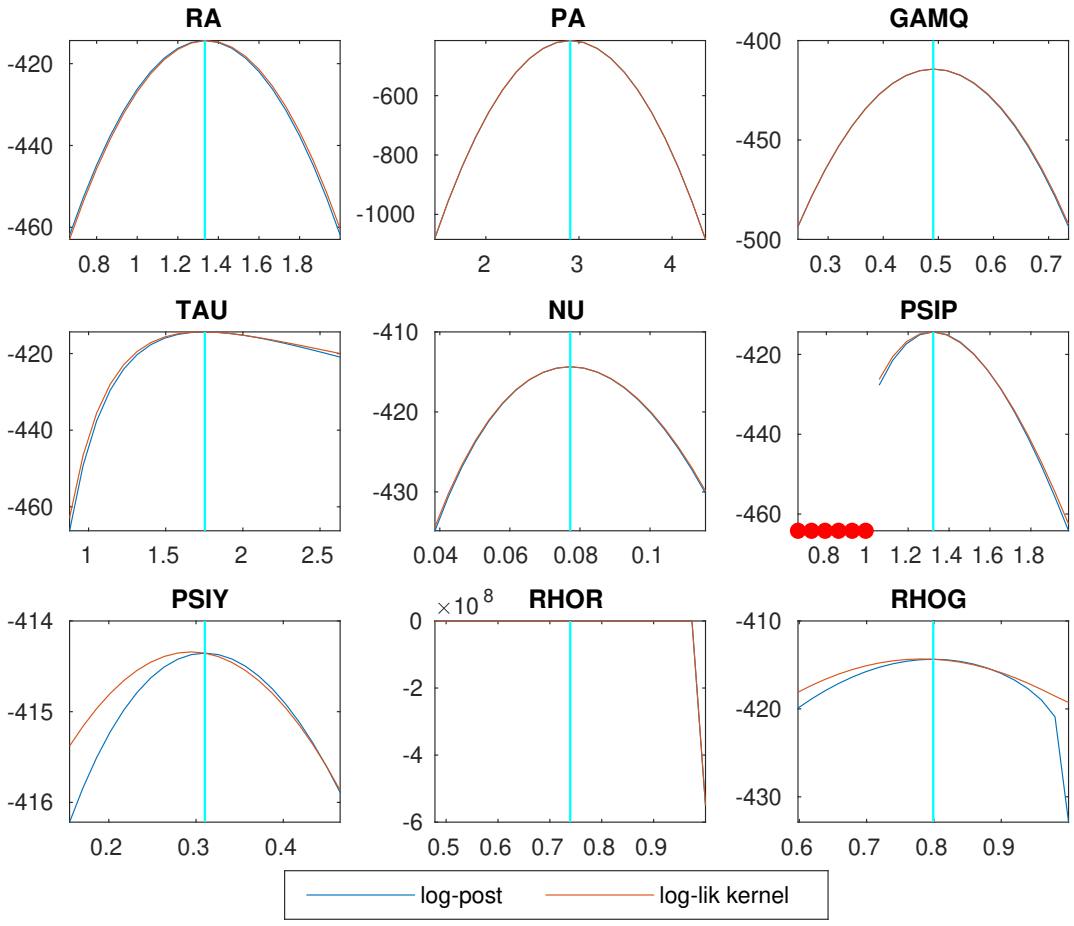

Figure 1: Check plots.

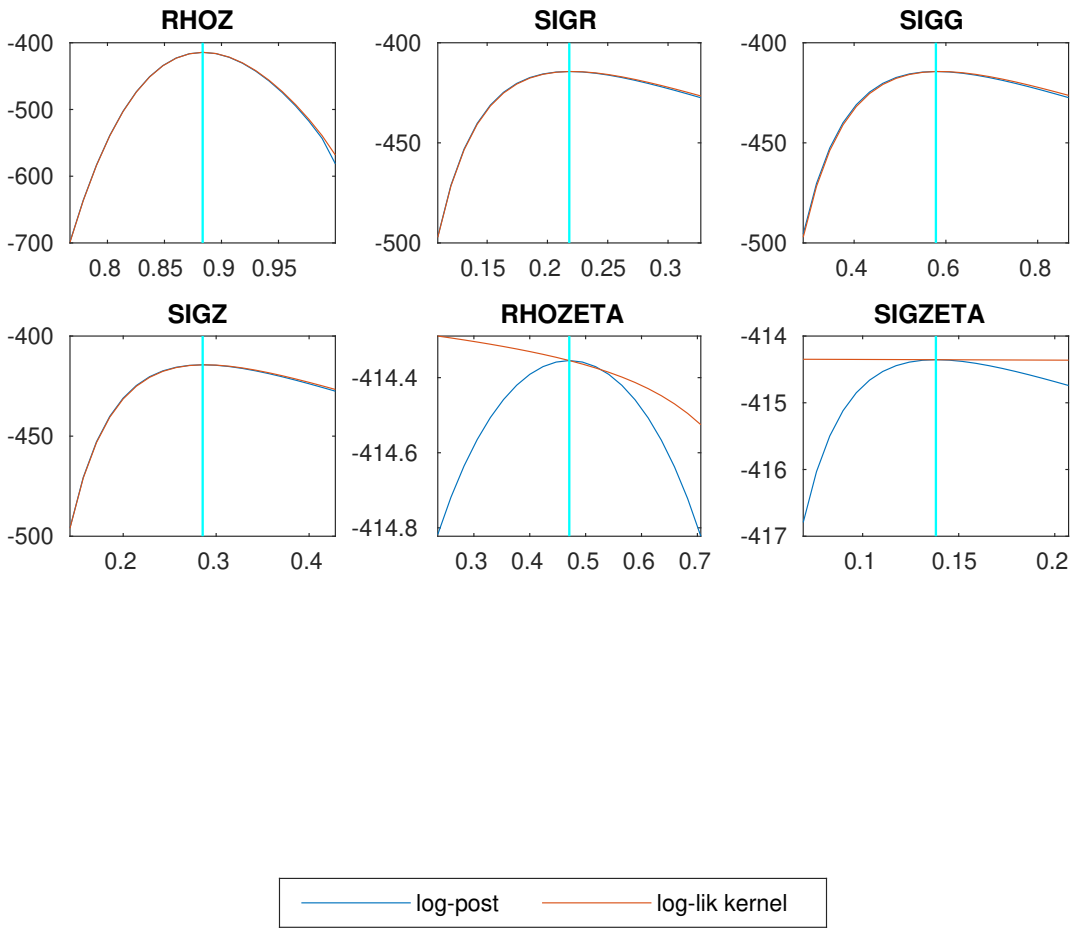

Figure 2: Check plots.

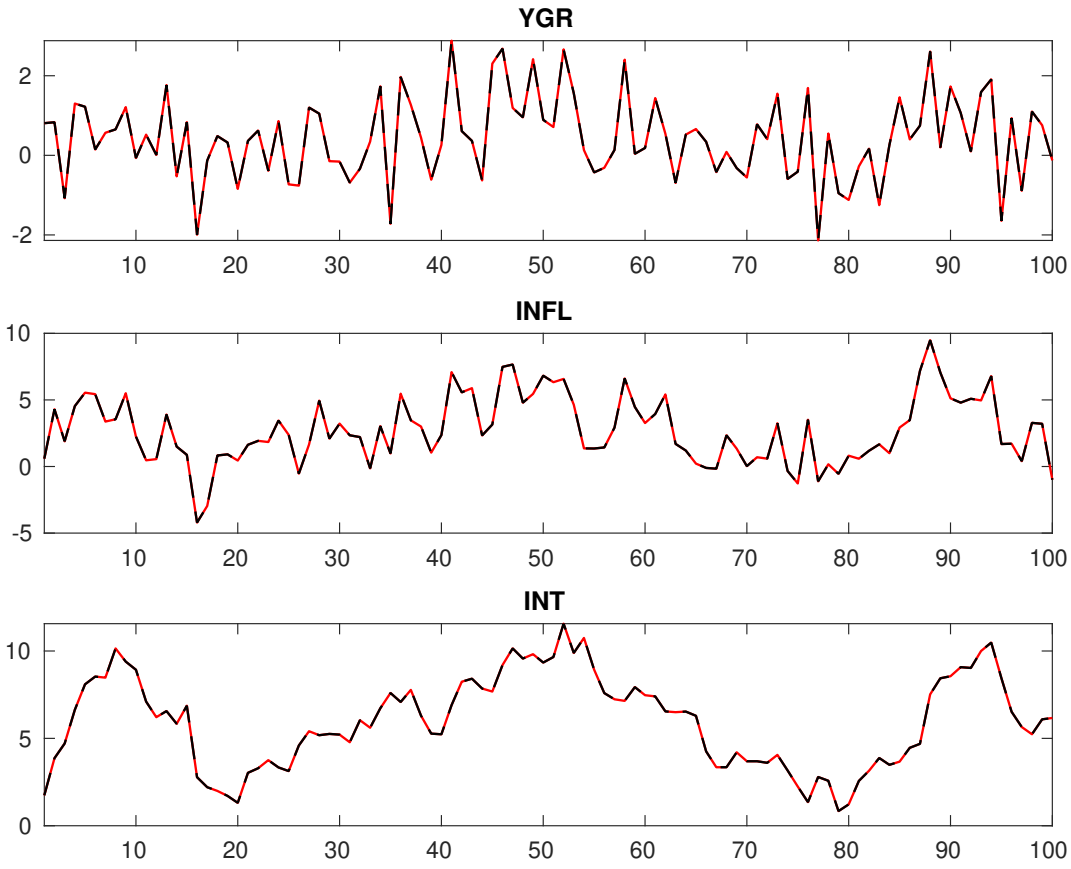

Figure 3: Historical and smoothed variables.

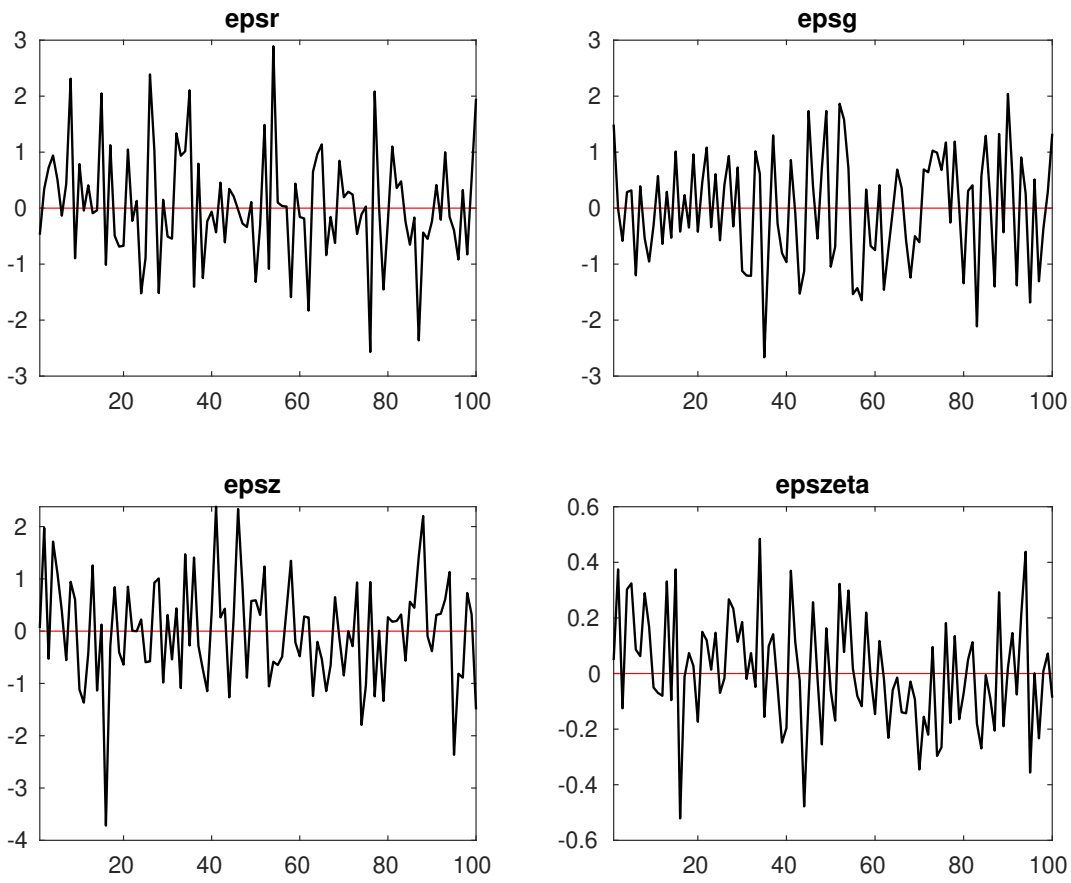

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	87.714	83.855	87.255	82.390
$\pi^{(A)}$	89.855	93.467	91.135	93.015
$\gamma^{(Q)}$	88.739	95.475	90.067	92.077
τ	93.664	92.231	102.668	98.387
ν	89.613	95.807	104.911	98.861
ψ_π	86.815	94.627	85.299	85.743
ψ_y	92.406	97.681	89.664	90.659
ρ_R	91.668	92.699	95.152	87.569
ρ_g	82.863	85.195	89.476	88.595
ρ_z	101.640	97.668	94.730	91.978
σ_R	82.426	81.299	83.533	82.938
σ_g	87.700	90.975	82.799	82.833
σ_z	97.920	93.785	101.985	96.027
ρ_ζ	86.237	79.120	93.077	88.188
σ_ζ	171.980	186.128	167.485	179.296

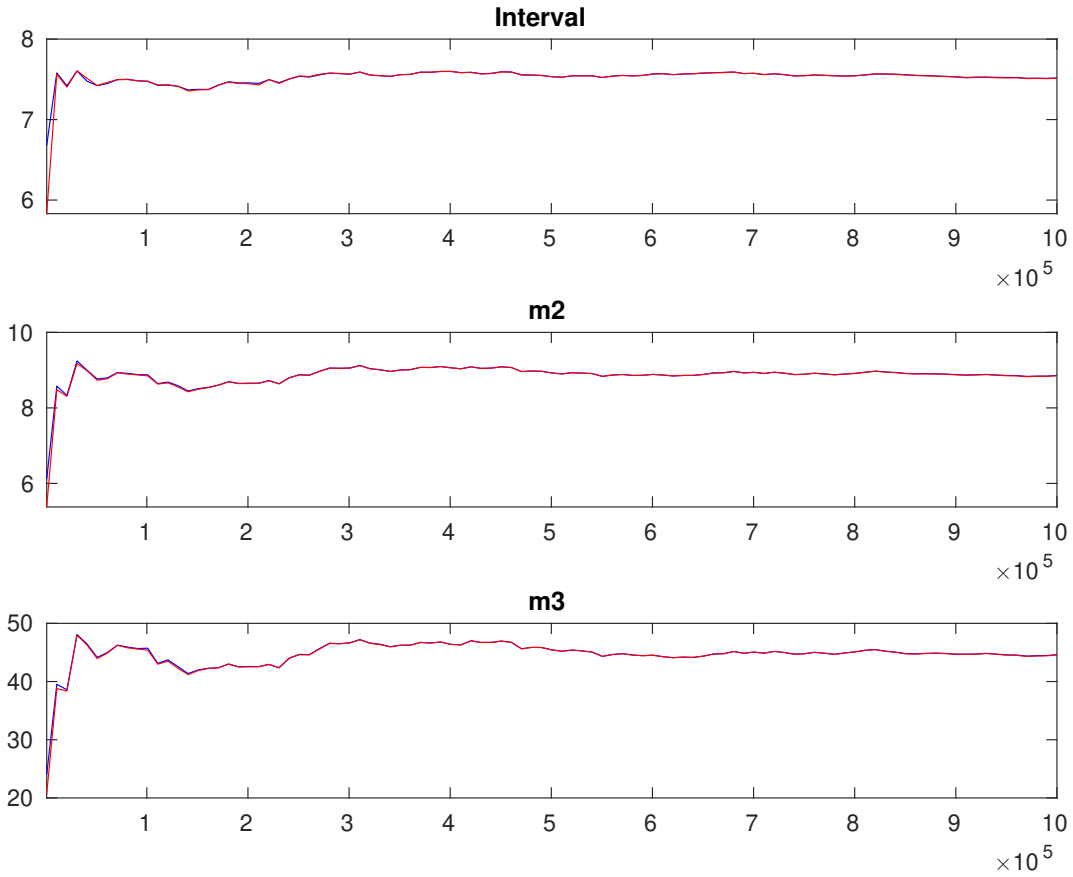

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.347	0.3770	0.7171	1.9596
$\pi^{(A)}$	gamm	4.000	2.0000	2.885	0.4580	2.1354	3.6382
$\gamma^{(Q)}$	norm	0.400	0.2000	0.485	0.1389	0.2583	0.7147
τ	gamm	2.000	0.5000	1.921	0.3724	1.3081	2.5118
ν	beta	0.100	0.0500	0.084	0.0207	0.0497	0.1158
ψ_π	gamm	1.500	0.2500	1.343	0.1529	1.0837	1.5848
ψ_y	gamm	0.500	0.2500	0.387	0.1820	0.1027	0.6592
ρ_R	beta	0.500	0.2000	0.748	0.0307	0.6980	0.7984
ρ_g	beta	0.800	0.1000	0.813	0.0643	0.7080	0.9187
ρ_z	beta	0.660	0.1500	0.889	0.0198	0.8559	0.9209
σ_R	invg	0.300	4.0000	0.224	0.0184	0.1943	0.2538
σ_g	invg	0.400	4.0000	0.589	0.0457	0.5135	0.6626
σ_z	invg	0.400	4.0000	0.290	0.0340	0.2346	0.3457
ρ_ζ	beta	0.500	0.2000	0.473	0.1972	0.1463	0.7912
σ_ζ	invg	0.300	4.0000	0.331	0.2637	0.0673	0.7045

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.3333	0.3883
$\pi^{(A)}$	gamm	4.000	2.0000	2.9060	0.4684
$\gamma^{(Q)}$	norm	0.400	0.2000	0.4907	0.1430
τ	gamm	2.000	0.5000	1.7536	0.3690
ν	beta	0.100	0.0500	0.0772	0.0209
ψ_π	gamm	1.500	0.2500	1.3228	0.1503
ψ_y	gamm	0.500	0.2500	0.3101	0.1861
ρ_R	beta	0.500	0.2000	0.7392	0.0310
ρ_g	beta	0.800	0.1000	0.7990	0.0650
ρ_z	beta	0.660	0.1500	0.8835	0.0199
σ_R	invg	0.300	4.0000	0.2181	0.0189
σ_g	invg	0.400	4.0000	0.5782	0.0475
σ_z	invg	0.400	4.0000	0.2855	0.0340
ρ_ζ	beta	0.500	0.2000	0.4707	0.2023
σ_ζ	invg	0.300	4.0000	0.1381	0.2339

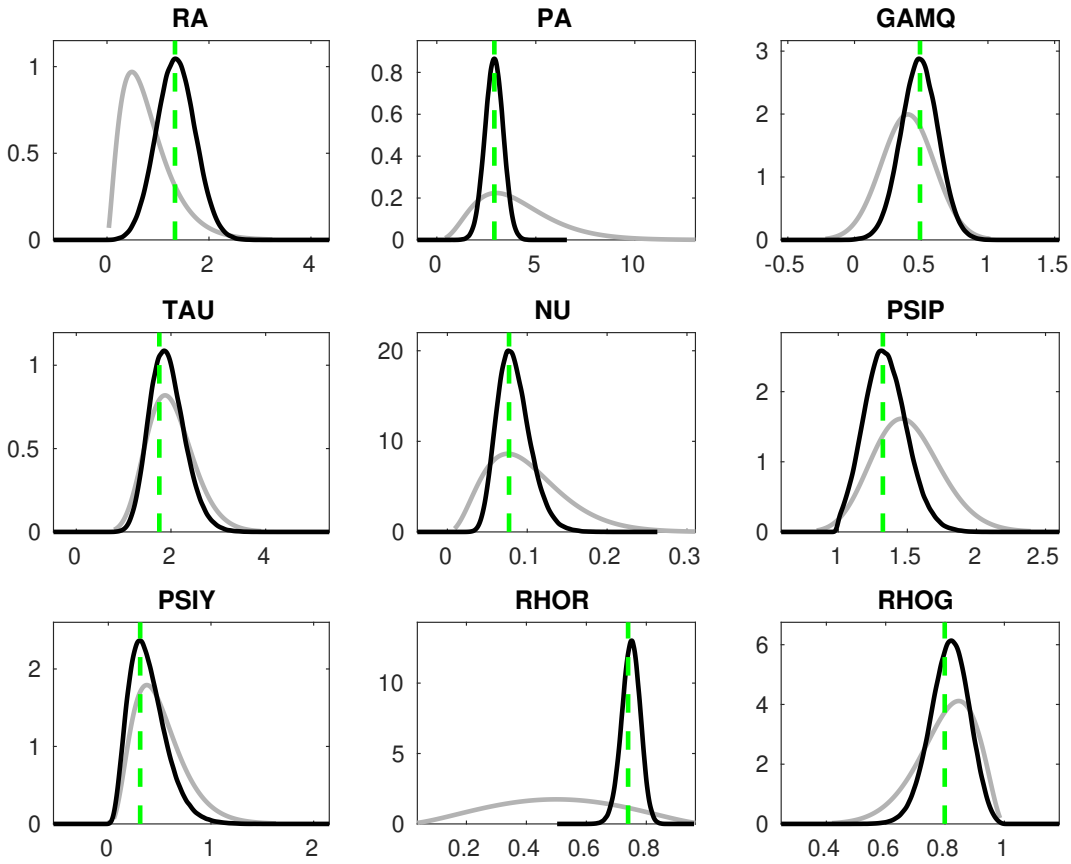

Figure 6: Priors and posteriors.

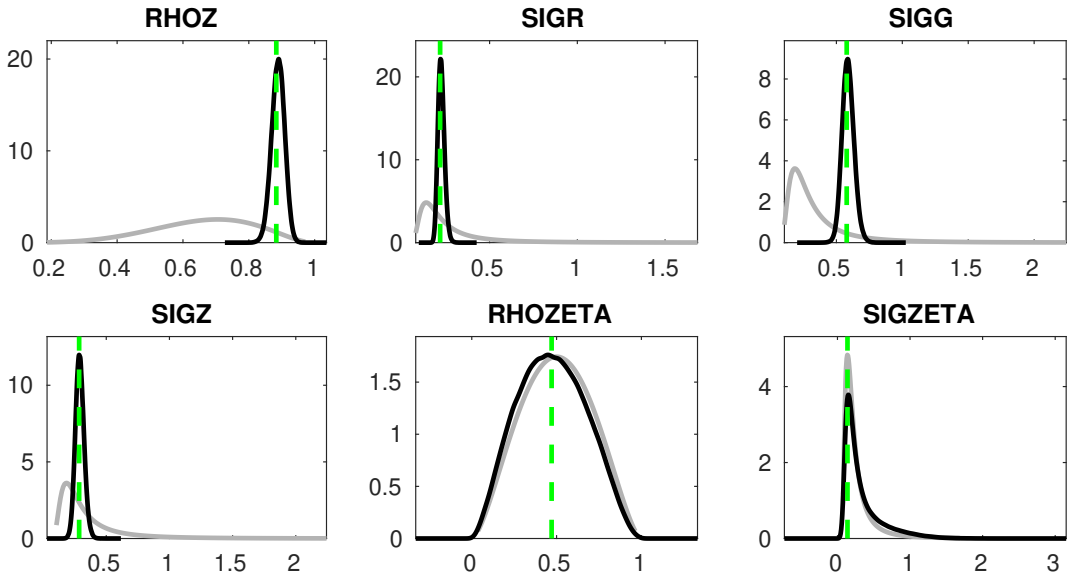

Figure 7: Priors and posteriors.

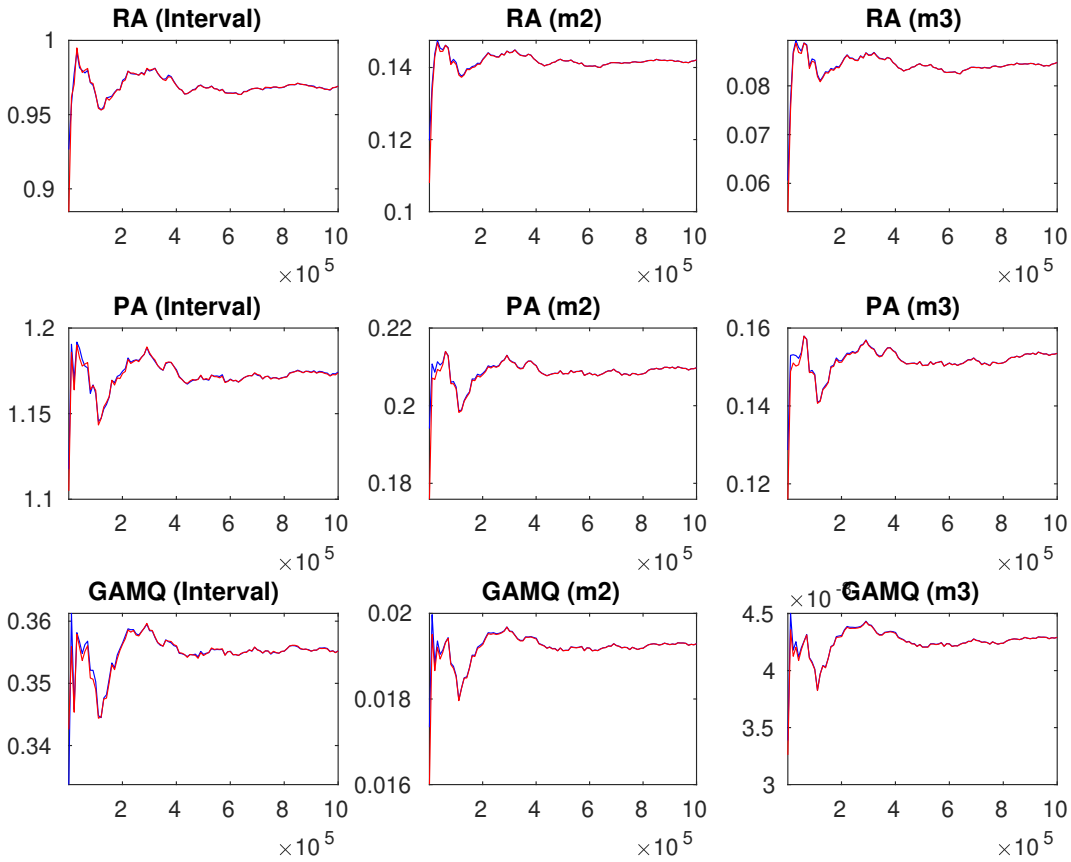

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

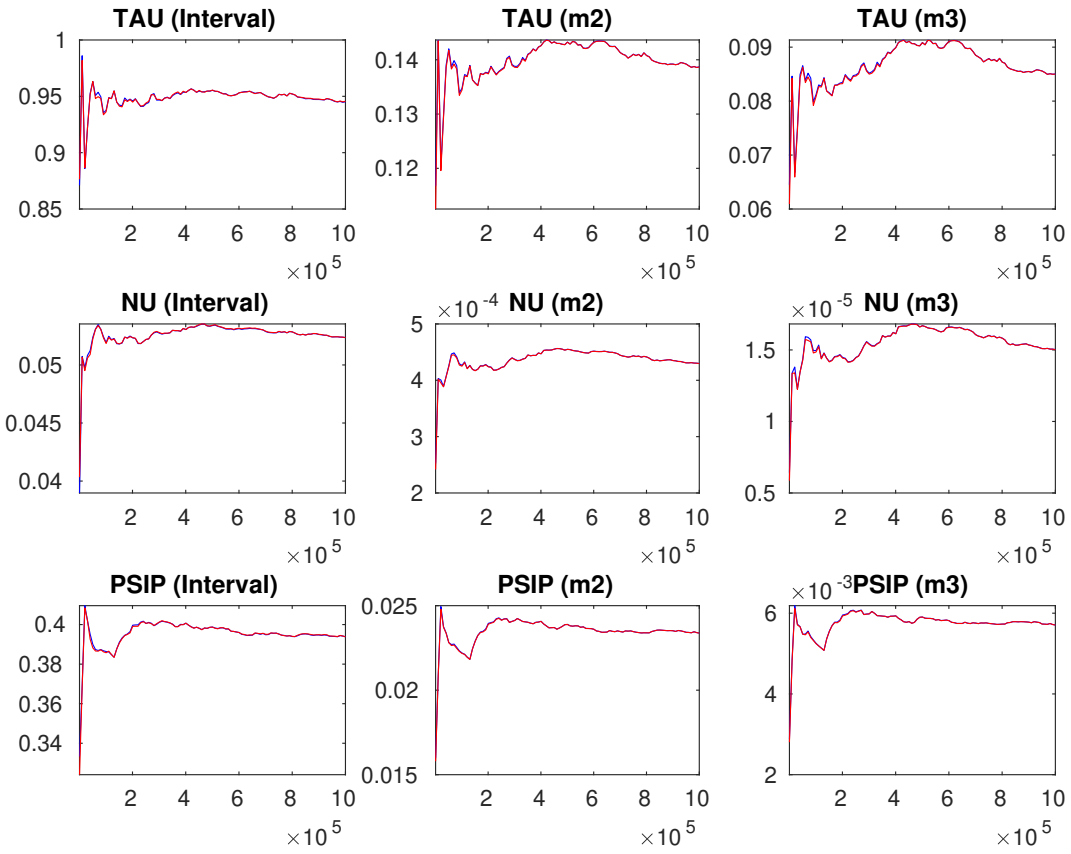

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

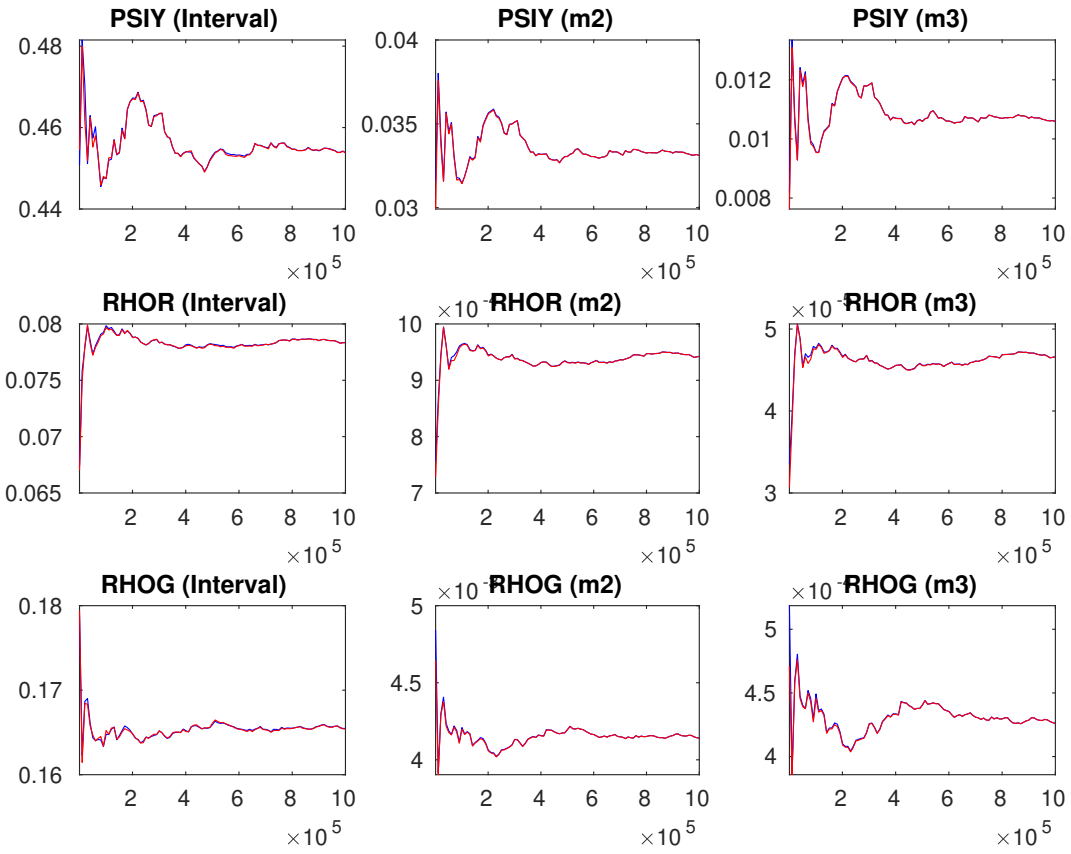

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

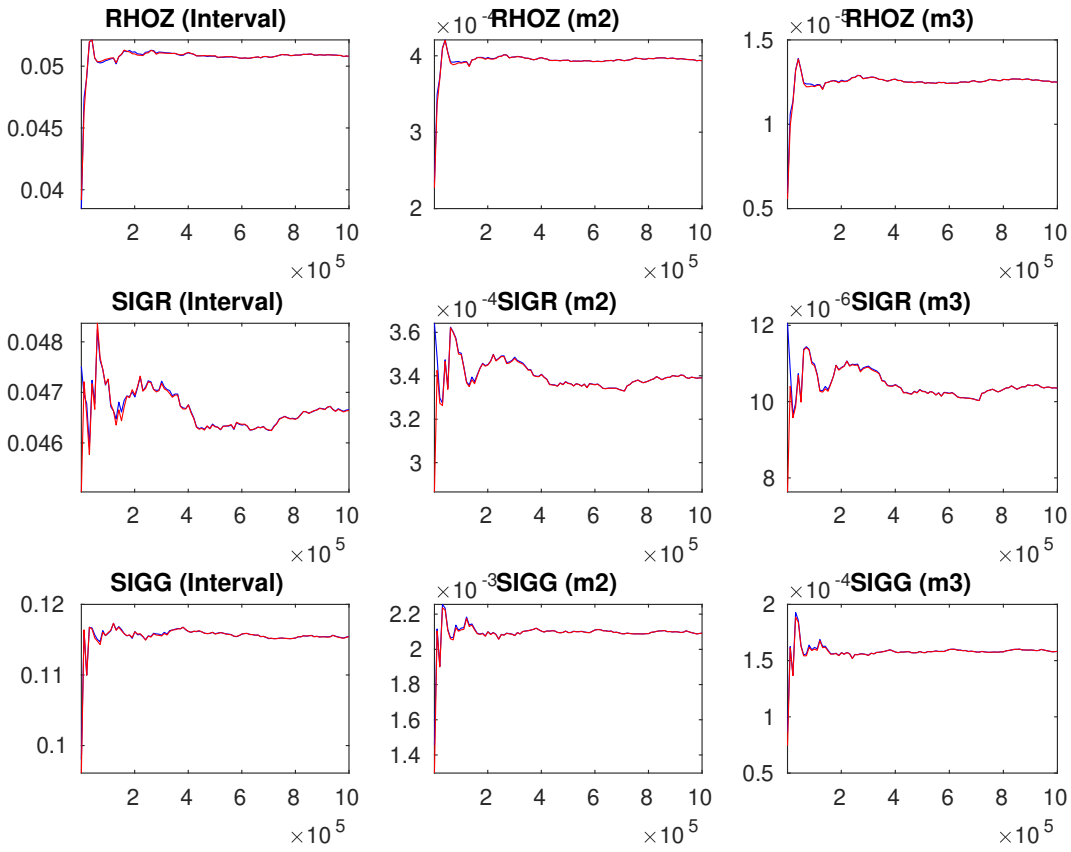

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

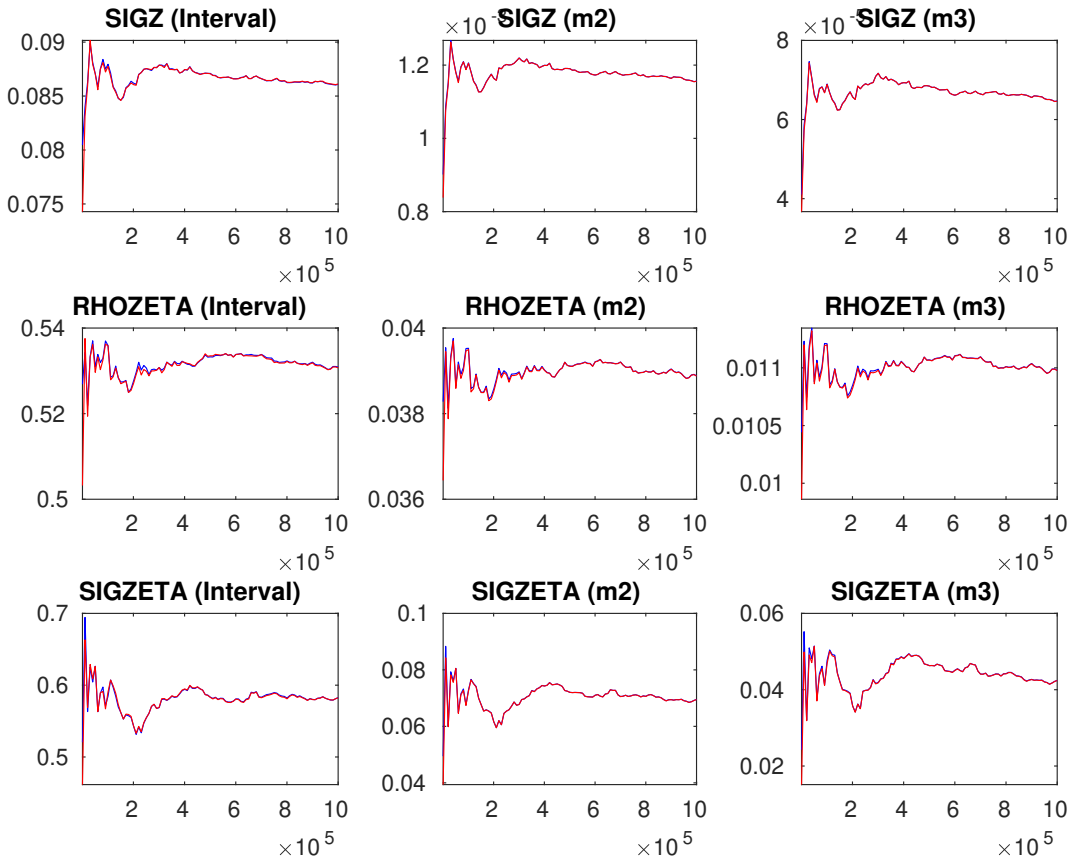

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.