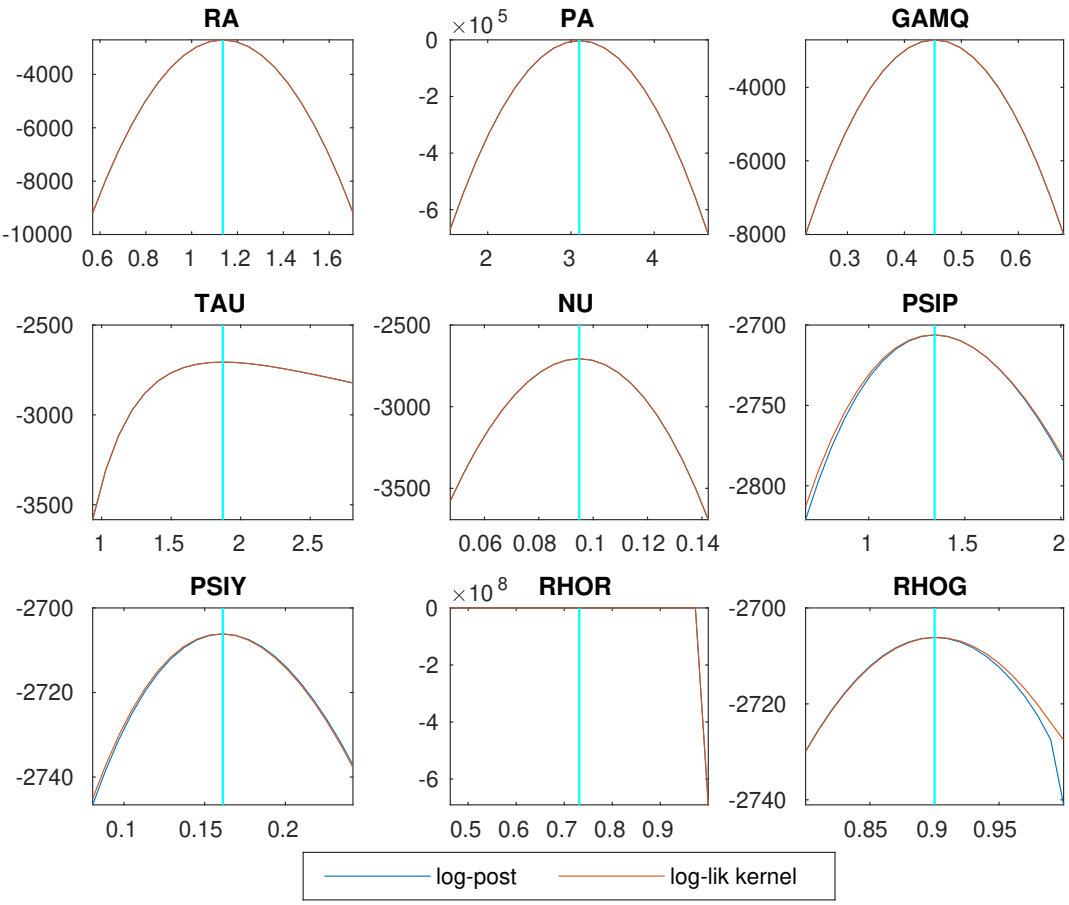

Figure 1: Check plots.

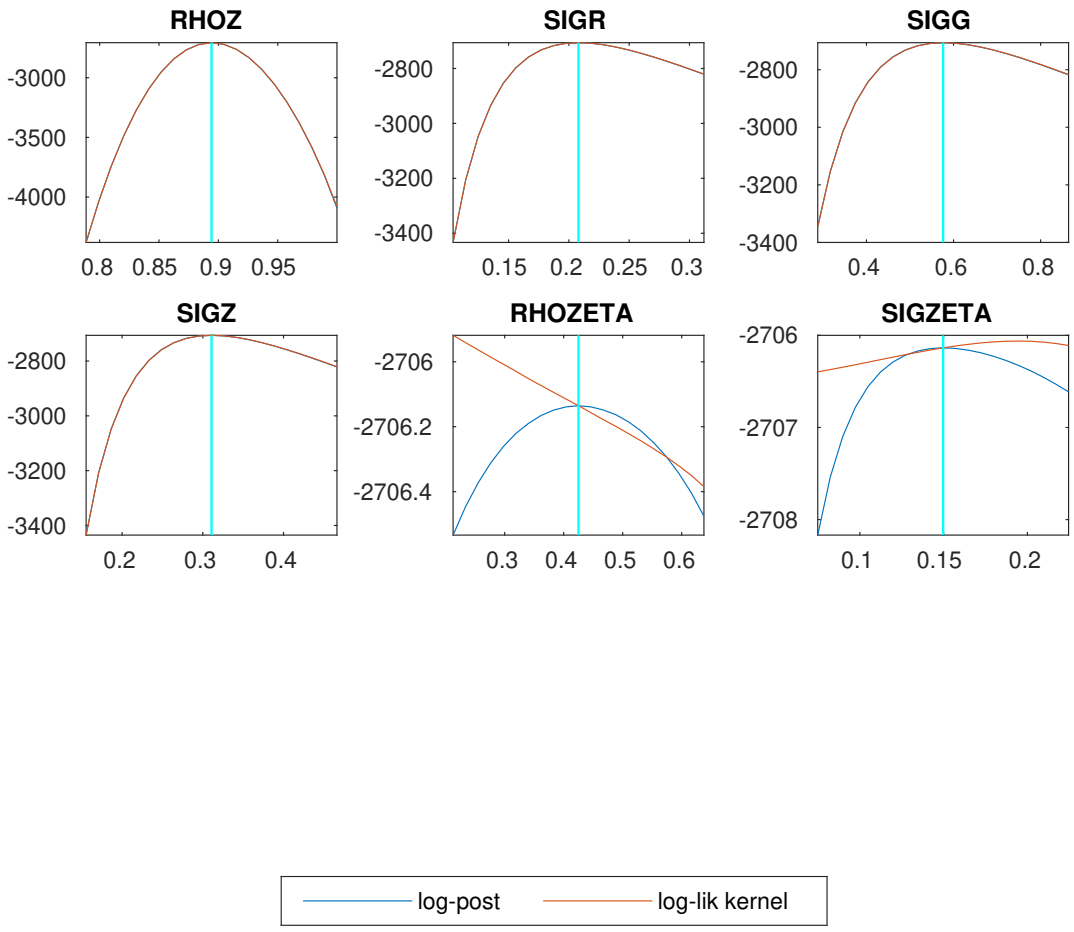

Figure 2: Check plots.

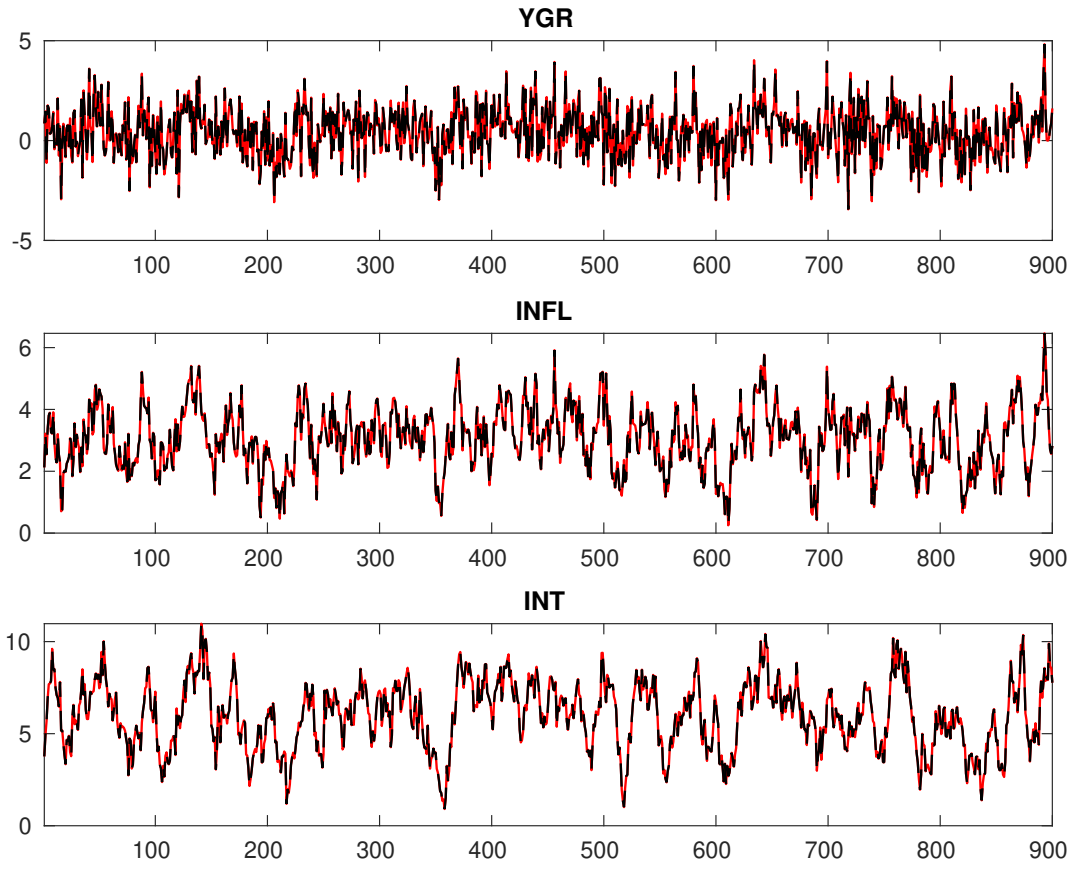

Figure 3: Historical and smoothed variables.

