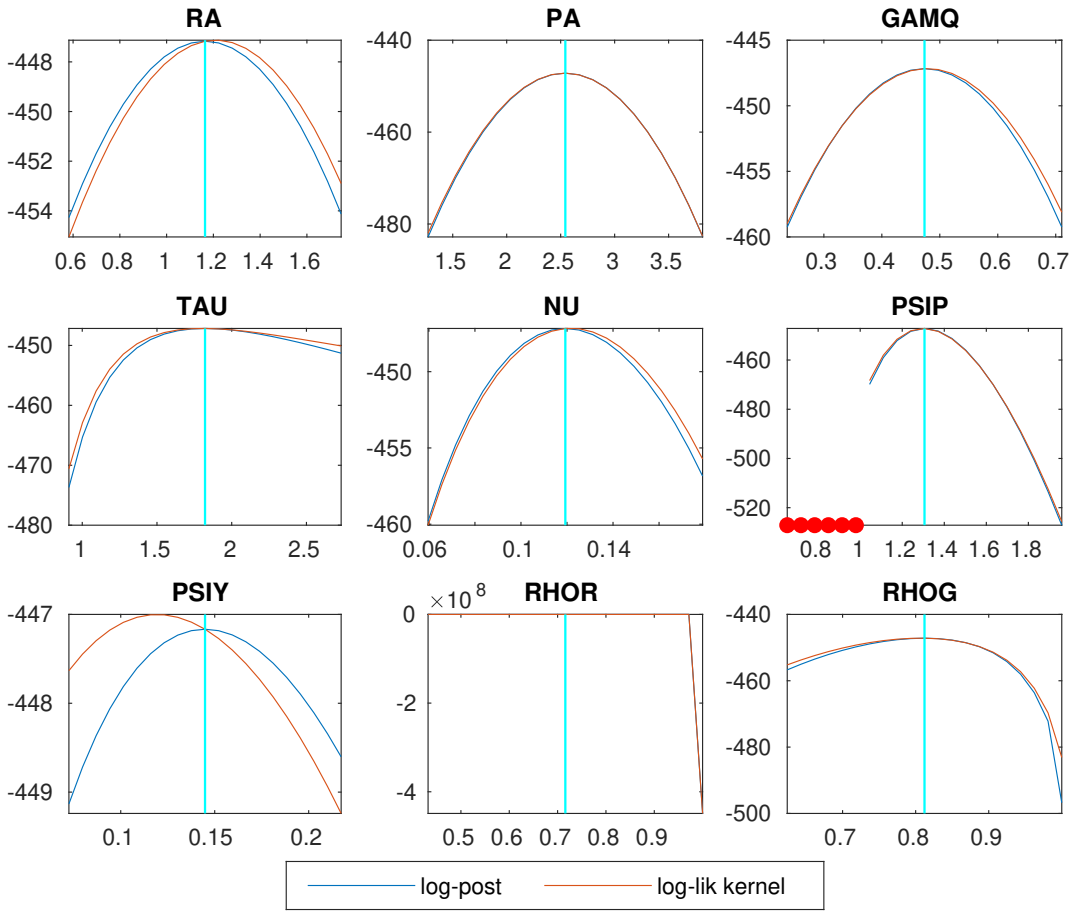

Figure 1: Check plots.

