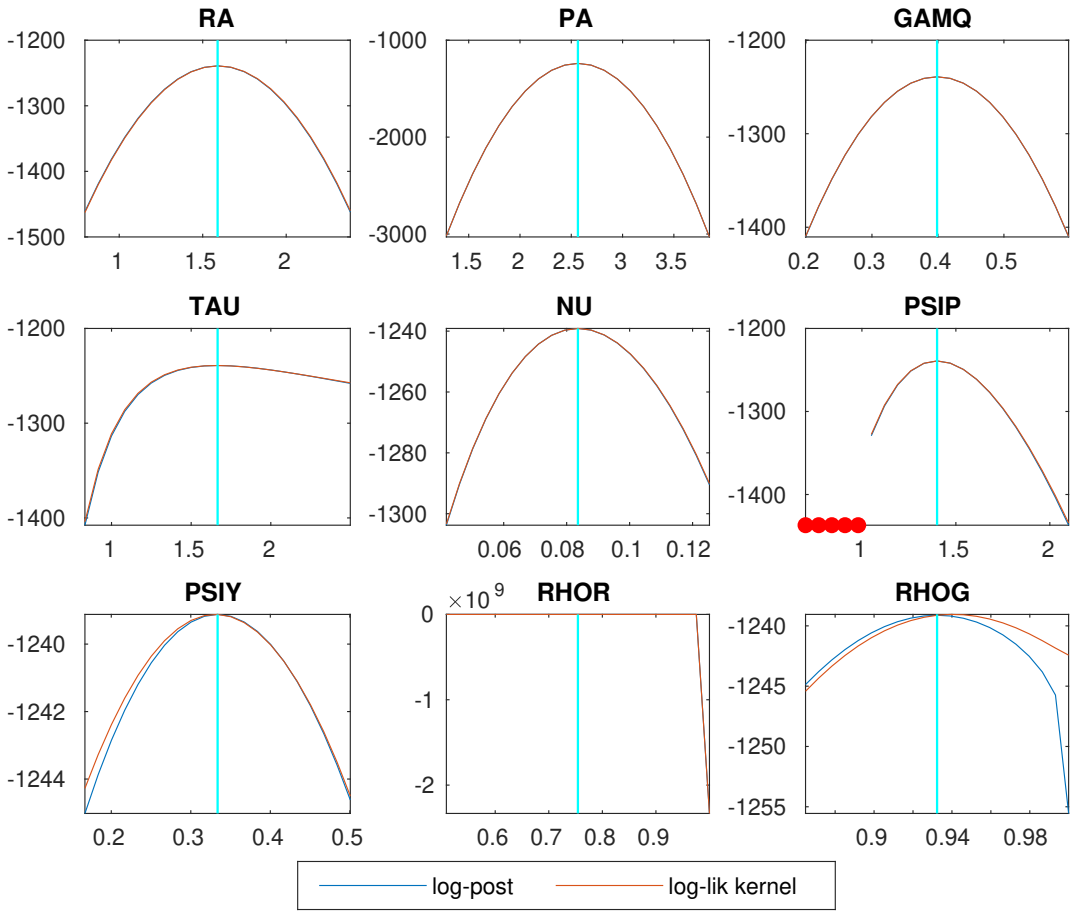

Figure 1: Check plots.

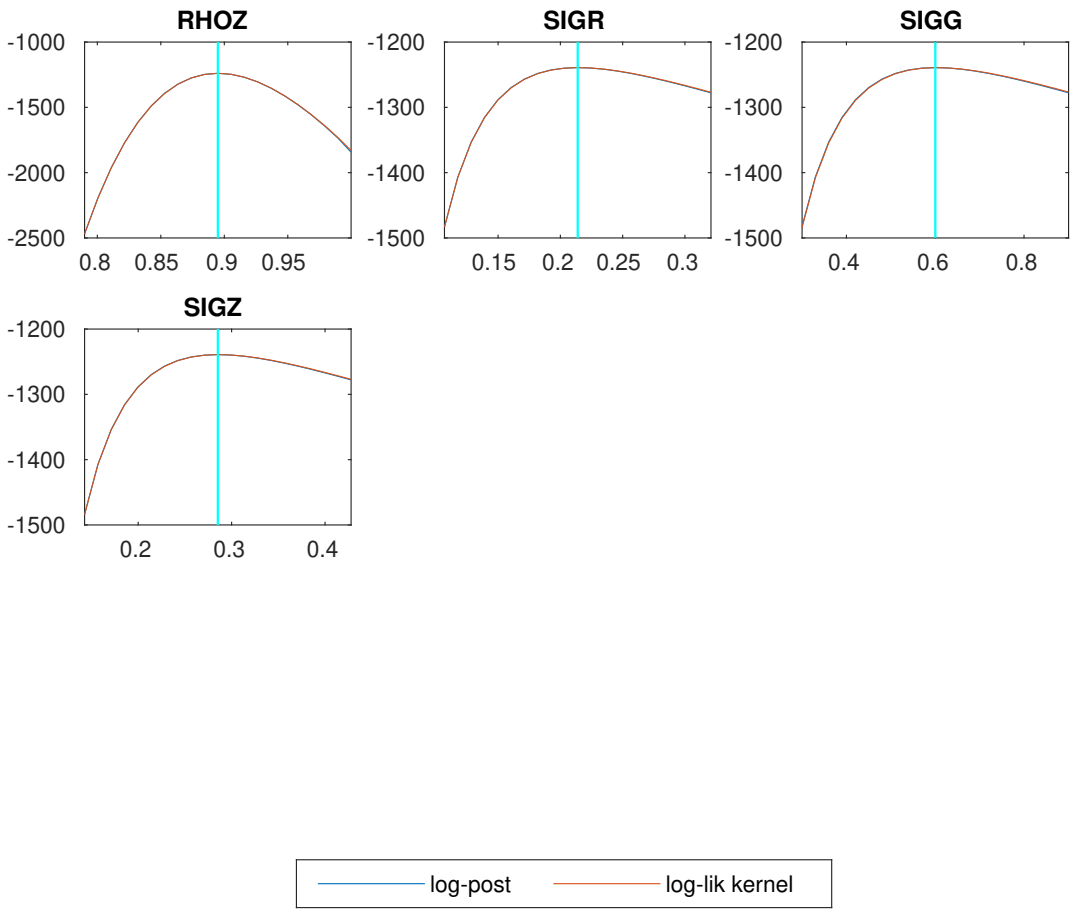

Figure 2: Check plots.

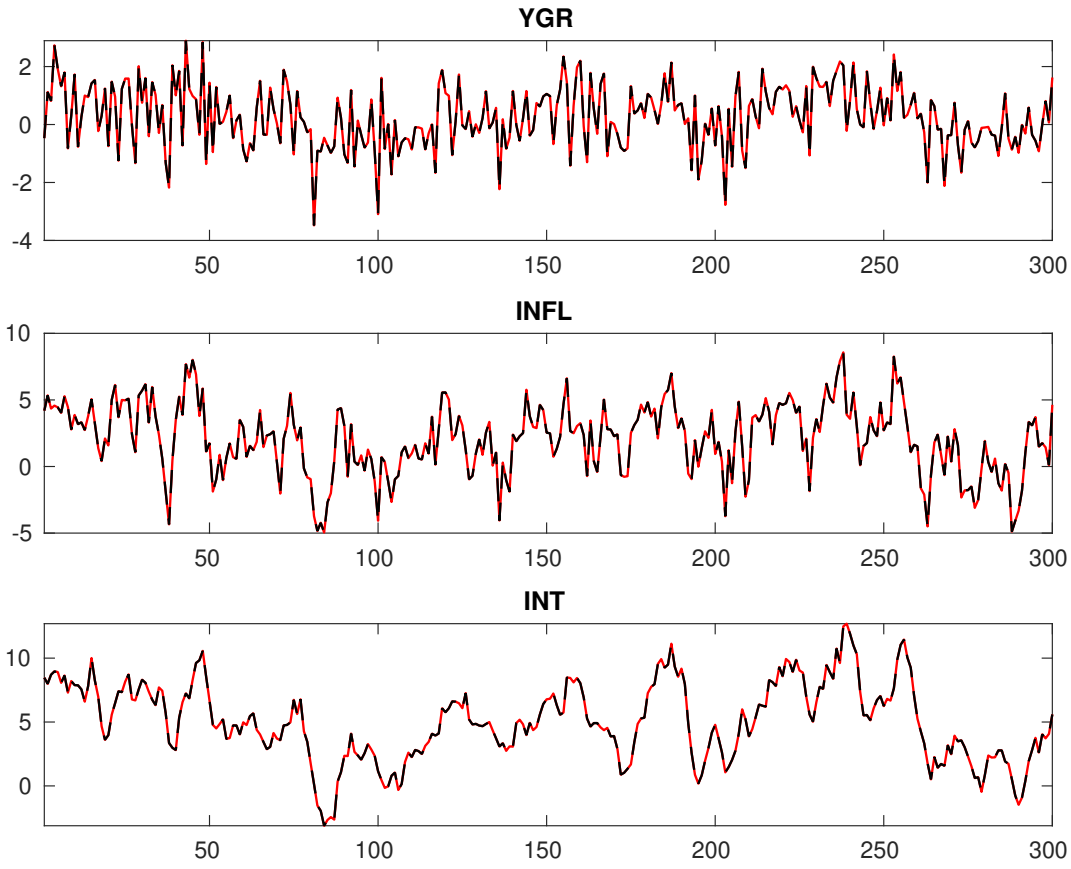

Figure 3: Historical and smoothed variables.

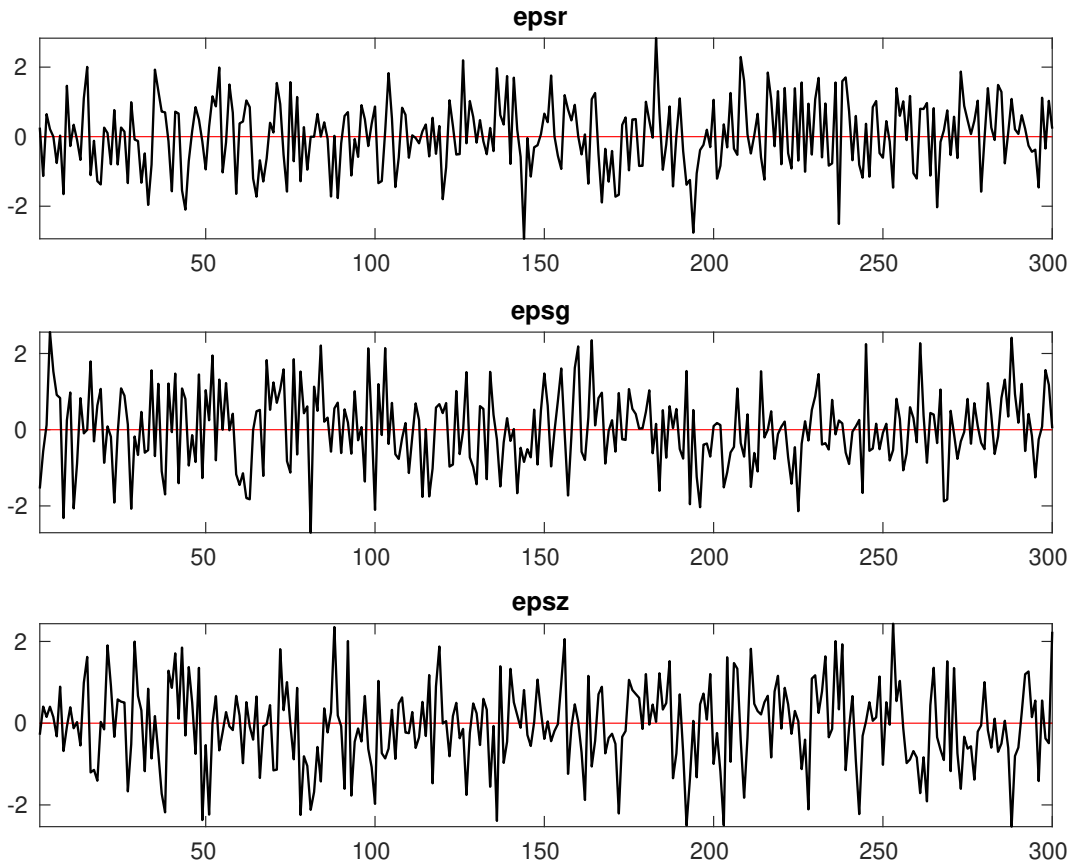

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	62.902	60.510	64.882	61.672
$\pi^{(A)}$	67.377	66.167	66.455	67.013
$\gamma^{(Q)}$	65.564	64.816	64.228	65.278
τ	59.123	59.607	56.976	55.018
ν	63.495	65.469	62.869	58.444
ψ_π	52.834	56.150	55.350	48.701
ψ_y	61.477	66.321	63.131	60.254
ρ_R	60.507	58.175	59.110	56.632
ρ_g	63.539	62.272	59.465	64.194
ρ_z	60.398	59.448	59.335	57.049
σ_R	50.035	55.532	52.569	55.782
σ_g	55.860	53.433	61.758	54.360
σ_z	56.046	59.428	57.764	55.596

