Table 1: Results from posterior maximization (parameters)

		Prior		Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
α	norm	0.300	0.0500	0.2652	0.0352
ψ	beta	0.500	0.1500	0.4425	0.0647
Φ	norm	1.250	0.1250	1.4276	0.0617
ι_w	beta	0.500	0.1500	0.2766	0.0947
ξ_w	beta	0.500	0.1000	0.9046	0.0159
ι_p	beta	0.500	0.1500	0.2625	0.0812
ξ_p	beta	0.500	0.1000	0.6859	0.0379
σ_c	norm	1.500	0.3750	1.5126	0.1008
σ_l	norm	2.000	0.7500	1.8146	0.4797
λ	beta	0.700	0.1000	0.5319	0.0773
φ	norm	4.000	1.5000	0.0850	0.0202
r_π	norm	1.500	0.2500	2.0297	0.1779
r_y	norm	0.125	0.0500	0.1585	0.0343
$r_{\Delta y}$	norm	0.125	0.0500	0.2888	0.0256
ρ	beta	0.750	0.1000	0.8554	0.0237
n_*	norm	0.000	2.0000	2.5348	0.8199
γ	norm	0.400	0.1000	0.5072	0.0846
ζ_{sp}	beta	0.050	0.0050	0.0459	0.0047
$\bar\pi$	gamm	0.625	0.2000	0.3016	0.0464
ρ_{ga}	beta	0.500	0.2000	0.7849	0.1552
ρ_a	beta	0.500	0.2000	0.9668	0.0118
ρ_b	beta	0.500	0.2000	0.8686	0.0218
ρ_g	beta	0.500	0.2000	0.9815	0.0084
ρ_i	beta	0.500	0.2000	0.9954	0.0026
ρ_r	beta	0.500	0.2000	0.0293	0.0221
ρ_p	beta	0.500	0.2000	0.8947	0.0410
ρ_w	beta	0.500	0.2000	0.6020	0.1553
ρ_{σ_w}	beta	0.750	0.1500	0.9945	0.0055
ρ_{π_*}	beta	0.750	0.1500	0.9967	0.0026
μ_p	beta	0.500	0.2000	0.7300	0.0736
μ_w	beta	0.500	0.2000	0.8117	0.0880

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

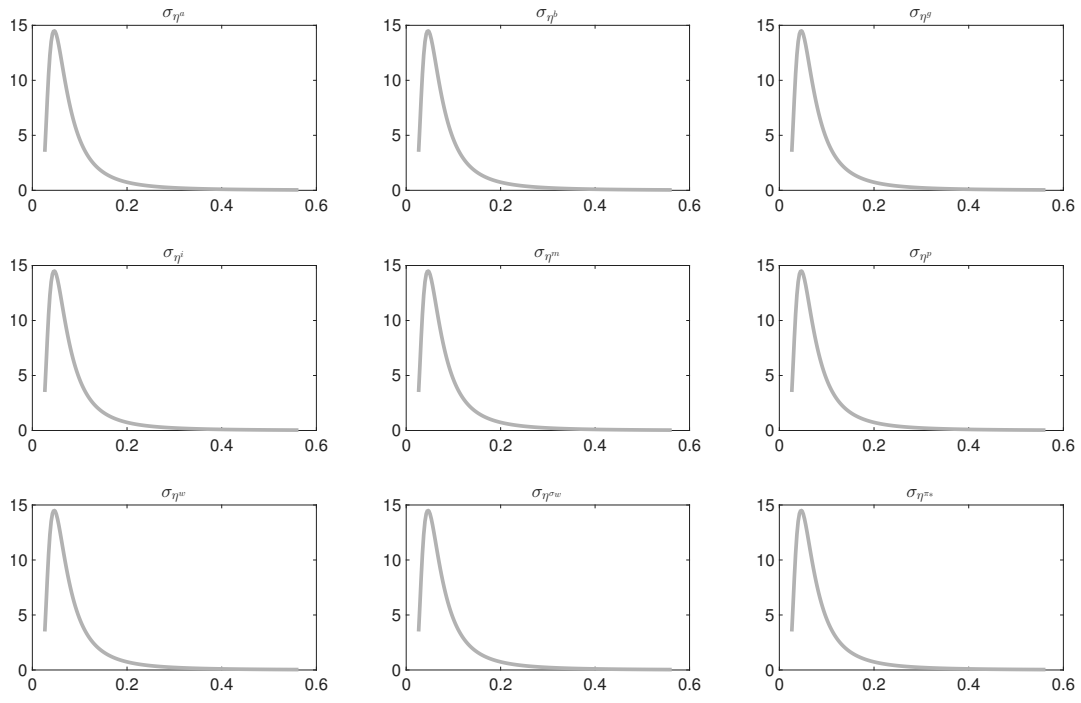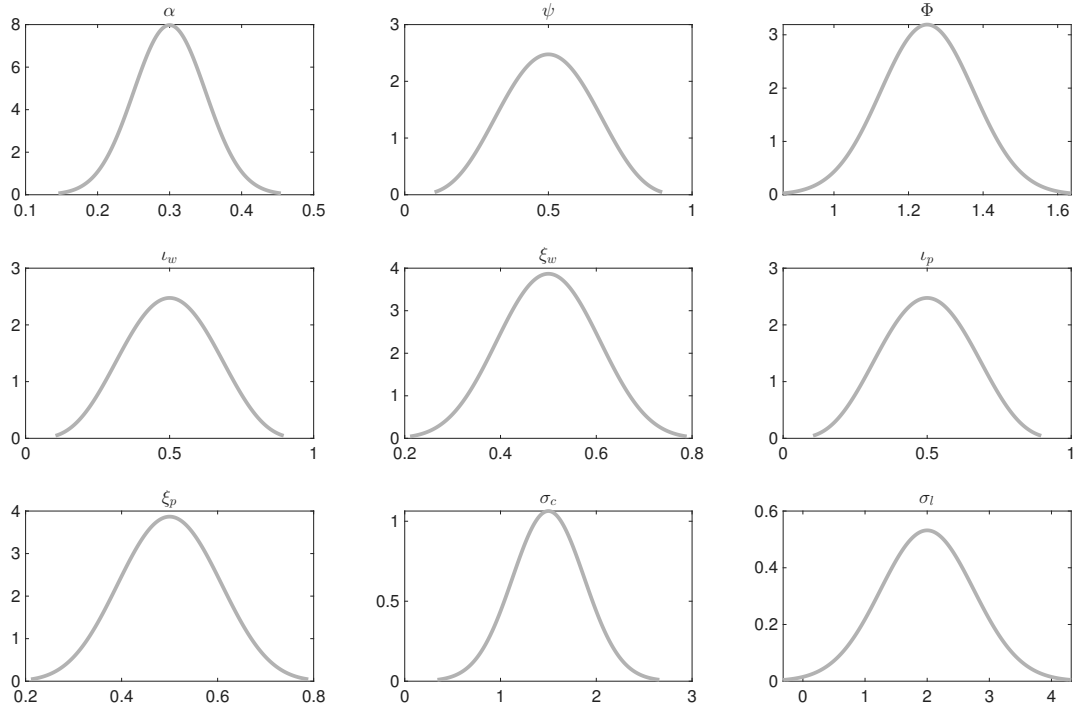|		Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
η^a	invg	0.100	2.0000	0.4681	0.0298
η^b	invg	0.100	2.0000	0.0906	0.0113
η^g	invg	0.100	2.0000	2.7908	0.1603
η^i	invg	0.100	2.0000	1.8478	0.2825
η^m	invg	0.100	2.0000	0.2365	0.0170
η^p	invg	0.100	2.0000	0.1661	0.0129
η^w	invg	0.100	2.0000	0.3207	0.0232
η^{σ_w}	invg	0.100	2.0000	0.0714	0.0094
η^{π_*}	invg	0.100	2.0000	0.0360	0.0099

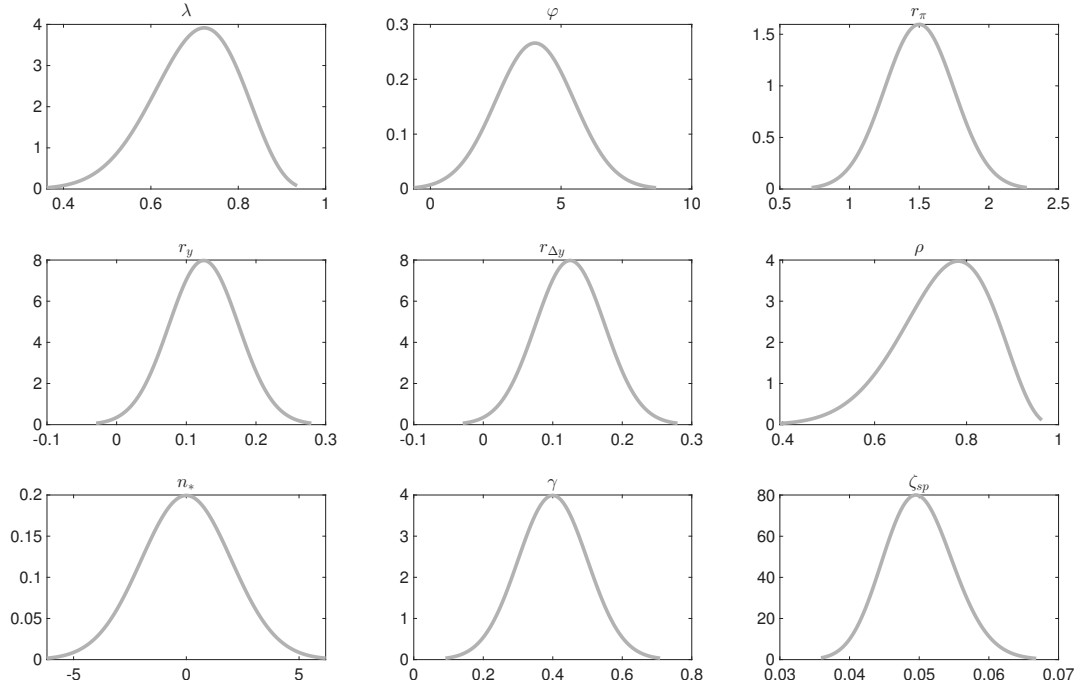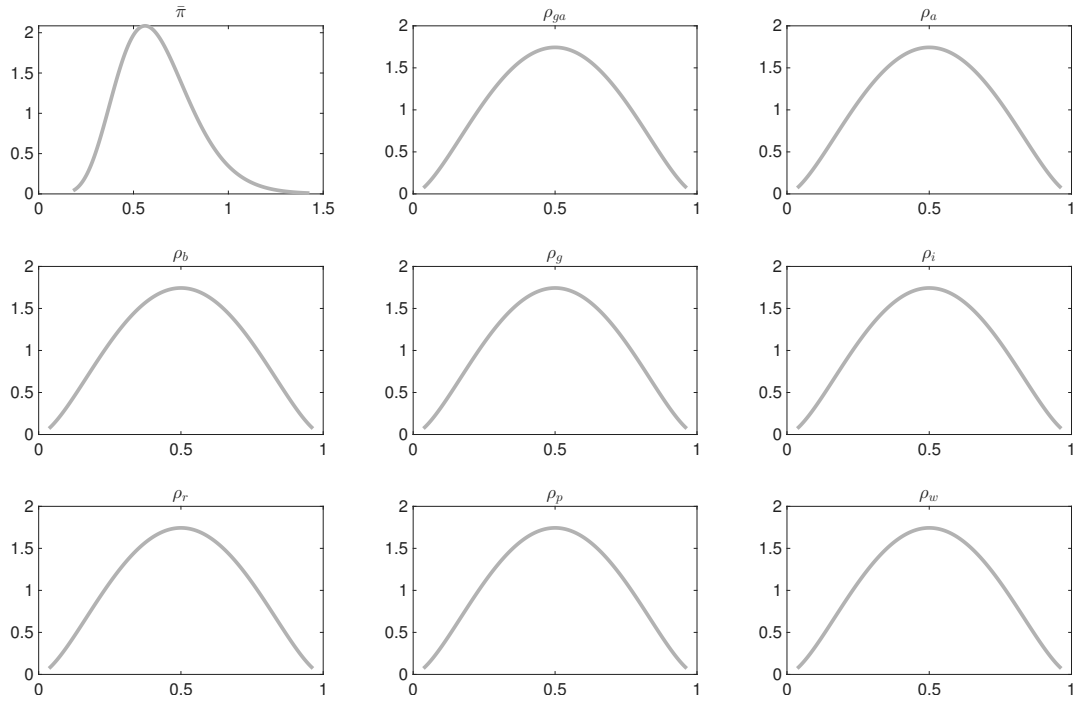Figure 1: Priors.
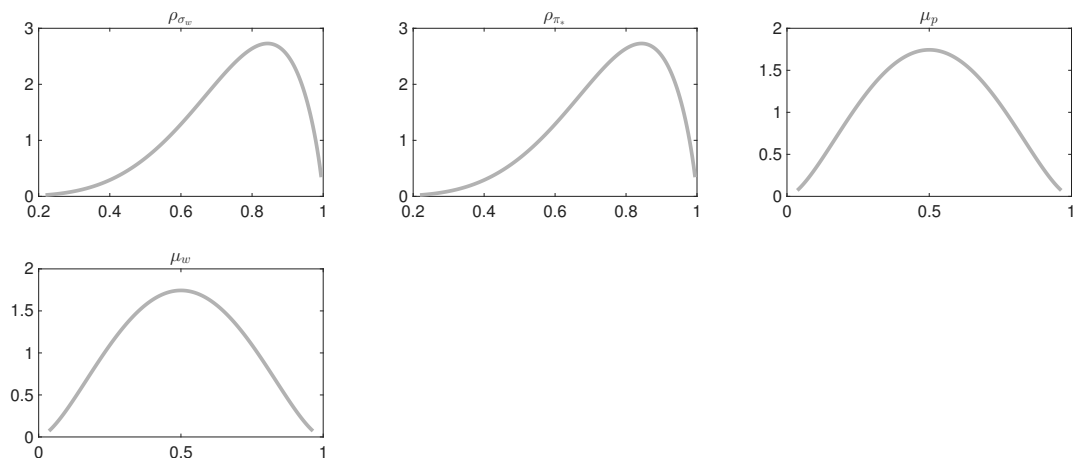

Figure 2: Priors.

Figure 3: Priors.

Figure 4: Priors.

Figure 5: 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^{σ_w}	η^{π_*}	η^{z_p}
η^a	0.219078	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.00000	
η^b	0.000000	0.008206	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.00000	
η^g	0.000000	0.000000	7.788704	0.000000	0.000000	0.000000	0.000000	0.000000	0.00000	
η^i	0.000000	0.000000	0.000000	3.414244	0.000000	0.000000	0.000000	0.000000	0.00000	
η^m	0.000000	0.000000	0.000000	0.000000	0.055940	0.000000	0.000000	0.000000	0.00000	
η^p	0.000000	0.000000	0.000000	0.000000	0.000000	0.027576	0.000000	0.000000	0.00000	
η^w	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.102825	0.000000	0.00000	
η^{σ_w}	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.005099	0.00000	
η^{π_*}	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.00129	
η^{z_p}	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.00000	

Table 4: Endogenous

Variable	LaTeX	Description
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
rk	r^k	rental rate of capital
k	k^s	Capital services
mc	μ_p	gross price markup
spinf	ε^p	Price markup shock process
sw	ε^w	Wage markup shock process
g	ε^g	Exogenous spending
b	$c_2 * \varepsilon_t^b$	Scaled risk premium shock
rkf	$r^{k,flex}$	rental rate of capital flex price economy
kf	$k^{s,flex}$	Capital services 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
sobs	$Spread$	BBB-AAA Rate Spread
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
wh	w^h	Marginal rate of substitution
rktil	r^{ktil}	Return to capital
ztil	z^{til}	Stationary Technology shock
sigw	σ_w	Financial shock
pist	π_*	Inflation Target
og	OG	OutputGap
zp	z_p	Permanent Technology shock
n	n	Entreprenurial Net Worth
z	w	Trend growth rate
u	u	Capital utilization rate
mu	ε^i	Investment-specific technology
rm	ε^r	Monetary policy shock process
kbar	k	Capital stock
qk	q	real value of existing capital stock
rf	r^{flex}	real interest rate flex price economy

	Variable	LaTeX	Description
kbarf	$\overline{k}^{flex}$		Capital stock flex price economy
uf	z^{flex}		Capital utilization rate flex price economy
qkf	q^{flex}		real value of existing capital stock flex price economy
AUX_EXO_LAG_52_0	$AUX\_EXO\_LAG\_52\_0$		AUX_EXO_LAG_52_0
AUX_EXO_LAG_53_0	$AUX\_EXO\_LAG\_53\_0$		AUX_EXO_LAG_53_0

Table 5: Exogenous

	Variable	LaTeX	Description
ea	η^a		TFP shock
eb	η^b		Risk Premium 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
esigw	η^{σ_w}		Financial shock
epist	$\eta^{\pi*}$		Inflation Target shock
ezp	η^{z_p}		Permanent technology shock

Table 6: Parameters

	Variable	LaTeX	Description
cbeta	β		discount rate
cepsp	ε_w		Curvature Kimball aggregator wages
cepsw	ε_p		Curvature Kimball aggregator prices
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
crpi	r_π		Taylor rule inflation feedback
crdy	$r_{\Delta y}$		Taylor rule output growth feedback

	Variable	LaTeX	Description
			Table 6 – Continued
cry	r_y		Taylor rule output level feedback
crr	ρ		interest rate persistence
czeta_spb	ζ_{sp}		Spread elasticity
cgammstar	γ^*		Wealth parameter
cvstar	v^*		Wealth parameter
cnstar	n_*		SS Entrepreneurial wealth
czeta_nRk	ζ_{nRk}		Net Worth parameter
czeta_nR	ζ_{nR}		Net Worth parameter
czeta_nsigw	$\zeta_{n\sigma_w}$		Net Worth parameter
czeta_spsigw	$\zeta_{sp\sigma_w}$		Net Worth parameter
czeta_nqk	ζ_{nqk}		Net Worth parameter
czeta_nn	ζ_{nn}		Net Worth parameter
cgy	ρ_{ga}		Feedback technology on exogenous spending
cmaw	μ_w		coefficient on MA term wage markup
cmap	μ_p		coefficient on MA term price markup
crhosigw	ρ_{σ_w}		persistence Financial shock
crhopist	ρ_{π_*}		persistence Inflation Target shock
crhozp	ρ_{zp}		persistence permanent technology shock
csigma_spinf	σ_{map}		price markup MA scaling
csigma_sw	σ_{maw}		wage markup MA scaling
crhoa	ρ_a		persistence productivity shock
crhob	ρ_b		persistence risk premium shock
crhog	ρ_g		persistence spending shock
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
cgamma	γ		Adjusted trend
crkstar	$\bar{rk}$		SS return on capital
ckstar	k^*		Capital-Output ratio
ckbarstar	$\bar{k}^*$		SS Capital-Output ratio
cinvestar	$\frac{\bar{\bar{i}}}{\bar{y}}$		Private investment share in aggregate output
cystar	$\frac{\bar{yp}}{\bar{y}}$		Private output share in aggregate output
ccstar	$\frac{\bar{c}}{\bar{y}}$		Private consumption share in aggregate output
cwl_c	wl_c		Consumption wage parameter
conster	$\bar{r}$		steady state interest rate
constelab	$\bar{l}$		steady state hours
constepinf	$\bar{\bar{\pi}}$		steady state inflation rate
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
β	0.999	discount rate
ε_w	10.000	Curvature Kimball aggregator wages
ε_p	10.000	Curvature Kimball aggregator prices
α	0.265	capital share
ψ	0.442	capacity utilization cost
φ	0.085	investment adjustment cost
δ	0.025	depreciation rate
σ_c	1.513	risk aversion
λ	0.532	external habit degree
Φ	1.428	fixed cost share
ι_w	0.277	Indexation to past wages
ξ_w	0.905	Calvo parameter wages
ι_p	0.262	Indexation to past prices
ξ_p	0.686	Calvo parameter prices
σ_l	1.815	Frisch elasticity
r_π	2.030	Taylor rule inflation feedback
$r_{\Delta y}$	0.289	Taylor rule output growth feedback
r_y	0.158	Taylor rule output level feedback
ρ	0.855	interest rate persistence
ζ_{sp}	0.046	Spread elasticity
γ^*	0.990	Wealth parameter
v^*	2.471	Wealth parameter
n_*	2.535	SS Entrepreneurial wealth
ζ_{nRk}	1.694	Net Worth parameter
ζ_{nR}	0.693	Net Worth parameter
$\zeta_{n\sigma_w}$	0.004	Net Worth parameter
$\zeta_{sp\sigma_w}$	0.028	Net Worth parameter
ζ_{nqk}	0.002	Net Worth parameter
ζ_{nn}	0.999	Net Worth parameter
ρ_{ga}	0.785	Feedback technology on exogenous spending
μ_w	0.812	coefficient on MA term wage markup
μ_p	0.730	coefficient on MA term price markup
ρ_{σ_w}	0.994	persistence Financial shock
ρ_{π_*}	0.997	persistence Inflation Target shock
ρ_{zp}	0.950	persistence permanent technology shock
σ_{map}	1.000	price markup MA scaling
σ_{maw}	1.000	wage markup MA scaling
ρ_a	0.967	persistence productivity shock
ρ_b	0.869	persistence risk premium shock
ρ_g	0.981	persistence spending shock
ρ_i	0.995	persistence risk premium shock
ρ_r	0.029	persistence monetary policy shock
ρ_p	0.895	persistence price markup shock

Table 7 – Continued

Parameter	Value	Description
ρ_w	0.602	persistence wage markup shock
γ	0.507	Adjusted trend
$\bar{rk}$	0.036	SS return on capital
k^*	4.149	Capital-Output ratio
$\bar{k}^*$	4.165	SS Capital-Output ratio
$\frac{\bar{i}}{\bar{y}}$	0.120	Private investment share in aggregate output
$\frac{\bar{yp}}{\bar{y}}$	0.845	Private output share in aggregate output
$\frac{\bar{c}}{\bar{y}}$	0.573	Private consumption share in aggregate output
wl_c	0.808	Consumption wage parameter
$\bar{r}$	0.700	steady state interest rate
$\bar{l}$	0.000	steady state hours
$\bar{\pi}$	0.302	steady state inflation rate
$\bar{\gamma}$	0.400	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	Upper	90% HPDI Lower	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
$\sigma_{\eta^{\sigma_w}}$	Inv. Gamma	0.1000	0.0461	2.0000	0.0118	5595.7204	0.0326	0.2490
$\sigma_{\eta^{\pi_*}}$	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
r_π	Gaussian	1.5000	1.5000	0.2500	-0.0903	3.0903	1.0888	1.9112
r_y	Gaussian	0.1250	0.1250	0.0500	-0.1931	0.4431	0.0428	0.2072
$r_{\Delta y}$	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
n_*	Gaussian	0.0000	0.0000	2.0000	-12.7227	12.7227	-3.2897	3.2897
γ	Gaussian	0.4000	0.4000	0.1000	-0.2361	1.0361	0.2355	0.5645
ζ_{sp}	Beta	0.0500	0.0495	0.0050	0.0243	0.0881	0.0421	0.0585
$\bar{\pi}$	Gamma	0.6250	0.5610	0.2000	0.0280	2.8267	0.3362	0.9862
ρ_{ga}	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
ρ_a	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
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
ρ_{σ_w}	Beta	0.7500	0.8438	0.1500	0.0114	1.0000	0.4671	0.9519

*Displayed bounds are after applying a prior truncation of options˙.trunc=0.000

(Continued on next page)

Table 8: (continued)

	Distribution	Mean	Mode	Std.dev.	Bounds*		90% HPDI	
					Lower	Upper	Lower	Upper
ρ_{π_*}	Beta	0.7500	0.8438	0.1500	0.0114	1.0000	0.4671	0.9519
μ_p	Beta	0.5000	0.5000	0.2000	0.0001	0.9999	0.1718	0.8282
μ_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	0.9923	0.9799	0.9652	0.9492	0.9324
c	0.9954	0.9881	0.9794	0.9699	0.9597
i	0.9903	0.9707	0.9464	0.9200	0.8930
π	0.9502	0.9166	0.8861	0.8558	0.8250
r	0.9683	0.9279	0.8869	0.8472	0.8094
w	0.9901	0.9770	0.9609	0.9424	0.9218
k^s	0.9966	0.9925	0.9879	0.9828	0.9775
l	0.9922	0.9796	0.9641	0.9469	0.9284
q	0.9943	0.9893	0.9846	0.9800	0.9755
n	0.9959	0.9915	0.9868	0.9818	0.9765
r^{ktil}	0.4707	0.4769	0.4694	0.4562	0.4405
OG	0.9892	0.9710	0.9495	0.9267	0.9031

Variables	y	c	i	π	r	w	k^s	l	q	n	r^{ktil}	OG	
y	1.0000	0.8937	0.7572	-0.2980	-0.2484	-0.1593	0.5048	0.8213	-0.3771	0.0224	-		
c	0.8937	1.0000	0.7004	-0.2520	-0.2449	-0.0662	0.5736	0.6657	-0.4440	0.1090	-		
i	0.7572	0.7004	1.0000	-0.1893	-0.1311	0.1066	0.7115	0.3969	-0.6114	0.2509	-		
π	-0.2980	-0.2520	-0.1893	1.0000	0.8774	0.7954	0.2732	-0.5180	-0.0256	0.3545	(		
r	-0.2484	-0.2449	-0.1311	0.8774	1.0000	0.7450	0.2597	-0.4407	-0.0372	0.3099	(		
w	-0.1593	-0.0662	0.1066	0.7954	0.7450	1.0000	0.6548	-0.6013	-0.3777	0.5755	(		
k^s	0.5048	0.5736	0.7115	0.2732	0.2597	0.6548	1.0000	-0.0572	-0.7751	0.6000	(		
l	0.8213	0.6657	0.3969	-0.5180	-0.4407	-0.6013	-0.0572	1.0000	0.0635	-0.3547	-		
q	-0.3771	-0.4440	-0.6114	-0.0256	-0.0372	-0.3777	-0.7751	0.0635	1.0000	-0.4044	-		
n	0.0224	0.1090	0.2509	0.3545	0.3099	0.5755	0.6000	-0.3547	-0.4044	1.0000	(		
r^{ktil}	-0.1898	-0.1628	-0.1413	0.7285	0.6200	0.5663	0.1949	-0.3414	-0.0282	0.2763			
OG	0.8812	0.7898	0.5378	-0.2054	-0.1458	-0.2397	0.2291	0.8901	0.0080	-0.1654	-		

Table 11: THEORETICAL MOMENTS

$VARIABLE$	$MEAN$	$STD.DEV.$	$VARIANCE$
y	0.0000	7.5184	56.5260
c	0.0000	9.0193	81.3472
i	0.0000	18.1096	327.9592
π	0.0000	0.9288	0.8626
r	0.0000	1.0873	1.1822
w	0.0000	6.5919	43.4531
k^s	0.0000	11.0646	122.4259
l	0.0000	6.1027	37.2428
q	0.0000	8.0493	64.7912
n	0.0000	17.6856	312.7790
r^{ktil}	0.0000	1.2387	1.5345
OG	0.0000	6.2082	38.5417

Table 12: VARIANCE DECOMPOSITION (in percent)

		η^a	η^b	η^g	η^i	η^m	η^p	η^w	η^{σ_w}	$\eta^{\pi*}$	η^{z_p}
y	2.42	4.87	2.59	15.53	4.42	1.35	0.05	0.92	27.24	40.61
c	0.65	5.15	5.45	22.41	2.14	0.43	0.03	0.62	29.72	33.40
i	3.40	5.91	0.39	42.57	6.99	1.74	0.10	18.77	5.31	14.83
π	1.55	0.58	0.01	0.08	0.19	9.14	0.19	0.16	7.06	81.04
r	2.00	17.33	0.39	0.48	1.00	0.96	0.09	1.26	4.98	71.51
w	3.46	0.32	0.11	16.96	0.32	5.66	0.54	0.85	4.50	67.27
k^s	1.93	1.58	0.07	72.86	1.57	1.38	0.05	4.85	11.66	4.05
l	0.93	4.18	3.11	2.53	3.44	0.66	0.08	0.96	15.63	68.48
q	0.01	0.07	0.00	99.75	0.09	0.01	0.00	0.05	0.00	0.01
n	1.76	6.77	0.00	49.87	0.79	0.10	0.00	18.49	4.61	17.60
r^{ktil}	1.16	4.00	0.18	35.89	4.01	6.05	0.09	2.75	4.14	41.73
OG	1.15	7.14	0.31	0.10	6.48	1.98	0.08	1.35	39.95	41.47

$$cbetabar = \beta \, \exp\left((1 - \sigma_c) \, \gamma\right)$$

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

$$crss = \frac{cpie}{cbetabar}$$

$$clandap = \Phi$$

$$c1 = \frac{\lambda \, \exp\left((-\gamma)\right)}{1 + \lambda \, \exp\left((-\gamma)\right)}$$

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

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

$$c4 = \frac{1}{1 - \alpha} \, \left(\rho_a - 1\right)$$

$$c5 = \frac{(\sigma_c - 1) \, wl_c}{\sigma_c \, \left(1 + \lambda \, \exp\left((-\gamma)\right)\right)}$$

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

$$i2 = \frac{cbetabar}{1 + cbetabar}$$

$$i3 = (1 + cbetabar) \, \varphi \, \exp\left(2 \, \gamma\right)$$

$$k1 = 1 - \frac{\frac{\bar{i}}{\bar{y}}}{\bar{k}^*}$$

$$k2 = \frac{\frac{\bar{i}}{\bar{y}}}{\bar{k}^*}$$

$$k3 = \frac{(1 + cbetabar) \, \exp\left(2 \, \gamma\right) \, \varphi \, \frac{\bar{i}}{\bar{y}}}{\bar{k}^*}$$

$$u1 = \frac{1 - \psi}{\psi}$$

$$pi1 = \frac{(1 - cbetabar\ \xi_p)\ (1 - \xi_p)}{\xi_p\ (1 + (\Phi - 1)\ \varepsilon_w)}$$

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

$$pi3 = \frac{\iota_p}{1 + cbetabar\ \iota_p}$$

$$pi4 = \frac{cbetabar}{1 + cbetabar\ \iota_p}$$

$$w1 = \frac{(1 - cbetabar\ \xi_w)\ (1 - \xi_w)}{\xi_w\ (1 + 0.5\ \varepsilon_p)}$$

$$w2 = \frac{1}{1 + cbetabar}$$

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

$$w4 = \frac{cbetabar}{1 + cbetabar}$$

$$y1 = \frac{\frac{\bar{c}}{\bar{y}}}{\frac{\bar{yp}}{\bar{y}}}$$

$$y2 = \frac{\frac{\bar{i}}{\bar{y}}}{\frac{\bar{yp}}{\bar{y}}}$$

$$y3 = \bar{rk}\ \frac{k^*}{\frac{\bar{yp}}{\bar{y}}}$$

$$ff1 = \frac{\bar{rk}}{1 + \bar{rk} - \delta}$$

$$ff2 = \frac{1 - \delta}{1 + \bar{rk} - \delta}$$

$$ff3 = \frac{\sigma_c \, (1 + \lambda \, \exp\left((-\gamma)\right))}{1 - \lambda \, \exp\left((-\gamma)\right)}$$

$$ff4 = \frac{\gamma^* \, v^*}{n_*}$$

$$mrs1 = \frac{1}{1 - \lambda \, \exp\left((-\gamma)\right)}$$

$$c_t = (-c2) \, (r_t - \pi_{t+1}) + c_2 * \varepsilon^b_{t\,t} + c1 \, (c_{t-1} - w_t) + c3 \, \left(c_{t+1} + c4 \, z^{til}{}_t\right) + c5 \, (l_t - l_{t+1}) \qquad (1)$$

$$q_t = i3 \, \left(i_t - i1 \, (i_{t-1} - w_t) - i2 \, i_{t+1} - z^{til}{}_t \, c4 \, i2 - \varepsilon^i{}_t\right) \qquad (2)$$

$$k_t = k1 \, (k_{t-1} - w_t) + i_t \, k2 + \varepsilon^i{}_t \, k3 \qquad (3)$$

$$k^s{}_t = k_{t-1} + u_t - w_t \qquad (4)$$

$$u_t = u1 \, r^k{}_t \qquad (5)$$

$$\mu_{p_t} = w_t + \alpha \, l_t - \alpha \, k^s{}_t \qquad (6)$$

$$k^s{}_t = l_t + w_t - r^k{}_t \qquad (7)$$

$$y_t = k^s{}_t \, \Phi \, \alpha + l_t \, \Phi \, (1 - \alpha) + z^{til}{}_t \, \frac{\Phi - 1}{1 - \alpha} \qquad (8)$$

$$y_t = \frac{\bar{g}}{\bar{y}} \, \varepsilon^g{}_t + c_t \, y1 + i_t \, y2 + u_t \, y3 - z^{til}{}_t \, c4 \, \frac{\bar{g}}{\bar{y}} \qquad (9)$$

$$\pi_t = \mu_{p_t} \, pi1 \, pi2 + pi3 \, \pi_{t-1} + \pi_{t+1} \, pi4 + \varepsilon^p{}_t \qquad (10)$$

$$w_t = w1 \, w2 \, \left(w^h{}_t - w_t\right) - \pi_t \, w3 + w2 \, (w_{t-1} - w_t + \iota_w \, \pi_{t-1}) + w4 \, \left(\pi_{t+1} + c4 \, z^{til}{}_t + w_{t+1}\right) + \varepsilon^w{}_t \qquad (11)$$

$$w^h{}_t = mrs1 \, \left(c_t - \lambda \, \exp\left((-\gamma)\right) \, c_{t-1} + \lambda \, \exp\left((-\gamma)\right) \, w_t\right) + l_t \, \sigma_l \qquad (12)$$

$$r_t = \rho \, r_{t-1} + (1 - \rho) \, r_\pi \, (\pi_t - \pi_{*t}) + (1 - \rho) \, r_y \, \left(y_t - y^{flex}{}_t\right)$$
$$+ r_{\Delta y} \, \left(y_t - y^{flex}{}_t - \left(y_{t-1} - y^{flex}{}_{t-1}\right)\right) + \varepsilon^r{}_t \qquad (13)$$

$$r^{ktil}{}_t = \pi_t + r^k{}_t \, ff1 + q_t \, ff2 - q_{t-1} \qquad (14)$$

$$r^{ktil}_{t+1} = r_t - c_2 * \varepsilon^b_{tt} ff3 + \zeta_{sp} \left(q_t + k_t - n_t \right) + \sigma_{wt} \tag{15}$$

$$n_t = \zeta_{nRk} \left(r^{ktil}_t - \pi_t \right) - \zeta_{nR} \left(r_{t-1} - \pi_t \right) + \zeta_{nqk} \left(k_{t-1} + q_{t-1} \right) + \zeta_{nn} n_{t-1} - \frac{\zeta_{n\sigma_w}}{\zeta_{sp\sigma_w}} \sigma_{wt-1} - w_t ff4 \tag{16}$$

$$c^{flex}_t = c_2 * \varepsilon^b_{tt} + (-c2) \, r^{flex}_t + c1 \left(c^{flex}_{t-1} - w_t \right) + c3 \left(c4 \, z^{til}_t + c^{flex}_{t+1} \right) + c5 \left(l^{flex}_t - l^{flex}_{t+1} \right) \tag{17}$$

$$q^{flex}_t = i3 \left(i^{flex}_t - i1 \left(i^{flex}_{t-1} - w_t \right) - i2 \, i^{flex}_{t+1} - z^{til}_t \, c4 \, i2 - \varepsilon^i_t \right) \tag{18}$$

$$k^{flex}_t = \varepsilon^i_t \, k3 + k1 \left(k^{flex}_{t-1} - w_t \right) + k2 \, i^{flex}_t \tag{19}$$

$$k^{s,flex}_t = k^{flex}_{t-1} + z^{flex}_t - w_t \tag{20}$$

$$z^{flex}_t = u1 \, r^{k,flex}_t \tag{21}$$

$$w^{flex}_t = l^{flex}_t \left(-\alpha \right) + \alpha \, k^{s,flex}_t \tag{22}$$

$$k^{s,flex}_t = l^{flex}_t + w^{flex}_t - r^{k,flex}_t \tag{23}$$

$$y^{flex}_t = z^{til}_t \frac{\Phi - 1}{1 - \alpha} + \Phi \, \alpha \, k^{s,flex}_t + \Phi \left(1 - \alpha \right) l^{flex}_t \tag{24}$$

$$y^{flex}_t = \frac{\bar{g}}{\bar{y}} \varepsilon^g_t + y1 \, c^{flex}_t + y2 \, i^{flex}_t + y3 \, z^{flex}_t - z^{til}_t \, c4 \, \frac{\bar{g}}{\bar{y}} \tag{25}$$

$$w^{flex}_t = mrs1 \left(\lambda \exp \left((-\gamma) \right) w_t + c^{flex}_t - \lambda \exp \left((-\gamma) \right) c^{flex}_{t-1} \right) + \sigma_l \, l^{flex}_t \tag{26}$$

$$q^{flex}_t = c_2 * \varepsilon^b_{tt} ff3 + ff1 \, r^{k,flex}_{t+1} + ff2 \, q^{flex}_{t+1} - r^{flex}_t \tag{27}$$

$$OG_t = y_t - y^{flex}_t \tag{28}$$

$$w_t = c4 \, z^{til}_{t-1} + \frac{1}{1 - \alpha} \eta^a_t + z_{p_t} \tag{29}$$

$$z^{til}_t = \eta^a_t + \rho_a \, z^{til}_{t-1} \tag{30}$$

$$\varepsilon^g_t = \rho_g \, \varepsilon^g_{t-1} + \eta^g_t + \eta^a_t \, \rho_{ga} \tag{31}$$

$$c_2 * \varepsilon^b_{tt} = \rho_b \, c_2 * \varepsilon^b_{tt-1} + \eta^b_t \tag{32}$$

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$$\varepsilon^i{}_t = \rho_i\, \varepsilon^i{}_{t-1} + \eta^i{}_t \tag{33}$$

$$\varepsilon^p{}_t = \rho_p\, \varepsilon^p{}_{t-1} + \eta^p{}_t - \mu_p\, \sigma_{map}\, \eta^p{}_{t-1} \tag{34}$$

$$\varepsilon^w{}_t = \rho_w\, \varepsilon^w{}_{t-1} + \eta^w{}_t - \mu_w\, \sigma_{maw}\, \eta^w{}_{t-1} \tag{35}$$

$$\varepsilon^r{}_t = \rho_r\, \varepsilon^r{}_{t-1} + \eta^m{}_t \tag{36}$$

$$\sigma_{wt} = \sigma_{wt-1}\, \rho_{\sigma_w} + \eta^{\sigma_w}{}_t \tag{37}$$

$$\pi_{*t} = \rho_{\pi_*}\, \pi_{*t-1} + \eta^{\pi_*}{}_t \tag{38}$$

$$z_{pt} = \rho_{zp}\, z_{pt-1} + \eta^{z_p}{}_t \tag{39}$$

$$dlGDP_t = w_t + y_t - y_{t-1} + \bar{\gamma} \tag{40}$$

$$dlCONS_t = w_t + \bar{\gamma} + c_t - c_{t-1} \tag{41}$$

$$dlINV_t = w_t + \bar{\gamma} + i_t - i_{t-1} \tag{42}$$

$$dlWAG_t = w_t + \bar{\gamma} + w_t - w_{t-1} \tag{43}$$

$$lHOURS_t = l_t + \bar{l} \tag{44}$$

$$FEDFUNDS_t = r_t + \bar{r} \tag{45}$$

$$dlP_t = \bar{\pi} + \pi_t \tag{46}$$

$$Spread_t = 100\left(r^{ktil}{}_t - r_t\right) + 0.02 \tag{47}$$
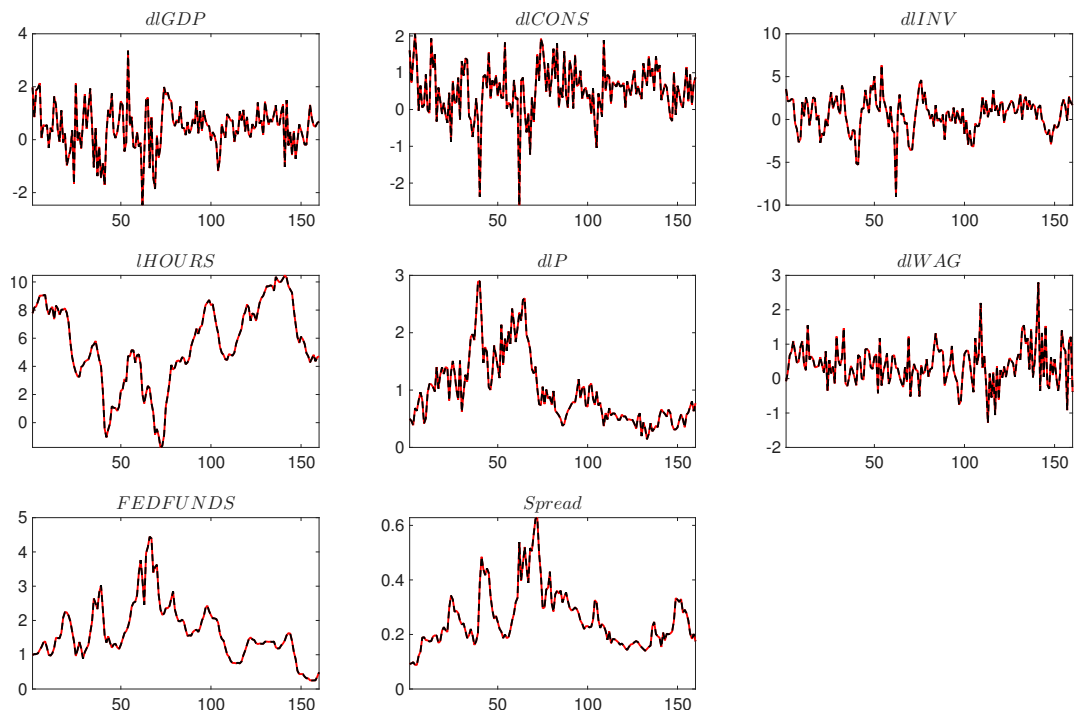
Figure 6: Historical and smoothed variables.
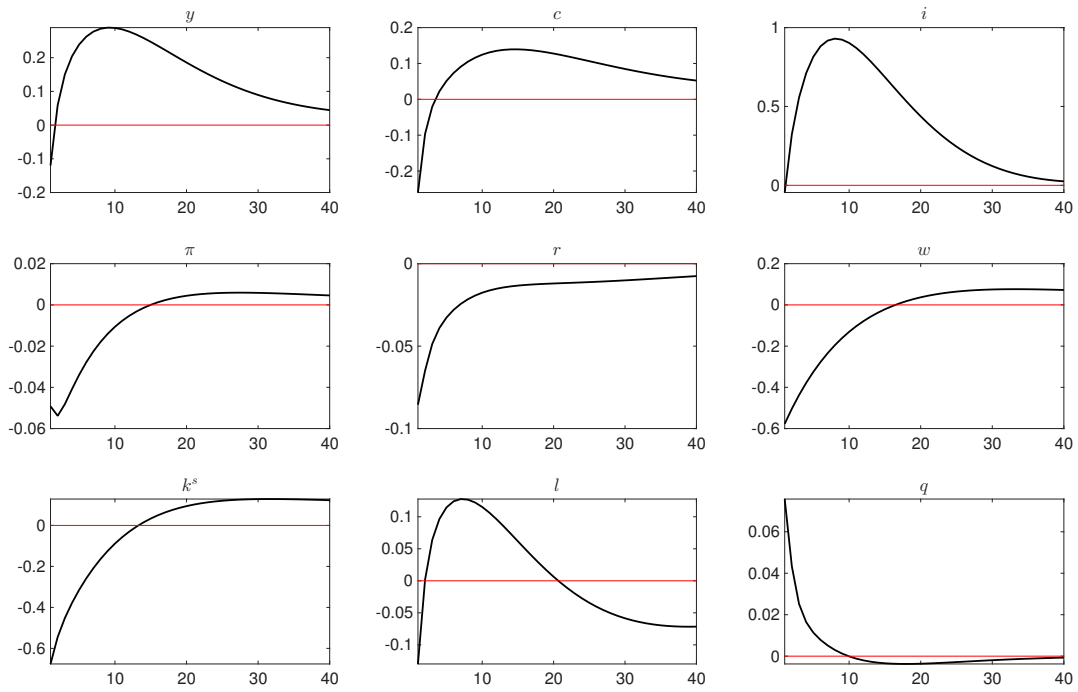
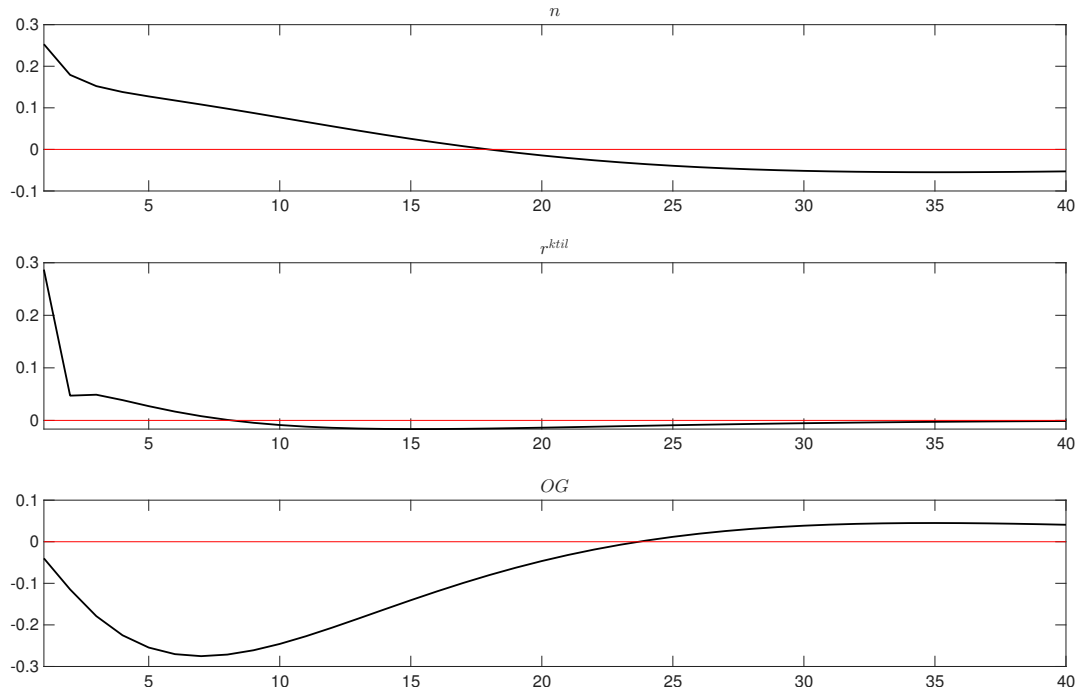Figure 7: Impulse response functions (orthogonalized shock to η^a).
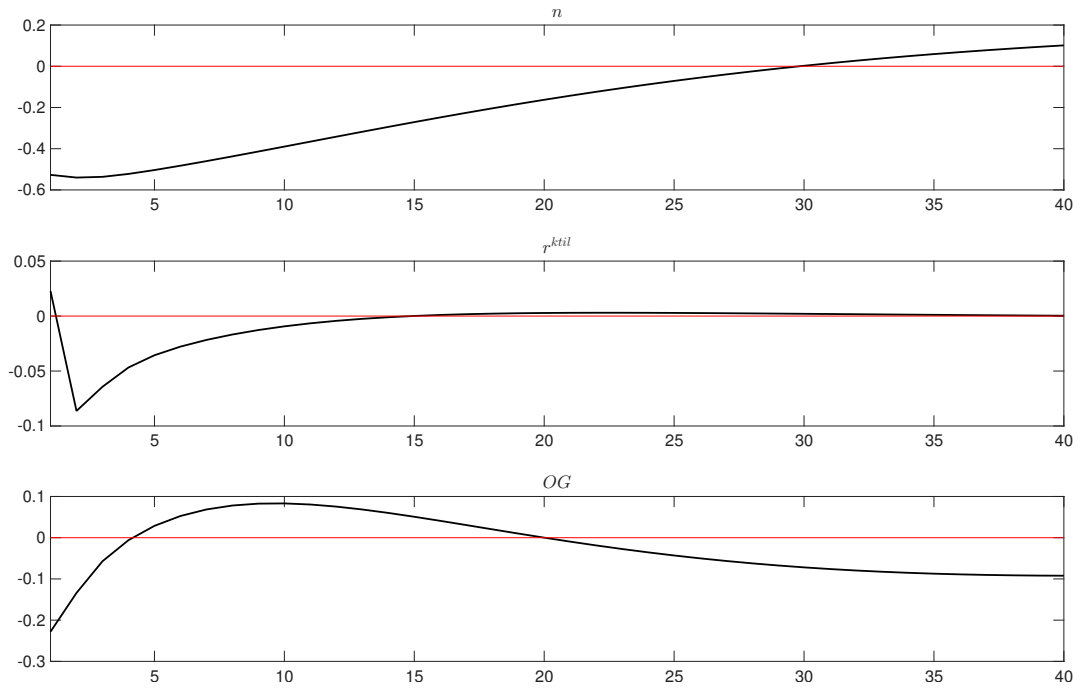
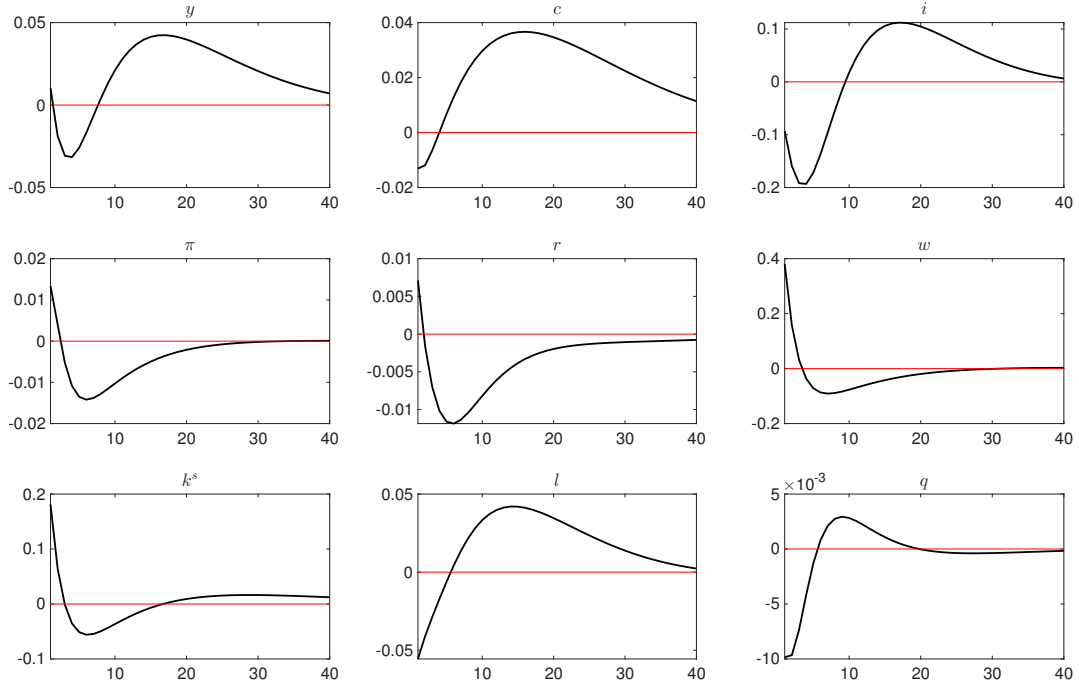Figure 8: Impulse response functions (orthogonalized shock to η^a).
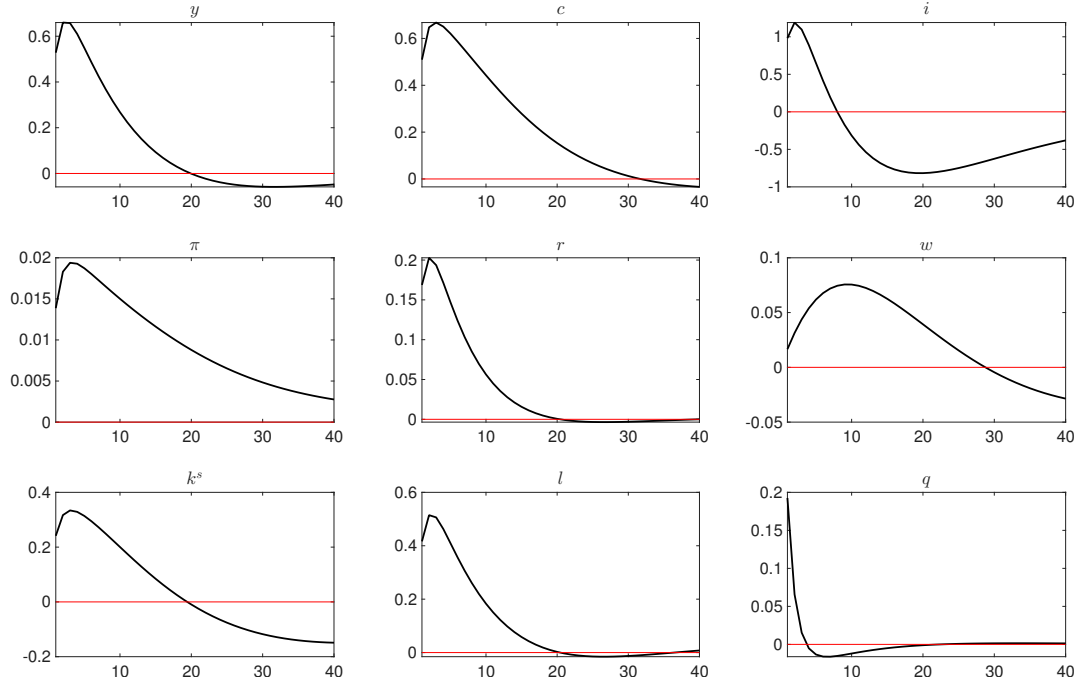
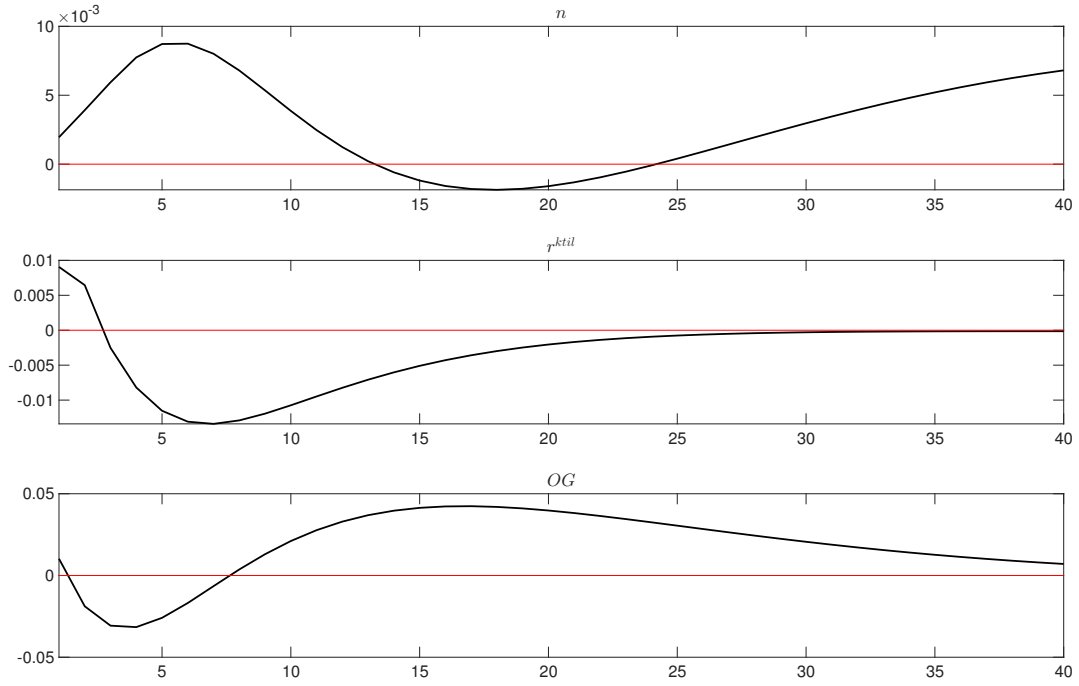Figure 9: Impulse response functions (orthogonalized shock to η^b).
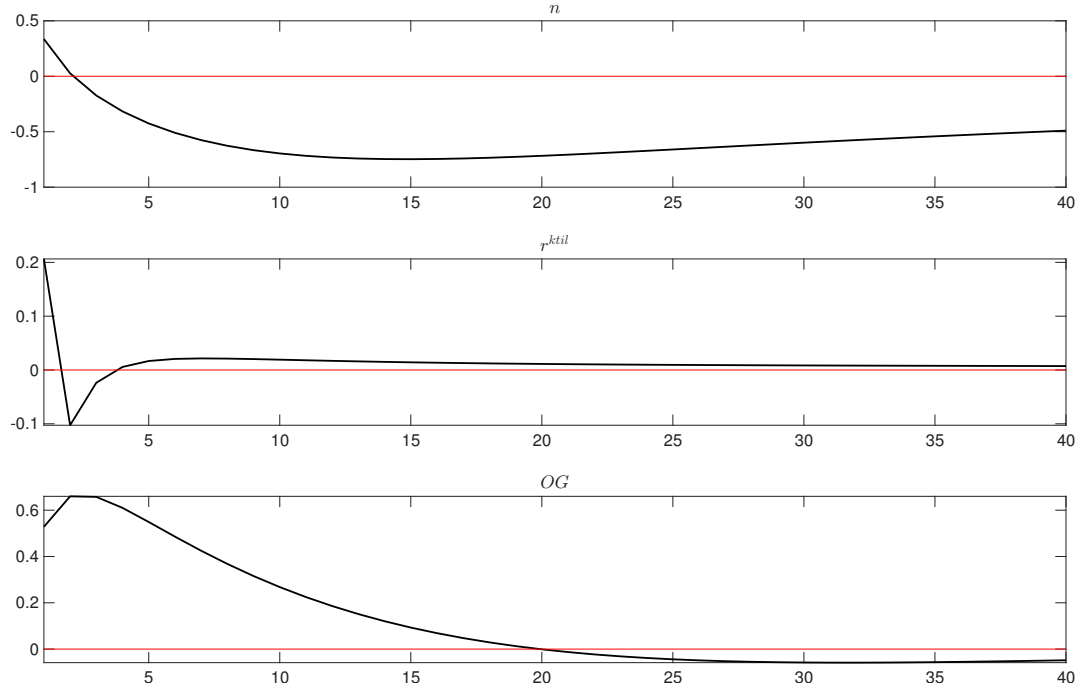
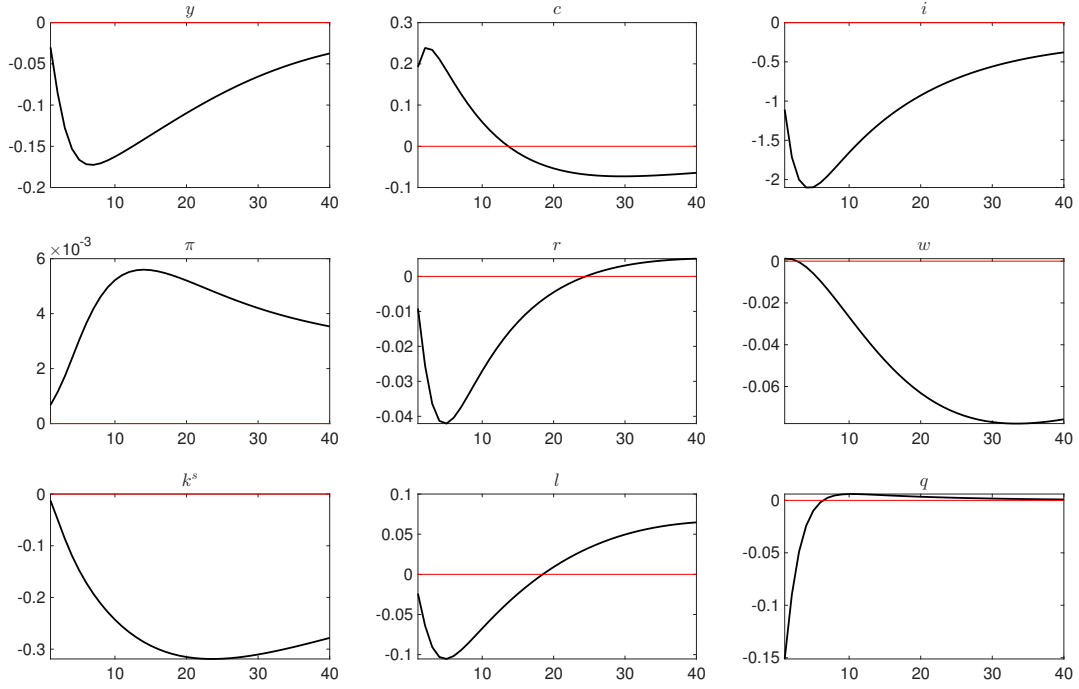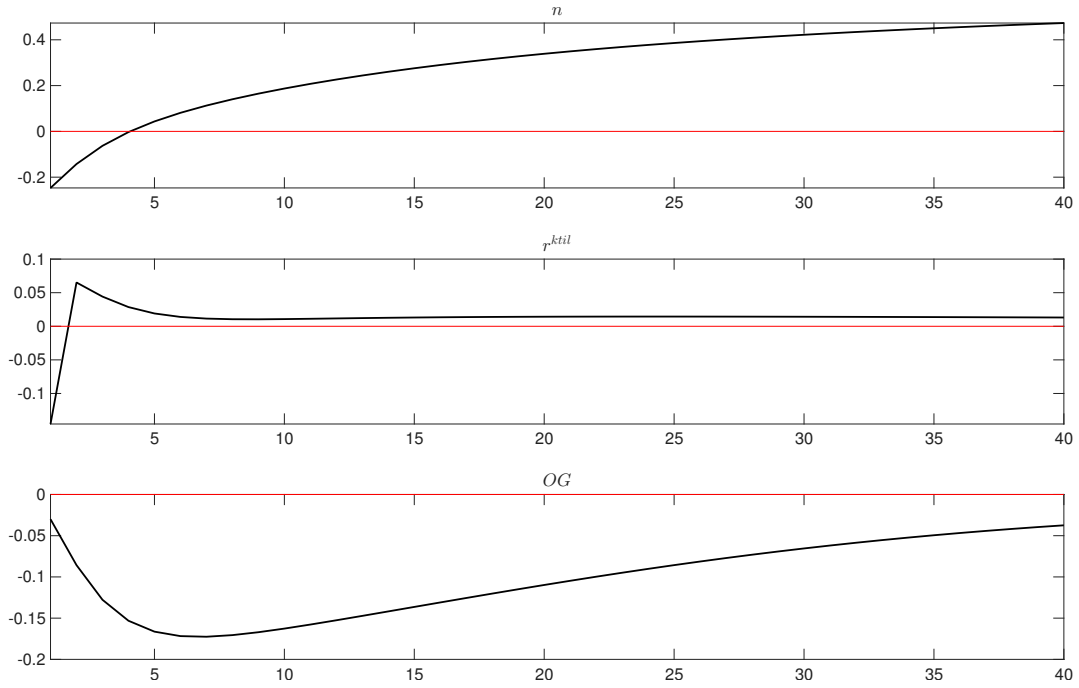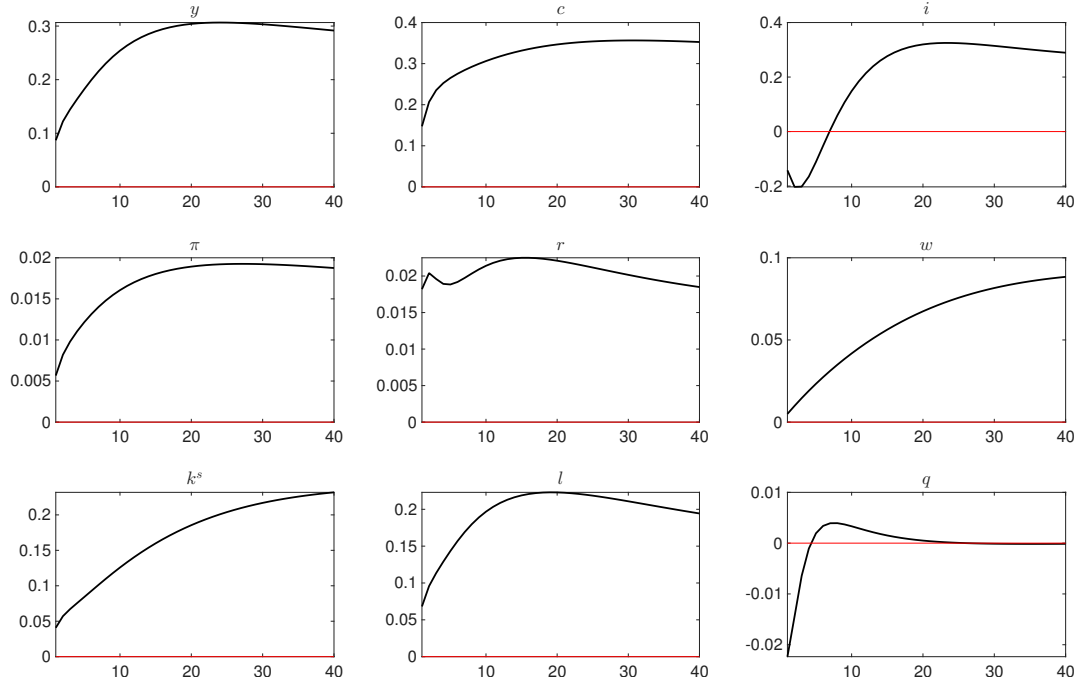Figure 10: Impulse response functions (orthogonalized shock to η^b).
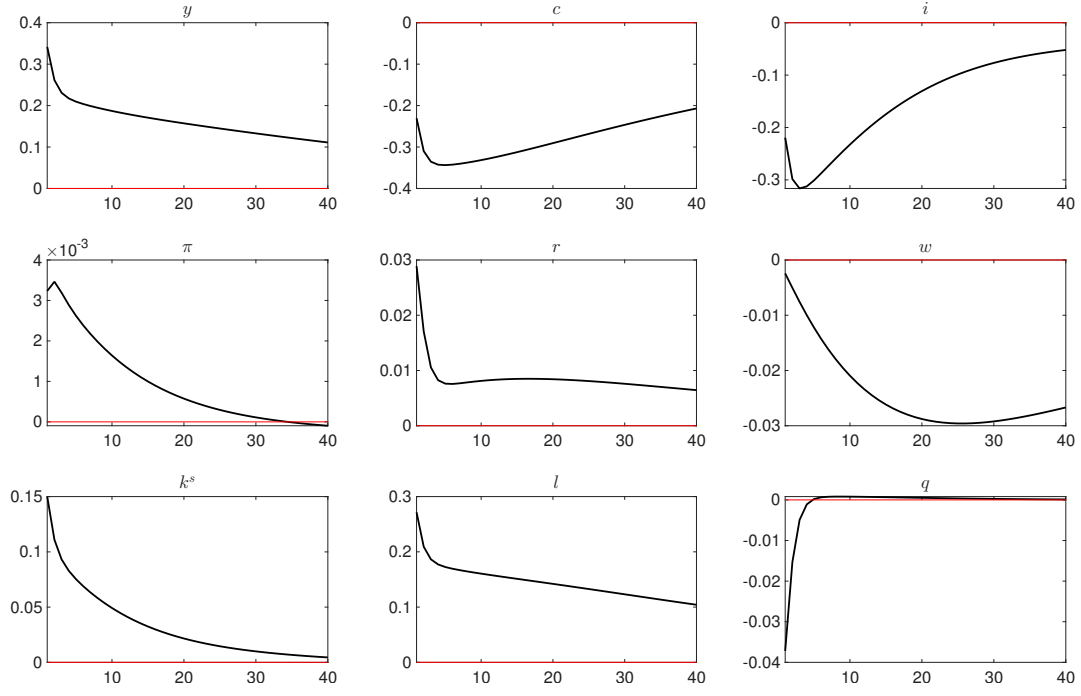
Figure 11: Impulse response functions (orthogonalized shock to η^g).
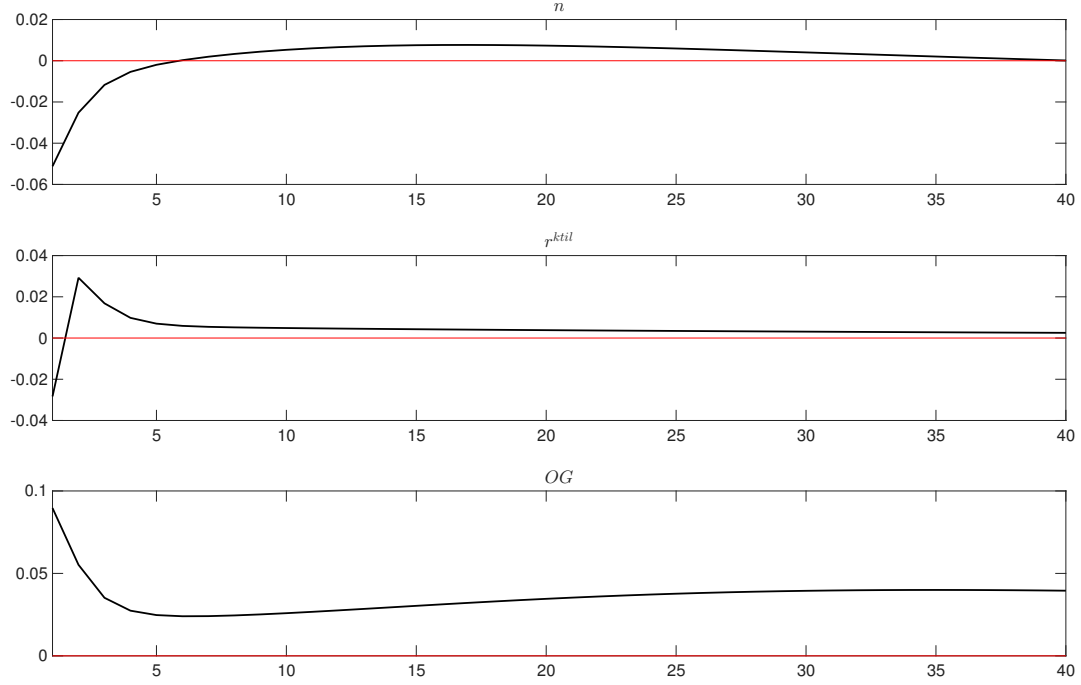
Figure 12: Impulse response functions (orthogonalized shock to η^g).

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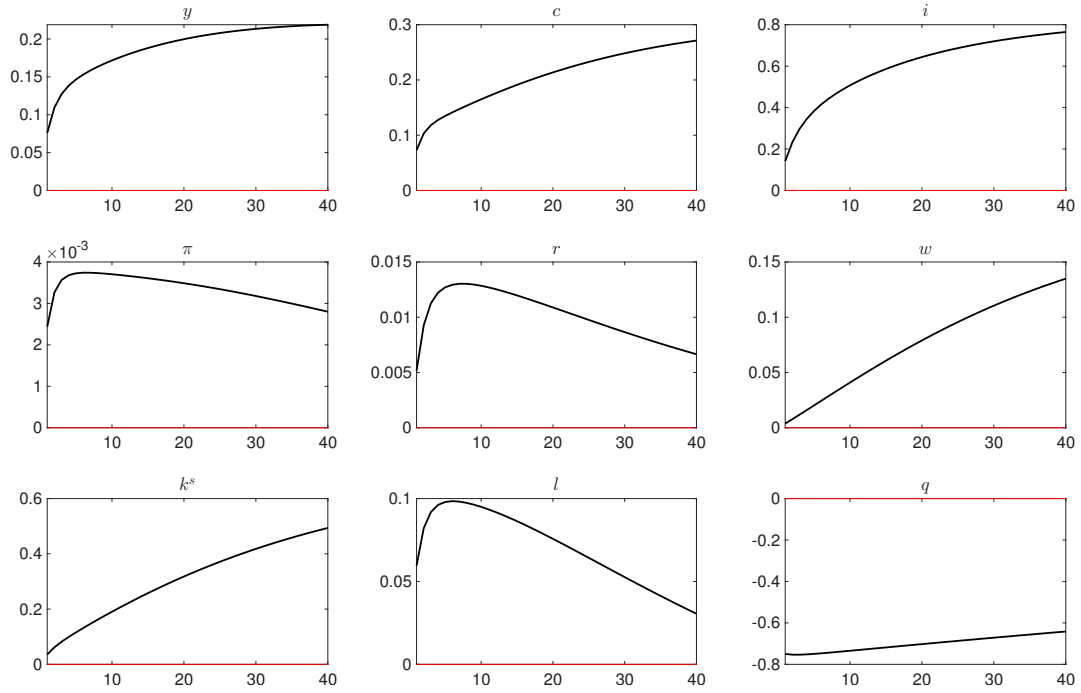
Figure 13: Impulse response functions (orthogonalized shock to η^i).
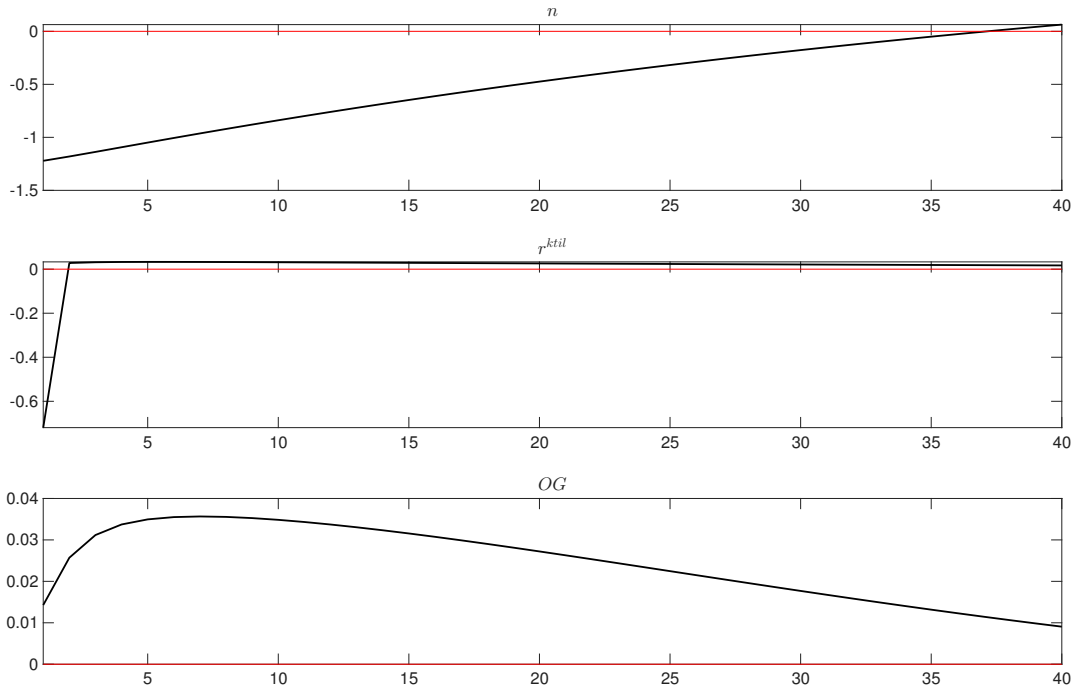
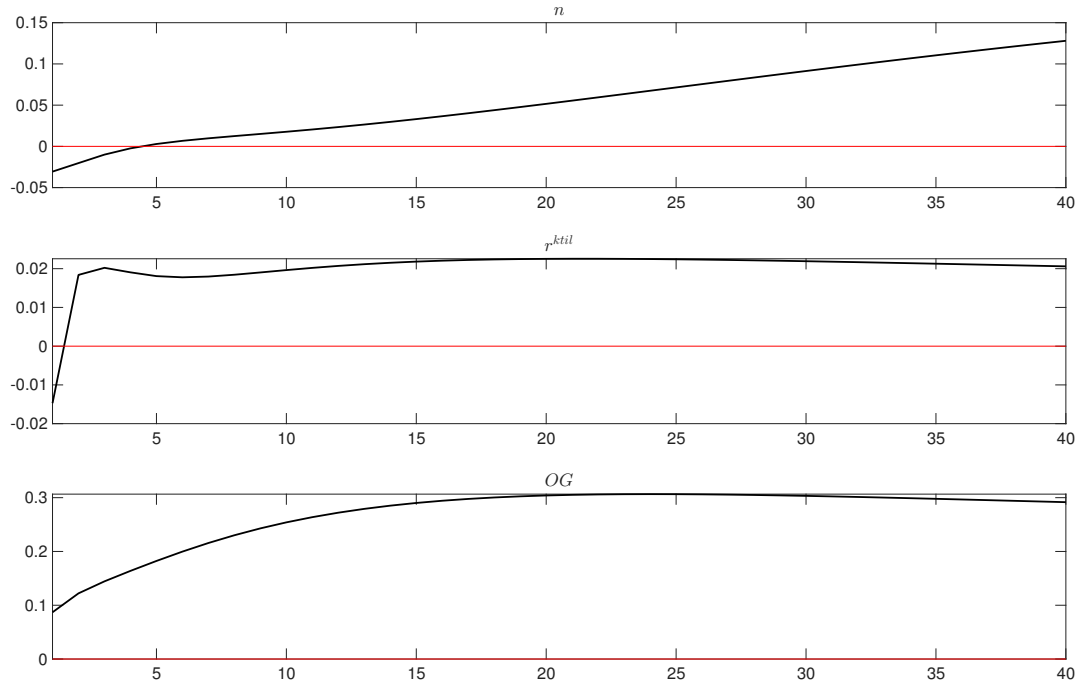

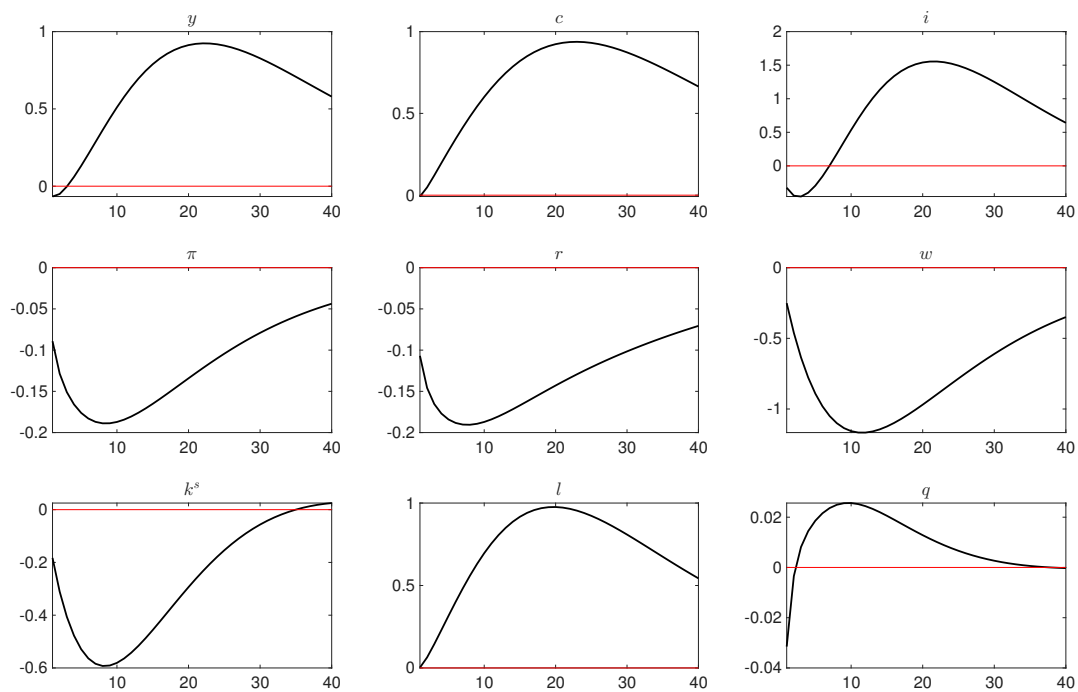Figure 14: Impulse response functions (orthogonalized shock to η^i).
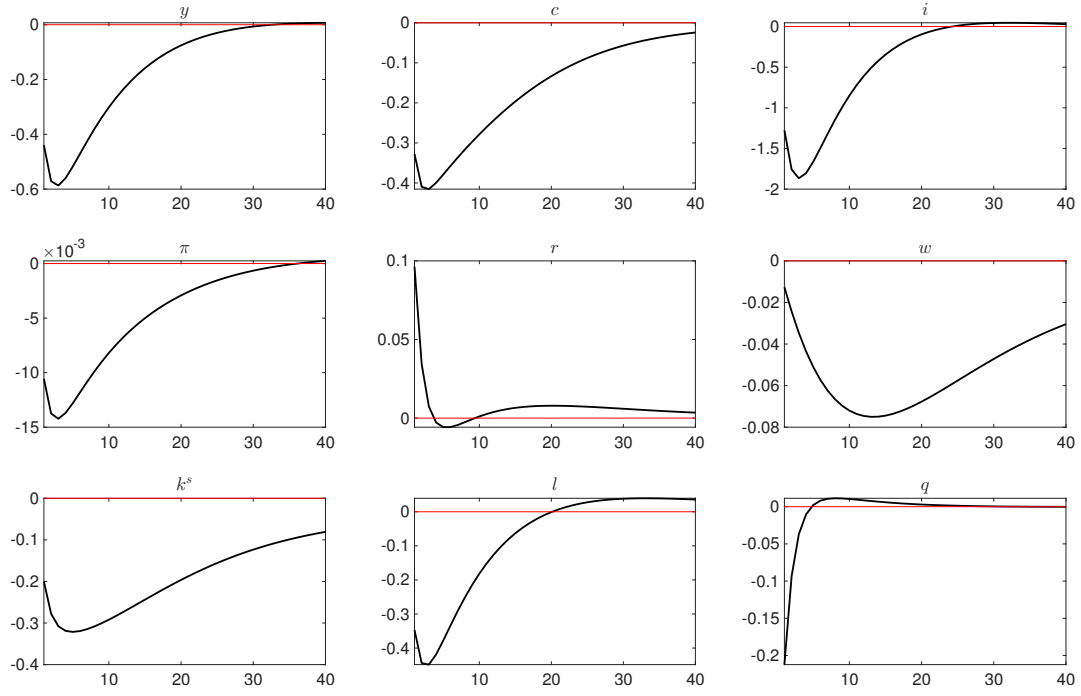
Figure 15: Impulse response functions (orthogonalized shock to η^m).
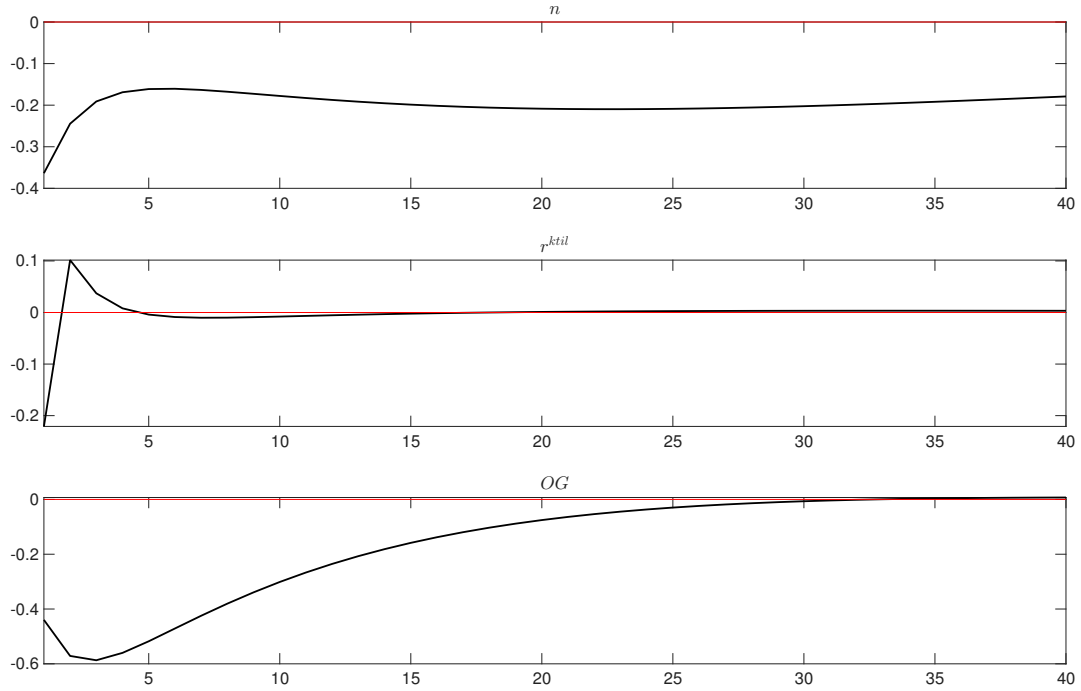
Figure 16: Impulse response functions (orthogonalized shock to η^m).
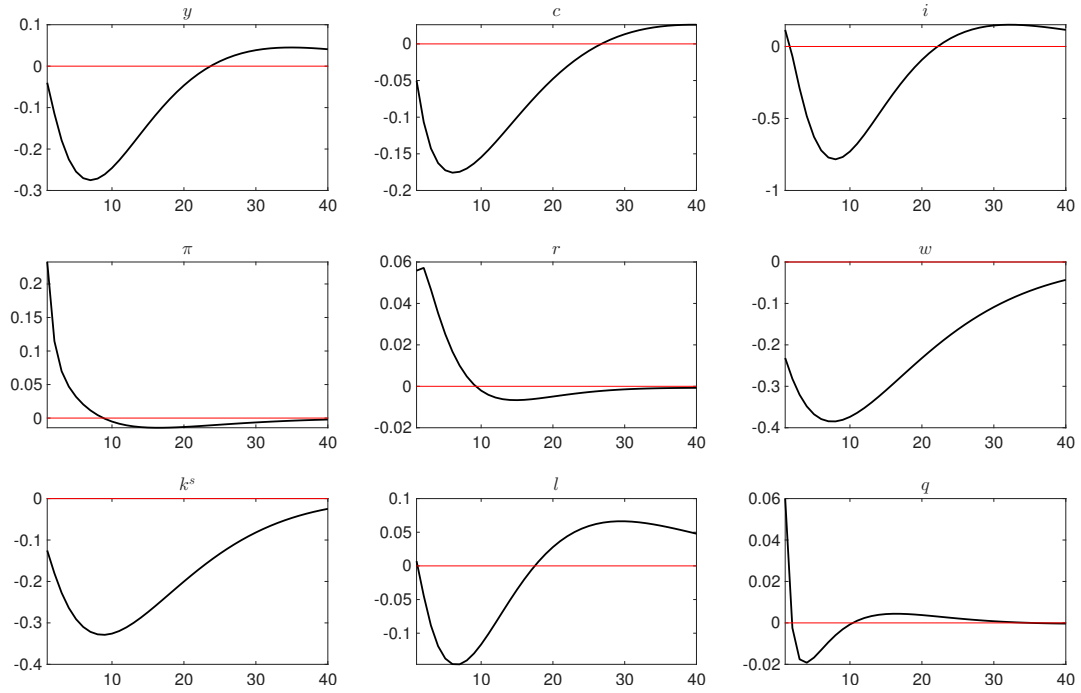
Figure 17: Impulse response functions (orthogonalized shock to η^p).

Figure 18: Impulse response functions (orthogonalized shock to η^p).

Figure 19: Impulse response functions (orthogonalized shock to η^w).

Figure 20: Impulse response functions (orthogonalized shock to η^w).

Figure 21: Impulse response functions (orthogonalized shock to η^{σ_w}).

Figure 22: Impulse response functions (orthogonalized shock to η^{σ_w}).

Figure 23: Impulse response functions (orthogonalized shock to η^{π_*}).

Figure 24: Impulse response functions (orthogonalized shock to η^{π_*}).

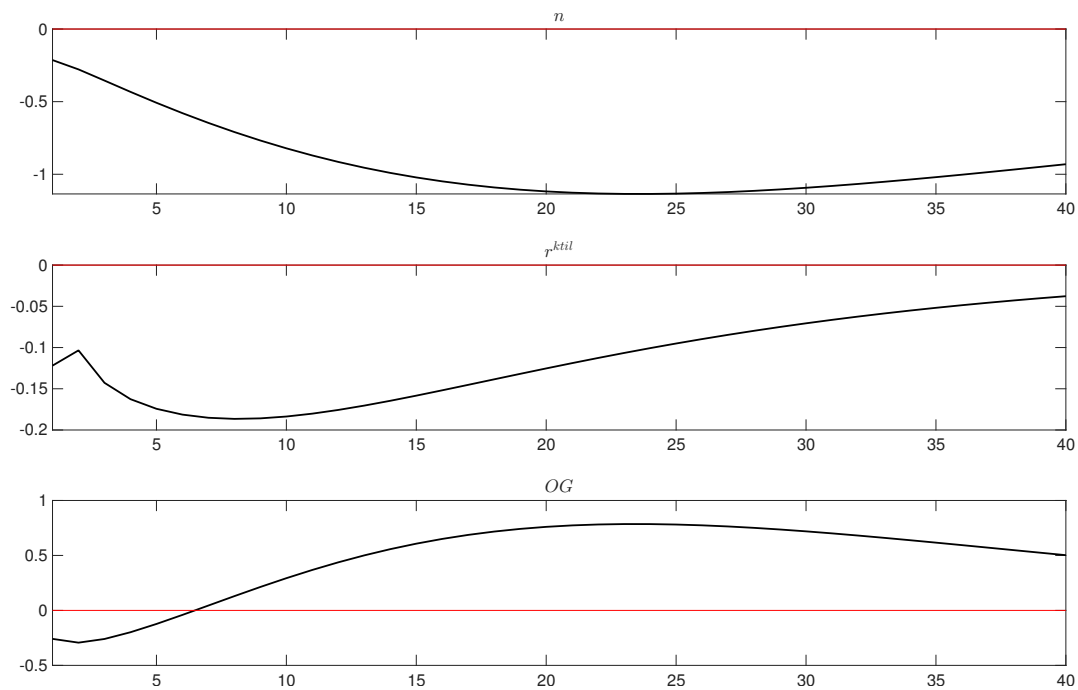Figure 25: Impulse response functions (orthogonalized shock to η^{z_p}).

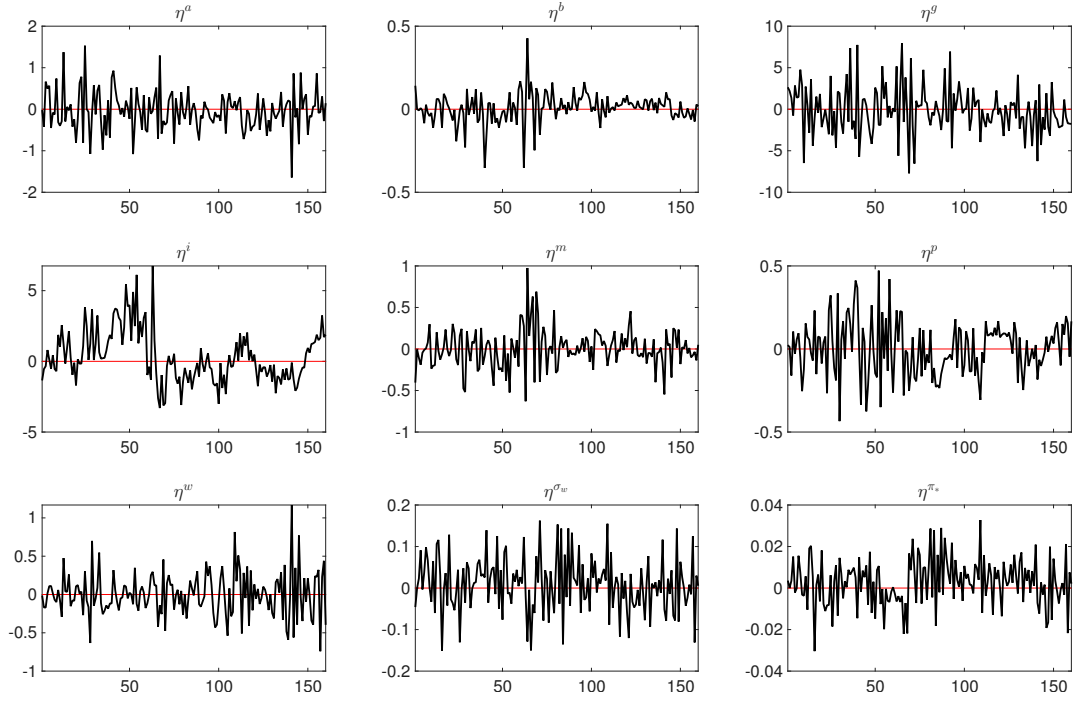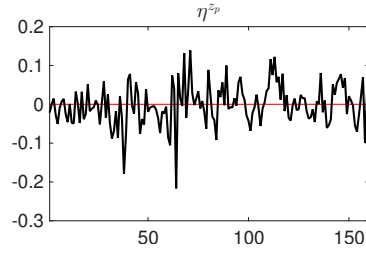Figure 26: Impulse response functions (orthogonalized shock to η^{z_p}).

Figure 27: Smoothed shocks.

Figure 28: Smoothed shocks.