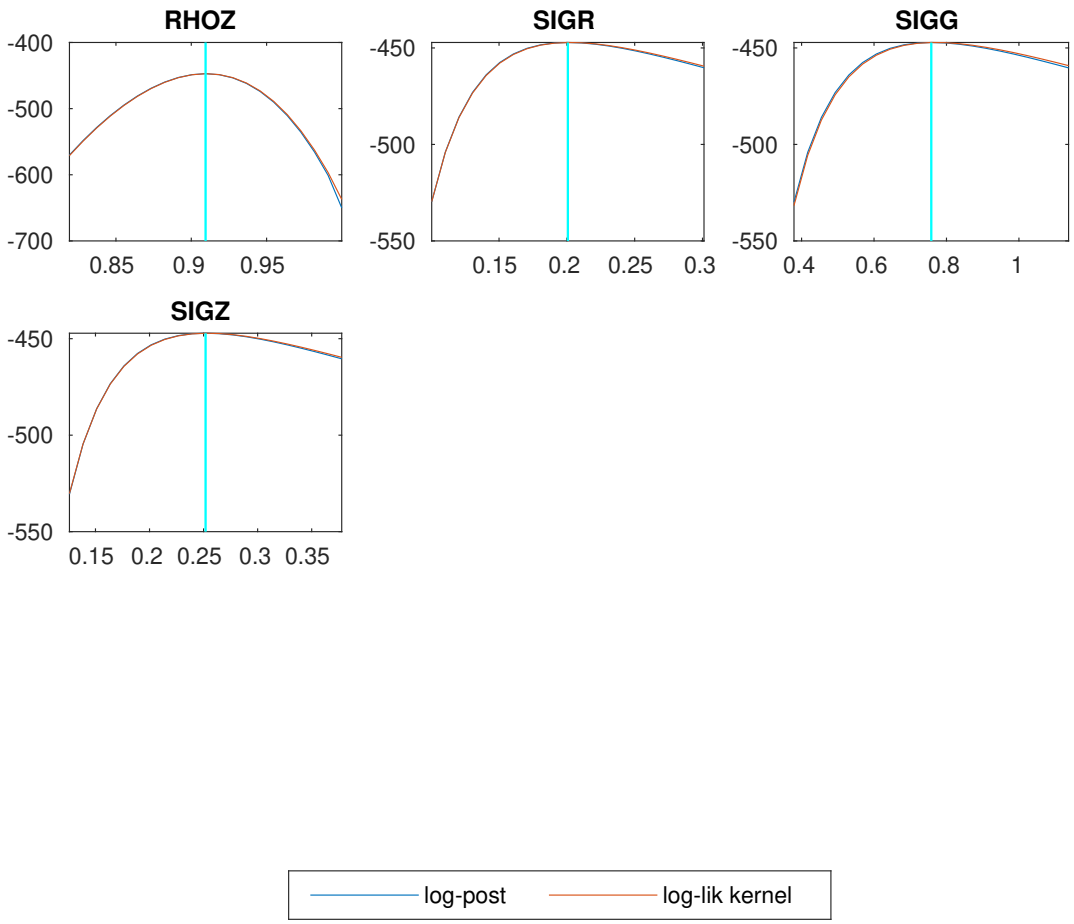

Figure 2: Check plots.

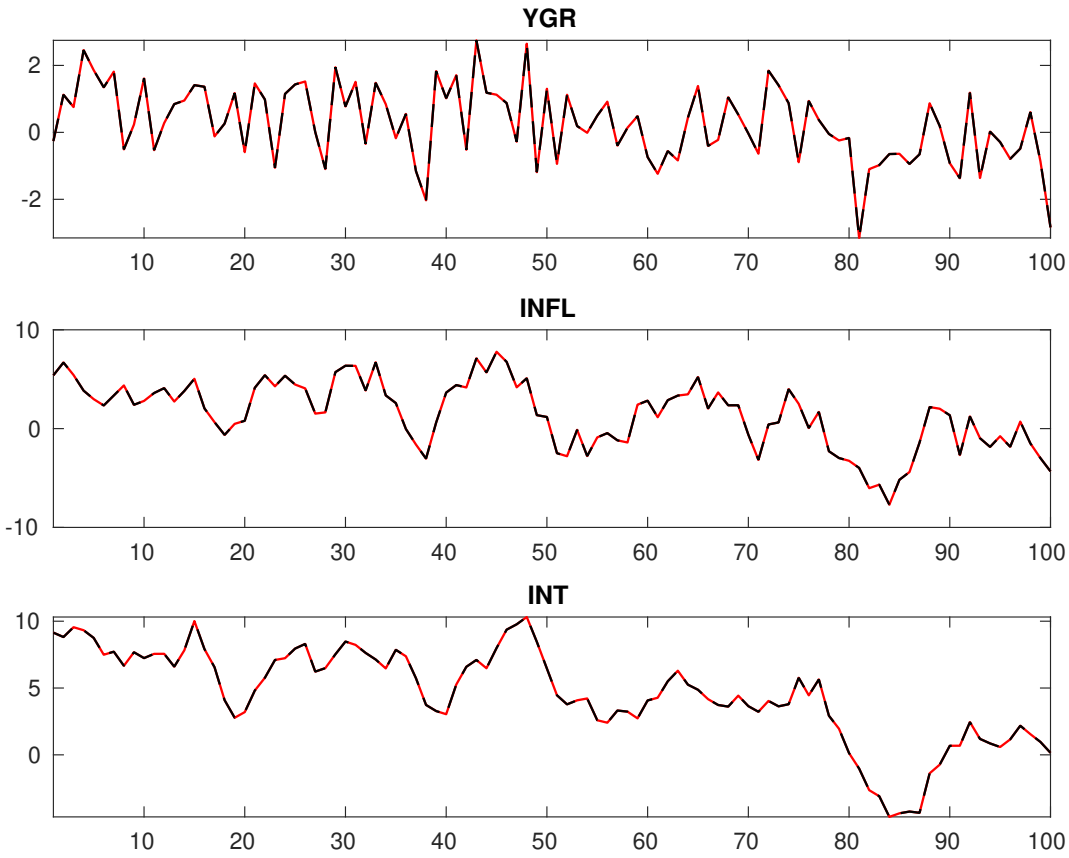

Figure 3: Historical and smoothed variables.

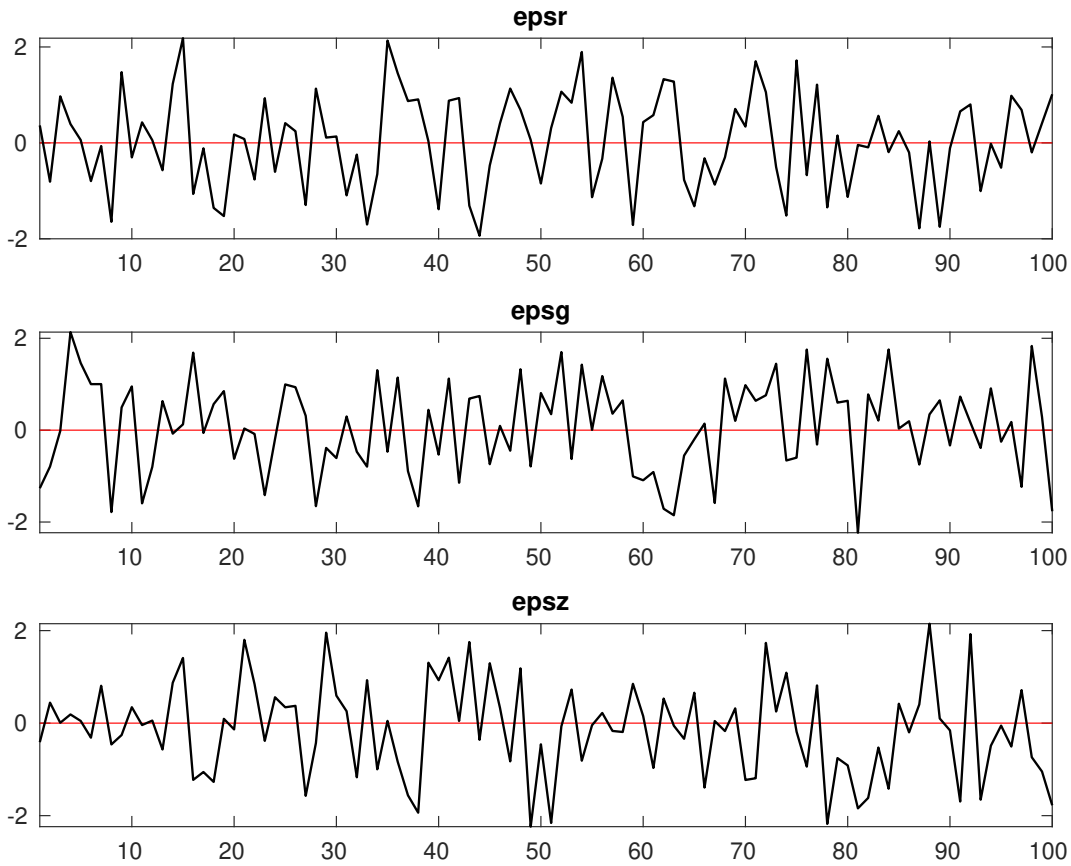

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	49.216	46.384	43.952	47.004
$\pi^{(A)}$	77.017	68.155	61.946	95.243
$\gamma^{(Q)}$	56.729	59.105	58.270	68.721
τ	59.078	57.868	58.174	57.313
ν	72.285	68.484	71.215	80.960
ψ_π	86.781	85.261	77.039	81.111
ψ_y	108.916	105.460	112.627	115.499
ρ_R	74.722	79.495	74.177	80.749
ρ_g	104.309	102.728	93.044	111.188
ρ_z	74.226	65.502	75.291	66.225
σ_R	60.966	55.358	63.607	59.343
σ_g	75.204	79.579	79.517	82.784
σ_z	137.994	127.489	127.359	115.823

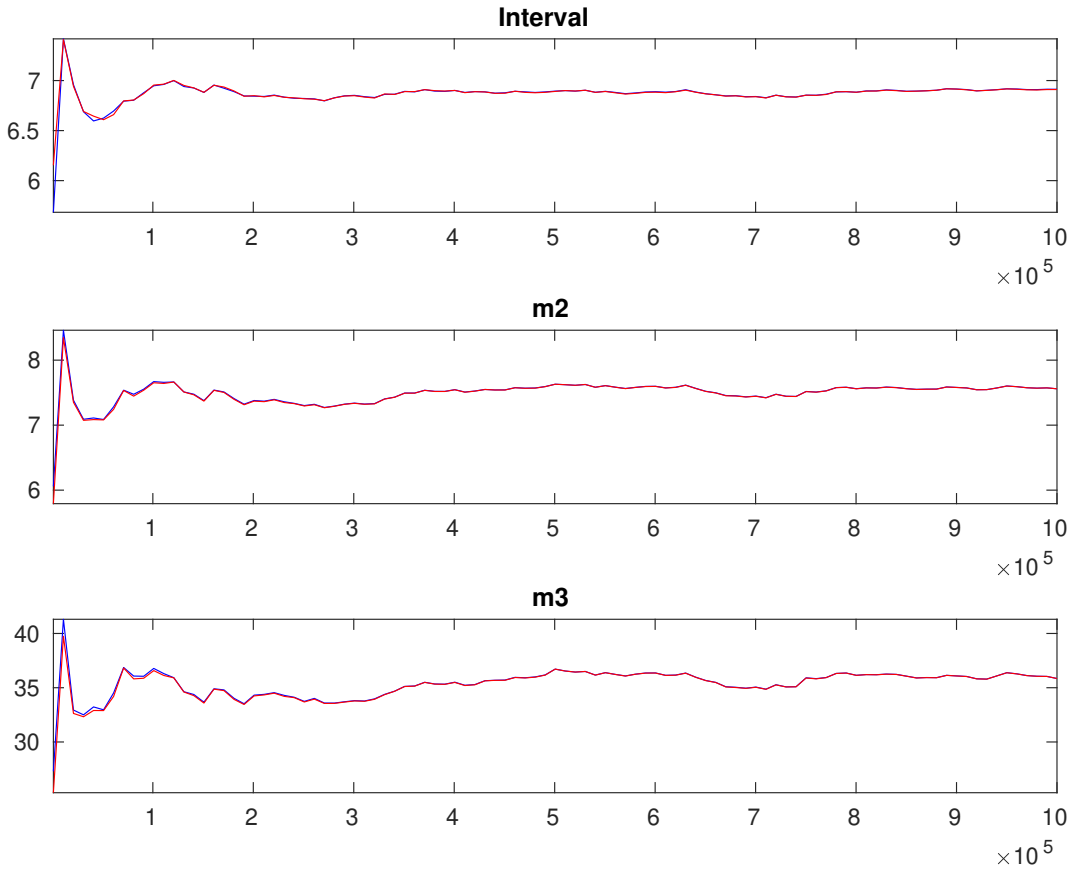

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.153	0.3663	0.5540	1.7629
$\pi^{(A)}$	gamm	4.000	2.0000	2.588	0.6302	1.5554	3.6230
$\gamma^{(Q)}$	norm	0.400	0.2000	0.472	0.1382	0.2425	0.6965
τ	gamm	2.000	0.5000	1.900	0.3777	1.2777	2.4918
ν	beta	0.100	0.0500	0.138	0.0333	0.0827	0.1893
ψ_π	gamm	1.500	0.2500	1.342	0.1201	1.1433	1.5347
ψ_y	gamm	0.500	0.2500	0.187	0.0739	0.0713	0.2984
ρ_R	beta	0.500	0.2000	0.727	0.0295	0.6787	0.7756
ρ_g	beta	0.800	0.1000	0.840	0.0461	0.7657	0.9170
ρ_z	beta	0.660	0.1500	0.912	0.0160	0.8862	0.9385
σ_R	invg	0.300	4.0000	0.209	0.0165	0.1815	0.2349
σ_g	invg	0.400	4.0000	0.761	0.0667	0.6523	0.8696
σ_z	invg	0.400	4.0000	0.272	0.0333	0.2190	0.3234

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.1643	0.3783
$\pi^{(A)}$	gamm	4.000	2.0000	2.5432	0.6198
$\gamma^{(Q)}$	norm	0.400	0.2000	0.4736	0.1358
τ	gamm	2.000	0.5000	1.8215	0.3732
ν	beta	0.100	0.0500	0.1193	0.0299
ψ_π	gamm	1.500	0.2500	1.3059	0.1052
ψ_y	gamm	0.500	0.2500	0.1448	0.0592
ρ_R	beta	0.500	0.2000	0.7160	0.0276
ρ_g	beta	0.800	0.1000	0.8121	0.0510
ρ_z	beta	0.660	0.1500	0.9095	0.0151
σ_R	invg	0.300	4.0000	0.2007	0.0151
σ_g	invg	0.400	4.0000	0.7580	0.0585
σ_z	invg	0.400	4.0000	0.2518	0.0255

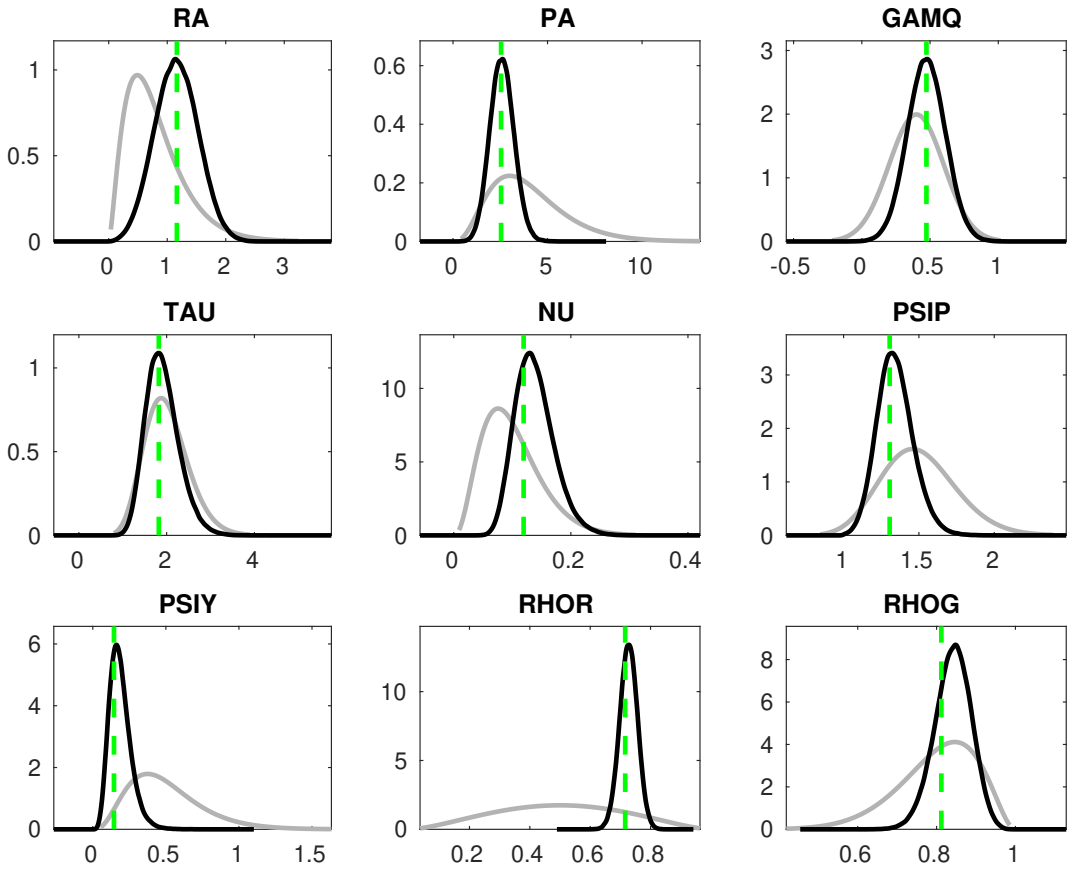

Figure 6: Priors and posteriors.

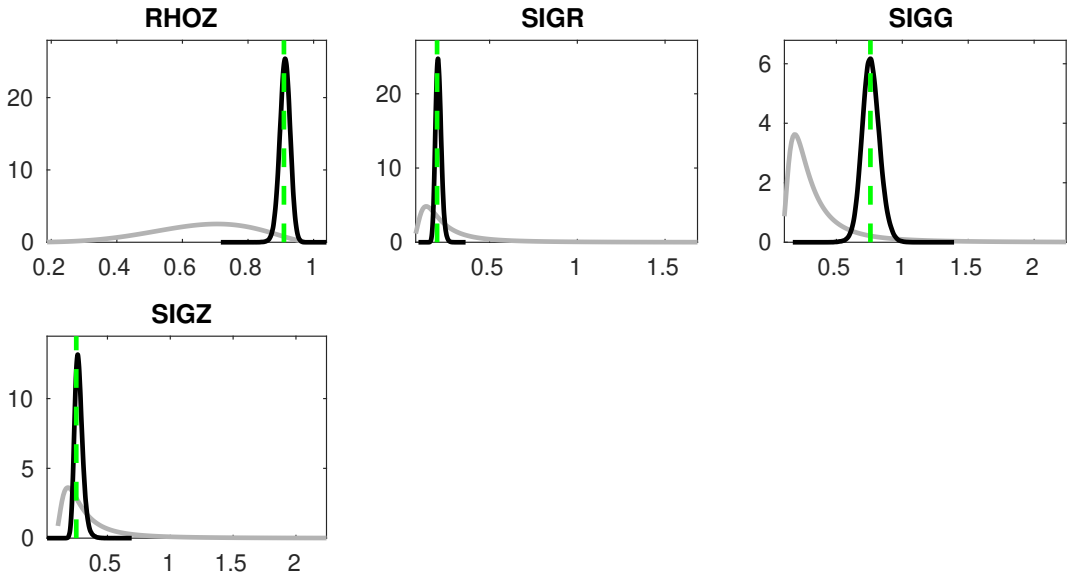

Figure 7: Priors and posteriors.

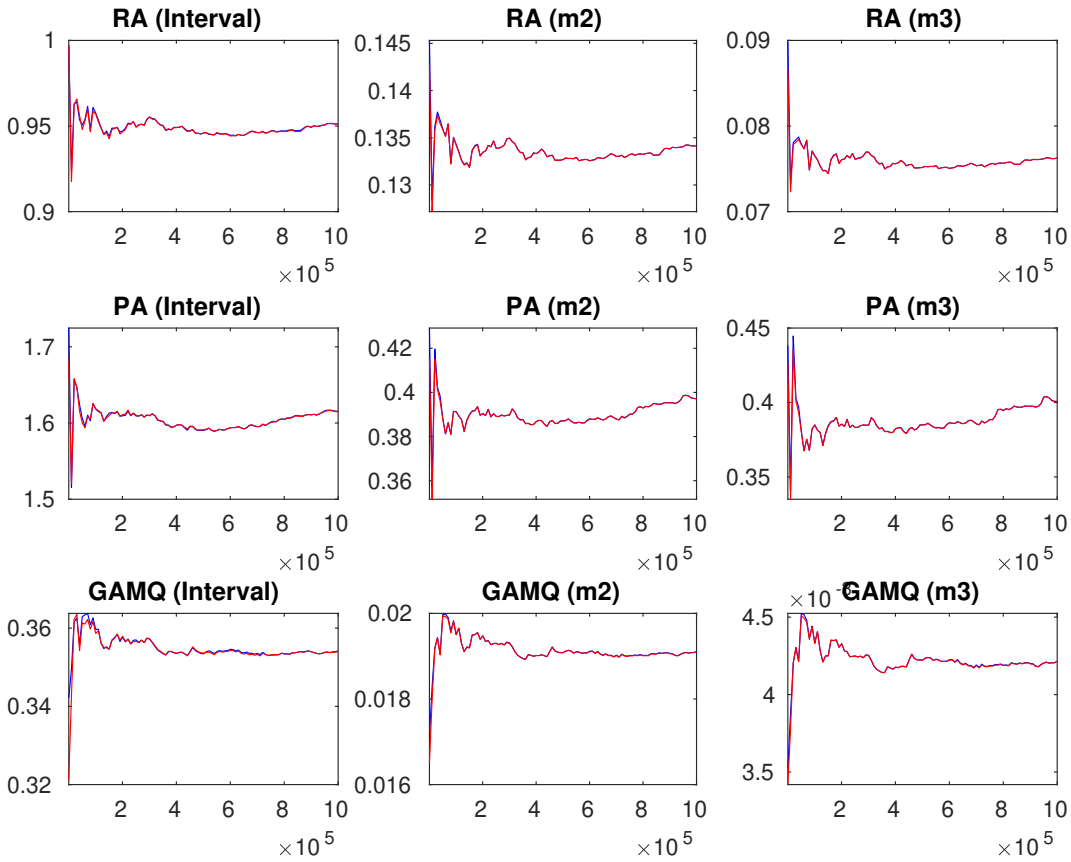

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

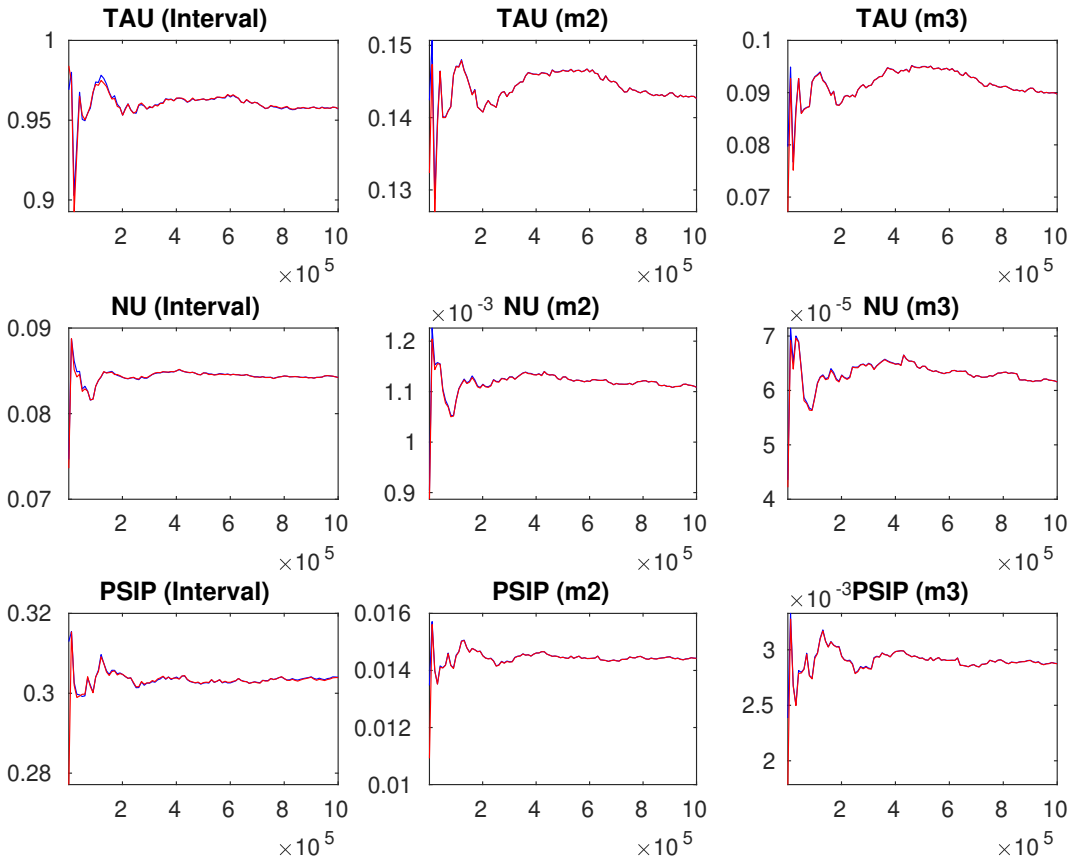

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

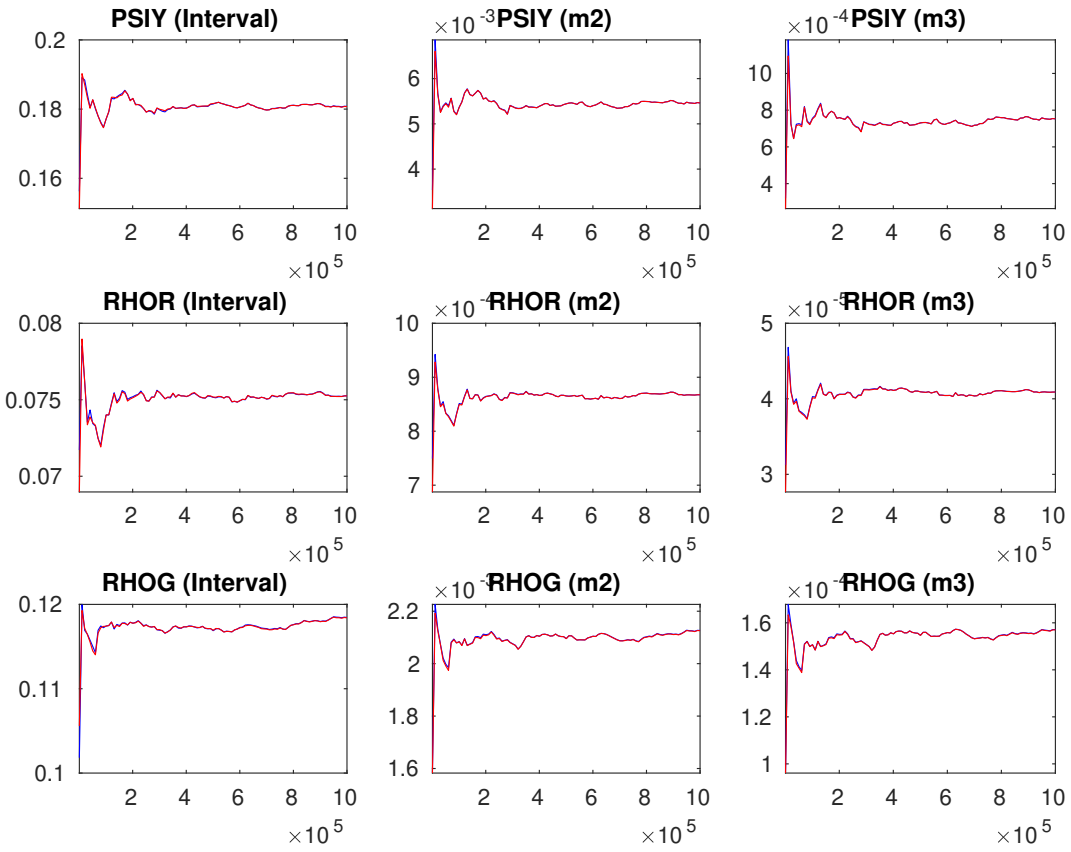

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

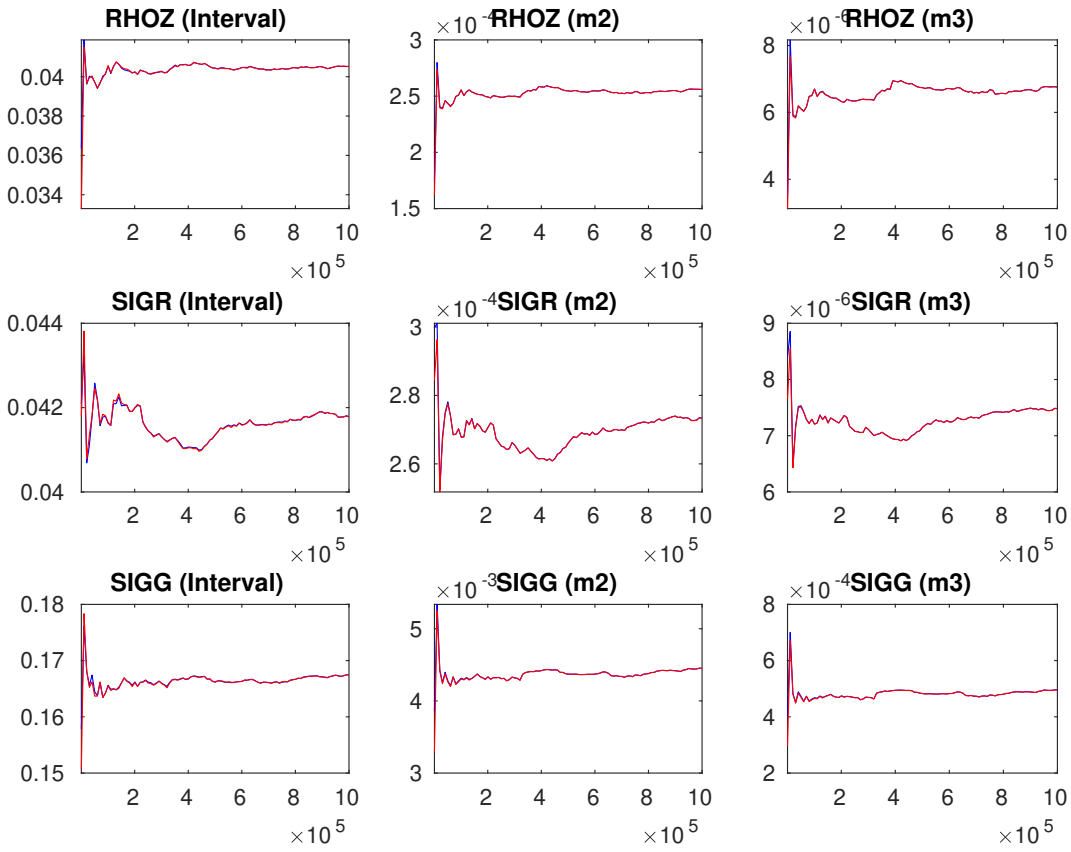

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

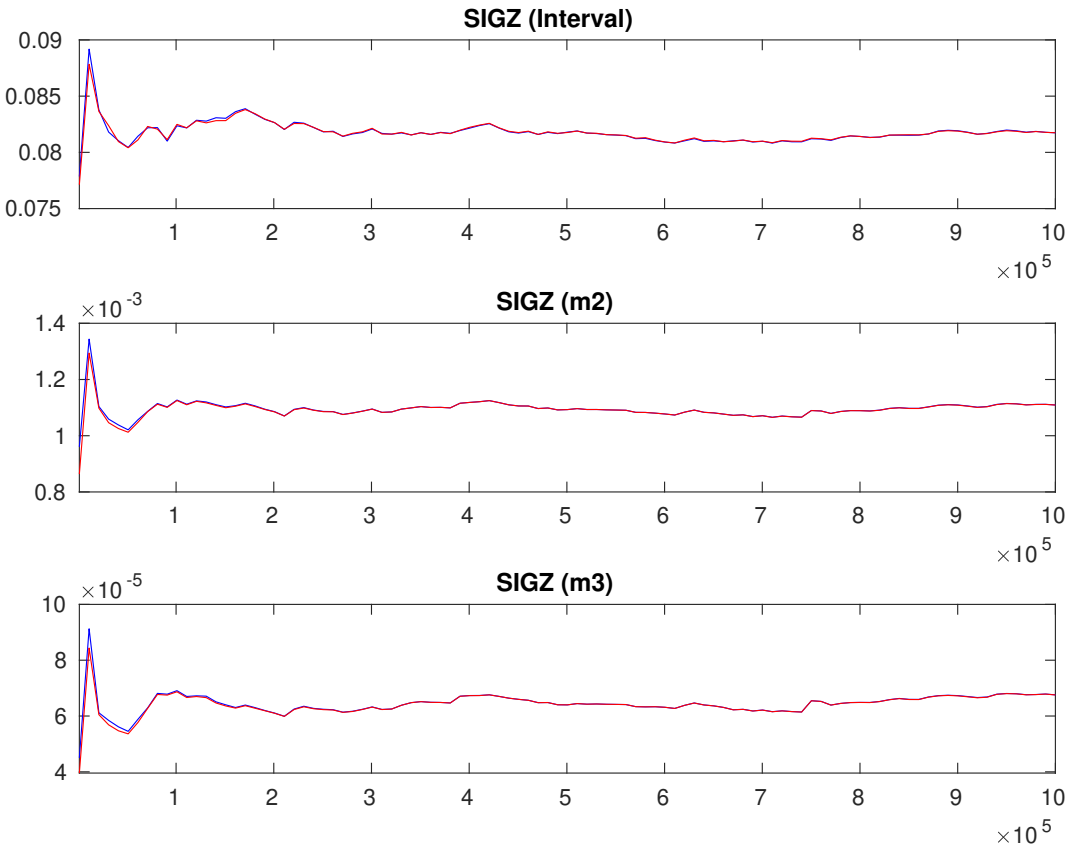

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments.