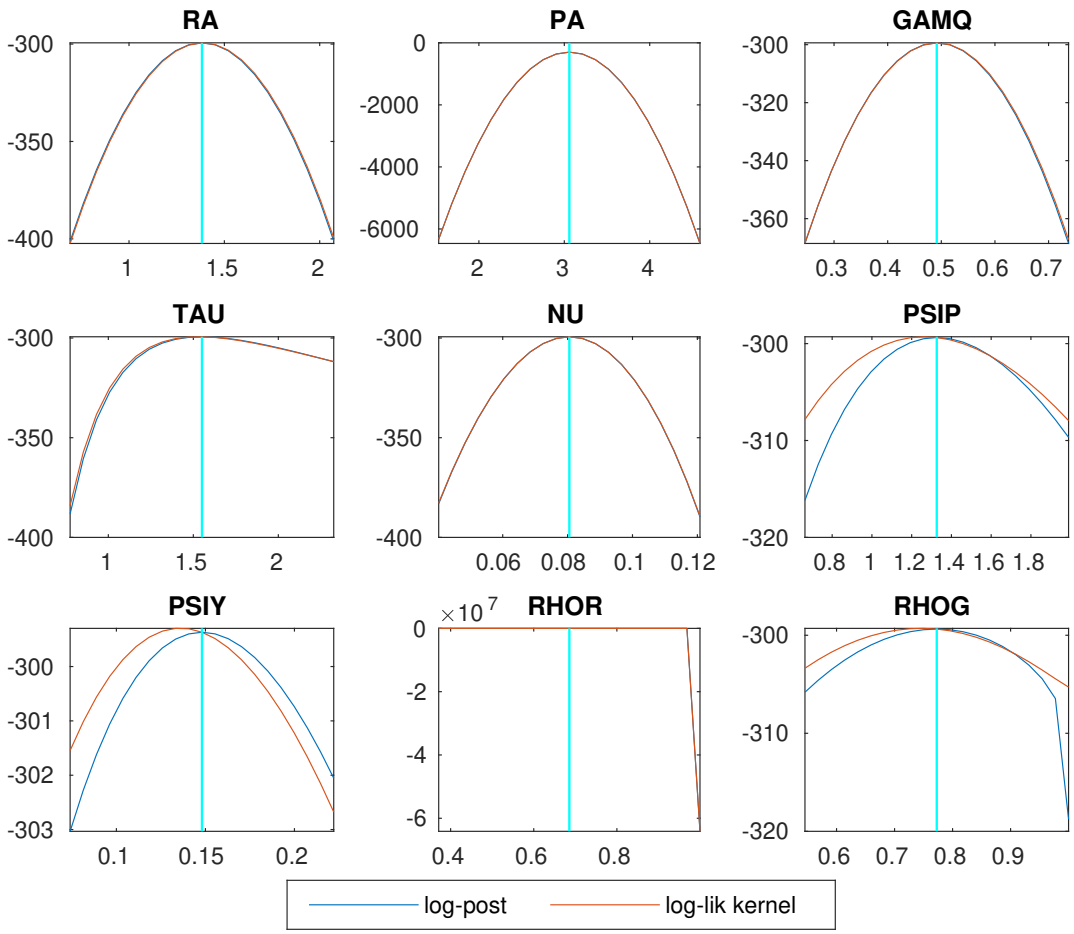

Figure 1: Check plots.

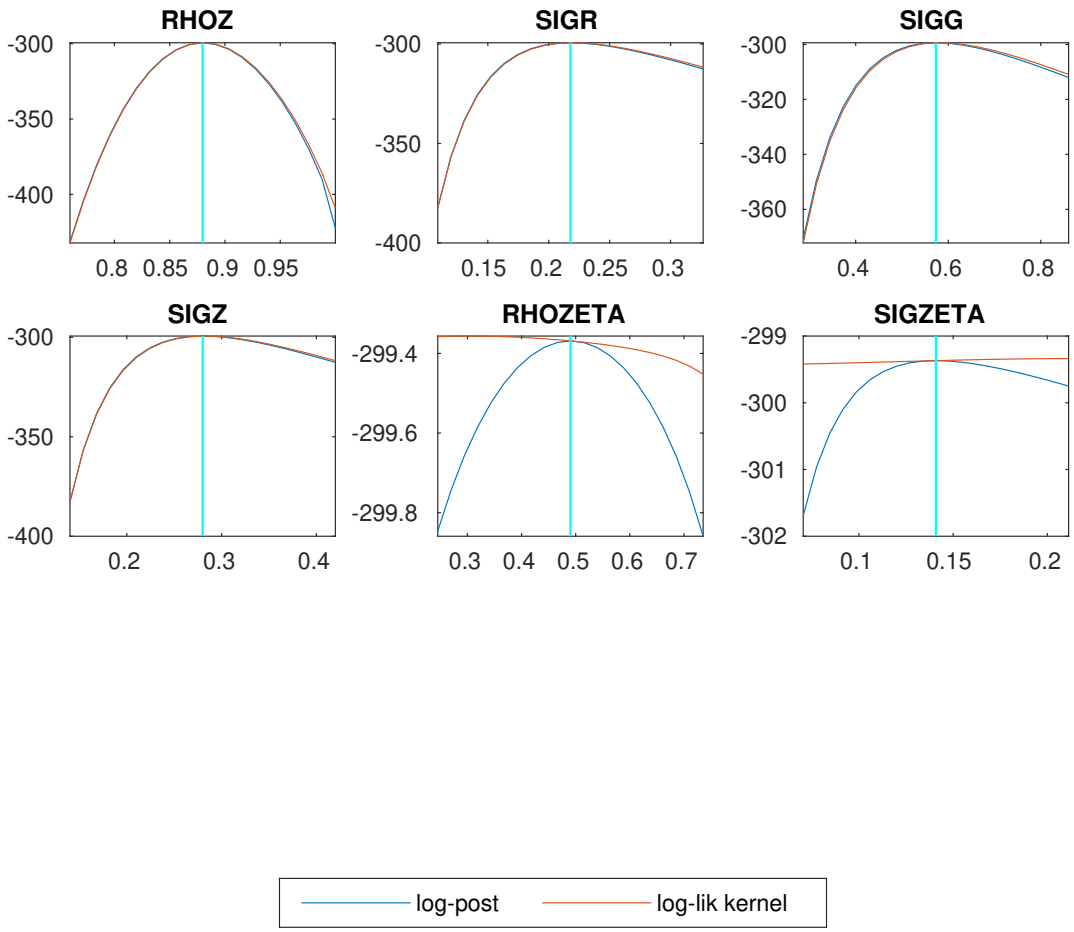

Figure 2: Check plots.

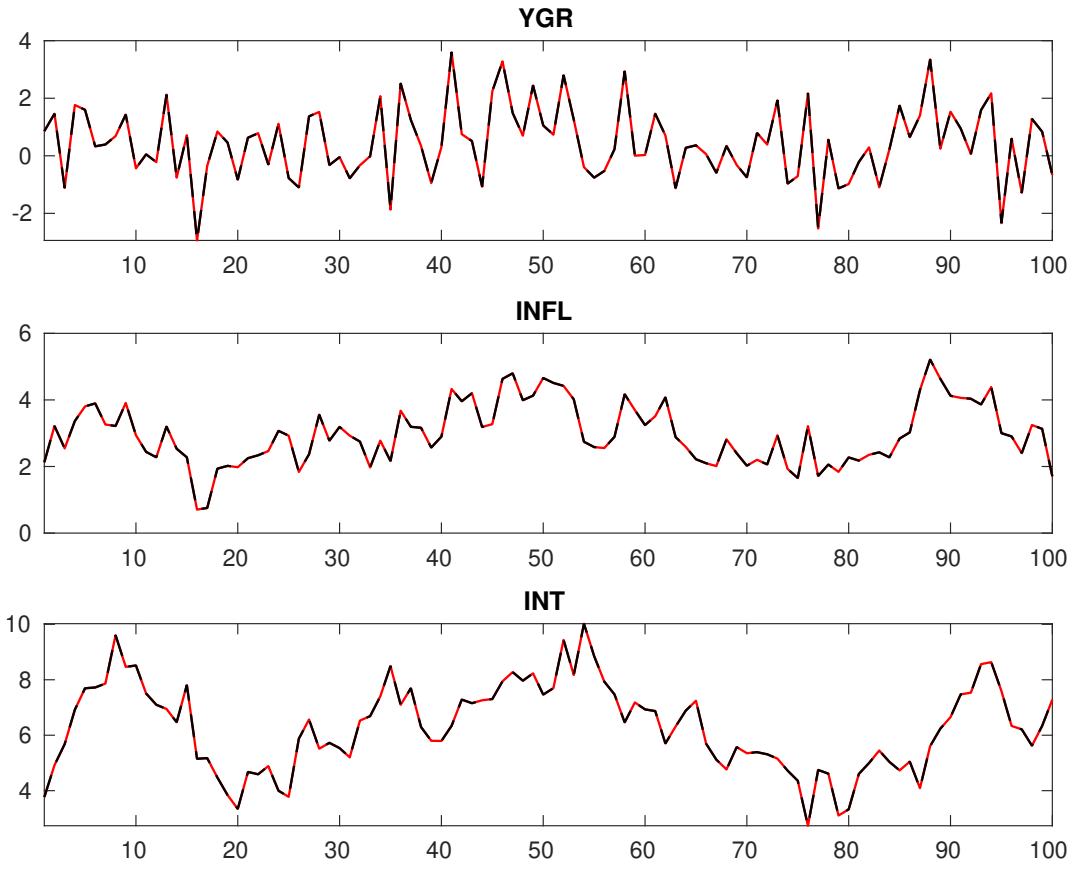

Figure 3: Historical and smoothed variables.