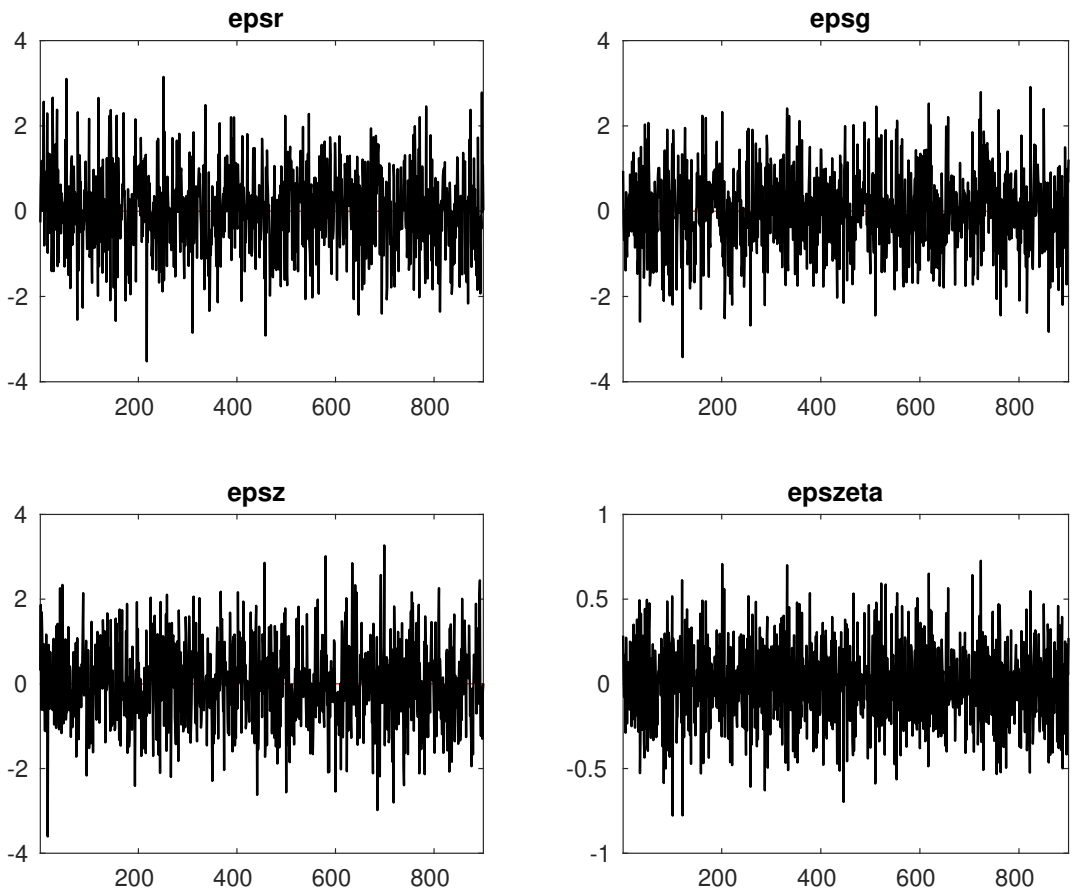

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	588.752	567.876	579.121	585.458
$\pi^{(A)}$	579.298	559.952	570.156	577.291
$\gamma^{(Q)}$	534.564	515.865	524.490	534.163
τ	617.618	621.659	619.984	619.651
ν	581.767	588.163	584.512	587.756
ψ_π	642.412	637.782	653.755	659.345
ψ_y	473.585	462.966	492.172	501.041
ρ_R	204.545	204.726	201.188	186.078
ρ_g	74.302	71.537	73.040	69.870
ρ_z	286.876	295.126	276.362	270.811
σ_R	82.482	75.124	83.537	84.952
σ_g	86.852	84.879	74.157	76.418
σ_z	178.731	182.897	183.944	191.536
ρ_ζ	573.691	563.755	582.783	559.877
σ_ζ	129.785	123.723	108.626	117.859

