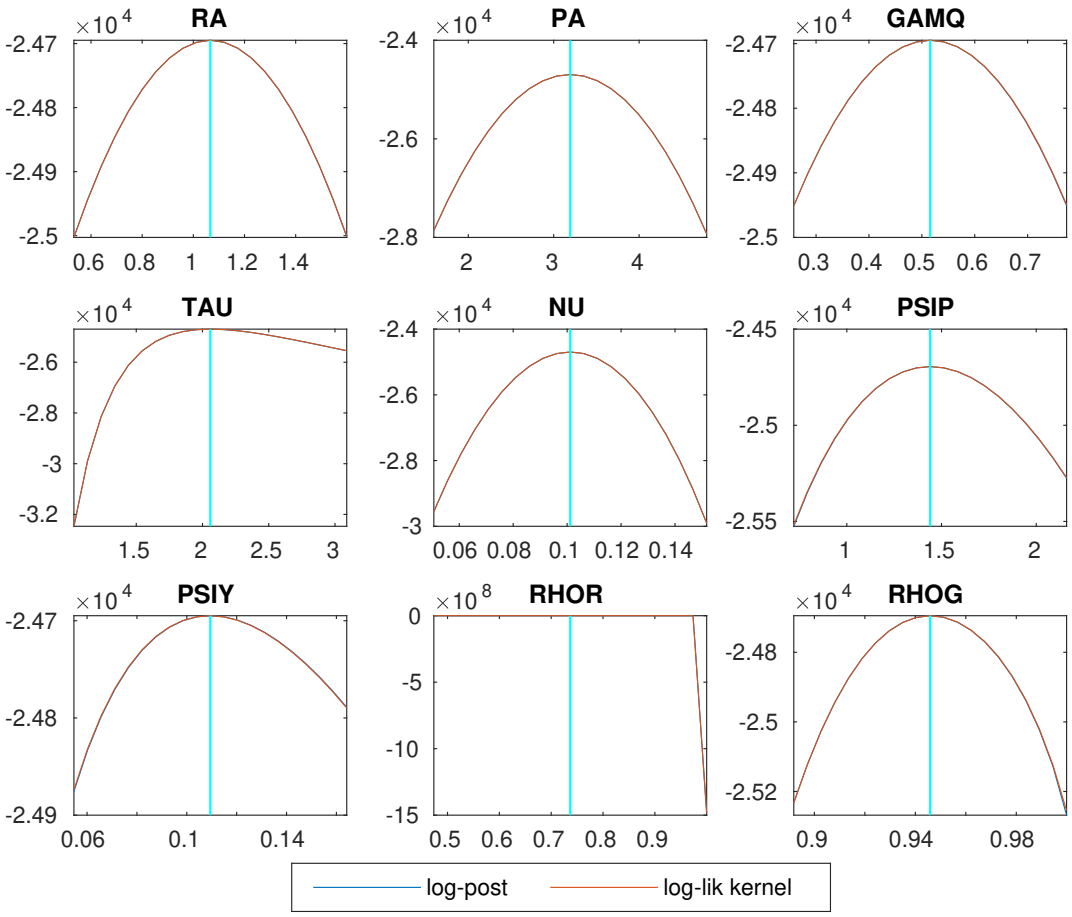

Figure 1: Check plots.

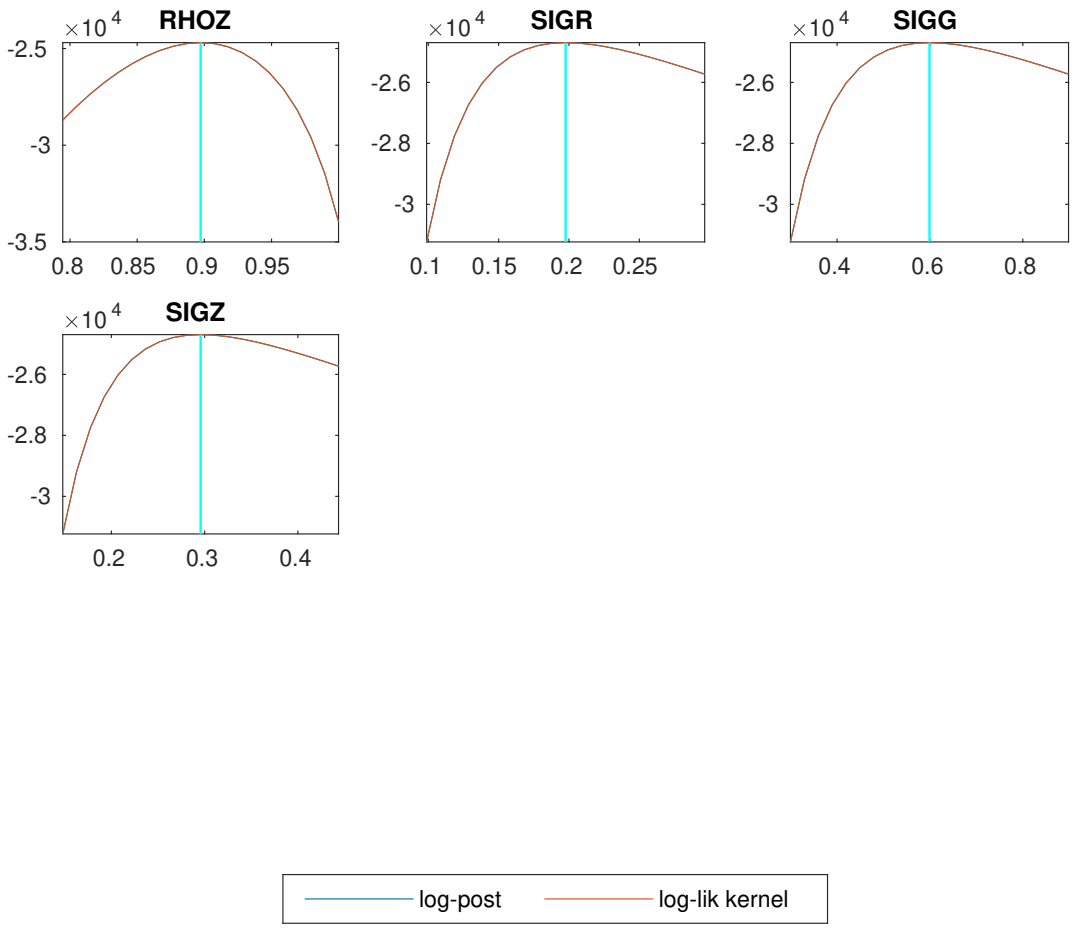

Figure 2: Check plots.

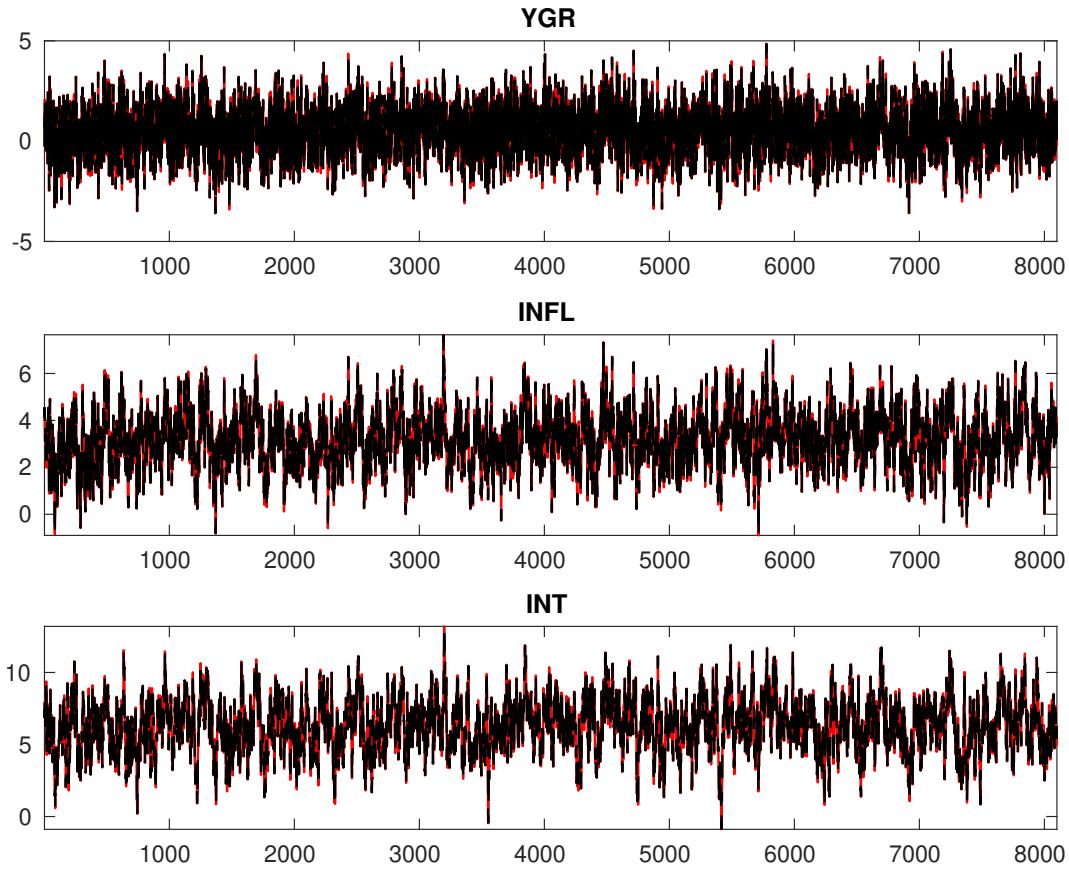

Figure 3: Historical and smoothed variables.