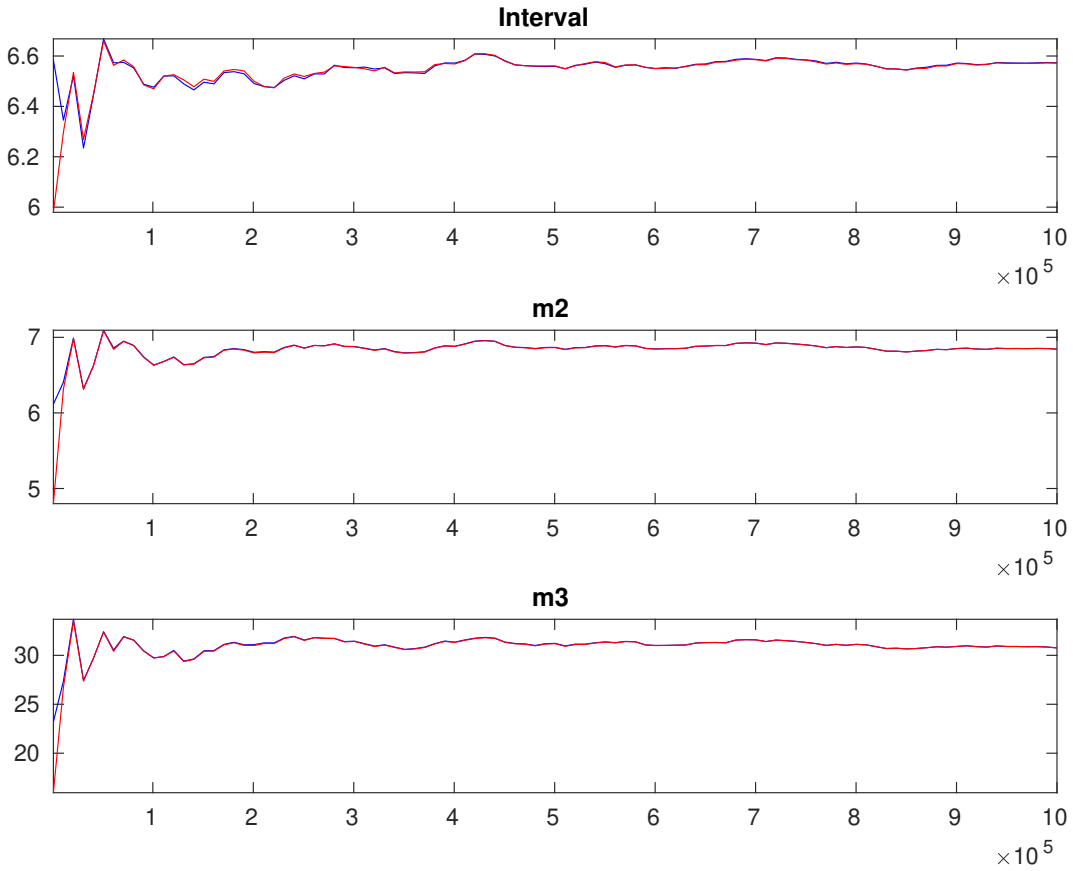

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.575	0.2832	1.1142	2.0436
$\pi^{(A)}$	gamm	4.000	2.0000	2.587	0.3788	1.9688	3.2132
$\gamma^{(Q)}$	norm	0.400	0.2000	0.407	0.1196	0.2117	0.6050
τ	gamm	2.000	0.5000	1.785	0.2742	1.3401	2.2282
ν	beta	0.100	0.0500	0.091	0.0174	0.0626	0.1186
ψ_π	gamm	1.500	0.2500	1.385	0.1254	1.1777	1.5910
ψ_y	gamm	0.500	0.2500	0.399	0.1798	0.1109	0.6699
ρ_R	beta	0.500	0.2000	0.761	0.0195	0.7285	0.7925
ρ_g	beta	0.800	0.1000	0.940	0.0197	0.9082	0.9732
ρ_z	beta	0.660	0.1500	0.898	0.0115	0.8794	0.9172
σ_R	invg	0.300	4.0000	0.216	0.0104	0.1991	0.2330
σ_g	invg	0.400	4.0000	0.607	0.0251	0.5659	0.6478
σ_z	invg	0.400	4.0000	0.290	0.0194	0.2581	0.3216

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.5892	0.2710
$\pi^{(A)}$	gamm	4.000	2.0000	2.5647	0.3559
$\gamma^{(Q)}$	norm	0.400	0.2000	0.3987	0.1140
τ	gamm	2.000	0.5000	1.6660	0.2767
ν	beta	0.100	0.0500	0.0836	0.0172
ψ_π	gamm	1.500	0.2500	1.4000	0.1277
ψ_y	gamm	0.500	0.2500	0.3337	0.1735
ρ_R	beta	0.500	0.2000	0.7544	0.0192
ρ_g	beta	0.800	0.1000	0.9324	0.0191
ρ_z	beta	0.660	0.1500	0.8949	0.0114
σ_R	invg	0.300	4.0000	0.2139	0.0103
σ_g	invg	0.400	4.0000	0.6002	0.0243
σ_z	invg	0.400	4.0000	0.2853	0.0194

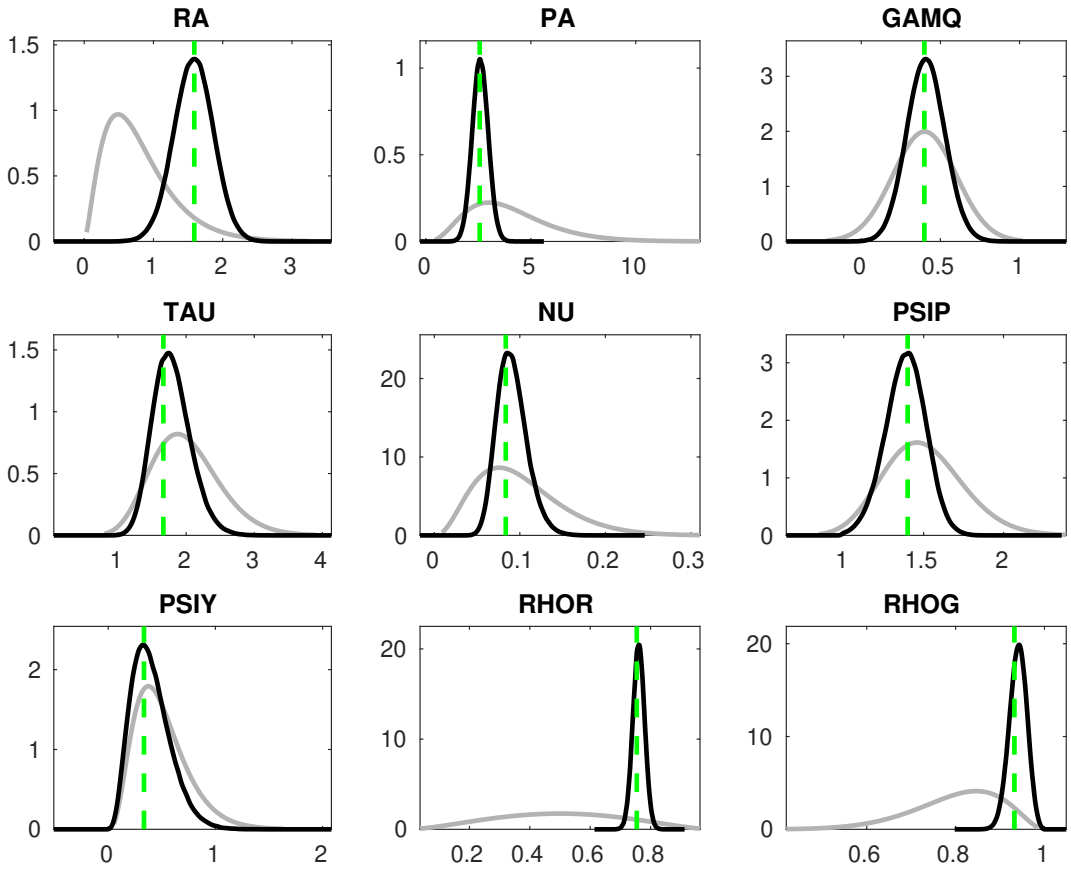

Figure 6: Priors and posteriors.

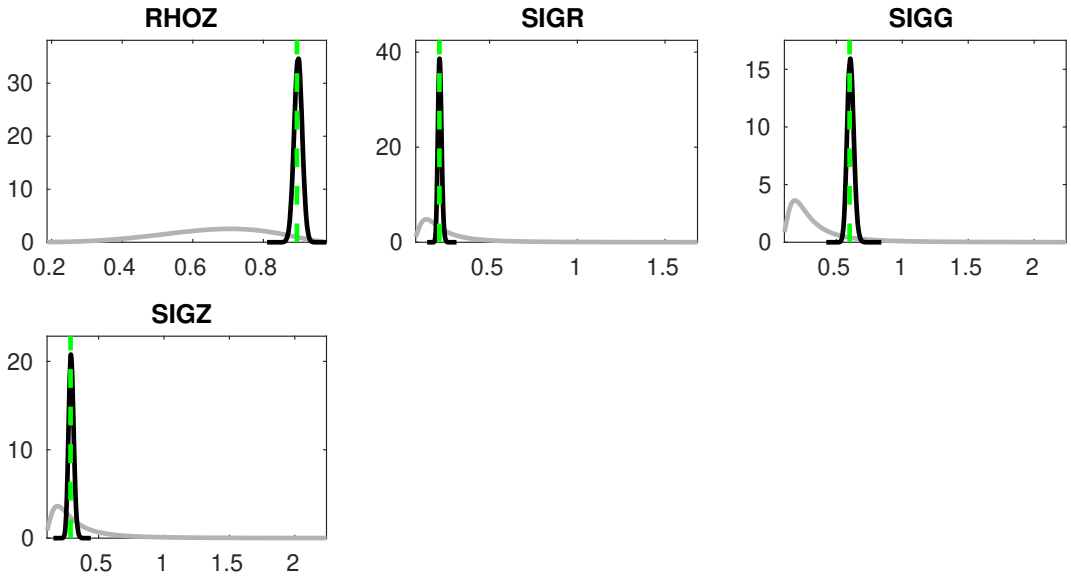

Figure 7: Priors and posteriors.

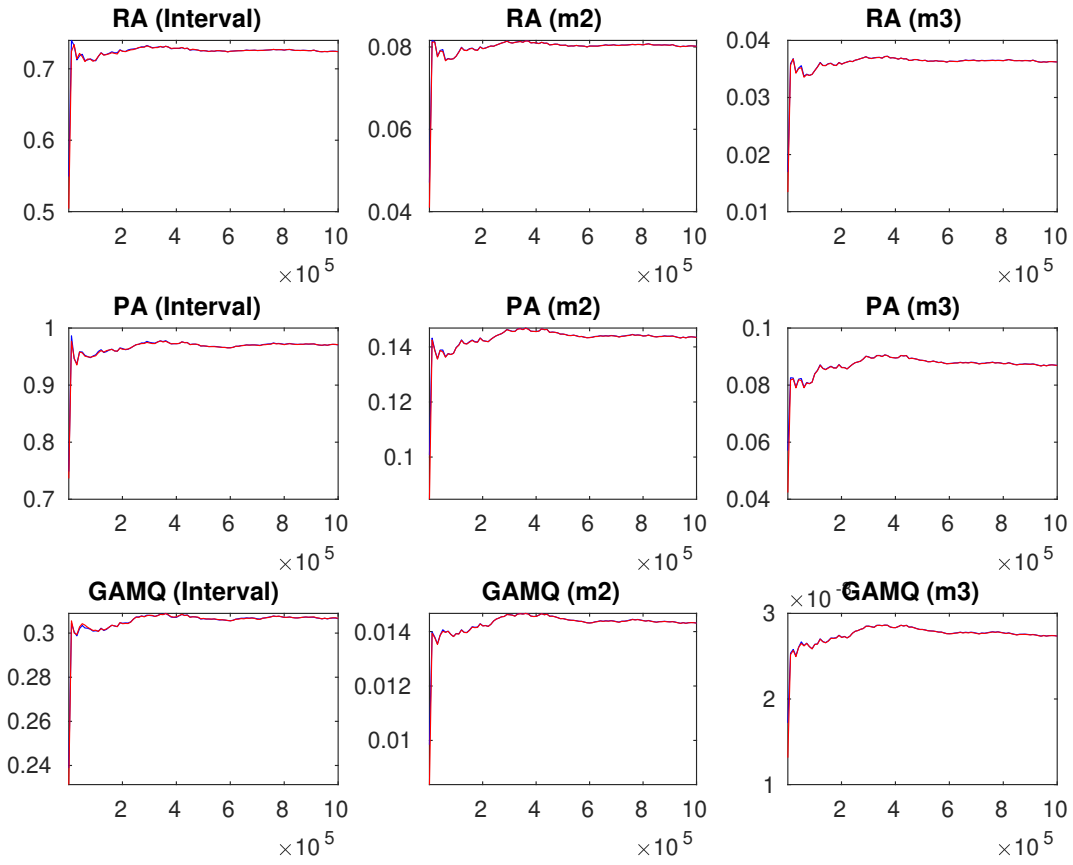

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

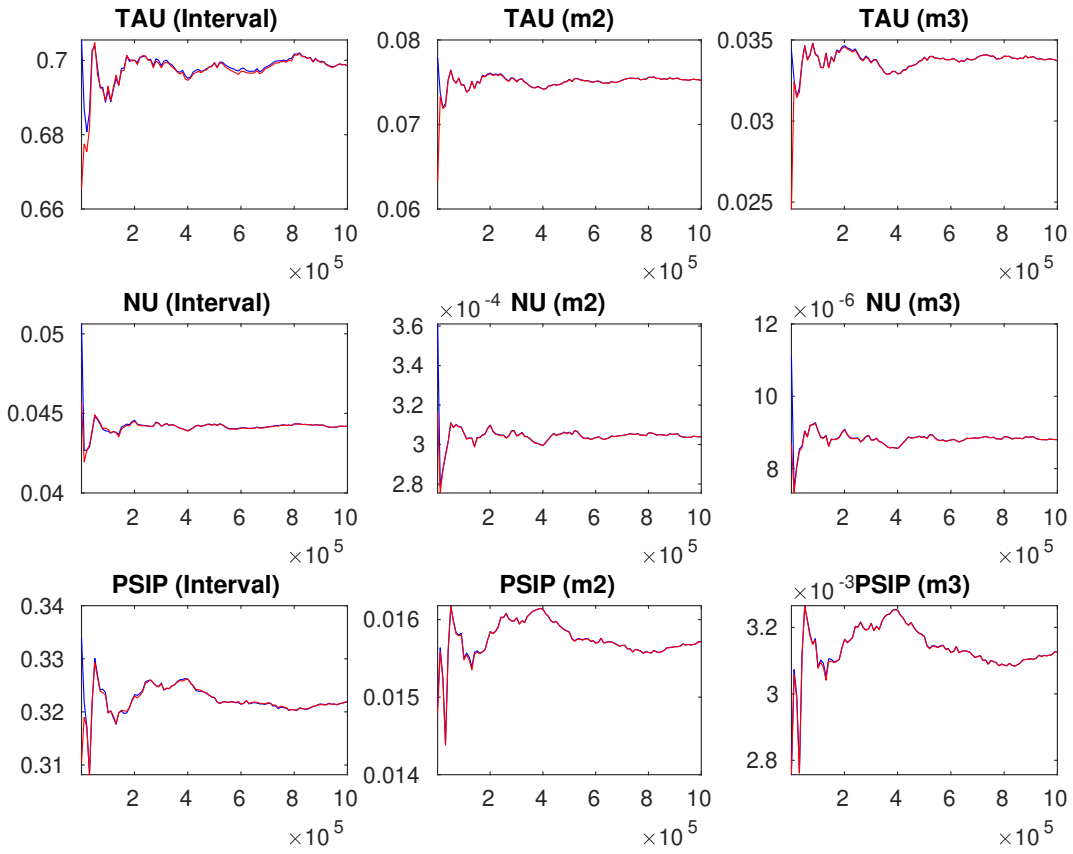

