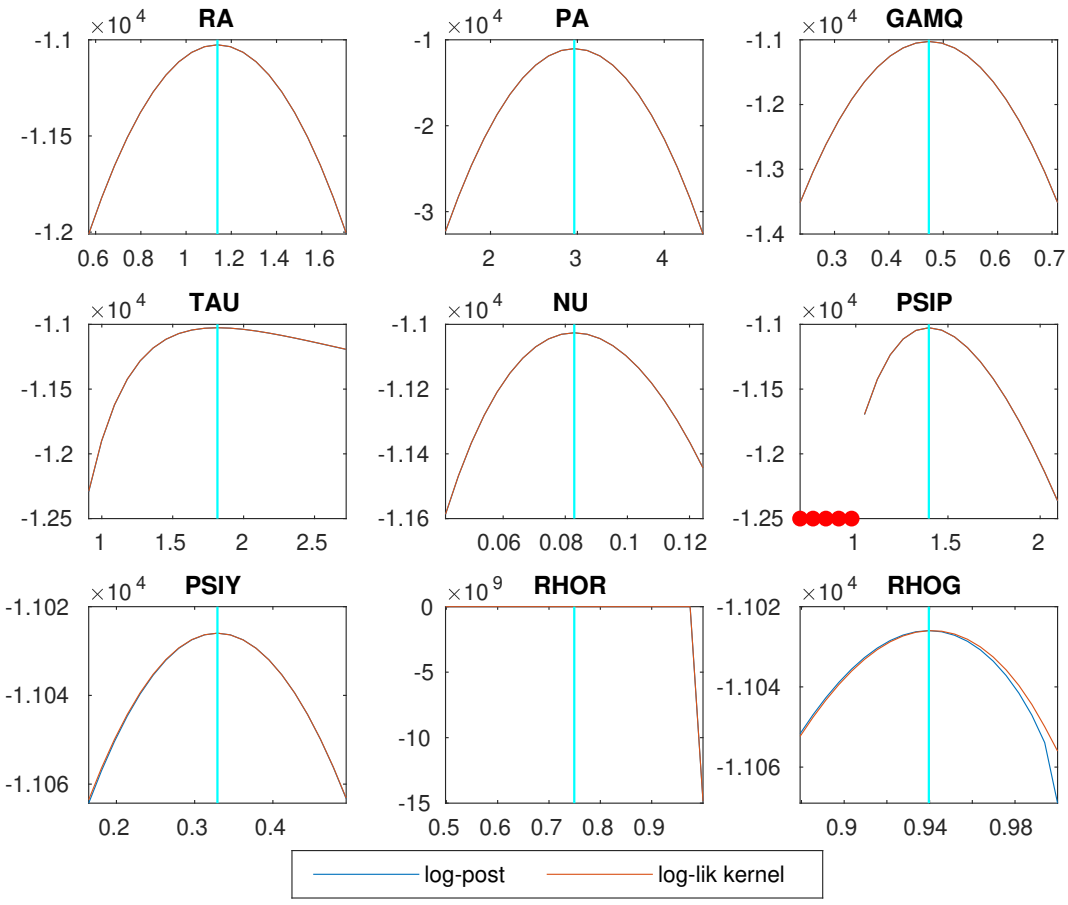

Figure 1: Check plots.

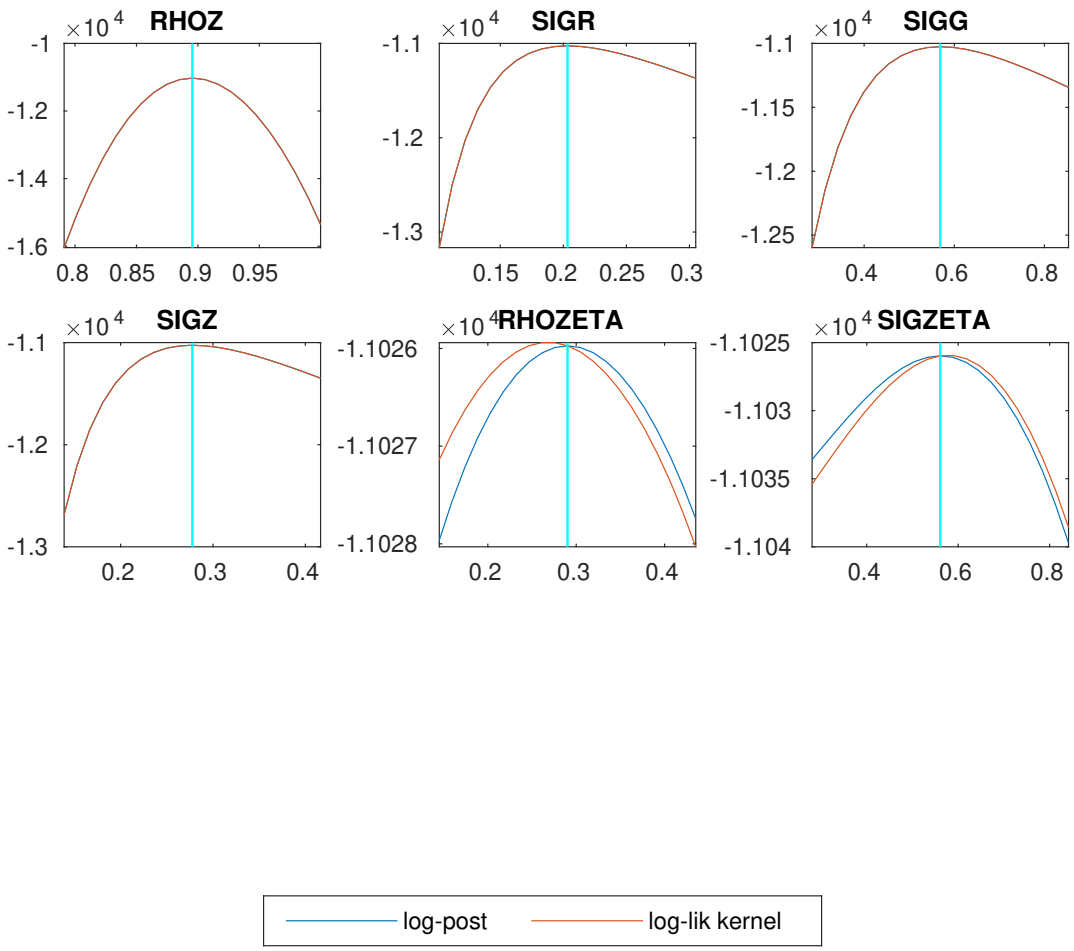

Figure 2: Check plots.

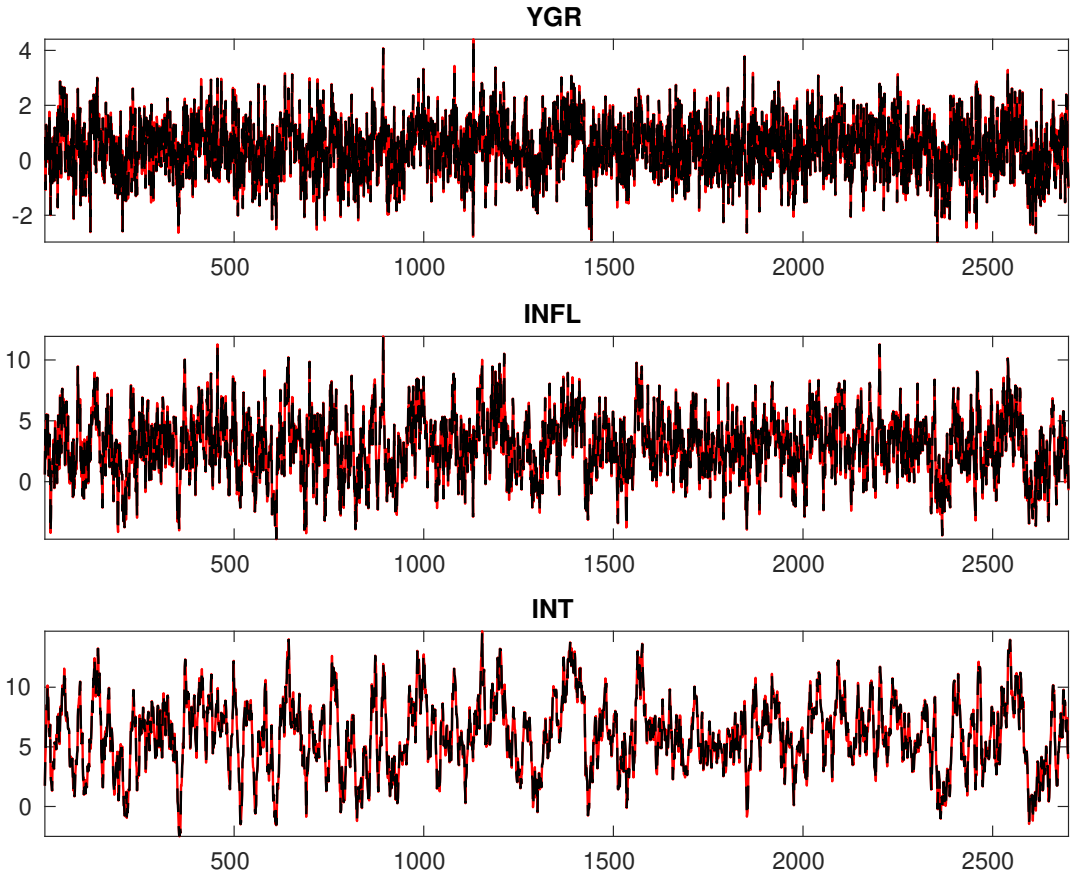

Figure 3: Historical and smoothed variables.

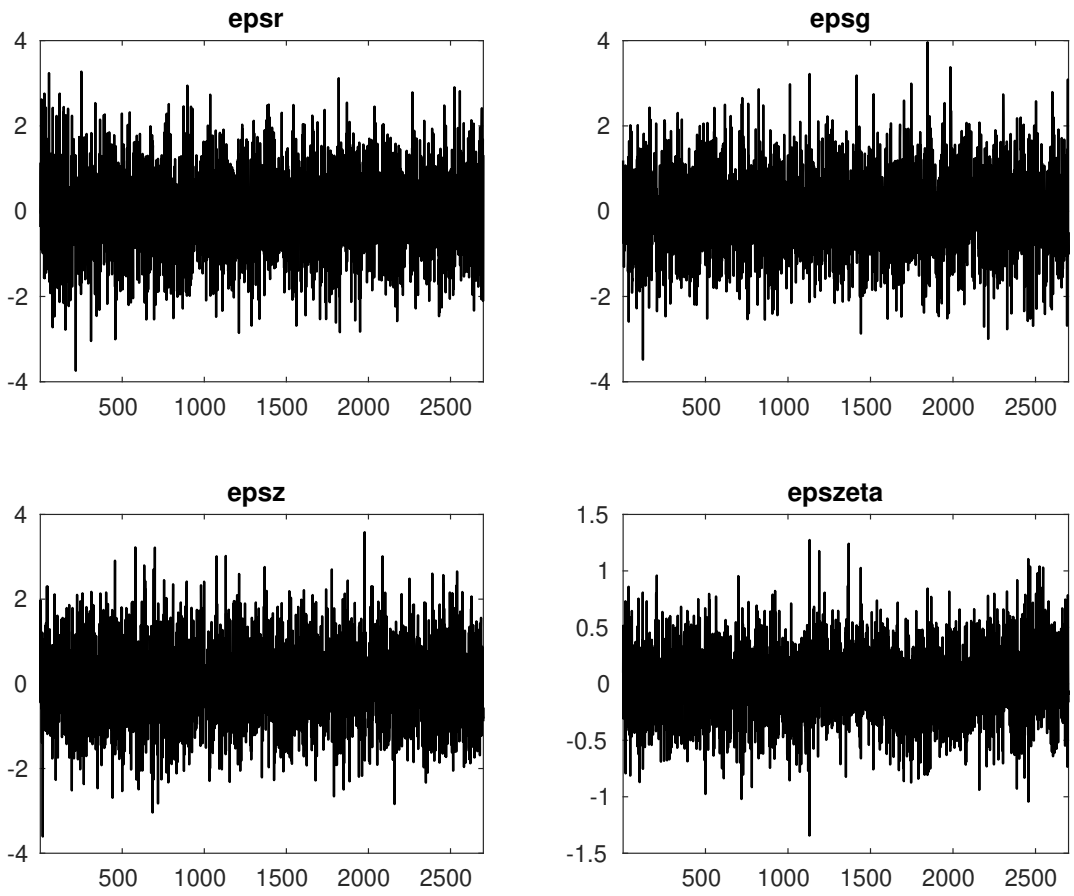

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	63.608	63.303	63.481	62.095
$\pi^{(A)}$	62.303	64.494	63.630	63.950
$\gamma^{(Q)}$	61.242	64.992	62.728	63.943
τ	85.994	76.147	81.784	73.812
ν	74.075	67.819	70.543	64.114
ψ_π	77.533	78.609	75.674	73.839
ψ_y	79.055	74.632	74.604	73.531
ρ_R	73.663	66.116	68.778	69.100
ρ_g	62.696	54.762	63.247	65.807
ρ_z	70.732	68.492	65.852	66.361
σ_R	66.906	65.462	62.407	57.601
σ_g	79.300	82.833	80.353	76.888
σ_z	69.884	70.405	70.028	70.968
ρ_ζ	74.533	80.021	85.823	78.332
σ_ζ	85.462	86.978	86.056	85.484

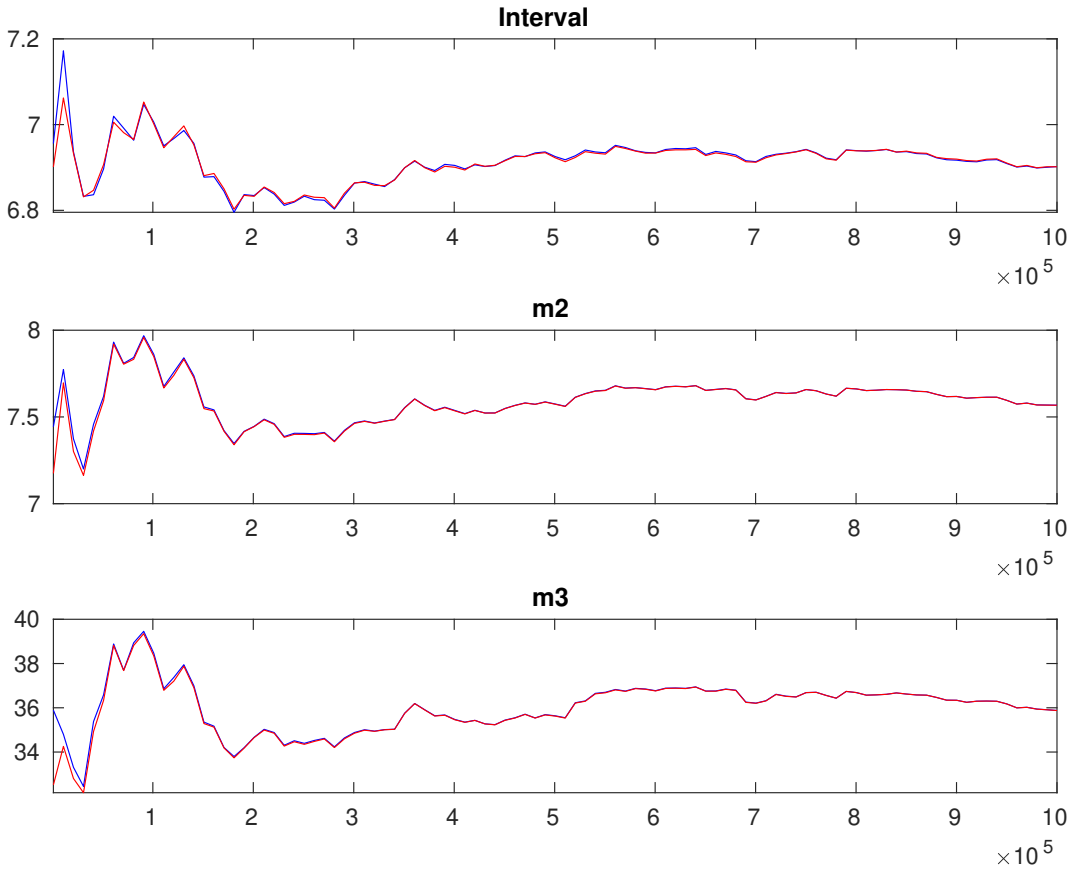

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

Table 2: Results from Metropolis-Hastings (parameters)

	Prior			Posterior			
	Dist.	Mean	Stdev.	Mean	Stdev.	HPD inf	HPD sup
r_A	gamm	0.800	0.5000	1.140	0.1143	0.9538	1.3296
$\pi^{(A)}$	gamm	4.000	2.0000	2.963	0.1611	2.6953	3.2240
$\gamma^{(Q)}$	norm	0.400	0.2000	0.473	0.0492	0.3913	0.5529
τ	gamm	2.000	0.5000	1.834	0.1460	1.5936	2.0678
ν	beta	0.100	0.0500	0.084	0.0072	0.0724	0.0960
ψ_π	gamm	1.500	0.2500	1.373	0.0935	1.2242	1.5225
ψ_y	gamm	0.500	0.2500	0.375	0.1667	0.1083	0.6297
ρ_R	beta	0.500	0.2000	0.752	0.0111	0.7342	0.7703
ρ_g	beta	0.800	0.1000	0.939	0.0093	0.9236	0.9541
ρ_z	beta	0.660	0.1500	0.896	0.0041	0.8891	0.9024
σ_R	invg	0.300	4.0000	0.204	0.0040	0.1976	0.2106
σ_g	invg	0.400	4.0000	0.572	0.0117	0.5533	0.5918
σ_z	invg	0.400	4.0000	0.280	0.0081	0.2663	0.2929
ρ_ζ	beta	0.500	0.2000	0.348	0.1259	0.1374	0.5385
σ_ζ	invg	0.300	4.0000	0.534	0.1536	0.2752	0.7937

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.1387	0.1170
$\pi^{(A)}$	gamm	4.000	2.0000	2.9644	0.1649
$\gamma^{(Q)}$	norm	0.400	0.2000	0.4735	0.0506
τ	gamm	2.000	0.5000	1.8154	0.1443
ν	beta	0.100	0.0500	0.0829	0.0073
ψ_π	gamm	1.500	0.2500	1.3964	0.0948
ψ_y	gamm	0.500	0.2500	0.3291	0.1755
ρ_R	beta	0.500	0.2000	0.7492	0.0118
ρ_g	beta	0.800	0.1000	0.9397	0.0098
ρ_z	beta	0.660	0.1500	0.8955	0.0041
σ_R	invg	0.300	4.0000	0.2033	0.0043
σ_g	invg	0.400	4.0000	0.5690	0.0114
σ_z	invg	0.400	4.0000	0.2777	0.0081
ρ_ζ	beta	0.500	0.2000	0.2902	0.1423
σ_ζ	invg	0.300	4.0000	0.5609	0.1669

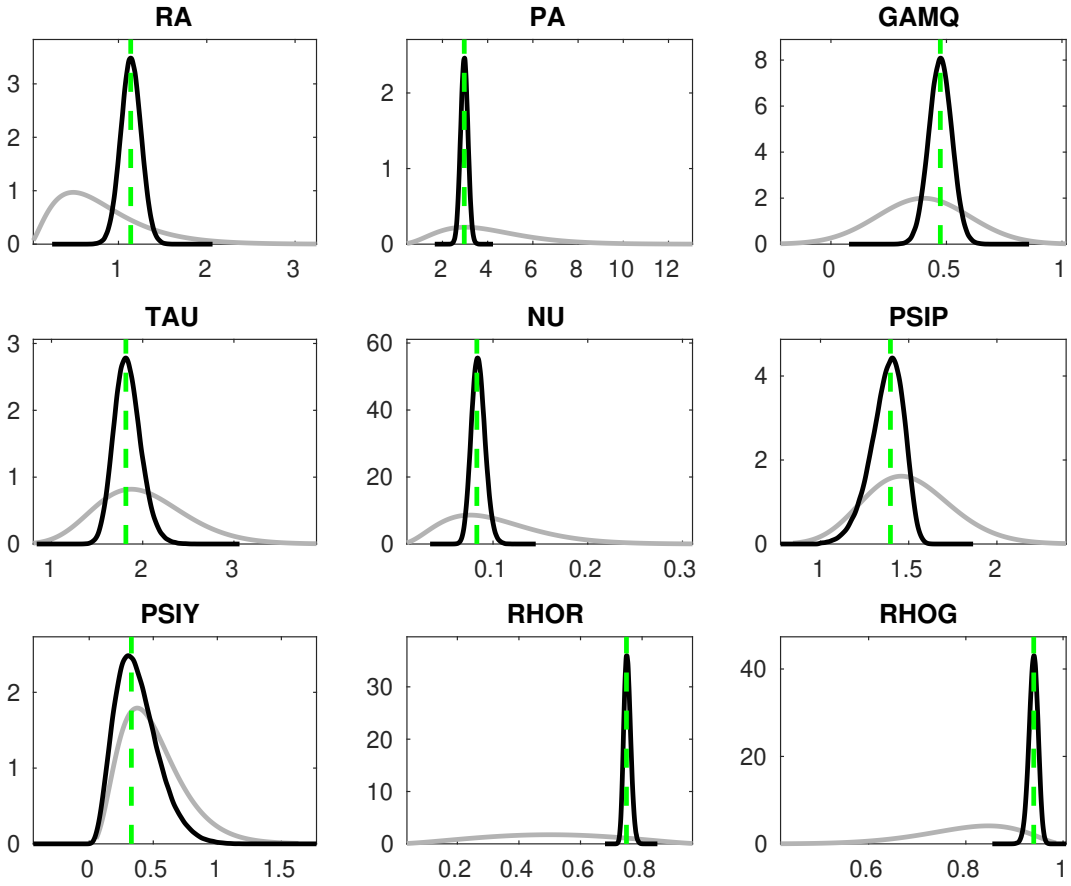

Figure 6: Priors and posteriors.

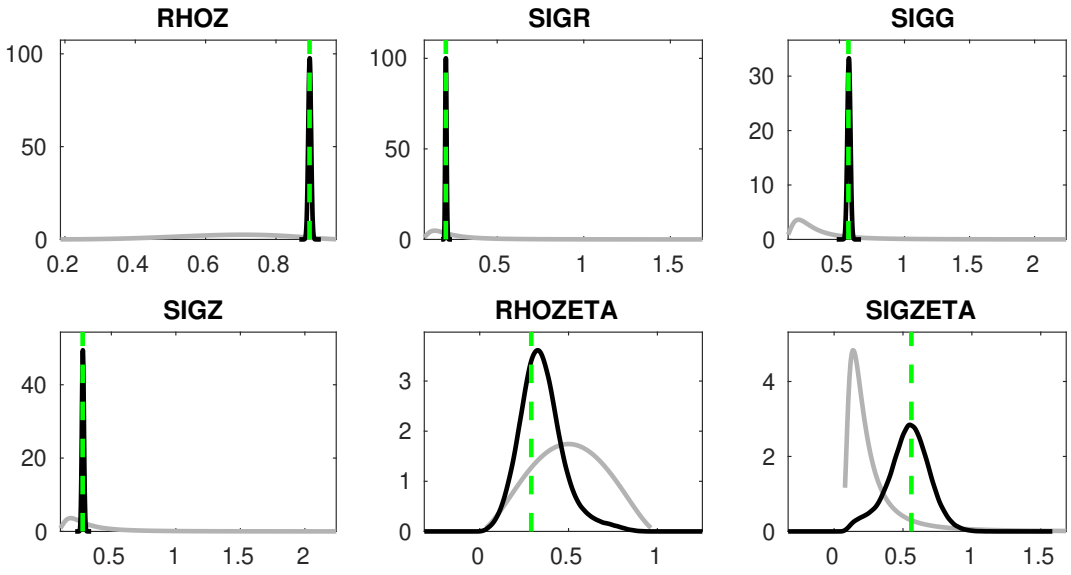

Figure 7: Priors and posteriors.

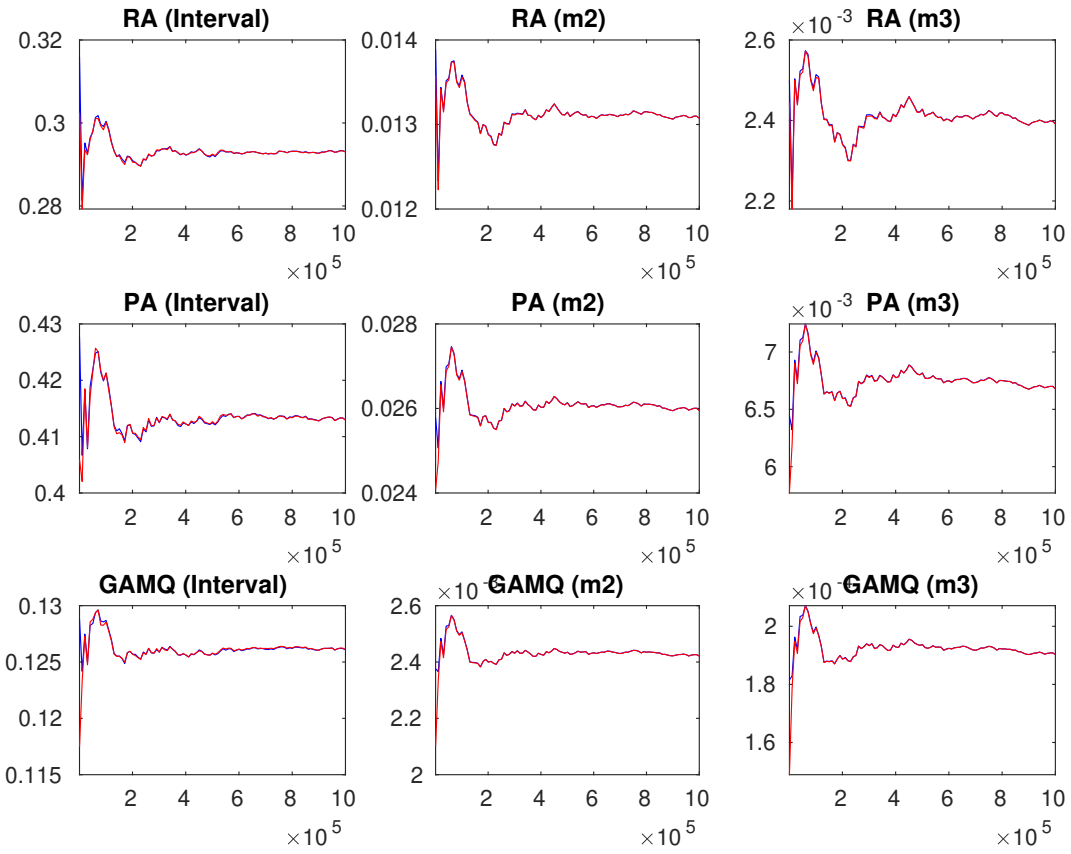

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

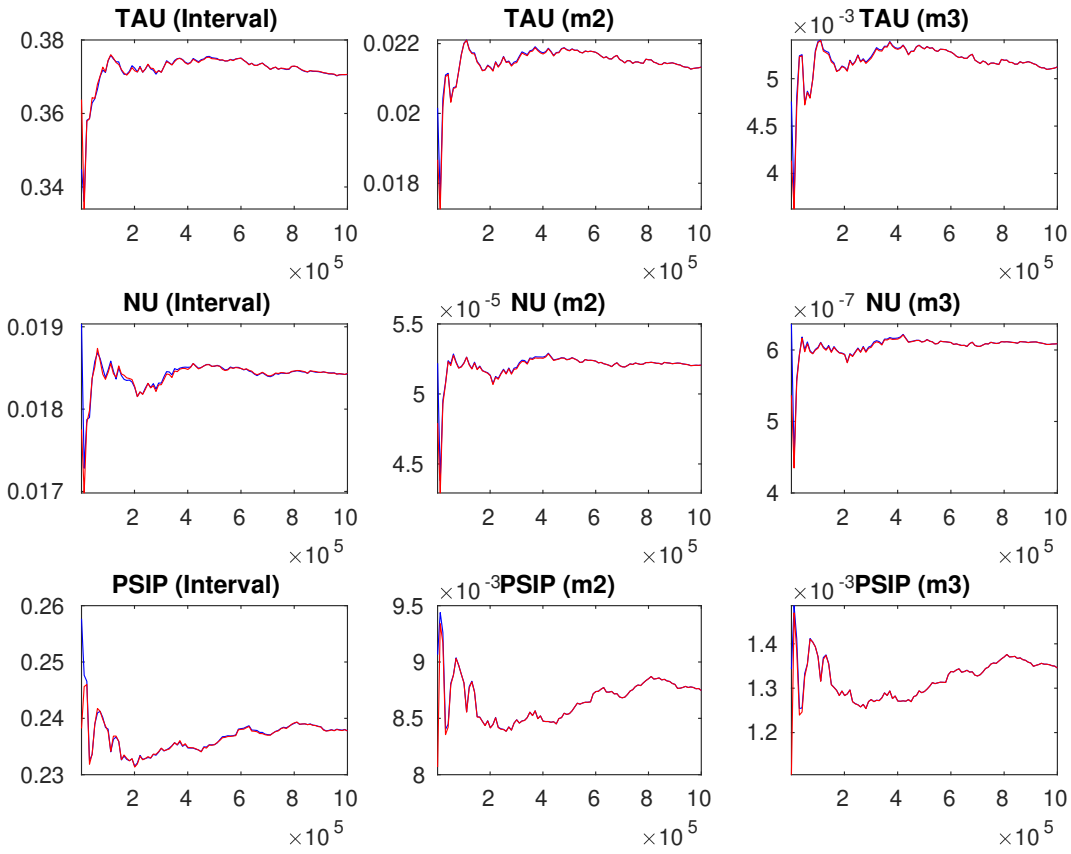

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

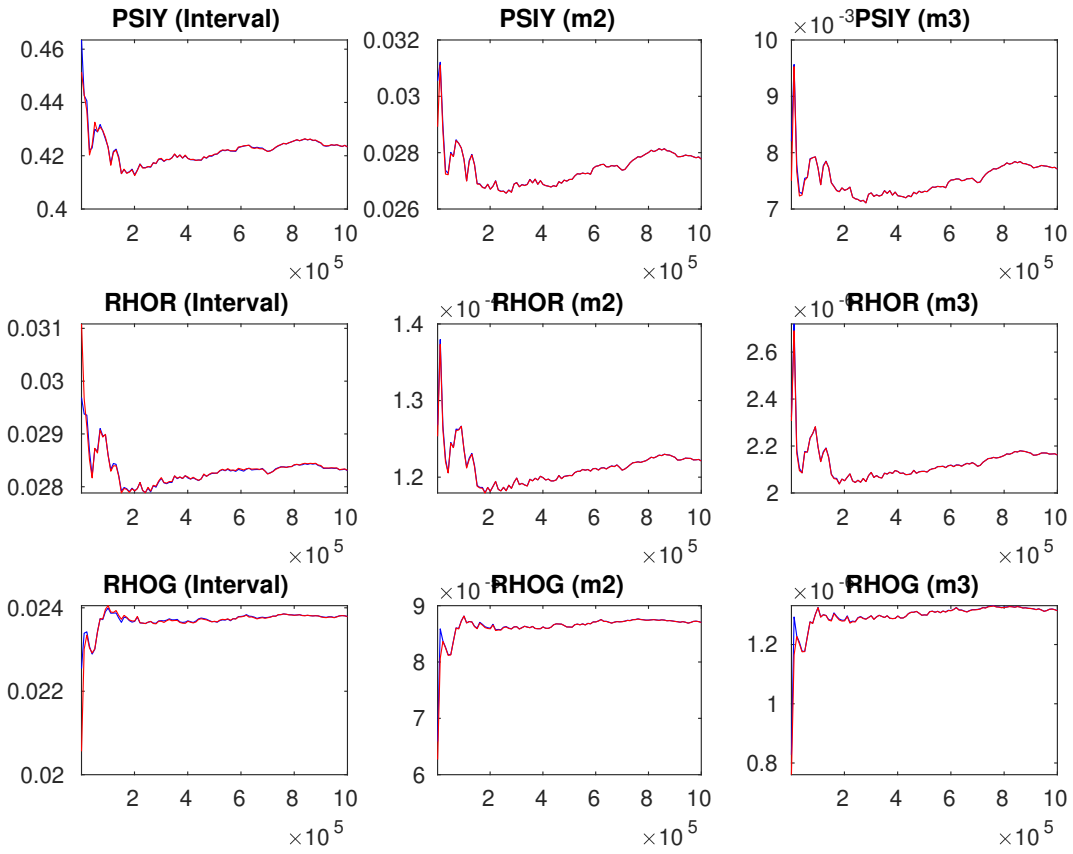

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

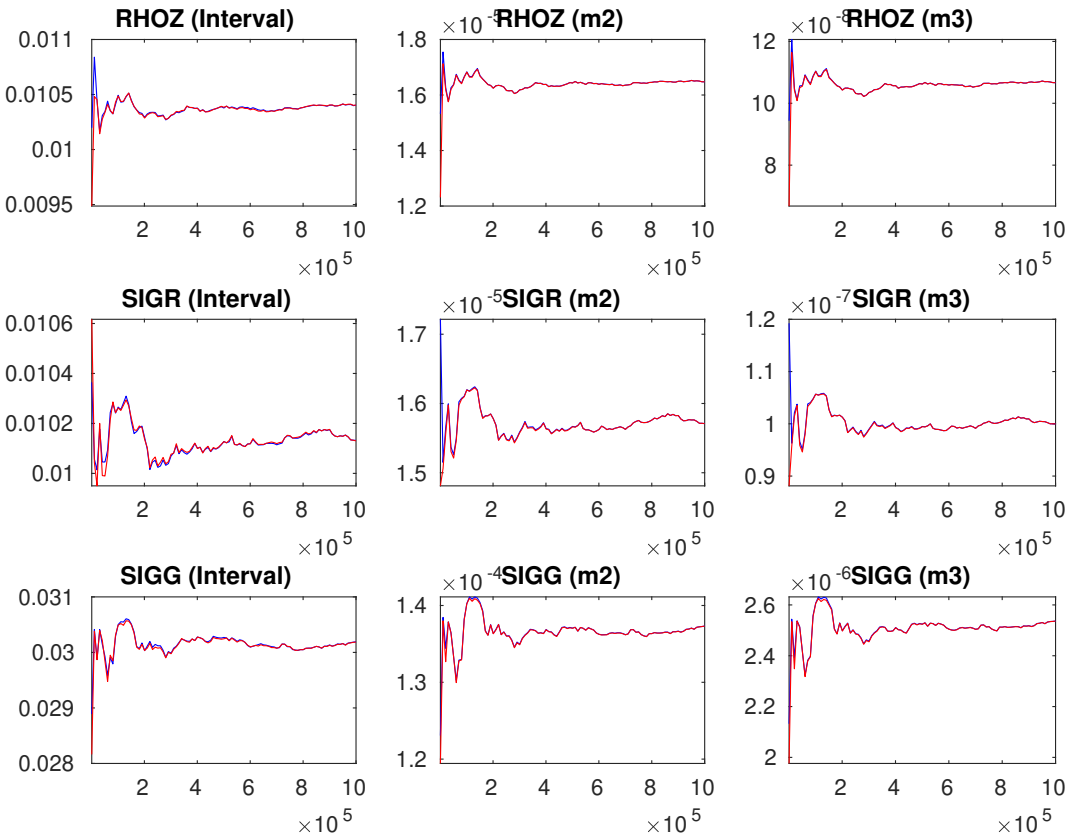

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

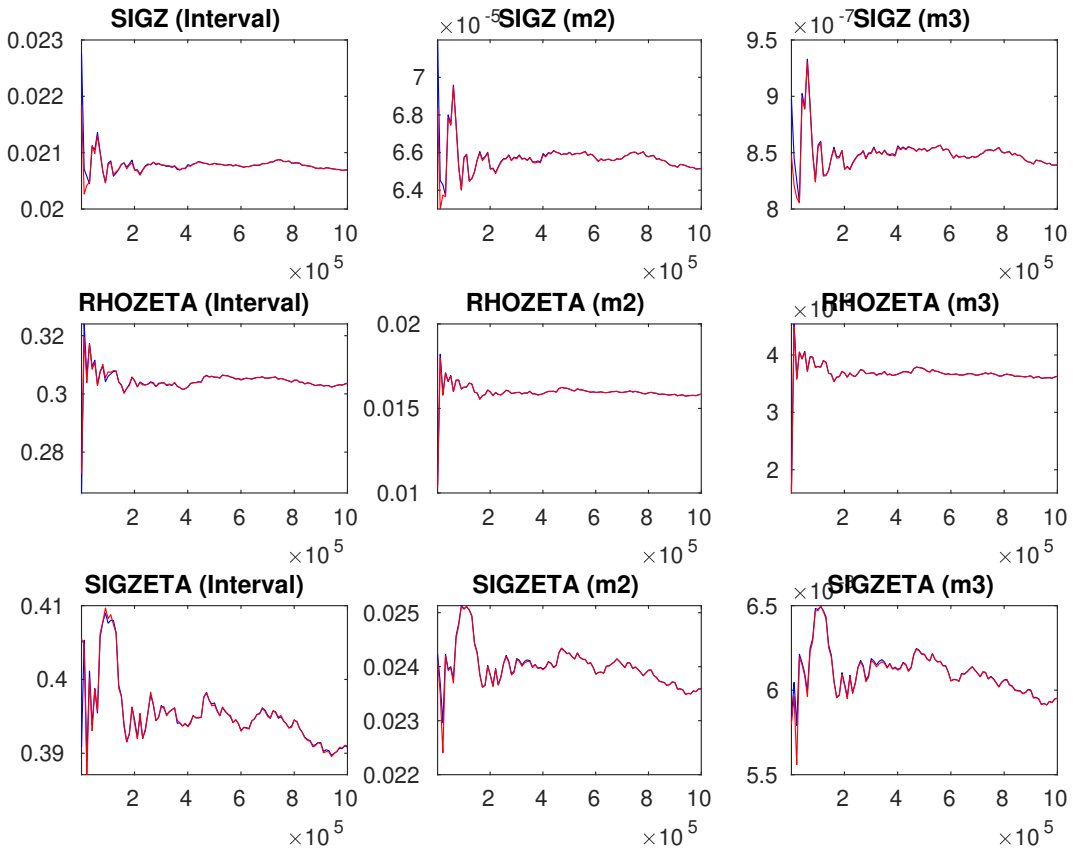

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.