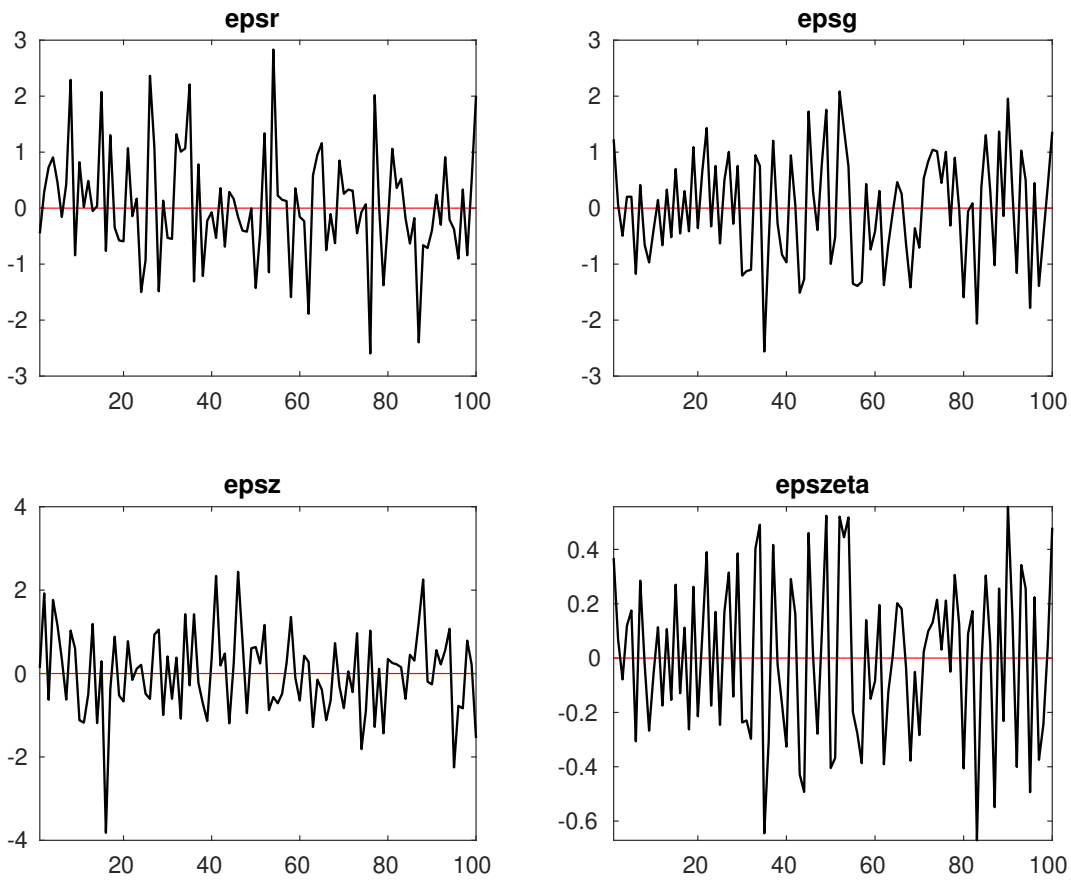

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	107.865	101.433	104.107	111.009
$\pi^{(A)}$	106.343	105.387	105.961	110.596
$\gamma^{(Q)}$	105.612	106.690	109.244	109.654
τ	99.030	101.404	103.201	98.916
ν	103.472	103.752	105.802	104.413
ψ_π	84.314	86.835	94.390	86.358
ψ_y	100.049	91.159	90.182	101.825
ρ_R	103.819	95.317	105.975	105.700
ρ_g	111.568	111.981	111.286	111.420
ρ_z	102.678	102.193	99.898	97.141
σ_R	100.733	96.859	99.056	94.389
σ_g	138.358	145.963	135.809	125.319
σ_z	101.860	105.036	96.878	97.848
ρ_ζ	102.683	104.851	104.385	104.215
σ_ζ	139.701	129.138	129.361	131.945

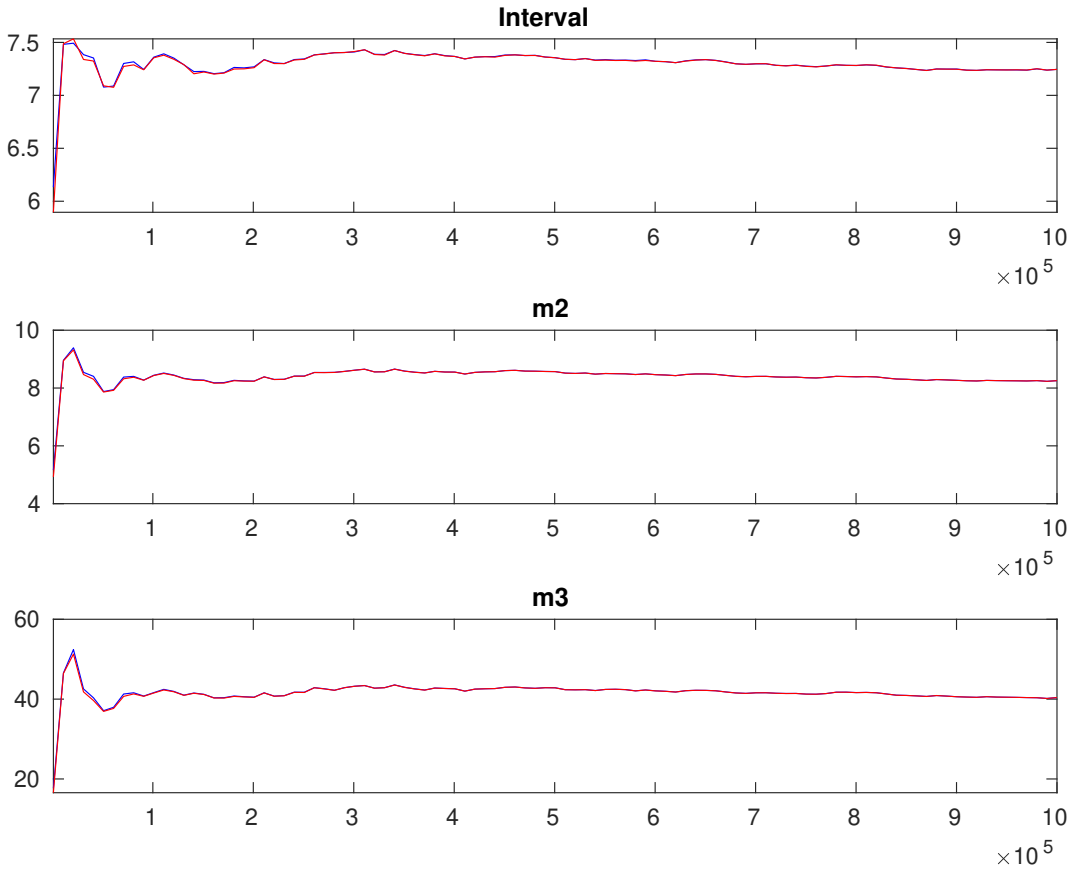

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.398	0.3979	0.7455	2.0579
$\pi^{(A)}$	gamm	4.000	2.0000	3.051	0.1932	2.7333	3.3689
$\gamma^{(Q)}$	norm	0.400	0.2000	0.487	0.1443	0.2496	0.7242
τ	gamm	2.000	0.5000	1.675	0.3396	1.1186	2.2105
ν	beta	0.100	0.0500	0.085	0.0128	0.0636	0.1050
ψ_π	gamm	1.500	0.2500	1.358	0.2126	1.0072	1.7019
ψ_y	gamm	0.500	0.2500	0.174	0.0703	0.0619	0.2814
ρ_R	beta	0.500	0.2000	0.700	0.0498	0.6197	0.7825
ρ_g	beta	0.800	0.1000	0.807	0.0663	0.6999	0.9171
ρ_z	beta	0.660	0.1500	0.888	0.0220	0.8525	0.9247
σ_R	invg	0.300	4.0000	0.224	0.0176	0.1949	0.2521
σ_g	invg	0.400	4.0000	0.563	0.0756	0.4628	0.6784
σ_z	invg	0.400	4.0000	0.288	0.0304	0.2390	0.3380
ρ_ζ	beta	0.500	0.2000	0.491	0.1904	0.1744	0.7984
σ_ζ	invg	0.300	4.0000	0.266	0.1718	0.0706	0.5006

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.3824	0.3911
$\pi^{(A)}$	gamm	4.000	2.0000	3.0590	0.1991
$\gamma^{(Q)}$	norm	0.400	0.2000	0.4915	0.1480
τ	gamm	2.000	0.5000	1.5506	0.3551
ν	beta	0.100	0.0500	0.0805	0.0127
ψ_π	gamm	1.500	0.2500	1.3263	0.2241
ψ_y	gamm	0.500	0.2500	0.1480	0.0764
ρ_R	beta	0.500	0.2000	0.6856	0.0492
ρ_g	beta	0.800	0.1000	0.7727	0.0635
ρ_z	beta	0.660	0.1500	0.8798	0.0224
σ_R	invg	0.300	4.0000	0.2178	0.0169
σ_g	invg	0.400	4.0000	0.5733	0.0913
σ_z	invg	0.400	4.0000	0.2800	0.0305
ρ_ζ	beta	0.500	0.2000	0.4903	0.1857
σ_ζ	invg	0.300	4.0000	0.1409	0.2015

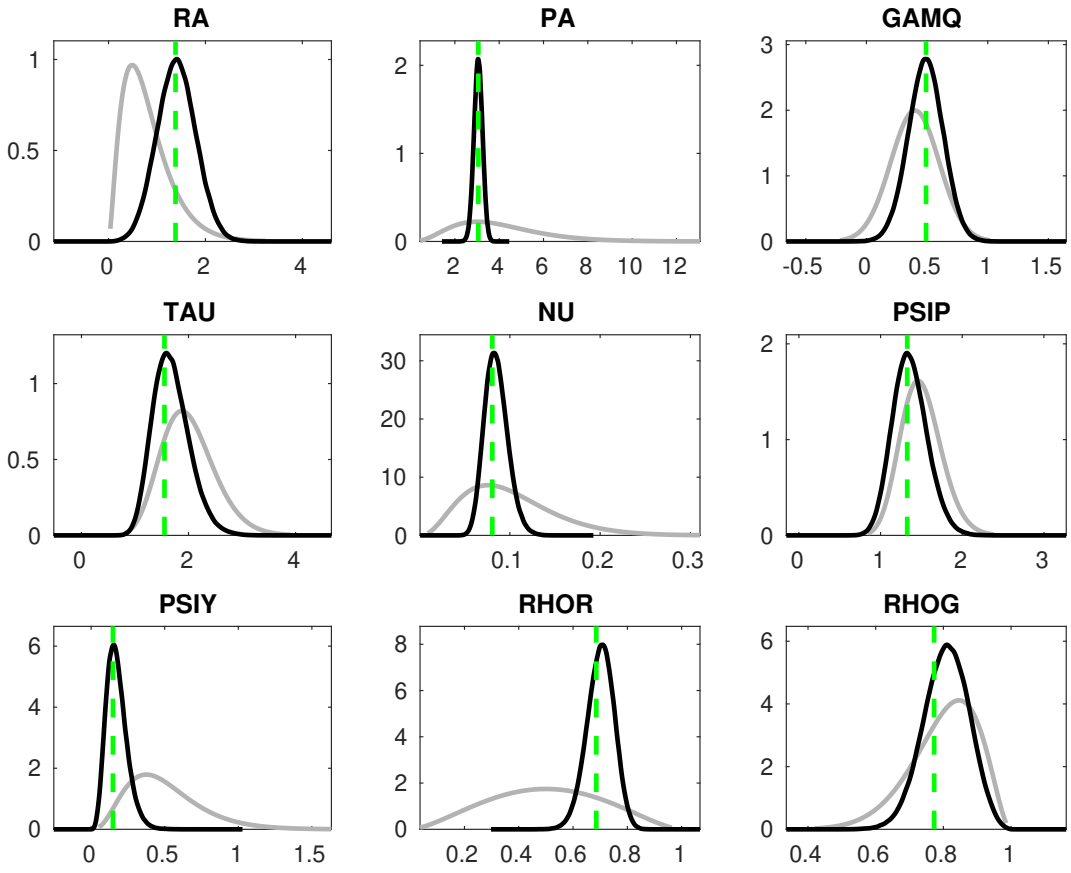

Figure 6: Priors and posteriors.

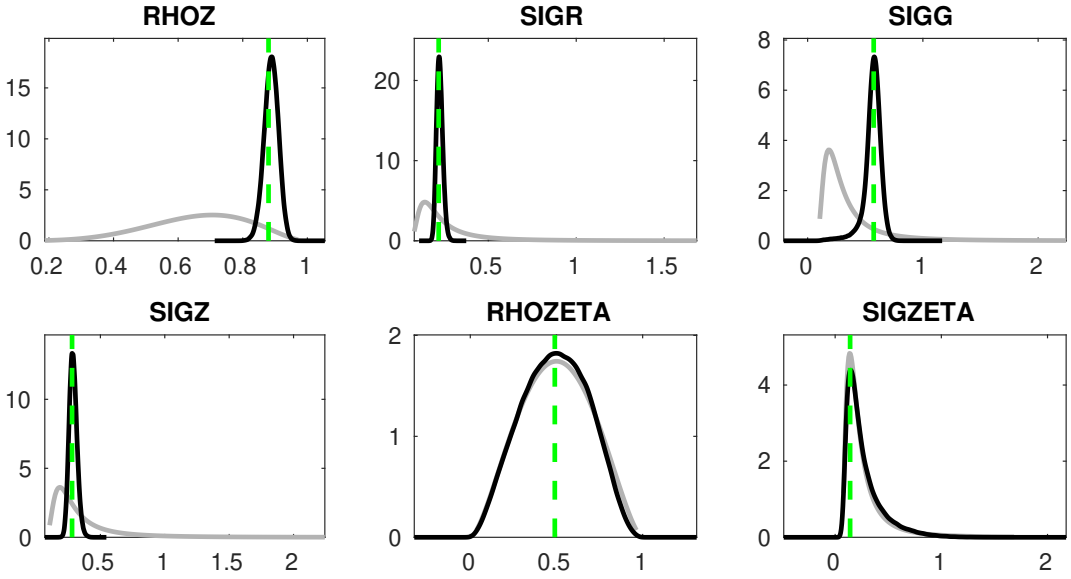

Figure 7: Priors and posteriors.

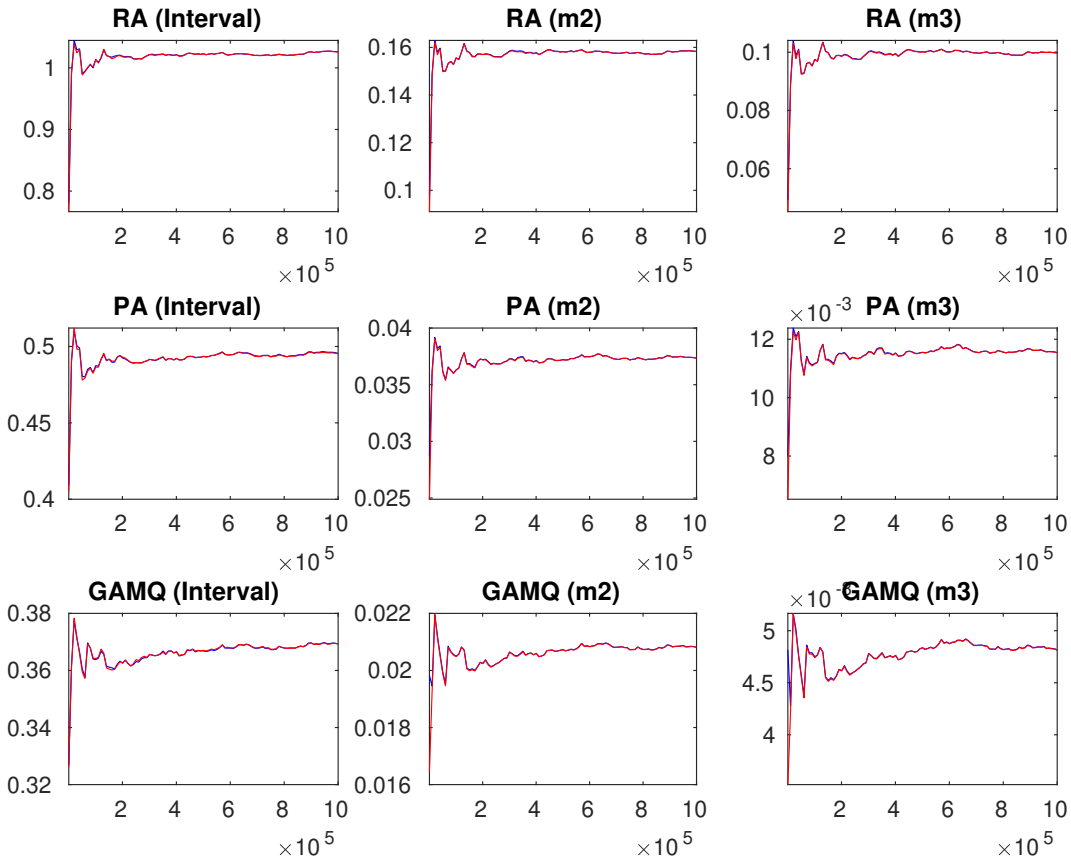

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

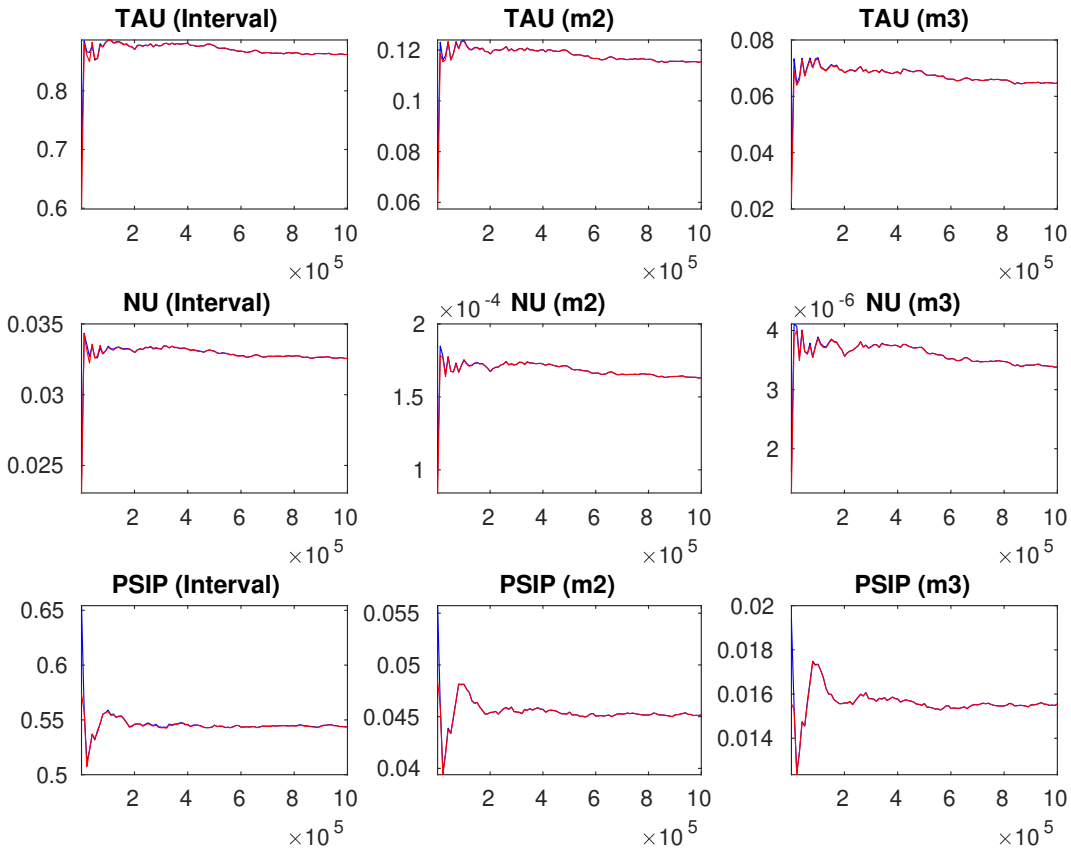

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

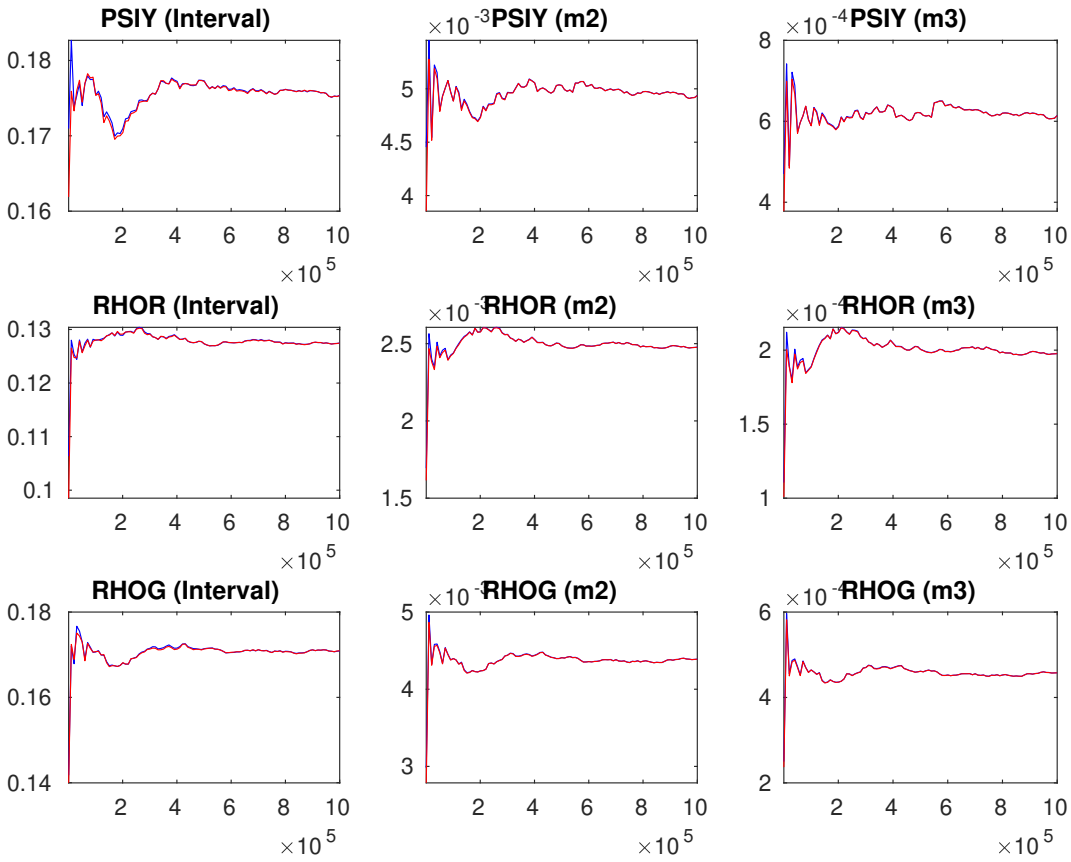

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

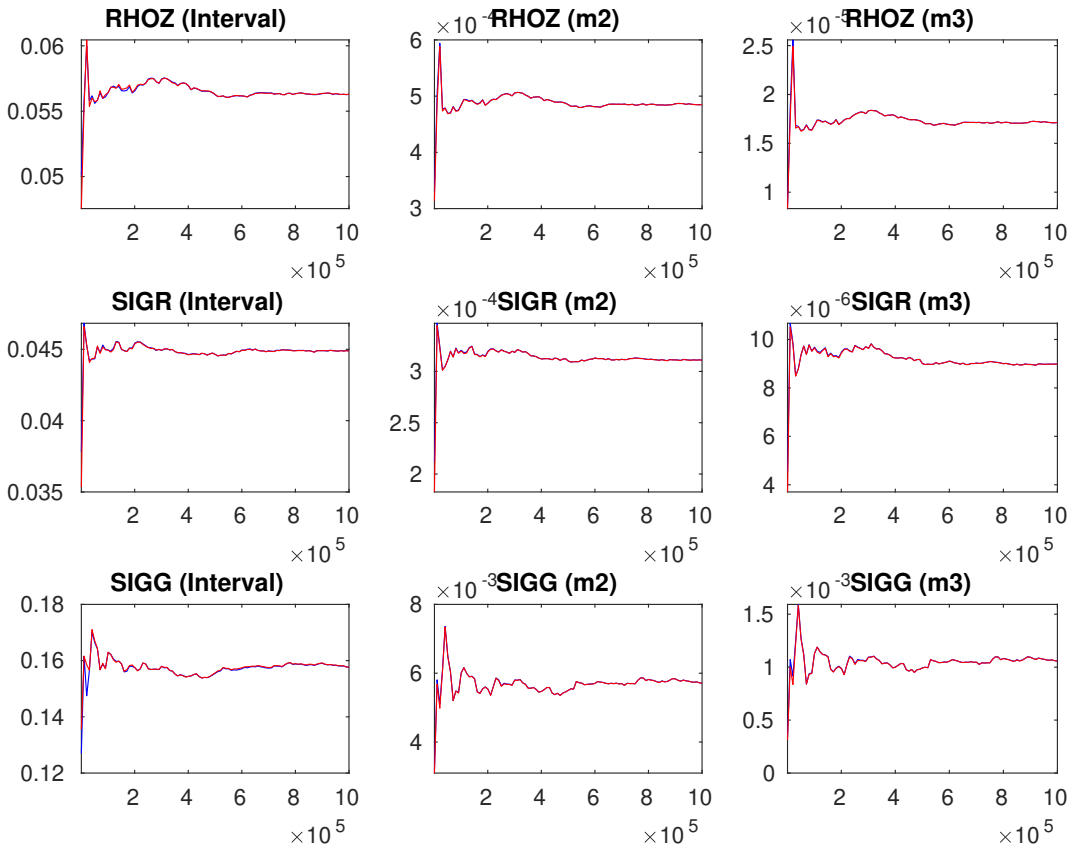

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

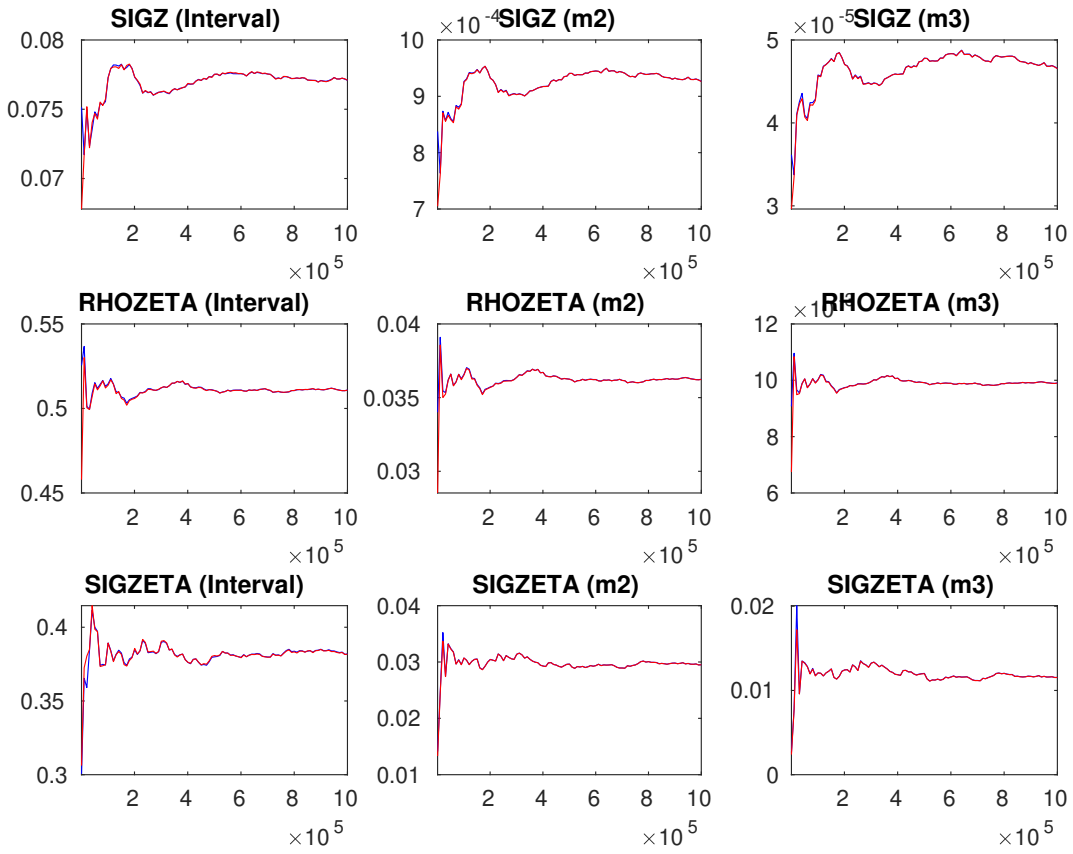

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.