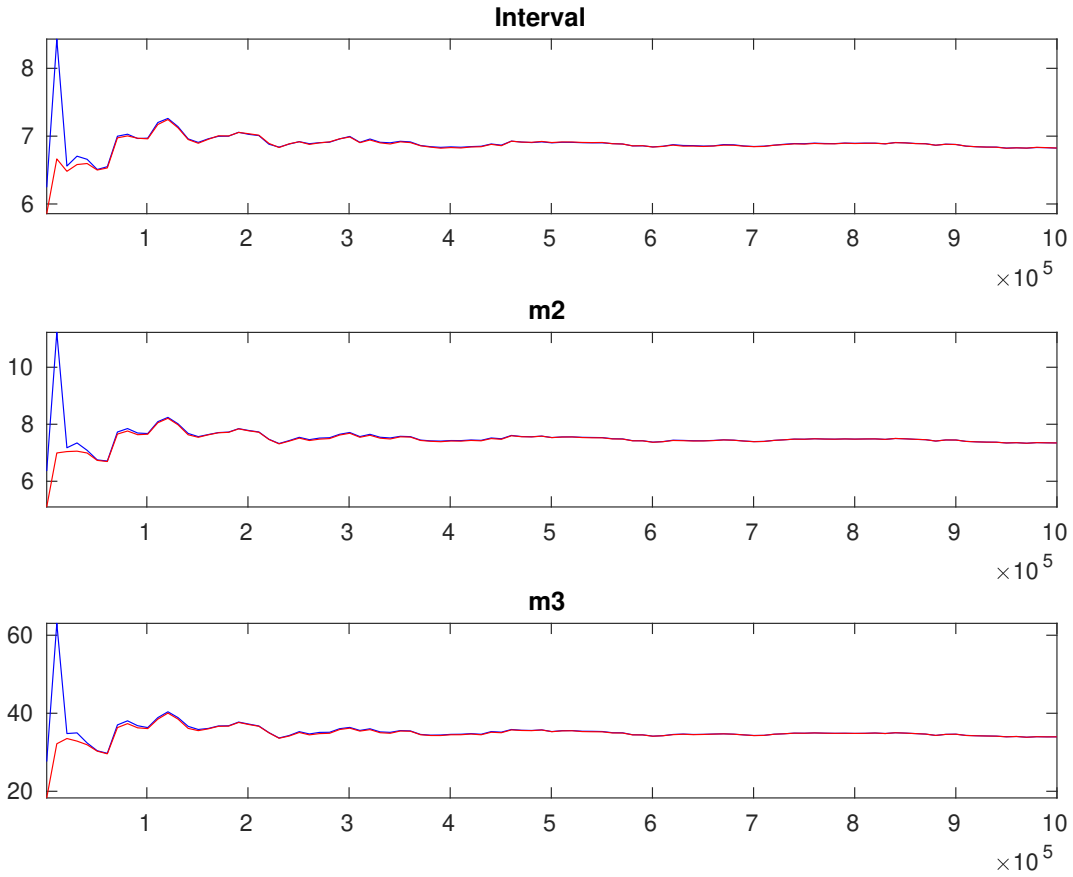

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.119	0.2250	0.7594	1.4975
$\pi^{(A)}$	gamm	4.000	2.0000	3.108	0.1101	2.9261	3.2867
$\gamma^{(Q)}$	norm	0.400	0.2000	0.459	0.0858	0.3165	0.5972
τ	gamm	2.000	0.5000	1.919	0.1716	1.6303	2.1970
ν	beta	0.100	0.0500	0.097	0.0063	0.0860	0.1069
ψ_π	gamm	1.500	0.2500	1.376	0.1999	1.0497	1.7098
ψ_y	gamm	0.500	0.2500	0.158	0.0426	0.0874	0.2271
ρ_R	beta	0.500	0.2000	0.734	0.0154	0.7093	0.7596
ρ_g	beta	0.800	0.1000	0.908	0.0158	0.8817	0.9336
ρ_z	beta	0.660	0.1500	0.896	0.0073	0.8844	0.9085
σ_R	invg	0.300	4.0000	0.208	0.0053	0.1997	0.2171
σ_g	invg	0.400	4.0000	0.563	0.0248	0.5241	0.6024
σ_z	invg	0.400	4.0000	0.312	0.0101	0.2953	0.3285
ρ_ζ	beta	0.500	0.2000	0.427	0.1887	0.1167	0.7313
σ_ζ	invg	0.300	4.0000	0.240	0.1086	0.0830	0.4045

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.1359	0.0451
$\pi^{(A)}$	gamm	4.000	2.0000	3.0997	0.0303
$\gamma^{(Q)}$	norm	0.400	0.2000	0.4531	0.0368
τ	gamm	2.000	0.5000	1.8714	0.0606
ν	beta	0.100	0.0500	0.0949	0.0024
ψ_π	gamm	1.500	0.2500	1.3428	0.0307
ψ_y	gamm	0.500	0.2500	0.1612	0.0160
ρ_R	beta	0.500	0.2000	0.7313	0.0115
ρ_g	beta	0.800	0.1000	0.9001	0.0181
ρ_z	beta	0.660	0.1500	0.8942	0.0052
σ_R	invg	0.300	4.0000	0.2080	0.0050
σ_g	invg	0.400	4.0000	0.5761	0.0344
σ_z	invg	0.400	4.0000	0.3108	0.0087
ρ_ζ	beta	0.500	0.2000	0.4251	0.0396
σ_ζ	invg	0.300	4.0000	0.1497	0.1321

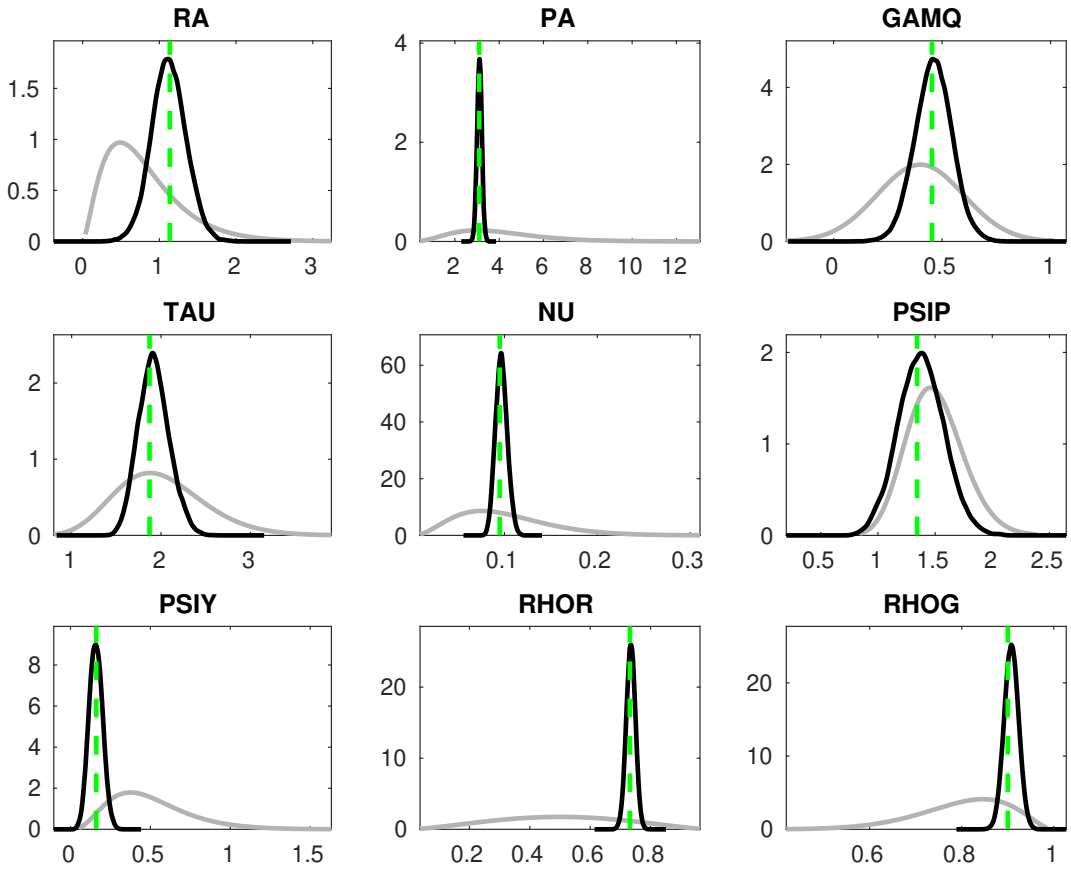

Figure 6: Priors and posteriors.

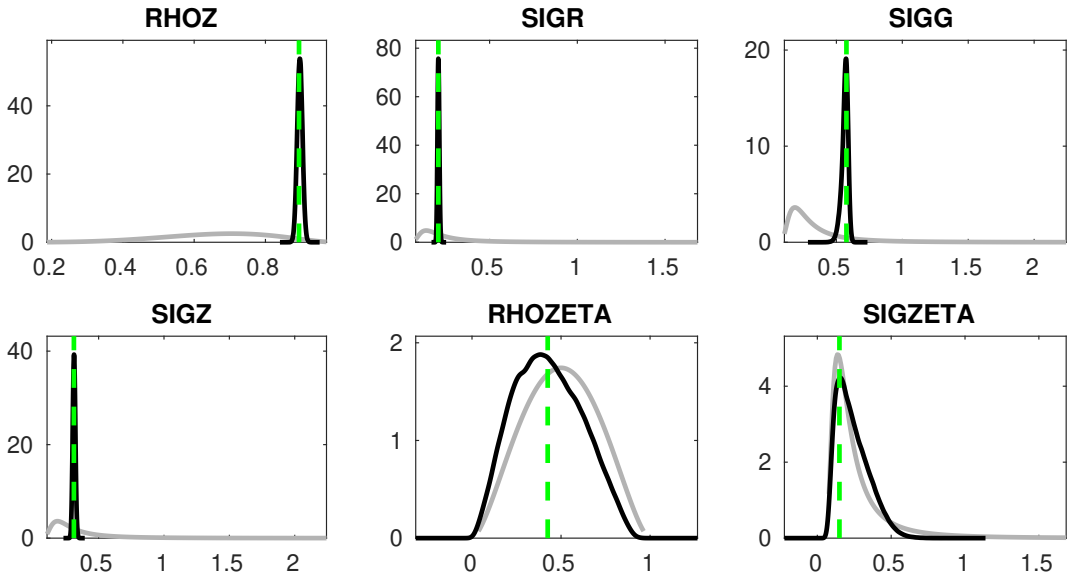

Figure 7: Priors and posteriors.

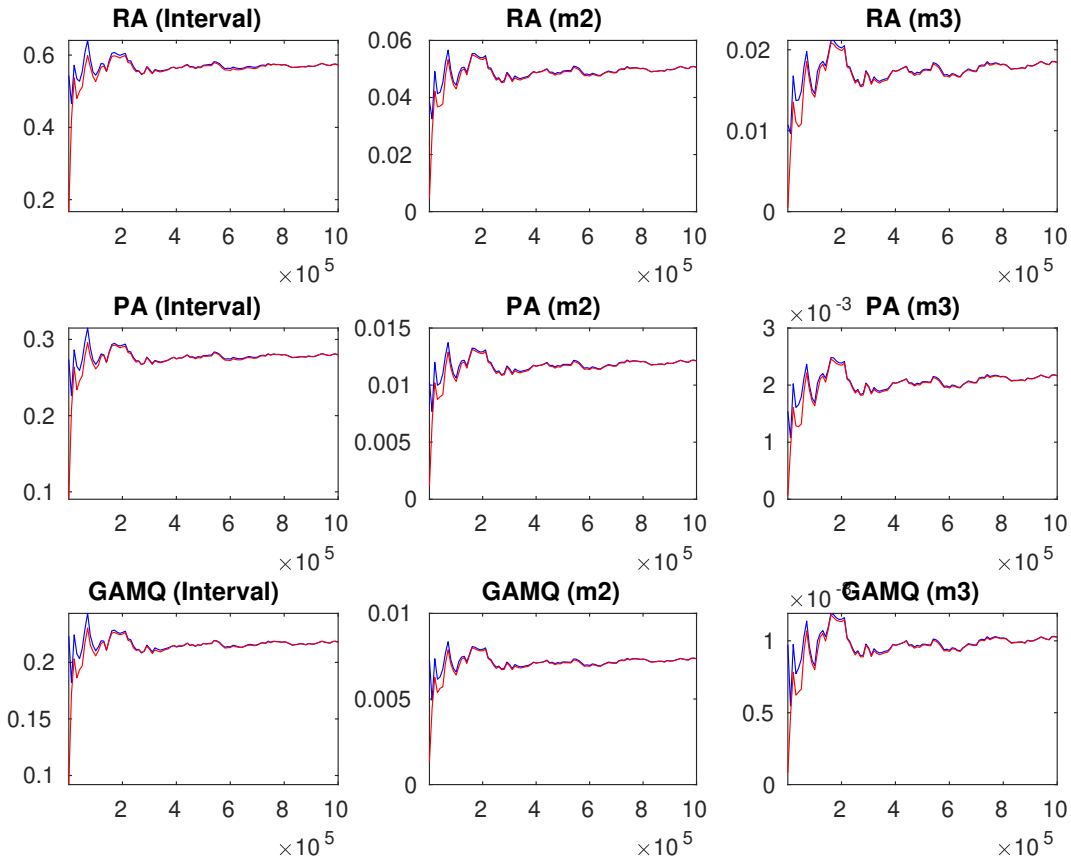

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

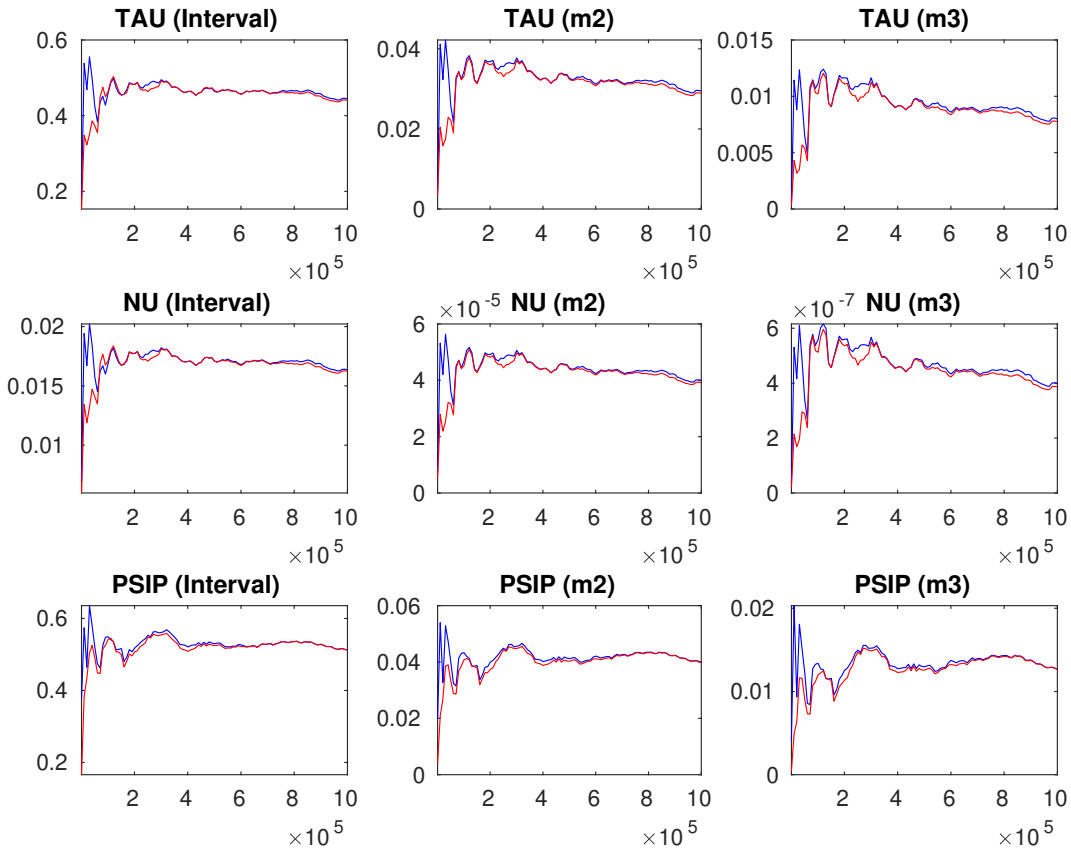

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

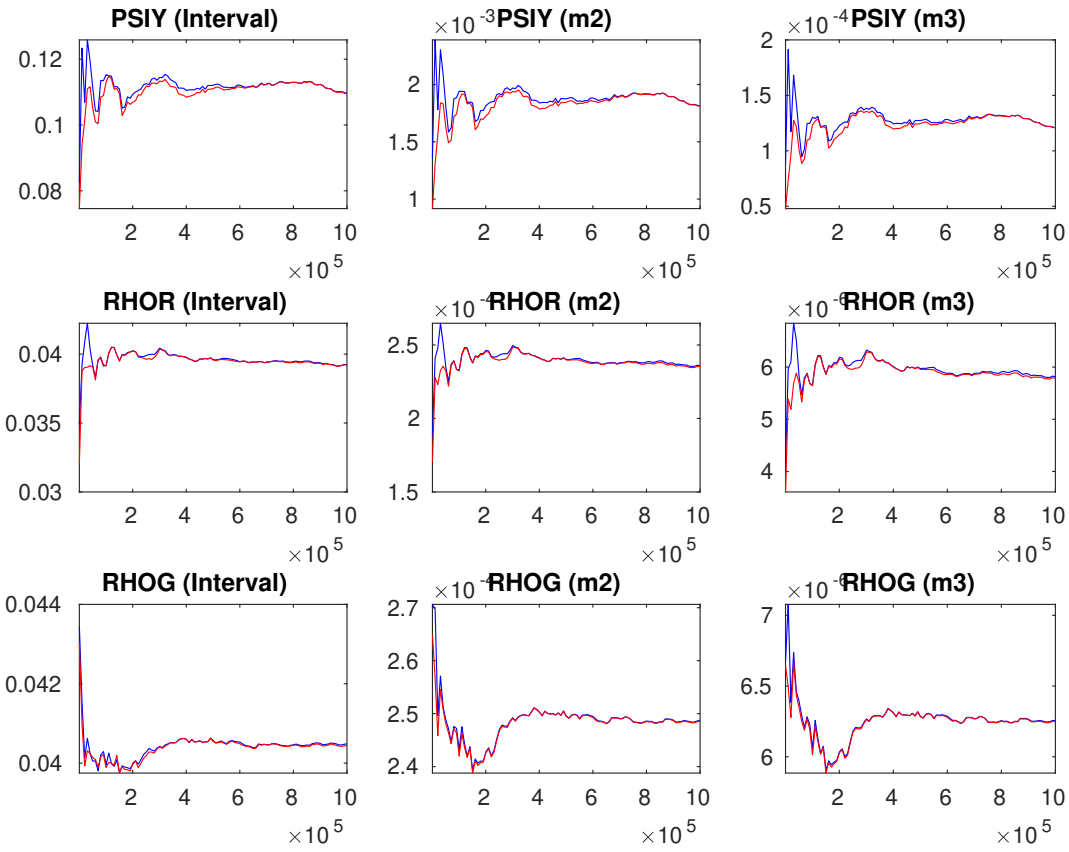

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

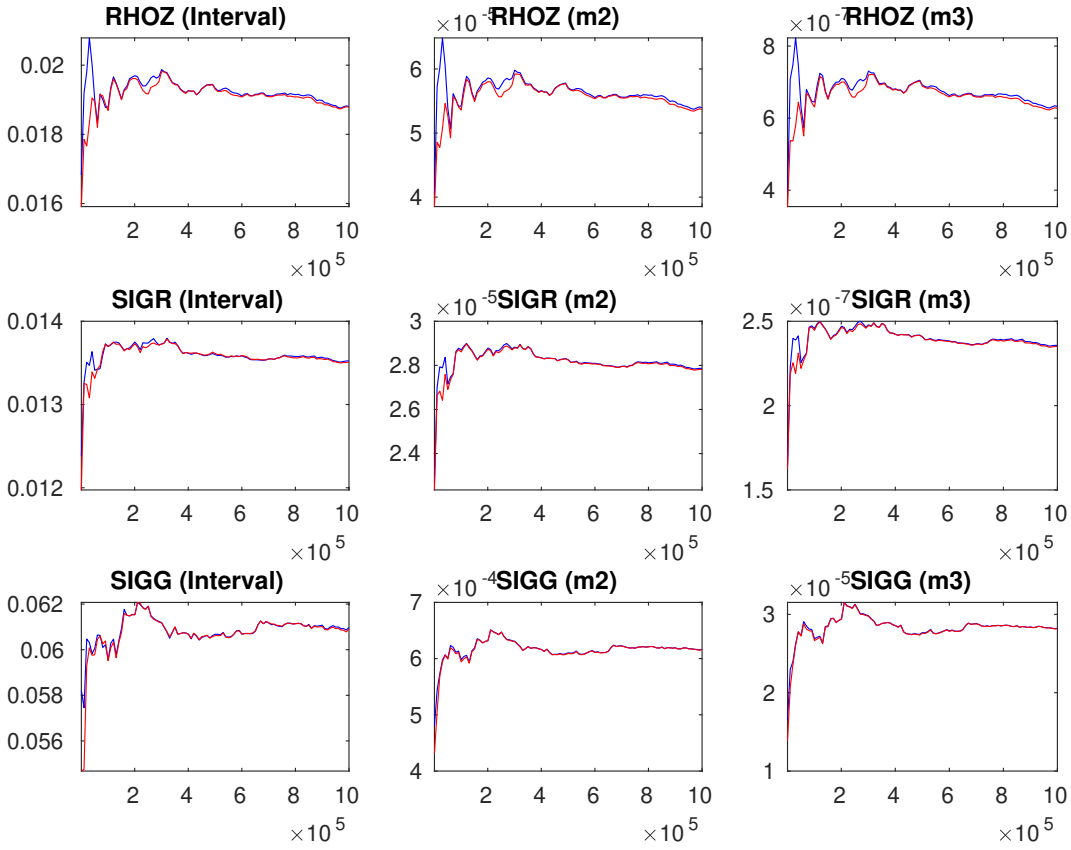

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

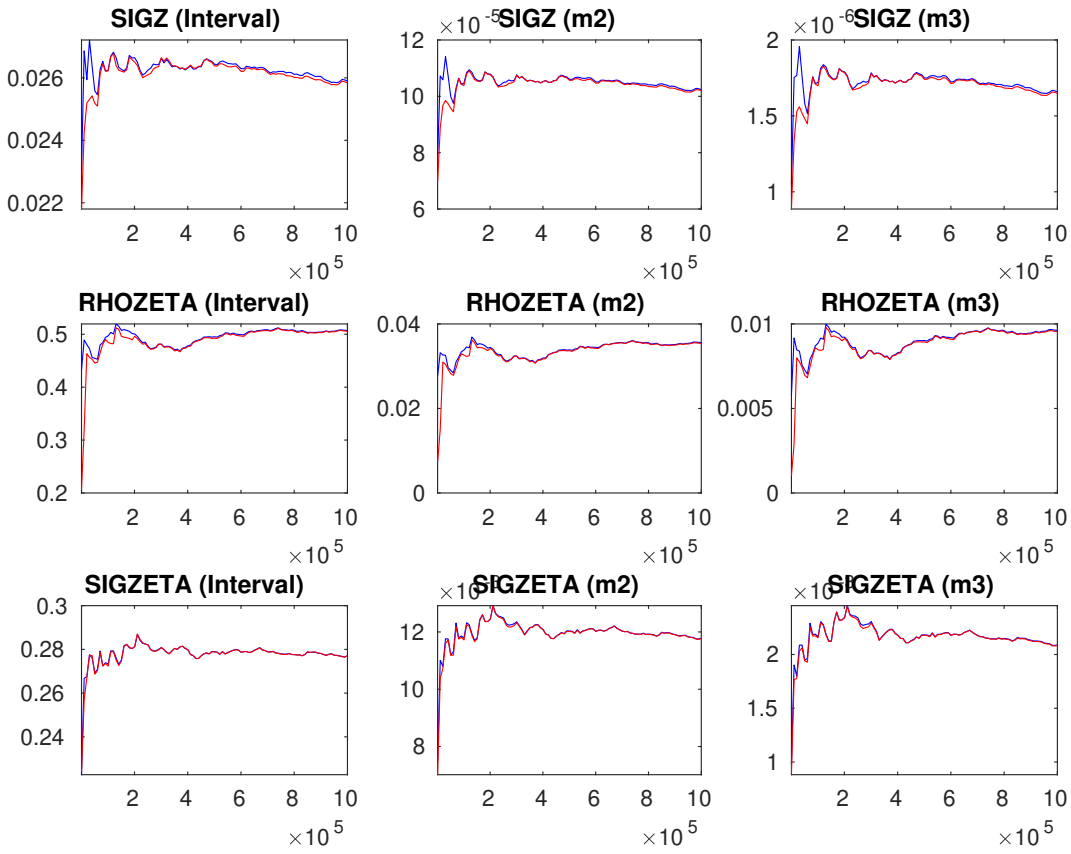

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.