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

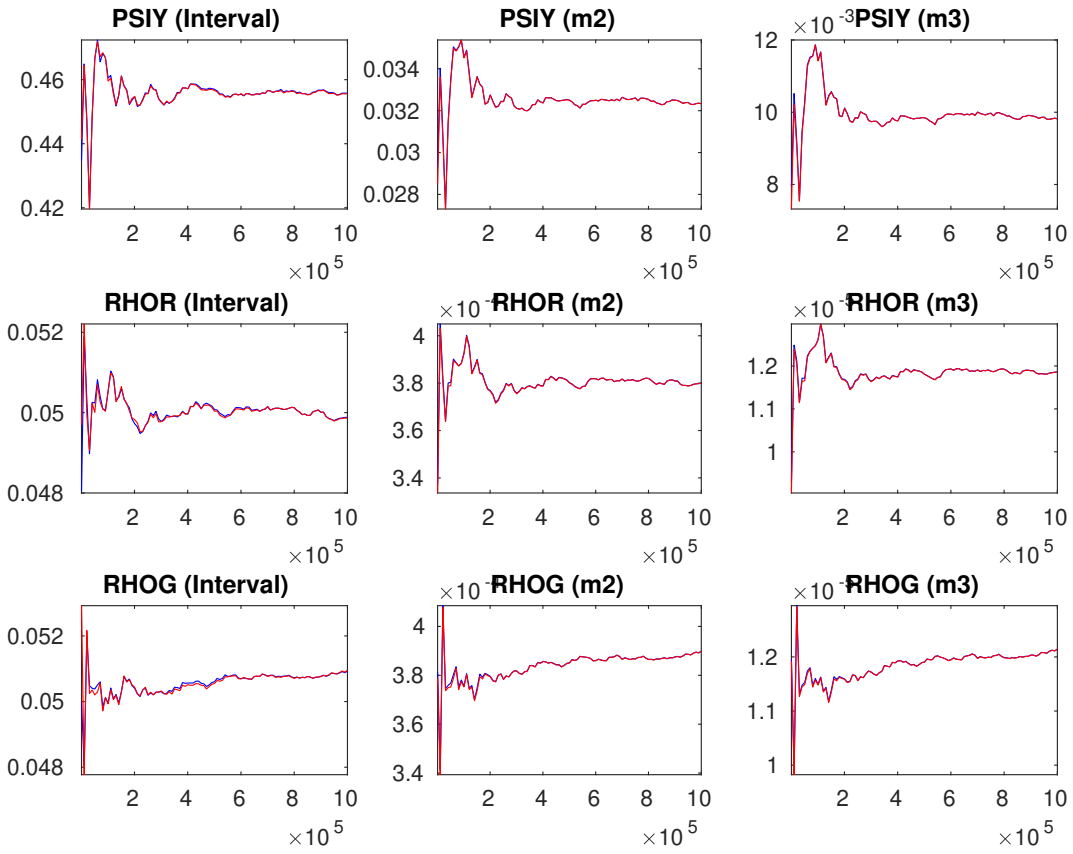

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

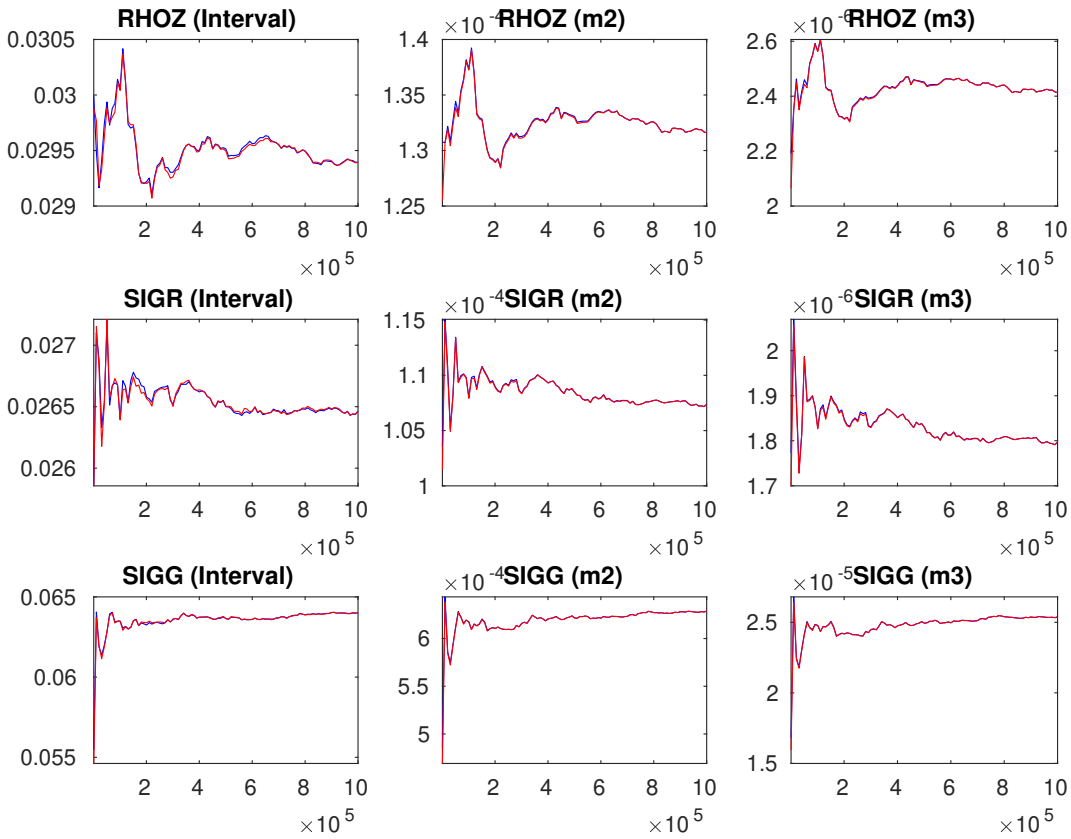

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

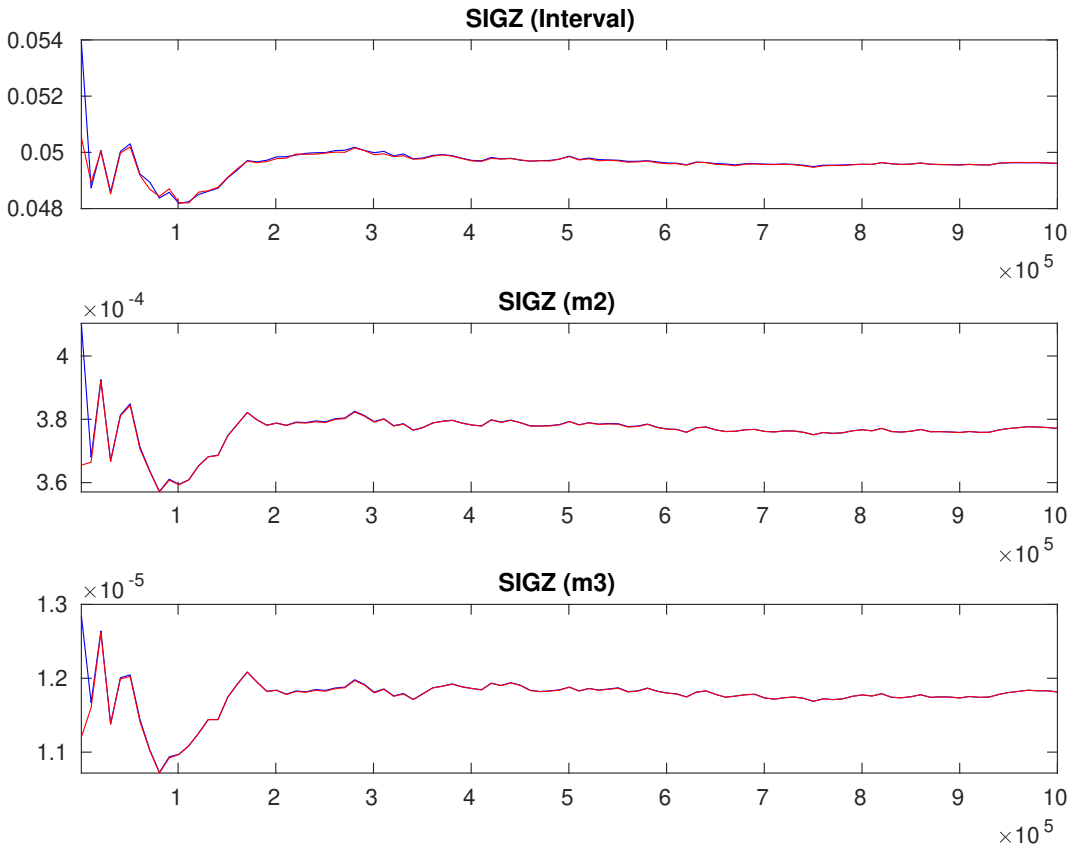

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments.