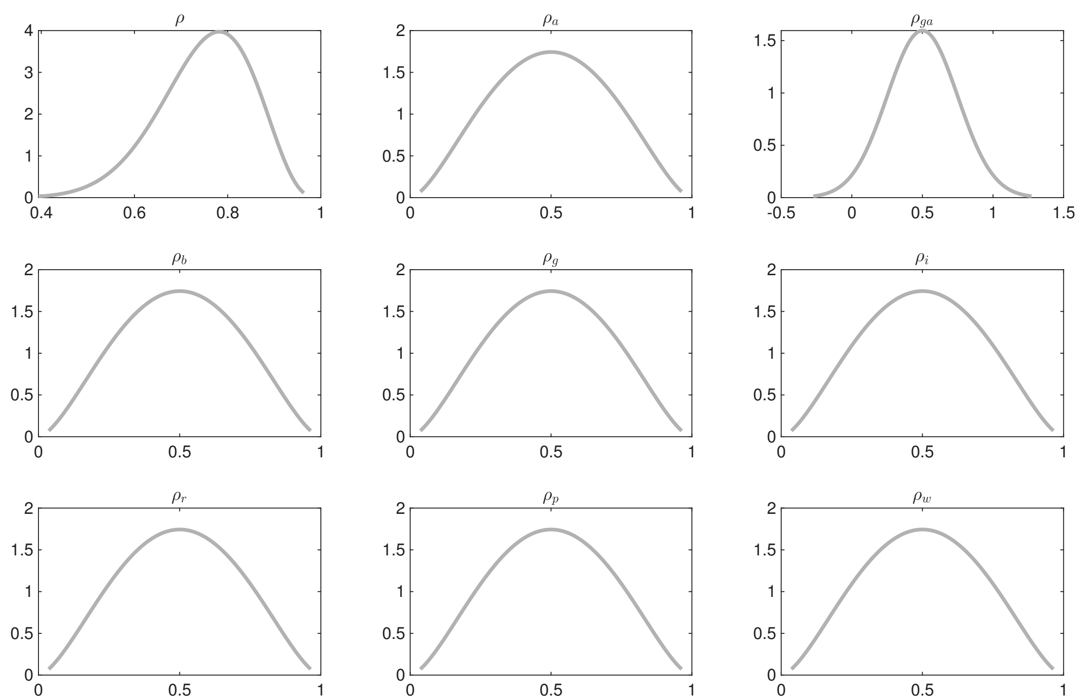

Figure 4: Priors.

Table 3: MATRIX OF COVARIANCE OF EXOGENOUS SHOCKS

$Variables$	η^a	η^b	η^g	η^i	η^m	η^p	η^w
η^a	0.191666	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
η^b	0.000000	0.058166	0.000000	0.000000	0.000000	0.000000	0.000000
η^g	0.000000	0.000000	0.263669	0.000000	0.000000	0.000000	0.000000
η^i	0.000000	0.000000	0.000000	0.180076	0.000000	0.000000	0.000000
η^m	0.000000	0.000000	0.000000	0.000000	0.058870	0.000000	0.000000
η^p	0.000000	0.000000	0.000000	0.000000	0.000000	0.015647	0.000000
η^w	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.066612

Table 4: Endogenous

Variable	$\LaTeX$	Description
labobs	$lHOURS$	log hours worked
robs	$FEDFUNDS$	Federal funds rate
pinfobs	dlP	Inflation
dy	$dlGDP$	Output growth rate
dc	$dlCONS$	Consumption growth rate
dinve	$dlINV$	Investment growth rate
dw	$dlWAG$	Wage growth rate
ewma	$\eta^{w,aux}$	Auxiliary wage markup moving average variable
epinfma	$\eta^{p,aux}$	Auxiliary price markup moving average variable
zcapf	z^{flex}	Capital utilization rate flex price economy
rkf	$r^{k,flex}$	rental rate of capital flex price economy
kf	$k^{s,flex}$	Capital services flex price economy
pkf	q^{flex}	real value of existing capital stock flex price economy
cf	c^{flex}	Consumption flex price economy
invef	i^{flex}	Investment flex price economy
yf	y^{flex}	Output flex price economy
labf	l^{flex}	hours worked flex price economy
wf	w^{flex}	real wage flex price economy
rrf	r^{flex}	real interest rate flex price economy
mc	μ_p	gross price markup
zcap	z	Capital utilization rate
rk	r^k	rental rate of capital
k	k^s	Capital services
pk	q	real value of existing capital stock
c	c	Consumption
inve	i	Investment
y	y	Output
lab	l	hours worked
pinf	π	Inflation
w	w	real wage
r	r	nominal interest rate
a	ε_a	productivity process
b	$c_2 * \varepsilon_t^b$	Scaled risk premium shock
g	ε^g	Exogenous spending
qs	ε^i	Investment-specific technology
ms	ε^r	Monetary policy shock process
spinf	ε^p	Price markup shock process
sw	ε^w	Wage markup shock process
kpf	k^{flex}	Capital stock flex price economy
kp	k	Capital stock
muw	μ_w	wage markup

Table 5: Exogenous

Variable	LaTeX	Description
ea	η^a	productivity shock
eb	η^b	Investment-specific technology shock
eg	η^g	Spending shock
eqs	η^i	Investment-specific technology shock
em	η^m	Monetary policy shock
epinf	η^p	Price markup shock
ew	η^w	Wage markup shock

Table 6: Parameters

Variable	LaTeX	Description
curvw	ε_w	Curvature Kimball aggregator wages
cgy	ρ_{ga}	Feedback technology on exogenous spending
curvp	ε_p	Curvature Kimball aggregator prices
constelab	$\bar{l}$	steady state hours
constepinf	$\bar{\pi}$	steady state inflation rate
constebeta	$100(\beta^{-1}-1)$	time preference rate in percent
cmaw	μ_w	coefficient on MA term wage markup
cmap	μ_p	coefficient on MA term price markup
calfa	α	capital share
czcap	ψ	capacity utilization cost
csadjcost	φ	investment adjustment cost
ctou	δ	depreciation rate
csigma	σ_c	risk aversion
chabb	λ	external habit degree
cfc	Φ	fixed cost share
cindw	ι_w	Indexation to past wages
cprobw	ξ_w	Calvo parameter wages
cindp	ι_p	Indexation to past prices
cprobp	ξ_p	Calvo parameter prices
csigl	σ_l	Frisch elasticity
clandaw	ϕ_w	Gross markup wages
crpi	r_π	Taylor rule inflation feedback
crdy	$r_{\Delta y}$	Taylor rule output growth feedback
cry	r_y	Taylor rule output level feedback
crr	ρ	interest rate persistence
crhoa	ρ_a	persistence productivity shock
crhoas	d_2	Unused parameter
crhob	ρ_b	persistence risk premium shock
crhog	ρ_g	persistence spending shock
crhols	d_1	Unused parameter

Table 6 – Continued

	Variable	LaTeX	Description
crhoqs	ρ_i		persistence risk premium shock
crhoms	ρ_r		persistence monetary policy shock
crhopinf	ρ_p		persistence price markup shock
crhow	ρ_w		persistence wage markup shock
ctrend	$\bar{\gamma}$		net growth rate in percent
cg	$\frac{\bar{g}}{\bar{y}}$		steady state exogenous spending share

Table 7: Parameter Values

Parameter	Value	Description
ε_w	10.000	Curvature Kimball aggregator wages
ρ_{ga}	0.551	Feedback technology on exogenous spending
ε_p	10.000	Curvature Kimball aggregator prices
$\bar{l}$	5.024	steady state hours
$\bar{\pi}$	0.853	steady state inflation rate
$100(\beta^{-1}-1)$	0.135	time preference rate in percent
μ_w	0.883	coefficient on MA term wage markup
μ_p	0.704	coefficient on MA term price markup
α	0.216	capital share
ψ	0.636	capacity utilization cost
φ	5.577	investment adjustment cost
δ	0.025	depreciation rate
σ_c	1.382	risk aversion
λ	0.692	external habit degree
Φ	1.637	fixed cost share
ι_w	0.616	Indexation to past wages
ξ_w	0.725	Calvo parameter wages
ι_p	0.335	Indexation to past prices
ξ_p	0.685	Calvo parameter prices
σ_l	1.883	Frisch elasticity
ϕ_w	1.500	Gross markup wages
r_π	1.955	Taylor rule inflation feedback
$r_{\Delta y}$	0.232	Taylor rule output growth feedback
r_y	0.074	Taylor rule output level feedback
ρ	0.804	interest rate persistence
ρ_a	0.949	persistence productivity shock
d_2	1.000	Unused parameter
ρ_b	0.206	persistence risk premium shock
ρ_g	0.973	persistence spending shock
d_1	0.993	Unused parameter
ρ_i	0.693	persistence risk premium shock
ρ_r	0.142	persistence monetary policy shock
ρ_p	0.870	persistence price markup shock
ρ_w	0.970	persistence wage markup shock
$\bar{\gamma}$	0.418	net growth rate in percent
$\frac{\bar{g}}{\bar{y}}$	0.180	steady state exogenous spending share

Table 8: Prior information (parameters)

	Distribution	Mean	Mode	Std.dev.	Bounds* Lower	Bounds* Upper	90% HPDI Lower	90% HPDI Upper
σ_{η^a}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
σ_{η^b}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
σ_{η^g}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
σ_{η^i}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
σ_{η^m}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
σ_{η^p}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
σ_{η^w}	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
α	Gaussian	0.3000	0.3000	0.0500	-0.0181	0.6181	0.2178	0.3822
ψ	Beta	0.5000	0.5000	0.1500	0.0040	0.9960	0.2526	0.7474
Φ	Gaussian	1.2500	1.2500	0.1250	0.4548	2.0452	1.0444	1.4556
ι_w	Beta	0.5000	0.5000	0.1500	0.0040	0.9960	0.2526	0.7474
ξ_w	Beta	0.5000	0.5000	0.1000	0.0471	0.9529	0.3351	0.6649
ι_p	Beta	0.5000	0.5000	0.1500	0.0040	0.9960	0.2526	0.7474
ξ_p	Beta	0.5000	0.5000	0.1000	0.0471	0.9529	0.3351	0.6649
σ_c	Gaussian	1.5000	1.5000	0.3750	-0.8855	3.8855	0.8832	2.1168
σ_l	Gaussian	2.0000	2.0000	0.7500	-2.7710	6.7710	0.7664	3.2336
λ	Beta	0.7000	0.7222	0.1000	0.1025	0.9960	0.5242	0.8525
φ	Gaussian	4.0000	4.0000	1.5000	-5.5420	13.5420	1.5327	6.4673
μ_w	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
μ_p	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
$\bar{\gamma}$	Gaussian	0.4000	0.4000	0.1000	-0.2361	1.0361	0.2355	0.5645
$100(\beta^{-1}-1)$	Gamma	0.2500	0.2100	0.1000	0.0031	1.4759	0.1111	0.4339
$\bar{\pi}$	Gamma	0.6250	0.6090	0.1000	0.1814	1.4844	0.4701	0.7981
$\bar{l}$	Gaussian	0.0000	0.0000	2.0000	-12.7227	12.7227	-3.2897	3.2897
r_π	Gaussian	1.5000	1.5000	0.2500	-0.0903	3.0903	1.0888	1.9112
$r_{\Delta y}$	Gaussian	0.1250	0.1250	0.0500	-0.1931	0.4431	0.0428	0.2072
r_y	Gaussian	0.1250	0.1250	0.0500	-0.1931	0.4431	0.0428	0.2072
ρ	Beta	0.7500	0.7817	0.1000	0.1073	0.9991	0.5701	0.8971
ρ_a	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_{ga}	Gaussian	0.5000	0.5000	0.2500	-1.0903	2.0903	0.0888	0.9112
ρ_b	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_g	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_i	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_r	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_p	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_w	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282

Note: Displayed bounds are after applying a prior truncation of options_.prior_trunc=1.00e-10

Table 9: COEFFICIENTS OF AUTOCORRELATION

Order	1	2	3	4	5
y	0.9850	0.9615	0.9334	0.9026	0.8705
c	0.9921	0.9792	0.9639	0.9470	0.9292
i	0.9808	0.9393	0.8855	0.8261	0.7653
π	0.8575	0.7373	0.6353	0.5489	0.4764
r	0.9006	0.7849	0.6807	0.5912	0.5156
w	0.9780	0.9479	0.9111	0.8696	0.8250
k^s	0.9966	0.9897	0.9801	0.9683	0.9548
l	0.9721	0.9349	0.8938	0.8514	0.8091

Table 10: MATRIX OF CORRELATIONS

$Variables$	y	c	i	π	r	w	k^s	l
y	1.0000	0.8176	0.8114	-0.3497	-0.3420	0.3742	0.7388	0.8097
c	0.8176	1.0000	0.6915	-0.4768	-0.5438	0.2394	0.7879	0.6640
i	0.8114	0.6915	1.0000	-0.1992	-0.1164	0.4284	0.6624	0.6342
π	-0.3497	-0.4768	-0.1992	1.0000	0.6583	0.2272	-0.1973	-0.3155
r	-0.3420	-0.5438	-0.1164	0.6583	1.0000	0.0861	-0.2334	-0.2110
w	0.3742	0.2394	0.4284	0.2272	0.0861	1.0000	0.6074	0.0037
k^s	0.7388	0.7879	0.6624	-0.1973	-0.2334	0.6074	1.0000	0.4369
l	0.8097	0.6640	0.6342	-0.3155	-0.2110	0.0037	0.4369	1.0000

Table 11: THEORETICAL MOMENTS

$VARIABLE$	$MEAN$	$STD.DEV.$	$VARIANCE$
y	0.0000	5.4233	29.4120
c	0.0000	5.5288	30.5671
i	0.0000	10.9913	120.8079
π	0.0000	0.5411	0.2928
r	0.0000	0.5948	0.3538
w	0.0000	2.8282	7.9990
k^s	0.0000	5.1516	26.5390
l	0.0000	2.8729	8.2537

Table 12: VARIANCE DECOMPOSITION (in percent)

		η^a	η^b	η^g	η^i	η^m	η^p	η^w
y	25.69	1.80	3.93	9.44	2.83	7.02	49.29	
c	7.64	2.59	8.83	4.11	2.68	4.55	69.60	
i	16.56	0.34	5.17	44.34	1.84	7.65	24.10	
π	3.70	0.75	1.21	3.83	5.25	31.63	53.63	
r	10.06	8.48	4.32	20.90	16.55	7.39	32.31	
w	22.82	0.61	1.38	9.49	2.95	36.34	26.40	
k^s	17.54	0.37	4.67	29.90	1.53	9.58	36.41	
l	2.05	2.93	10.18	9.50	4.02	7.12	64.20	

$$cpie = 1 + \frac{\bar{\pi}}{100}$$

$$cgamma = 1 + \frac{\bar{\gamma}}{100}$$

$$cbeta = \frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}}$$

$$clandap = \Phi$$

$$cbetabar = \frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}$$

$$cr = \frac{1 + \frac{\bar{\pi}}{100}}{\frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$crk = \left(\frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}}\right)^{(-1)} \left(1 + \frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1 - \delta)$$

$$cw = \left(\frac{\alpha^{\alpha} (1 - \alpha)^{1 - \alpha}}{\Phi \left(\left(\frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}}\right)^{(-1)} \left(1 + \frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1 - \delta)\right)^{\alpha}}\right)^{\frac{1}{1 - \alpha}}$$

$$cikbar = 1 - \frac{1 - \delta}{1 + \frac{\bar{\gamma}}{100}}$$

$$cik = \left(1 + \frac{\bar{\gamma}}{100}\right) \left(1 - \frac{1 - \delta}{1 + \frac{\bar{\gamma}}{100}}\right)$$

$$clk = \frac{1 - \alpha}{\alpha} \frac{\left(\frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}}\right)^{(-1)} \left(1 + \frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1 - \delta)}{\left(\frac{\alpha^{\alpha} (1 - \alpha)^{1 - \alpha}}{\Phi \left(\left(\frac{1}{1 + \frac{100 (\beta^{-1} - 1)}{100}}\right)^{(-1)} \left(1 + \frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1 - \delta)\right)^{\alpha}}\right)^{\frac{1}{1 - \alpha}}}$$

$$cky = \Phi \left(\frac{1-\alpha}{\alpha} \frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1}$$

$$ciy = \left(1+\frac{\bar{\gamma}}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\Phi \left(\frac{1-\alpha}{\alpha} \frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1}$$

$$ccy = 1-\frac{\bar{g}}{\bar{y}}-\left(1+\frac{\bar{\gamma}}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\Phi \left(\frac{1-\alpha}{\alpha} \frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1}$$

$$\begin{aligned} crkky = \Bigg(&\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} \\ &- (1-\delta)\Bigg)\Phi \left(\frac{1-\alpha}{\alpha} \frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1} \end{aligned}$$

$$cwhlc = \frac{\Phi \left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1} \quad \frac{(1-\alpha)\,\frac{1}{\phi_w}}{\alpha}\,\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)}{1-\frac{\bar{g}}{\bar{y}}-\left(1+\frac{\bar{\gamma}}{100}\right)\,\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\,\Phi\,\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}}$$

$$cwly = 1-\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)\right)\,\Phi\,\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}$$

$$conster = 100\,\left(\frac{1+\frac{\bar{\pi}}{100}}{\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}-1\right)$$

$$c1 = \frac{\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}$$

$$c2 = \frac{(\sigma_c-1)\,\frac{\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}\frac{(1-\alpha)\,\frac{1}{\phi_w}}{\alpha}\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)}{1-\frac{\bar{g}}{\bar{y}}-\left(1+\frac{\bar{\gamma}}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}}}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}$$

$$c3 = \frac{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}$$

$$i1 = \frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right)\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$i2 = \frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right)\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\,\frac{1}{\varphi\left(1+\frac{\bar{\gamma}}{100}\right)^{2}}$$

$$q1 = \frac{1-\delta}{\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}}$$

$$q2 = \frac{1}{\frac{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}}$$

$$k1 = 1-\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)$$

$$k2 = \varphi \left(1 - \frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right) \left(1 + \frac{\bar{\gamma}}{100}\right)^2$$

$$pi1 = \iota_p \frac{1}{1 + \iota_p \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$pi2 = \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1 + \frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)} \frac{1}{1 + \iota_p \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$pi3 = \frac{\frac{1}{1+\iota_p \left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}} \frac{(1-\xi_p)\left(1-\xi_p \left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\right)}{\xi_p}}{1 + (\Phi - 1)\ \varepsilon_p}$$

$$w1 = \frac{1}{1 + \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$w2 = \frac{1 + \iota_w \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}{1 + \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$w3 = \frac{\iota_w}{1 + \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}$$

$$w4 = \frac{1}{1 + (\phi_w - 1)\ \varepsilon_w} \frac{(1-\xi_w)\left(1 - \xi_w \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\right)}{\xi_w \left(1 + \left(1 + \frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\right)}$$

$$w5 = \frac{1}{1 - \frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}$$

$$w6 = \frac{\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{1 - \frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}$$

$$\varepsilon_{at} = \alpha\, {r^{k,flex}}_t + (1-\alpha)\ {w^{flex}}_t \tag{1}$$

$$
{z^{flex}}_t = {r^{k,flex}}_t \frac{1}{\frac{\psi}{1-\psi}} \tag{2}
$$

$$
{r^{k,flex}}_t = {w^{flex}}_t + {l^{flex}}_t - {k^{s,flex}}_t \tag{3}
$$

$$
{k^{s,flex}}_t = {z^{flex}}_t + {k^{flex}}_{t-1} \tag{4}
$$

$$
\begin{aligned}
{i^{flex}}_t = {\varepsilon^i}_t + {i^{flex}}_{t-1} & \frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}} \\
& + {i^{flex}}_{t+1} \left(1-\frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\right) \\
& + {q^{flex}}_t \frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}} \frac{1}{\varphi \left(1+\frac{\bar{\gamma}}{100}\right)^2}
\end{aligned} \tag{5}
$$

$$
\begin{aligned}
{q^{flex}}_t = {q^{flex}}_{t+1} & \frac{1-\delta}{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}} \\
& + {r^{k,flex}}_{t+1} \left(1-\frac{1-\delta}{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}}\right) + c_2 * \varepsilon^b_{tt} \frac{1}{\frac{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{\sigma_c \left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}} - {r^{flex}}_t
\end{aligned} \tag{6}
$$

$$
\begin{aligned}
c^{flex}{}_t &= c_2 * \varepsilon^b_{t\,t} + c^{flex}{}_{t-1}\,\frac{\frac{\lambda}{1+\frac{\bar\gamma}{100}}}{1+\frac{\lambda}{1+\frac{\bar\gamma}{100}}} + c^{flex}{}_{t+1}\left(1-\frac{\frac{\lambda}{1+\frac{\bar\gamma}{100}}}{1+\frac{\lambda}{1+\frac{\bar\gamma}{100}}}\right) + \Bigl(l^{flex}{}_t \\
&\quad (\sigma_c-1)\,\frac{\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar\gamma}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar\gamma}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}\frac{(1-\alpha)\,\frac{1}{\phi_w}}{\alpha}\Bigl(\Bigl(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\Bigr)^{(-1)}\Bigl(1+\frac{\bar\gamma}{100}\Bigr)^{\sigma_c}-}{1-\frac{\bar g}{\bar y}-\left(1+\frac{\bar\gamma}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar\gamma}{100}}\right)\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar\gamma}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar\gamma}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}} \\
&\quad -l^{flex}{}_{t+1}\Bigr)\,\frac{}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar\gamma}{100}}\right)} \\
&\quad - r^{flex}{}_t\,\frac{1-\frac{\lambda}{1+\frac{\bar\gamma}{100}}}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar\gamma}{100}}\right)}
\end{aligned}
\tag{7}
$$

$$
\begin{aligned}
{y^{flex}}_{t} = {\varepsilon^{g}}_{t} + {c^{flex}}_{t} \Bigg(& 1 - \frac{\bar{g}}{\bar{y}} - \left(1 + \frac{\bar{\gamma}}{100}\right) \Bigg(1 \\
& - \frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\Bigg) \, \Phi \left(\frac{1-\alpha}{\alpha} \, \frac{\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)} \, \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1} \Bigg) + {i^{flex}}_{t} \Bigg(1 \\
& + \frac{\bar{\gamma}}{100}\Bigg) \left(1 - \frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right) \, \Phi \left(\frac{1-\alpha}{\alpha} \, \frac{\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)} \, \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1} \\
& + {z^{flex}}_{t} \Bigg(\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} \\
& - (1-\delta)\Bigg) \, \Phi \left(\frac{1-\alpha}{\alpha} \, \frac{\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)} \, \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - (1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\,(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}} \right)^{\alpha-1}
\end{aligned}
\tag{8}
$$

$$
{y^{flex}}_{t} = \Phi \, \left(\varepsilon_{at} + \alpha \, {k^{s,flex}}_{t} + (1-\alpha) \, {l^{flex}}_{t}\right) \tag{9}
$$

$$
{w^{flex}}_{t} = {l^{flex}}_{t} \, \sigma_l + {c^{flex}}_{t} \, \frac{1}{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}} - {c^{flex}}_{t-1} \, \frac{\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}} \tag{10}
$$

$$
\begin{aligned}
{k^{flex}}_t = {k^{flex}}_{t-1} \left(1-\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\right) + {i^{flex}}_t \left(1-\left(1-\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\right)\right) \\
+ {\varepsilon^i}_t \, \varphi \left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right) \left(1+\frac{\bar{\gamma}}{100}\right)^2
\end{aligned} \tag{11}
$$

$$
\mu_{p_t} = \alpha \, {r^k}_t + (1-\alpha) \; w_t - \varepsilon_{at} \tag{12}
$$

$$
z_t = \frac{1}{\frac{\psi}{1-\psi}} \, {r^k}_t \tag{13}
$$

$$
{r^k}_t = w_t + l_t - {k^s}_t \tag{14}
$$

$$
{k^s}_t = z_t + k_{t-1} \tag{15}
$$

$$
k_t = {\varepsilon^i}_t \, \varphi \left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right) \left(1+\frac{\bar{\gamma}}{100}\right)^2 + k_{t-1} \left(1-\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\right) + i_t \left(1-\left(1-\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\right)\right) \tag{16}
$$

$$
\begin{aligned}
i_t = {\varepsilon^i}_t + i_{t-1} \frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}} \\
+ i_{t+1} \left(1-\frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\right) \\
+ q_t \frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right) \frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}} \frac{1}{\varphi \left(1+\frac{\bar{\gamma}}{100}\right)^2}
\end{aligned} \tag{17}
$$

$$
\begin{aligned}
q_t = c_2 * \varepsilon^b_{t\,t} \frac{1}{\frac{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{\sigma_c \left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}} + q_{t+1} \frac{1-\delta}{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}} \\
+ {r^k}_{t+1} \left(1-\frac{1-\delta}{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)} \left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}}\right) - (r_t - \pi_{t+1})
\end{aligned} \tag{18}
$$

$$c_t = c_2 * \varepsilon^b_{tt} + c_{t-1}\,\frac{\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}} + c_{t+1}\left(1-\frac{\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}\right) + (l_t \tag{19}$$

$$(\sigma_c - 1)\,\frac{\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}\quad \frac{(1-\alpha)\,\frac{1}{\phi w}}{\alpha}\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta \right.}{1-\frac{\bar{g}}{\bar{y}}-\left(1+\frac{\bar{\gamma}}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)}{\left(\frac{\alpha^{\alpha}\,(1-\alpha)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-(1-\delta)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}}$$

$$-l_{t+1})\,\frac{\cdots}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}$$

$$-\left(r_t - \pi_{t+1}\right)\,\frac{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}{\sigma_c\left(1+\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)}$$

$$
\begin{aligned}
y_t = {\varepsilon^{g}}_t + c_t \Bigg(& 1 - \frac{\bar{g}}{\bar{y}} \\
& - \left(1+\frac{\bar{\gamma}}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-\left(1-\delta\right)}{\left(\frac{\alpha^{\alpha}\left(1-\alpha\right)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-\left(1-\delta\right)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}\Bigg) \\
& + i_t\left(1+\frac{\bar{\gamma}}{100}\right)\left(1-\frac{1-\delta}{1+\frac{\bar{\gamma}}{100}}\right)\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-\left(1-\delta\right)}{\left(\frac{\alpha^{\alpha}\left(1-\alpha\right)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-\left(1-\delta\right)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1} \\
& + z_t\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c} - \left(1-\delta\right)\right)\Phi\left(\frac{1-\alpha}{\alpha}\,\frac{\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-\left(1-\delta\right)}{\left(\frac{\alpha^{\alpha}\left(1-\alpha\right)^{1-\alpha}}{\Phi\left(\left(\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\right)^{(-1)}\left(1+\frac{\bar{\gamma}}{100}\right)^{\sigma_c}-\left(1-\delta\right)\right)^{\alpha}}\right)^{\frac{1}{1-\alpha}}}\right)^{\alpha-1}
\end{aligned}
\tag{20}
$$

$$
y_t = \Phi\left(\varepsilon_{at} + \alpha\,{k^{s}}_t + \left(1-\alpha\right)\,l_t\right)
\tag{21}
$$

$$
\begin{aligned}
\pi_t = {\varepsilon^p}_t + \pi_{t-1}\,\iota_p\,&\frac{1}{1+\iota_p\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\\
&+\pi_{t+1}\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\,\frac{1}{1+\iota_p\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\\
&+\mu_{p_t}\,\frac{\frac{1}{1+\iota_p\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\,\frac{(1-\xi_p)\,\left(1-\xi_p\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\right)}{\xi_p}}{1+\left(\Phi-1\right)\,\varepsilon_p}
\end{aligned}
\tag{22}
$$

$$
\begin{aligned}
w_t = {\varepsilon^w}_t + w_{t-1}\,&\frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\\
&+\left(\pi_{t+1}+w_{t+1}\right)\,\left(1-\frac{1}{1+\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\right)\\
&-\pi_t\,\frac{1+\iota_w\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}{1+\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\\
&+\pi_{t-1}\,\frac{\iota_w}{1+\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}}\\
&-\mu_{wt}\,\frac{1}{1+\left(\phi_w-1\right)\,\varepsilon_w}\,\frac{\left(1-\xi_w\right)\,\left(1-\xi_w\,\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\right)}{\xi_w\,\left(1+\left(1+\frac{\bar{\gamma}}{100}\right)\,\frac{1}{1+\frac{100\left(\beta^{-1}-1\right)}{100}}\,\left(1+\frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}\right)}
\end{aligned}
\tag{23}
$$

$$
\mu_{wt} = w_t - \left(\sigma_l\,l_t + \frac{1}{1-\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}}\,\left(c_t - c_{t-1}\,\frac{\lambda}{1+\frac{\bar{\gamma}}{100}}\right)\right) \tag{24}
$$

$$
r_t = \pi_t\,r_\pi\,\left(1-\rho\right) + \left(1-\rho\right)\,r_y\,\left(y_t - {y^{flex}}_t\right) + r_{\Delta y}\,\left(y_t - {y^{flex}}_t - y_{t-1} + {y^{flex}}_{t-1}\right) + \rho\,r_{t-1} + {\varepsilon^r}_t \tag{25}
$$

$$
\varepsilon_{at} = \rho_a\,\varepsilon_{at-1} + {\eta^a}_t \tag{26}
$$

$$
c_2 * \varepsilon^b_{tt} = \rho_b\,c_2 * \varepsilon^b_{tt-1} + {\eta^b}_t \tag{27}
$$

$$
{\varepsilon^g}_t = \rho_g\,{\varepsilon^g}_{t-1} + {\eta^g}_t + {\eta^a}_t\,\rho_{ga} \tag{28}
$$

$$
{\varepsilon^i}_t = \rho_i\,{\varepsilon^i}_{t-1} + {\eta^i}_t \tag{29}
$$

$$\varepsilon^{r}{}_{t} = \rho_r\, \varepsilon^{r}{}_{t-1} + \eta^{m}{}_{t} \tag{30}$$

$$\varepsilon^{p}{}_{t} = \rho_p\, \varepsilon^{p}{}_{t-1} + \eta^{p,aux}{}_{t} - \mu_p\, \eta^{p,aux}{}_{t-1} \tag{31}$$

$$\eta^{p,aux}{}_{t} = \eta^{p}{}_{t} \tag{32}$$

$$\varepsilon^{w}{}_{t} = \rho_w\, \varepsilon^{w}{}_{t-1} + \eta^{w,aux}{}_{t} - \mu_w\, \eta^{w,aux}{}_{t-1} \tag{33}$$

$$\eta^{w,aux}{}_{t} = \eta^{w}{}_{t} \tag{34}$$

$$dlGDP_t = \bar{\gamma} + y_t - y_{t-1} \tag{35}$$

$$dlCONS_t = \bar{\gamma} + c_t - c_{t-1} \tag{36}$$

$$dlINV_t = \bar{\gamma} + i_t - i_{t-1} \tag{37}$$

$$dlWAG_t = \bar{\gamma} + w_t - w_{t-1} \tag{38}$$

$$dlP_t = \bar{\pi} + \pi_t \tag{39}$$

$$FEDFUNDS_t = r_t + 100 \left(\frac{1 + \frac{\bar{\pi}}{100}}{\frac{1}{1+\frac{100(\beta^{-1}-1)}{100}} \left(1 + \frac{\bar{\gamma}}{100}\right)^{(-\sigma_c)}} - 1 \right) \tag{40}$$

$$lHOURS_t = l_t + \bar{l} \tag{41}$$

$$cpie = 1 + \frac{\bar{\pi}}{100}$$

$$cgamma = 1 + \frac{\bar{\gamma}}{100}$$

$$cbeta = \frac{1}{1 + \frac{100(\beta^{-1}-1)}{100}}$$

$$clandap = \Phi$$

$$cbetabar = cbeta\, cgamma^{(-\sigma_c)}$$

$$cr = \frac{cpie}{cbeta\, cgamma^{(-\sigma_c)}}$$

$$crk = cbeta^{(-1)}\, cgamma^{\sigma_c} - (1 - \delta)$$

$$cw = \left(\frac{\alpha^{\alpha}\ (1-\alpha)^{1-\alpha}}{clandap\, crk^{\alpha}} \right)^{\frac{1}{1-\alpha}}$$

$$cikbar = 1 - \frac{1-\delta}{cgamma}$$

$$cik = cgamma\ \left(1 - \frac{1-\delta}{cgamma}\right)$$

$$clk = \frac{1-\alpha}{\alpha}\, \frac{crk}{cw}$$

$$cky = \Phi\, clk^{\alpha-1}$$

$$ciy = cik\, cky$$

$$ccy = 1 - \frac{\bar{g}}{\bar{y}} - cik\, cky$$

$$crkky = crk\, cky$$

$$cwhlc = \frac{cky\, crk\, \frac{(1-\alpha)\, \frac{1}{\phi_w}}{\alpha}}{ccy}$$

$$cwly = 1 - crk\,cky$$

$$conster = 100\,(cr - 1)$$

$$c1 = \frac{\frac{\lambda}{cgamma}}{1 + \frac{\lambda}{cgamma}}$$

$$c2 = \frac{(\sigma_c - 1)\ cwhlc}{\sigma_c\,\left(1 + \frac{\lambda}{cgamma}\right)}$$

$$c3 = \frac{1 - \frac{\lambda}{cgamma}}{\sigma_c\,\left(1 + \frac{\lambda}{cgamma}\right)}$$

$$i1 = \frac{1}{1 + cgamma\,cbetabar}$$

$$i2 = \frac{1}{1 + cgamma\,cbetabar}\,\frac{1}{cgamma^2\,\varphi}$$

$$q1 = \frac{1 - \delta}{1 - \delta + crk}$$

$$q2 = \frac{1}{\frac{1 - \frac{\lambda}{cgamma}}{\sigma_c\,\left(1 + \frac{\lambda}{cgamma}\right)}}$$

$$k1 = 1 - cikbar$$

$$k2 = \varphi\,cgamma^2\,cikbar$$

$$pi1 = \iota_p\,\frac{1}{1 + cgamma\,cbetabar\,\iota_p}$$

$$pi2 = cgamma\,cbetabar\,\frac{1}{1 + cgamma\,cbetabar\,\iota_p}$$

$$pi3 = \frac{\frac{1}{1 + cgamma\,cbetabar\,\iota_p}\,\frac{(1 - \xi_p)\,(1 - cgamma\,cbetabar\,\xi_p)}{\xi_p}}{1 + (\Phi - 1)\ \varepsilon_p}$$

$$w1 = \frac{1}{1 + cgamma\, cbetabar}$$

$$w2 = \frac{1 + cgamma\, cbetabar\, \iota_w}{1 + cgamma\, cbetabar}$$

$$w3 = \frac{\iota_w}{1 + cgamma\, cbetabar}$$

$$w4 = \frac{\left(1 - \xi_w\right)\, \left(1 - cgamma\, cbetabar\, \xi_w\right)}{\left(1 + cgamma\, cbetabar\right)\, \xi_w} \frac{1}{1 + \left(\phi_w - 1\right)\, \varepsilon_w}$$

$$w5 = \frac{1}{1 - \frac{\lambda}{cgamma}}$$

$$w6 = \frac{\frac{\lambda}{cgamma}}{1 - \frac{\lambda}{cgamma}}$$

$$\varepsilon_{at} = \alpha\, {r^{k,flex}}_{t} + \left(1 - \alpha\right)\, {w^{flex}}_{t} \tag{42}$$

$$ {z^{flex}}_{t} = {r^{k,flex}}_{t}\, \frac{1}{\frac{\psi}{1-\psi}} \tag{43}$$

$$ {r^{k,flex}}_{t} = {w^{flex}}_{t} + {l^{flex}}_{t} - {k^{s,flex}}_{t} \tag{44}$$

$$ {k^{s,flex}}_{t} = {z^{flex}}_{t} + {k^{flex}}_{t-1} \tag{45}$$

$$ {i^{flex}}_{t} = i1\, {i^{flex}}_{t-1} + \left(1 - i1\right)\, {i^{flex}}_{t+1} + i2\, {q^{flex}}_{t} + {\varepsilon^{i}}_{t} \tag{46}$$

$$ {q^{flex}}_{t} = q1\, {q^{flex}}_{t+1} + \left(1 - q1\right)\, {r^{k,flex}}_{t+1} + q2\, c_2 * \varepsilon^{b}_{t\,t} - {r^{flex}}_{t} \tag{47}$$

$$ {c^{flex}}_{t} = c_2 * \varepsilon^{b}_{t\,t} + c1\, {c^{flex}}_{t-1} + \left(1 - c1\right)\, {c^{flex}}_{t+1} + c2\, \left({l^{flex}}_{t} - {l^{flex}}_{t+1}\right) - {r^{flex}}_{t}\, c3 \tag{48}$$

$$ {y^{flex}}_{t} = ccy\, {c^{flex}}_{t} + {i^{flex}}_{t}\, ciy + {\varepsilon^{g}}_{t} + {z^{flex}}_{t}\, crkky \tag{49}$$

$$ {y^{flex}}_{t} = \Phi\, \left(\varepsilon_{at} + \alpha\, {k^{s,flex}}_{t} + \left(1 - \alpha\right)\, {l^{flex}}_{t}\right) \tag{50}$$

$$ {w^{flex}}_{t} = {l^{flex}}_{t}\, \sigma_l + {c^{flex}}_{t}\, w5 - {c^{flex}}_{t-1}\, w6 \tag{51}$$

$$k^{flex}{}_{t} = k^{flex}{}_{t-1}\, k1 + i^{flex}{}_{t}\ (1 - k1) + \varepsilon^{i}{}_{t}\, k2 \tag{52}$$

$$\mu_{p_t} = \alpha\, r^{k}{}_{t} + (1-\alpha)\ w_t - \varepsilon_{at} \tag{53}$$

$$z_t = \frac{1}{\frac{\psi}{1-\psi}}\, r^{k}{}_{t} \tag{54}$$

$$r^{k}{}_{t} = w_t + l_t - k^{s}{}_{t} \tag{55}$$

$$k^{s}{}_{t} = z_t + k_{t-1} \tag{56}$$

$$k_t = \varepsilon^{i}{}_{t}\, k2 + k1\, k_{t-1} + (1 - k1)\ i_t \tag{57}$$

$$i_t = \varepsilon^{i}{}_{t} + i1\, i_{t-1} + (1 - i1)\ i_{t+1} + i2\, q_t \tag{58}$$

$$q_t = q2\, c_2 * \varepsilon^{b}_{t\,t} + q1\, q_{t+1} + (1 - q1)\ r^{k}{}_{t+1} - (r_t - \pi_{t+1}) \tag{59}$$

$$c_t = c_2 * \varepsilon^{b}_{t\,t} + c1\, c_{t-1} + (1 - c1)\ c_{t+1} + c2\ (l_t - l_{t+1}) - c3\ (r_t - \pi_{t+1}) \tag{60}$$

$$y_t = \varepsilon^{g}{}_{t} + ccy\, c_t + ciy\, i_t + crkky\, z_t \tag{61}$$

$$y_t = \Phi\ (\varepsilon_{at} + \alpha\, k^{s}{}_{t} + (1-\alpha)\ l_t) \tag{62}$$

$$\pi_t = pi1\, \pi_{t-1} + \pi_{t+1}\, pi2 + \mu_{p_t}\, pi3 + \varepsilon^{p}{}_{t} \tag{63}$$

$$w_t = w1\, w_{t-1} + (1 - w1)\ (\pi_{t+1} + w_{t+1}) - \pi_t\, w2 + \pi_{t-1}\, w3 - w4\, \mu_{wt} + \varepsilon^{w}{}_{t} \tag{64}$$

$$\mu_{wt} = w_t - \left(\sigma_l\, l_t + \frac{1}{1 - \frac{\lambda}{cgamma}}\ \left(c_t - \frac{\lambda}{cgamma}\, c_{t-1}\right)\right) \tag{65}$$

$$r_t = \pi_t\, r_\pi\ (1-\rho) + (1-\rho)\ r_y\ \left(y_t - y^{flex}{}_{t}\right) + r_{\Delta y}\ \left(y_t - y^{flex}{}_{t} - y_{t-1} + y^{flex}{}_{t-1}\right) + \rho\, r_{t-1} + \varepsilon^{r}{}_{t} \tag{66}$$

$$\varepsilon_{at} = \rho_a\, \varepsilon_{at-1} + \eta^{a}{}_{t} \tag{67}$$

$$c_2 * \varepsilon^{b}_{t\,t} = \rho_b\, c_2 * \varepsilon^{b}_{t\,t-1} + \eta^{b}{}_{t} \tag{68}$$

$$\varepsilon^{g}{}_{t} = \rho_g\, \varepsilon^{g}{}_{t-1} + \eta^{g}{}_{t} + \eta^{a}{}_{t}\, \rho_{ga} \tag{69}$$

$$\varepsilon^{i}{}_{t} = \rho_i\, \varepsilon^{i}{}_{t-1} + \eta^{i}{}_{t} \tag{70}$$

$$\varepsilon^r{}_t = \rho_r\, \varepsilon^r{}_{t-1} + \eta^m{}_t \tag{71}$$

$$\varepsilon^p{}_t = \rho_p\, \varepsilon^p{}_{t-1} + \eta^{p,aux}{}_t - \mu_p\, \eta^{p,aux}{}_{t-1} \tag{72}$$

$$\eta^{p,aux}{}_t = \eta^p{}_t \tag{73}$$

$$\varepsilon^w{}_t = \rho_w\, \varepsilon^w{}_{t-1} + \eta^{w,aux}{}_t - \mu_w\, \eta^{w,aux}{}_{t-1} \tag{74}$$

$$\eta^{w,aux}{}_t = \eta^w{}_t \tag{75}$$

$$dlGDP_t = \bar{\gamma} + y_t - y_{t-1} \tag{76}$$

$$dlCONS_t = \bar{\gamma} + c_t - c_{t-1} \tag{77}$$

$$dlINV_t = \bar{\gamma} + i_t - i_{t-1} \tag{78}$$

$$dlWAG_t = \bar{\gamma} + w_t - w_{t-1} \tag{79}$$

$$dlP_t = \bar{\pi} + \pi_t \tag{80}$$

$$FEDFUNDS_t = r_t + conster \tag{81}$$

$$lHOURS_t = l_t + \bar{l} \tag{82}$$

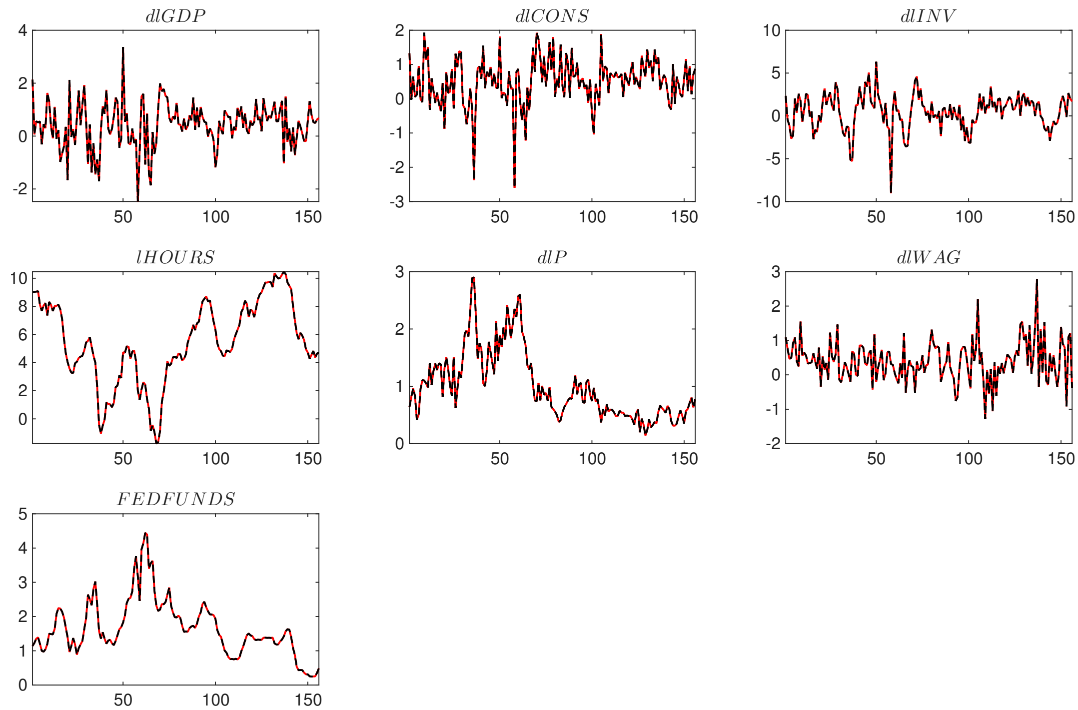

Figure 5: Historical and smoothed variables.

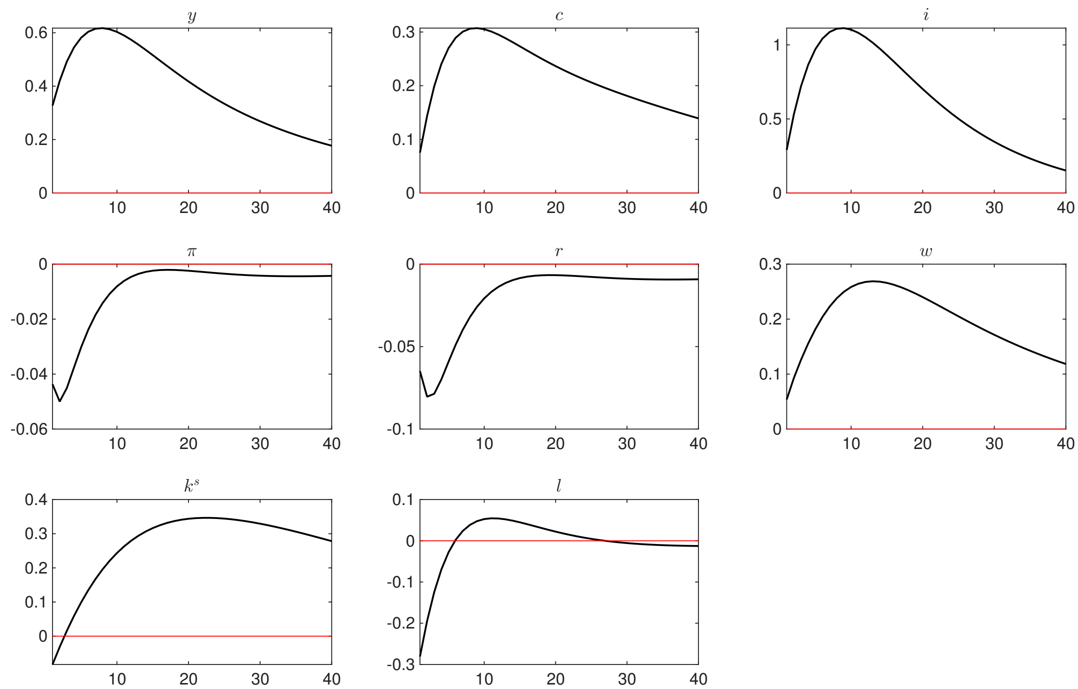

Figure 6: Impulse response functions (orthogonalized shock to η^a).

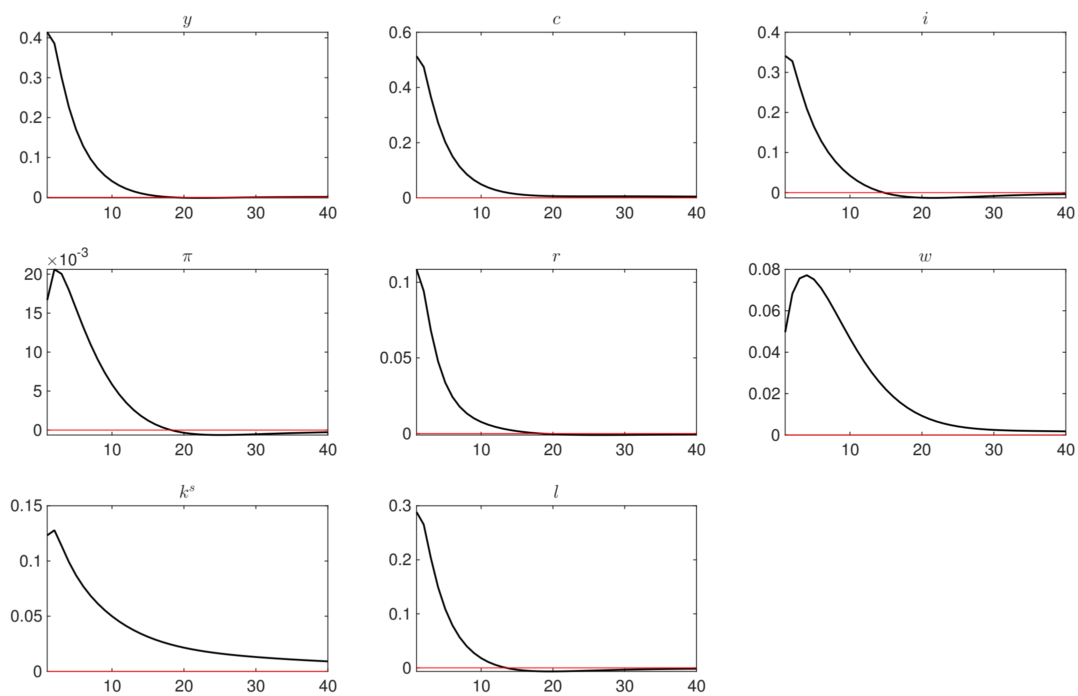

Figure 7: Impulse response functions (orthogonalized shock to η^b).

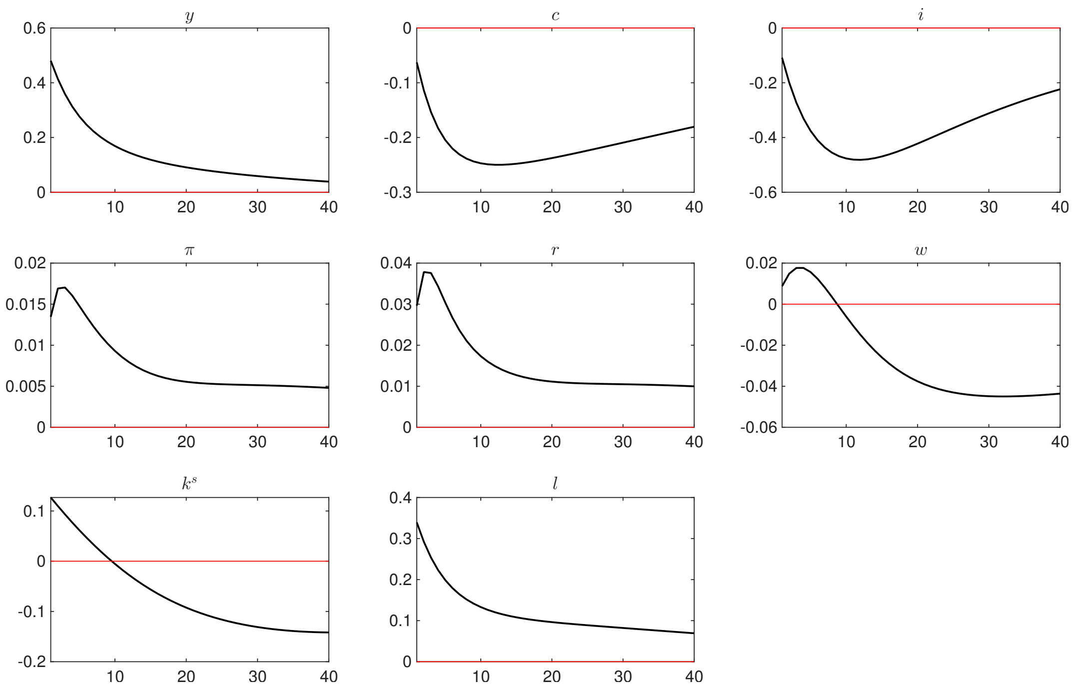

Figure 8: Impulse response functions (orthogonalized shock to η^g).

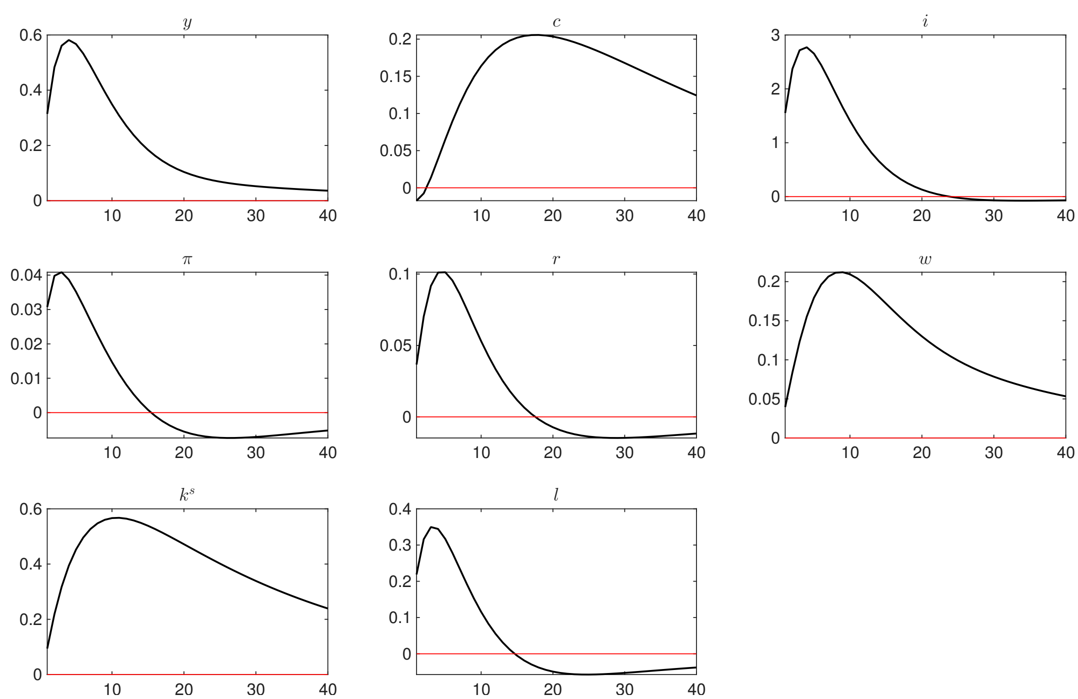

Figure 9: Impulse response functions (orthogonalized shock to η^i).

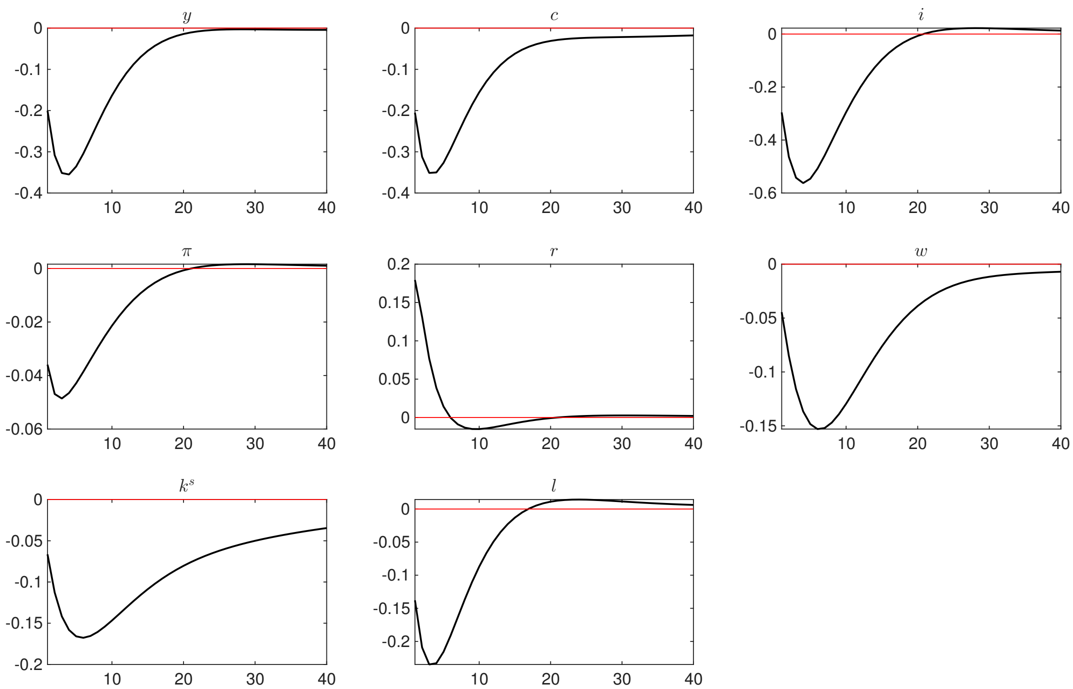

Figure 10: Impulse response functions (orthogonalized shock to η^m).

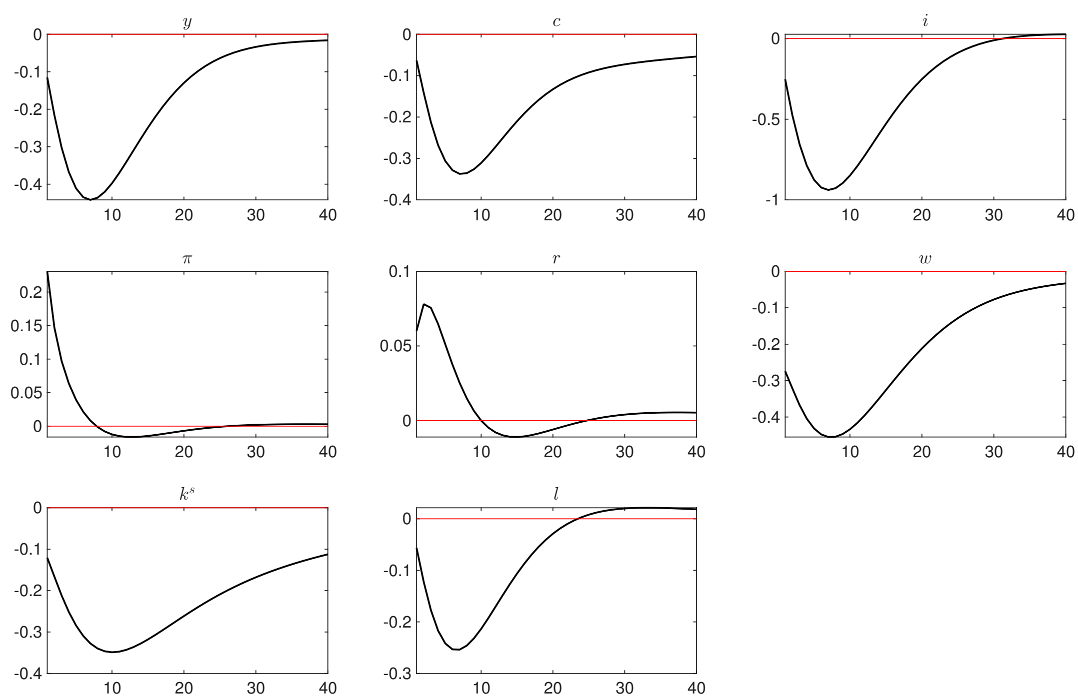

Figure 11: Impulse response functions (orthogonalized shock to η^p).

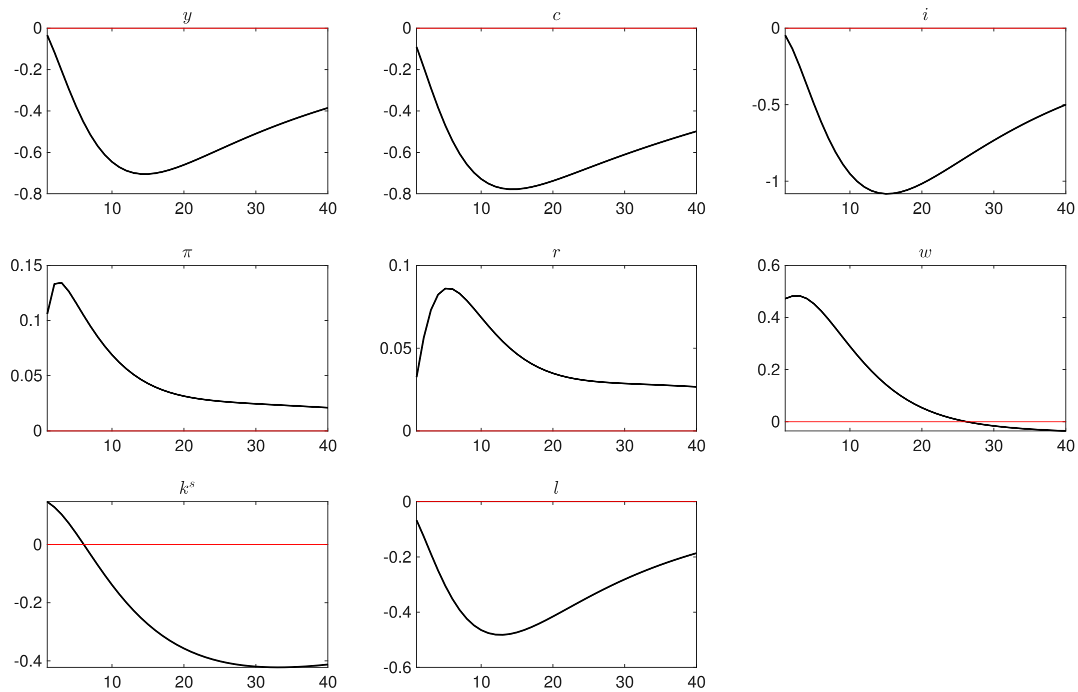

Figure 12: Impulse response functions (orthogonalized shock to η^w).

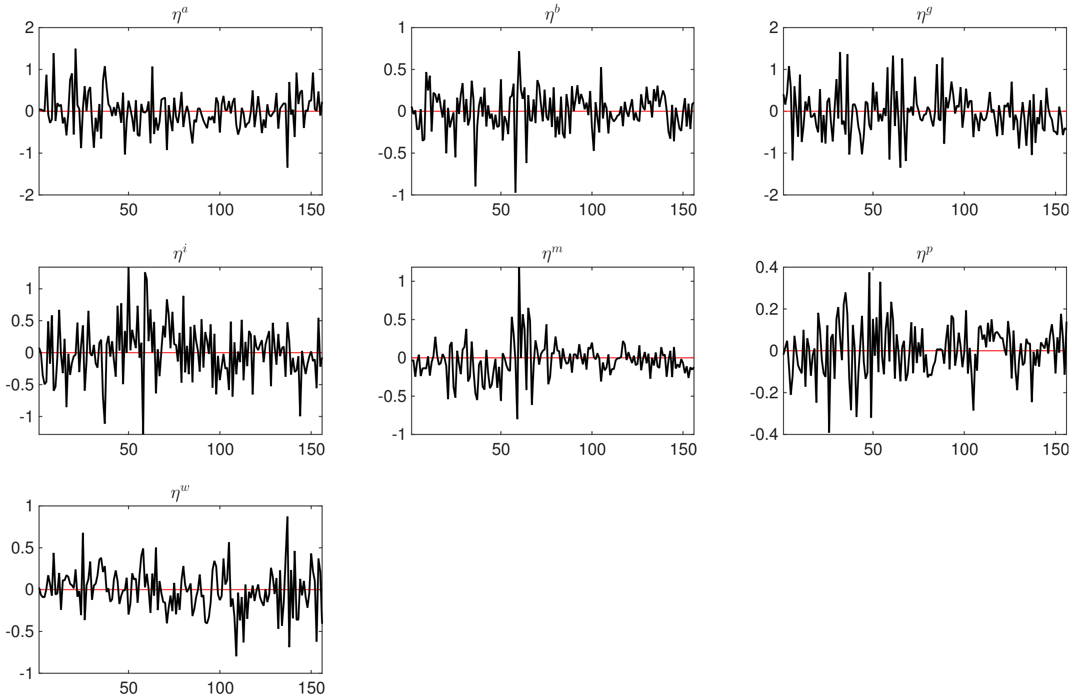

Figure 13: Smoothed shocks.