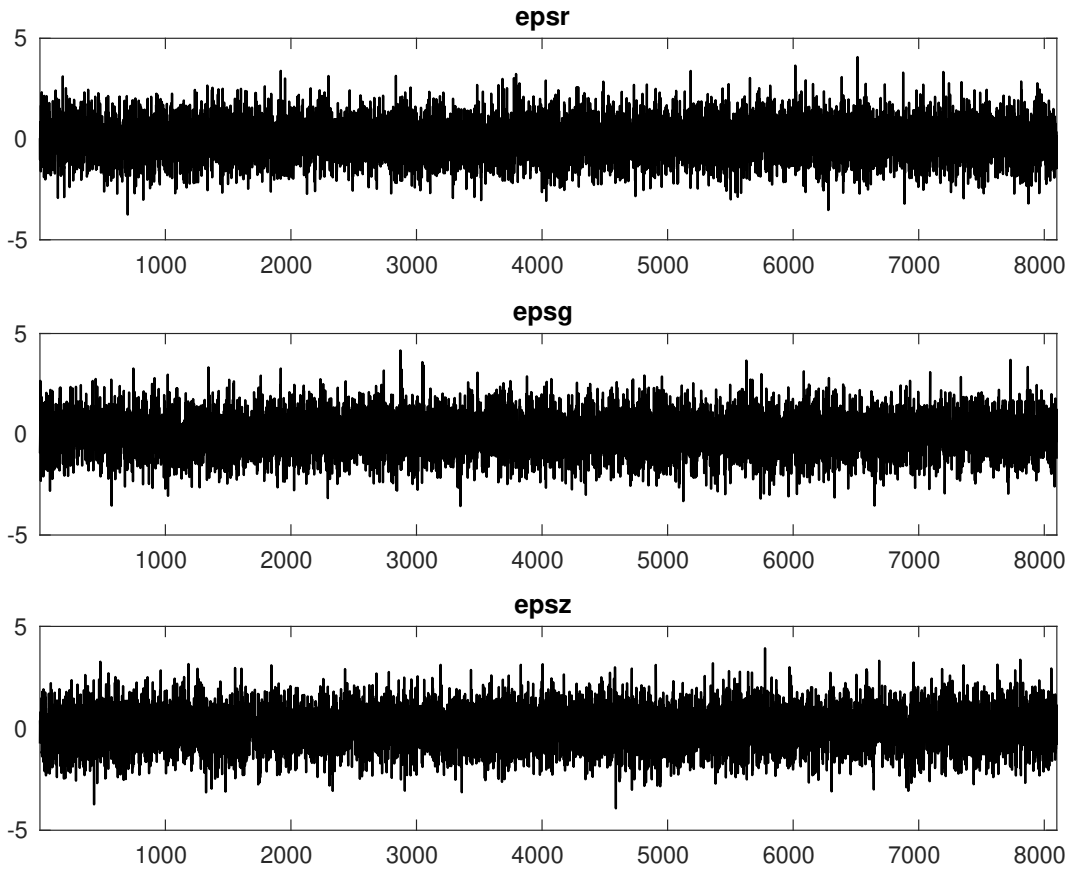

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	47.841	44.549	41.756	43.780
$\pi^{(A)}$	46.839	43.433	41.712	45.447
$\gamma^{(Q)}$	47.143	44.244	42.462	42.602
τ	44.578	45.812	46.060	42.917
ν	44.443	44.571	47.055	41.815
ψ_π	42.964	40.316	43.332	45.049
ψ_y	42.706	42.925	41.954	45.823
ρ_R	45.665	45.312	41.106	44.694
ρ_g	40.228	42.098	41.279	46.847
ρ_z	44.107	46.152	43.618	42.836
σ_R	44.689	43.547	43.477	42.638
σ_g	40.751	44.020	43.938	42.177
σ_z	40.405	45.020	42.124	42.905

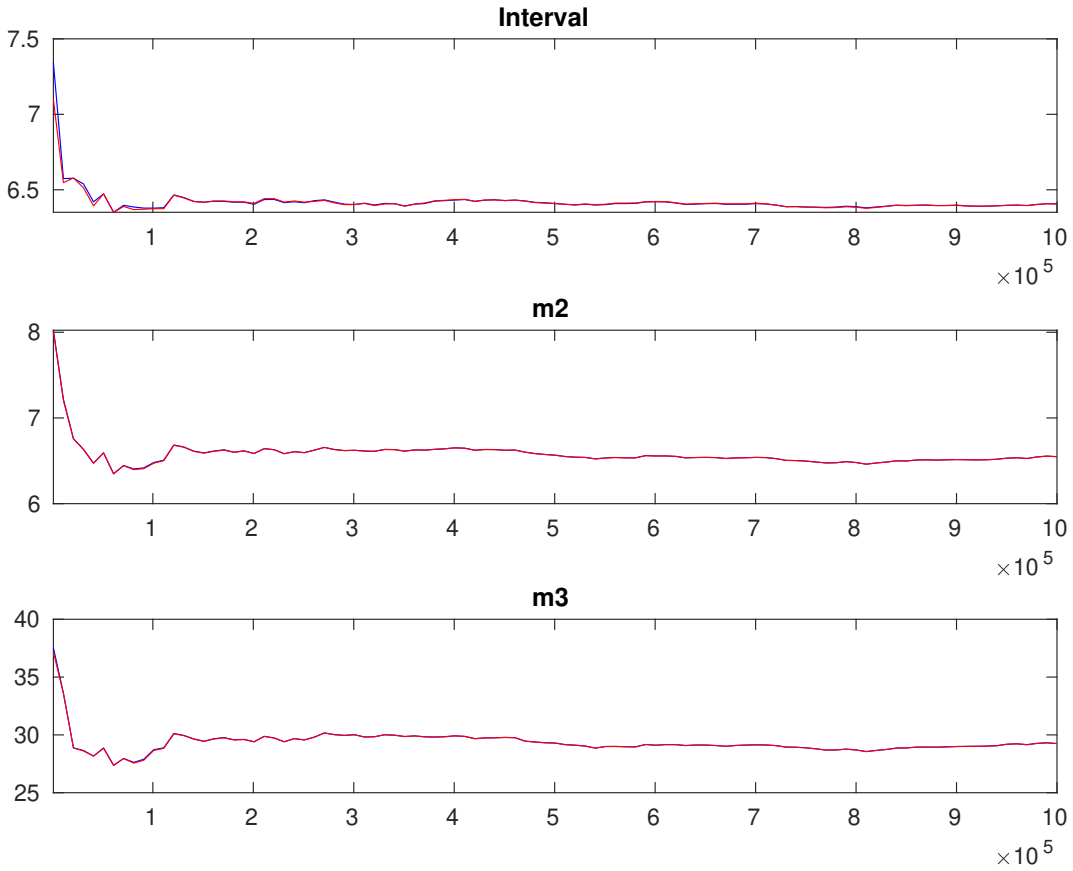

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.067	0.0900	0.9195	1.2154
$\pi^{(A)}$	gamm	4.000	2.0000	3.194	0.0533	3.1063	3.2817
$\gamma^{(Q)}$	norm	0.400	0.2000	0.516	0.0314	0.4643	0.5678
τ	gamm	2.000	0.5000	2.068	0.0761	1.9441	2.1940
ν	beta	0.100	0.0500	0.102	0.0027	0.0971	0.1059
ψ_π	gamm	1.500	0.2500	1.440	0.0463	1.3643	1.5167
ψ_y	gamm	0.500	0.2500	0.110	0.0083	0.0965	0.1238
ρ_R	beta	0.500	0.2000	0.737	0.0056	0.7281	0.7465
ρ_g	beta	0.800	0.1000	0.946	0.0031	0.9411	0.9512
ρ_z	beta	0.660	0.1500	0.897	0.0028	0.8929	0.9020
σ_R	invg	0.300	4.0000	0.198	0.0017	0.1949	0.2004
σ_g	invg	0.400	4.0000	0.599	0.0052	0.5906	0.6075
σ_z	invg	0.400	4.0000	0.296	0.0045	0.2887	0.3036

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.0664	0.0897
$\pi^{(A)}$	gamm	4.000	2.0000	3.1938	0.0530
$\gamma^{(Q)}$	norm	0.400	0.2000	0.5158	0.0314
τ	gamm	2.000	0.5000	2.0591	0.0754
ν	beta	0.100	0.0500	0.1012	0.0027
ψ_π	gamm	1.500	0.2500	1.4402	0.0464
ψ_y	gamm	0.500	0.2500	0.1094	0.0083
ρ_R	beta	0.500	0.2000	0.7368	0.0056
ρ_g	beta	0.800	0.1000	0.9459	0.0031
ρ_z	beta	0.660	0.1500	0.8972	0.0028
σ_R	invg	0.300	4.0000	0.1976	0.0017
σ_g	invg	0.400	4.0000	0.5990	0.0052
σ_z	invg	0.400	4.0000	0.2957	0.0045

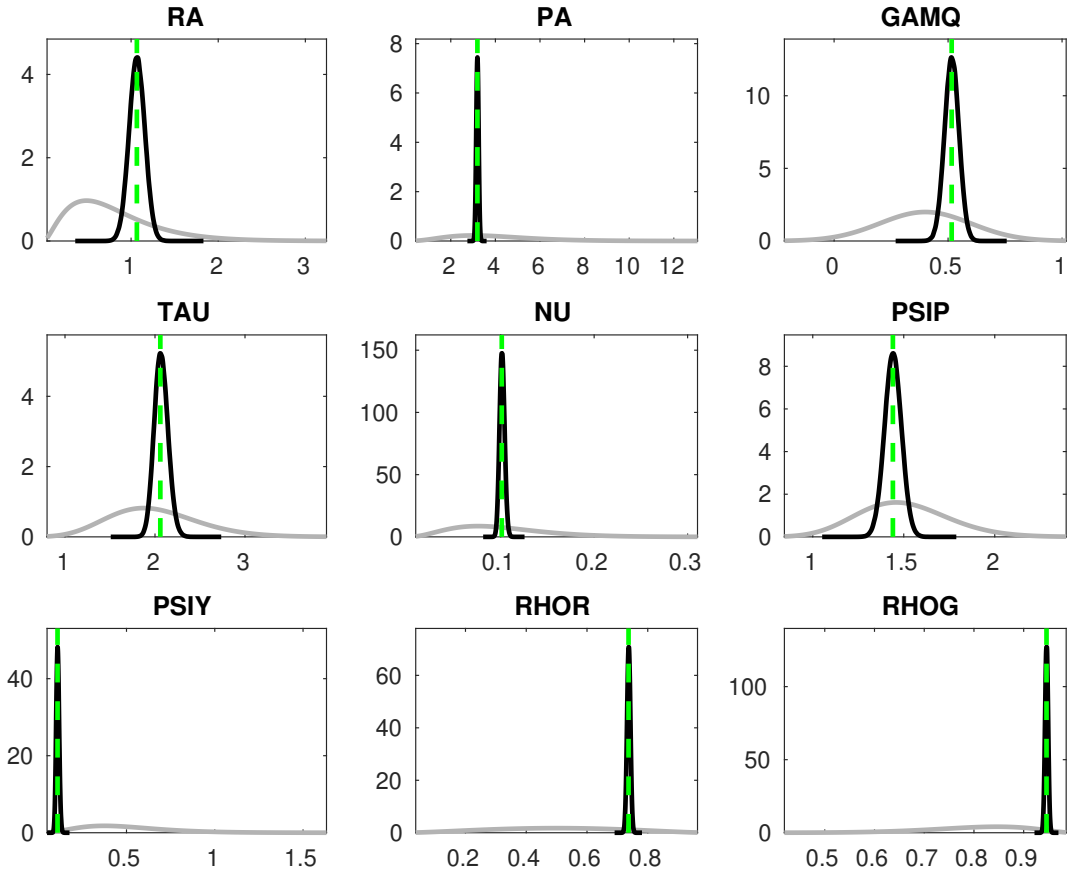

Figure 6: Priors and posteriors.

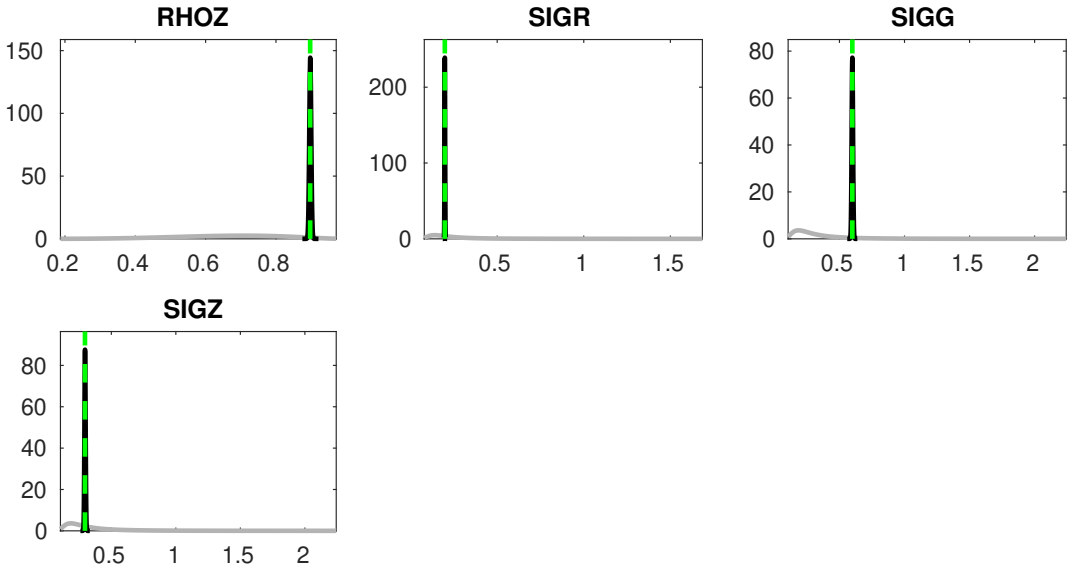

Figure 7: Priors and posteriors.

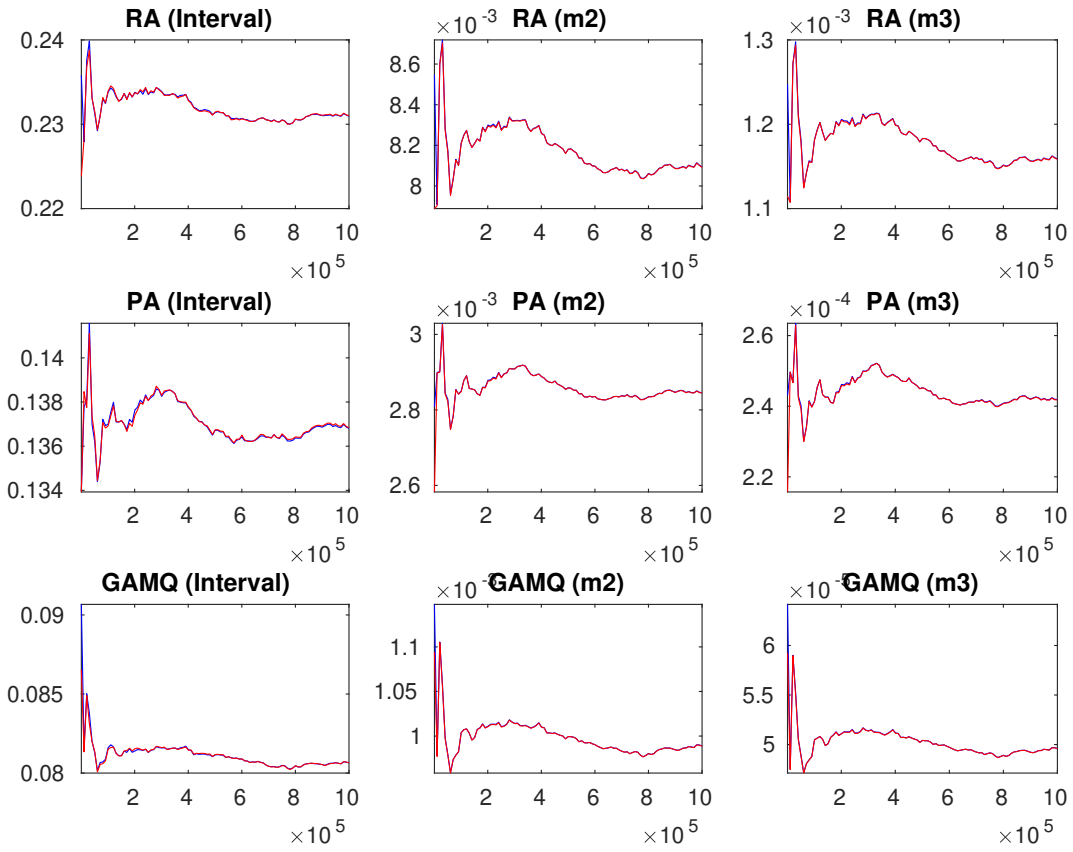

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

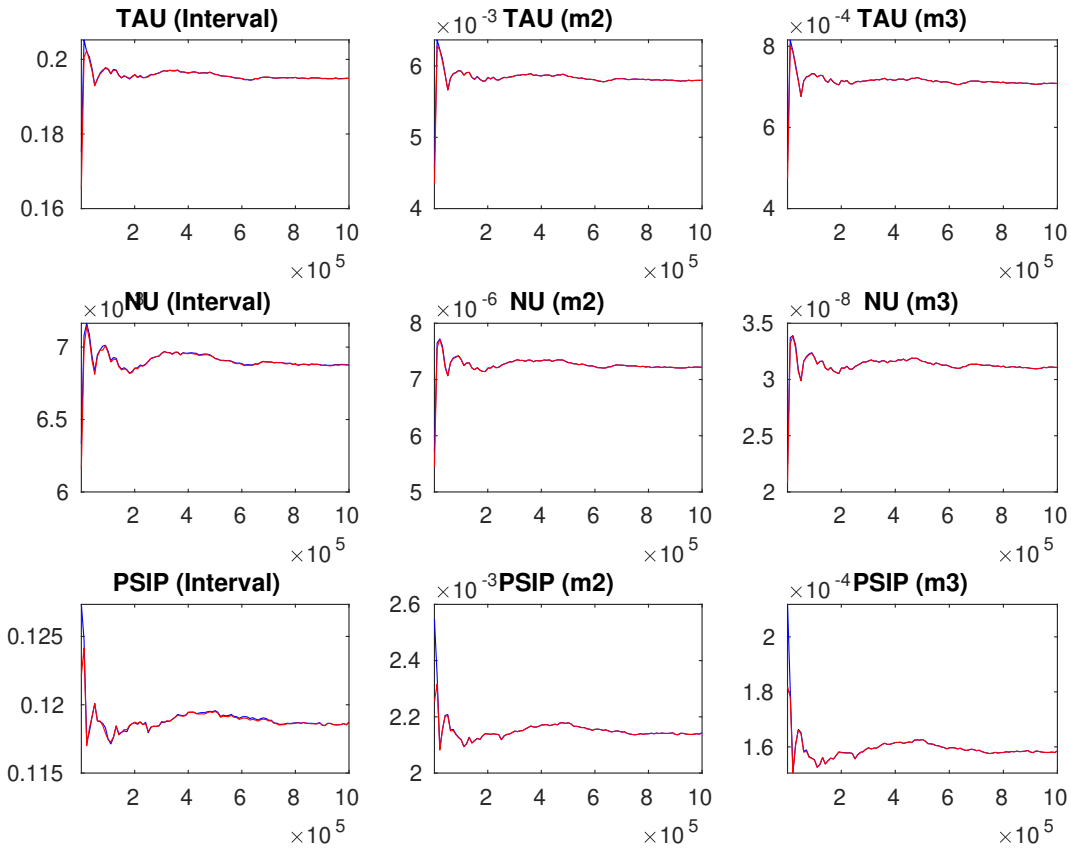

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

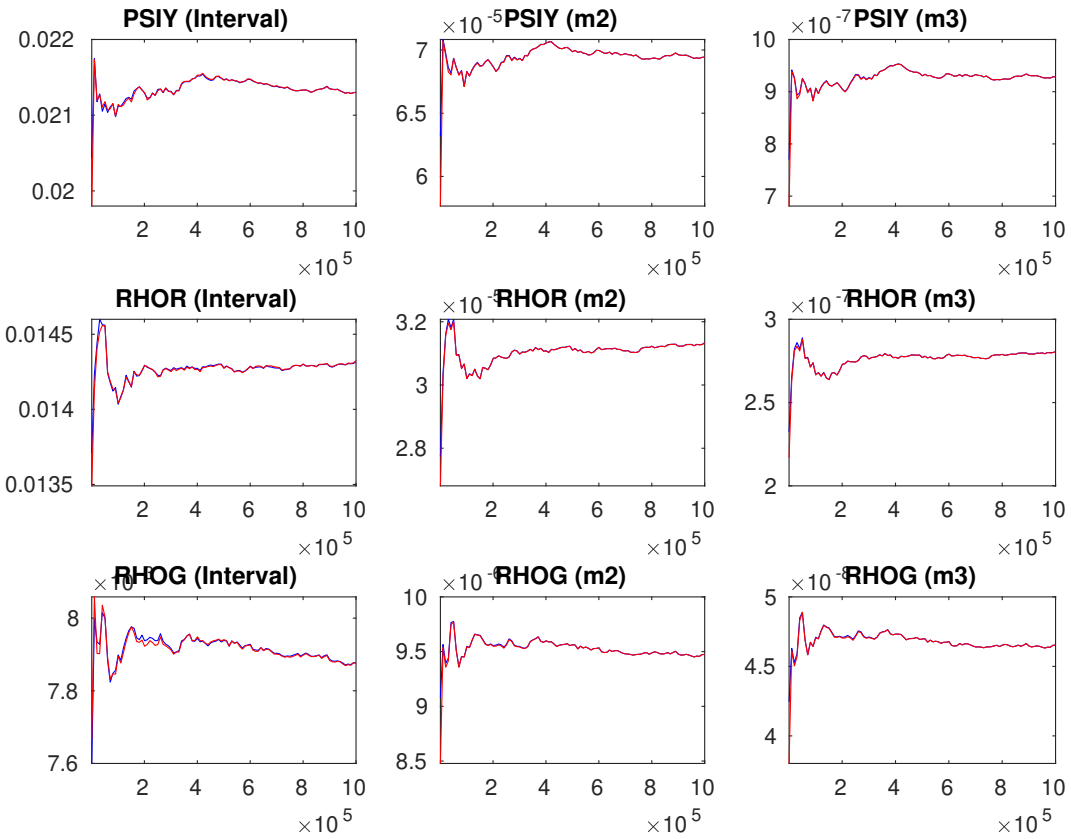

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

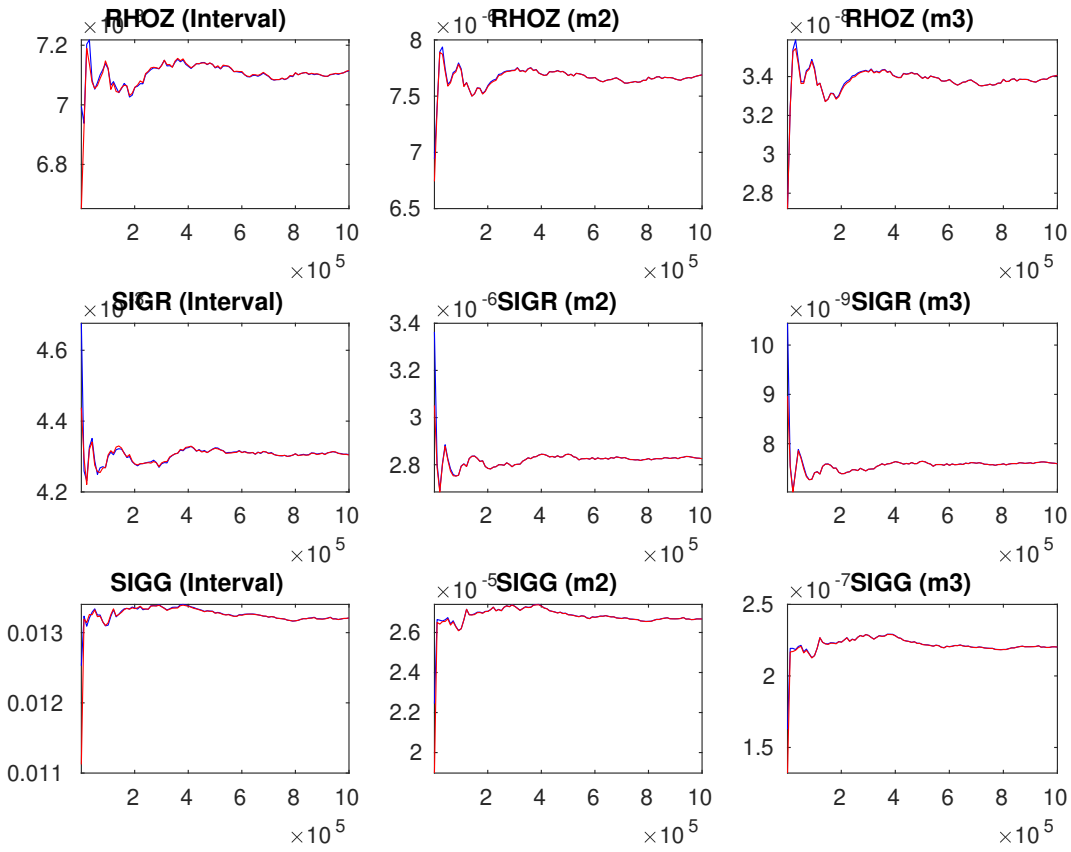

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

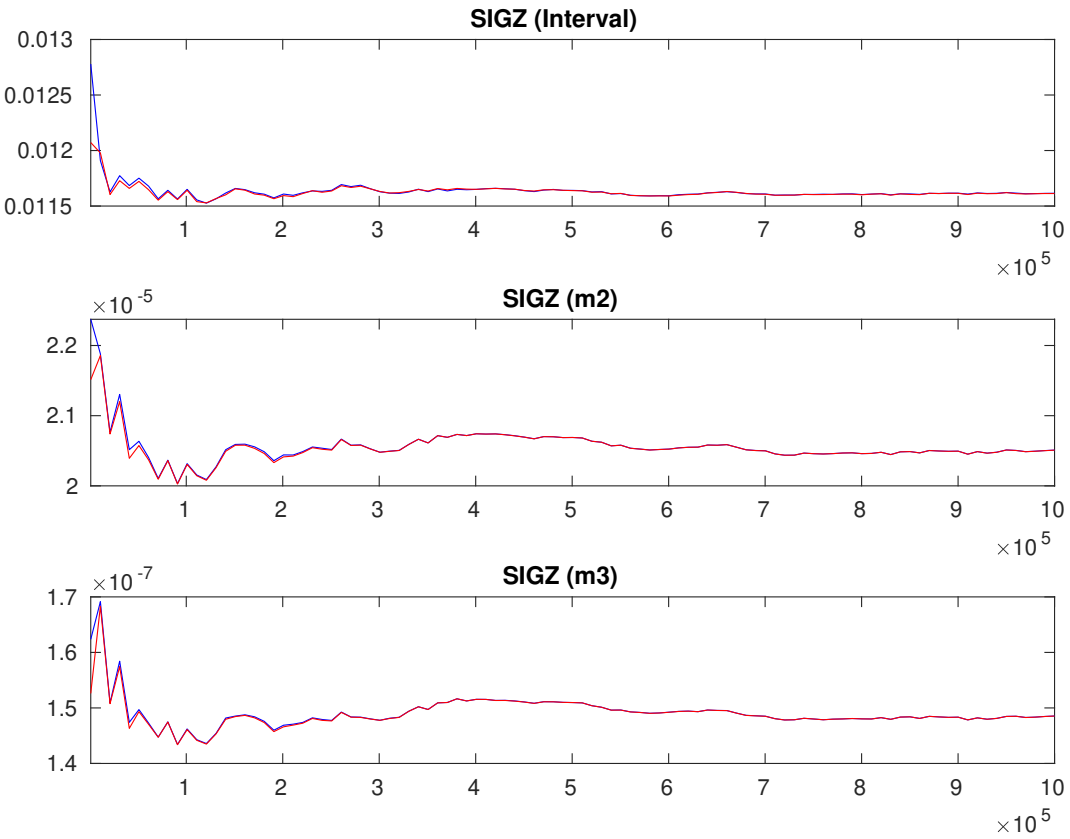

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments.