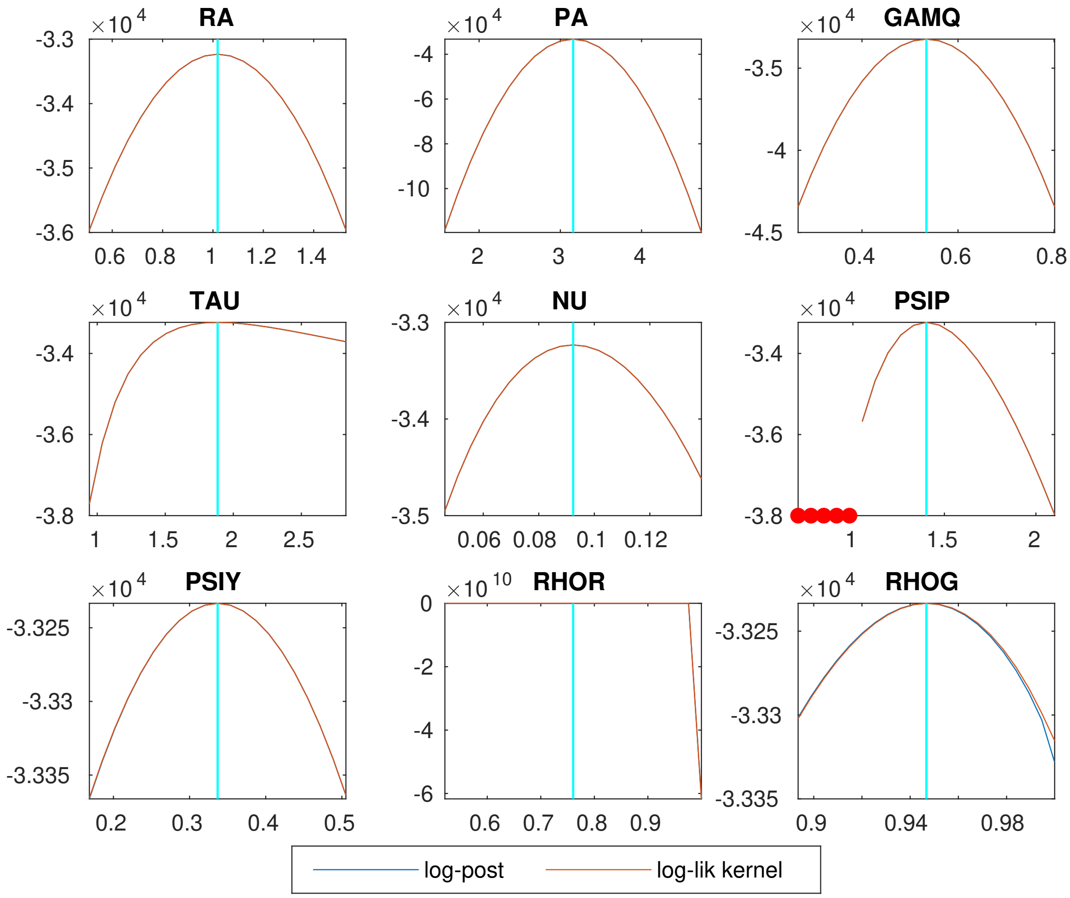

Figure 1: Check plots.

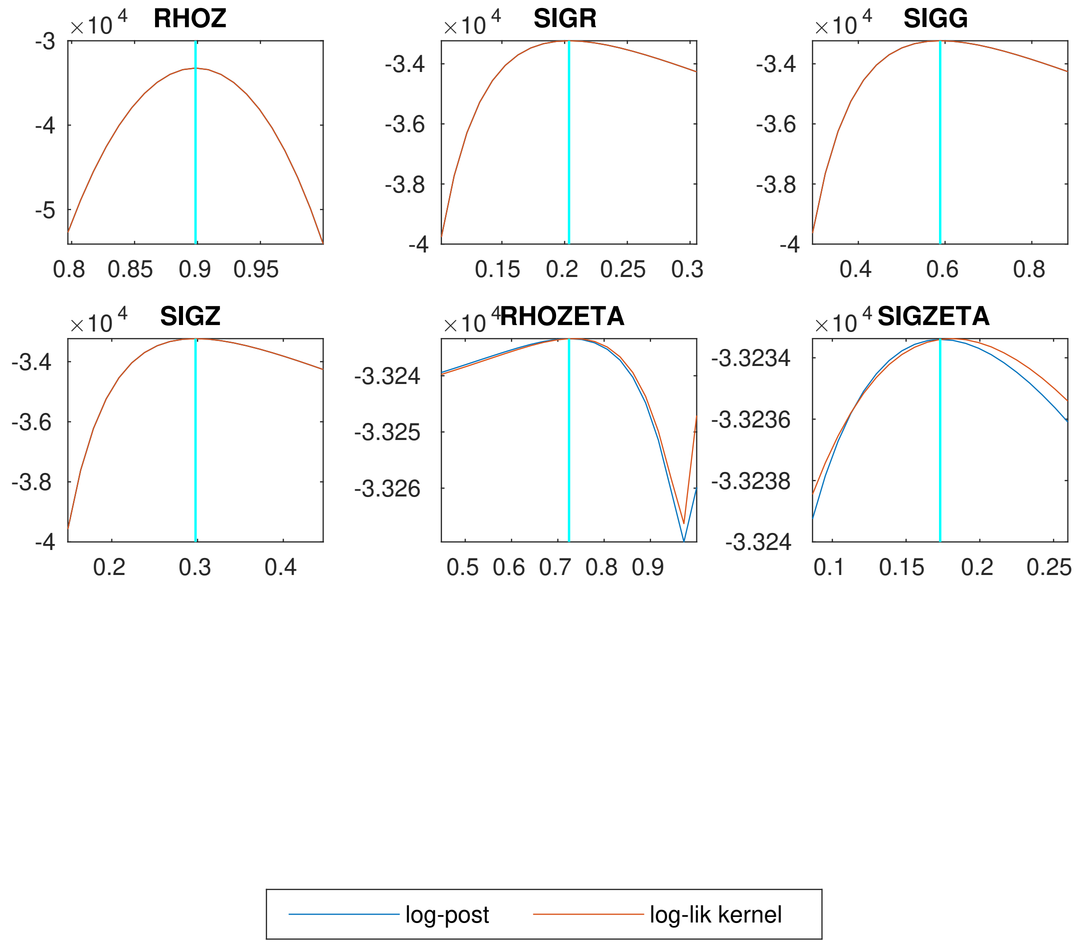

Figure 2: Check plots.

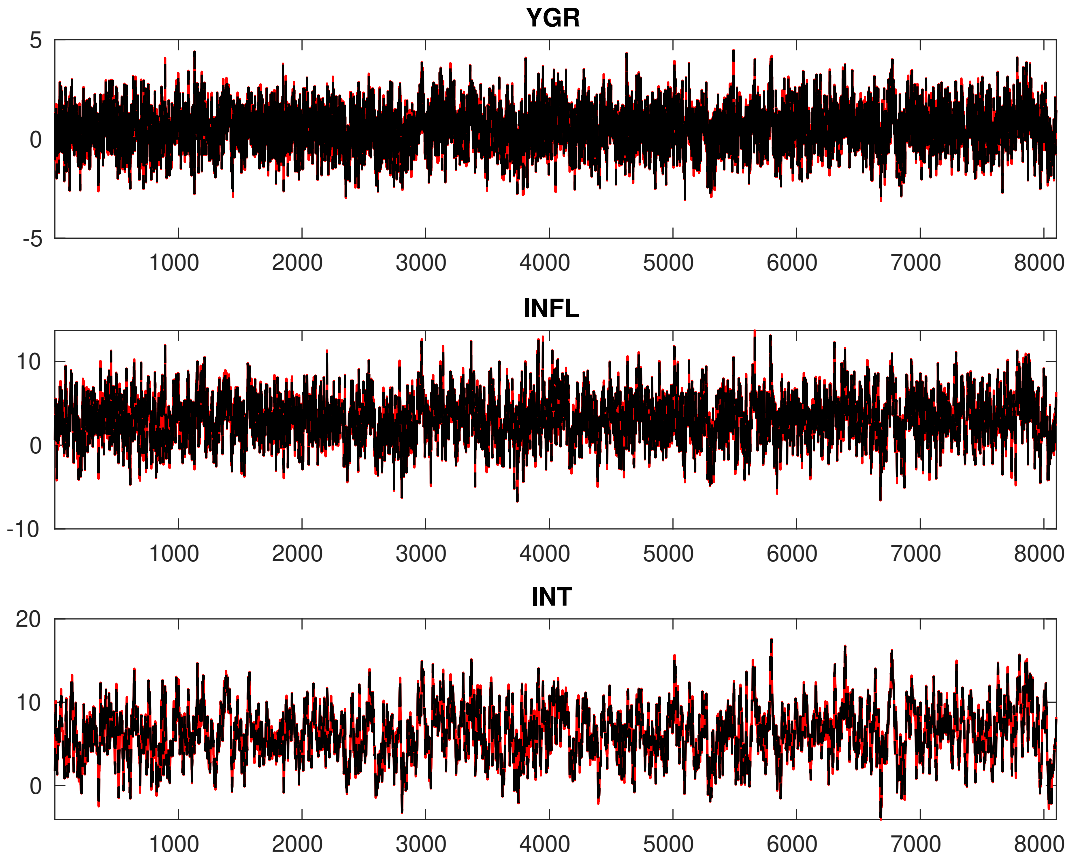

Figure 3: Historical and smoothed variables.

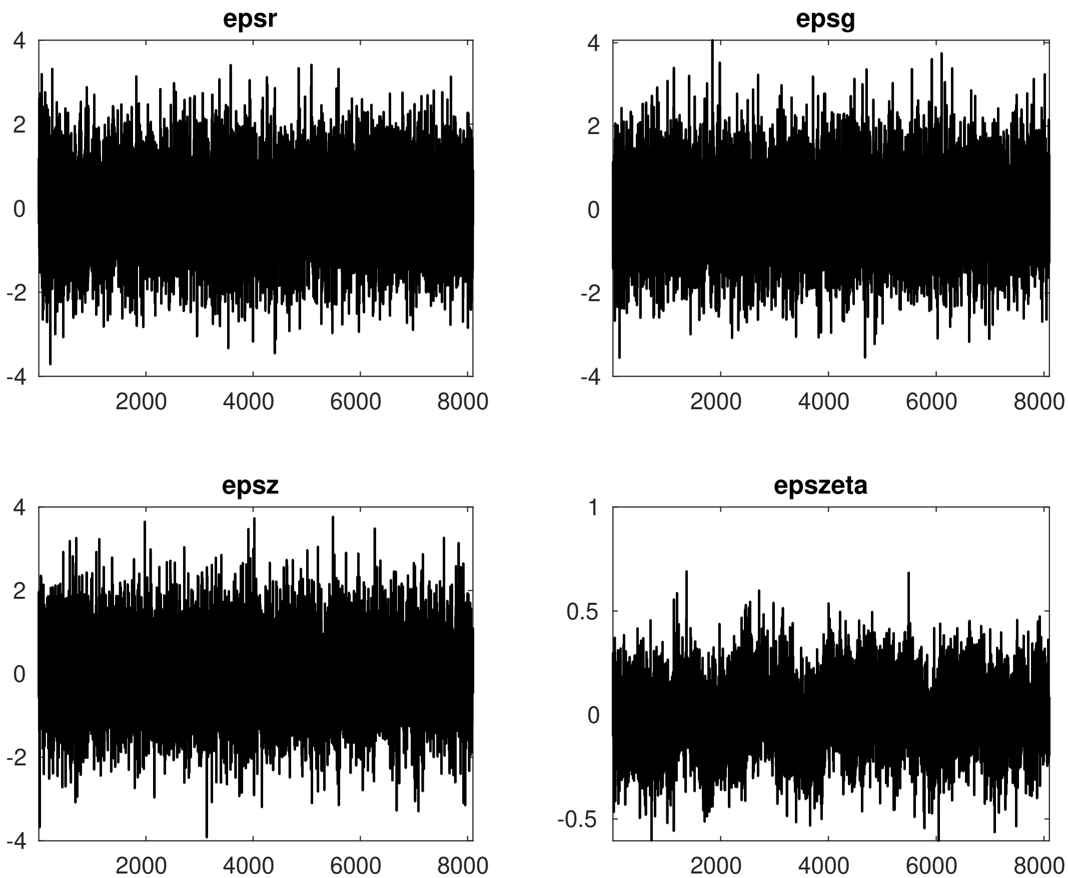

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	607.895	592.684	599.724	599.210
$\pi^{(A)}$	618.440	603.099	608.762	610.306
$\gamma^{(Q)}$	599.360	583.315	590.070	590.987
τ	554.983	564.797	564.487	537.309
ν	466.495	477.701	459.420	457.311
ψ_π	415.589	366.129	392.560	430.217
ψ_y	405.310	355.994	380.003	420.996
ρ_R	338.626	296.541	310.581	359.506
ρ_g	92.438	107.030	116.218	82.904
ρ_z	122.382	116.021	120.088	110.191
σ_R	311.450	251.769	281.690	304.391
σ_g	216.674	228.201	275.134	190.876
σ_z	279.620	287.690	265.642	282.379
ρ_ζ	652.359	654.797	659.194	635.369
σ_ζ	613.245	609.980	618.989	595.812

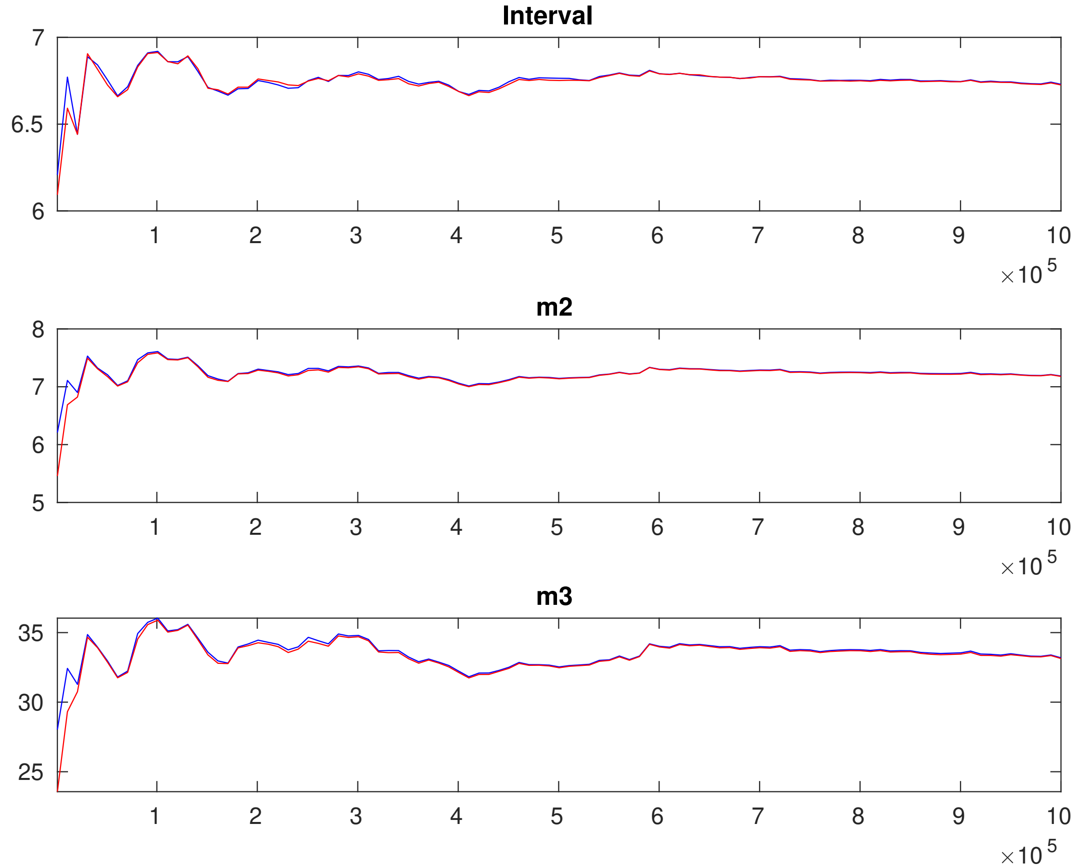

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.019	0.0735	0.8989	1.1423
$\pi^{(A)}$	gamm	4.000	2.0000	3.157	0.1023	2.9854	3.3245
$\gamma^{(Q)}$	norm	0.400	0.2000	0.534	0.0321	0.4805	0.5869
τ	gamm	2.000	0.5000	1.921	0.0784	1.7894	2.0480
ν	beta	0.100	0.0500	0.093	0.0044	0.0861	0.1006
ψ_π	gamm	1.500	0.2500	1.384	0.0941	1.2391	1.5332
ψ_y	gamm	0.500	0.2500	0.374	0.1703	0.1019	0.6310
ρ_R	beta	0.500	0.2000	0.762	0.0097	0.7466	0.7781
ρ_g	beta	0.800	0.1000	0.947	0.0051	0.9387	0.9556
ρ_z	beta	0.660	0.1500	0.899	0.0022	0.8953	0.9024
σ_R	invg	0.300	4.0000	0.204	0.0030	0.1988	0.2087
σ_g	invg	0.400	4.0000	0.586	0.0057	0.5767	0.5955
σ_z	invg	0.400	4.0000	0.297	0.0044	0.2893	0.3039
ρ_ζ	beta	0.500	0.2000	0.570	0.1505	0.3363	0.8182
σ_ζ	invg	0.300	4.0000	0.299	0.1121	0.1138	0.4671

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.0186	0.0130
$\pi^{(A)}$	gamm	4.000	2.0000	3.1577	0.0139
$\gamma^{(Q)}$	norm	0.400	0.2000	0.5341	0.0068
τ	gamm	2.000	0.5000	1.8849	0.0160
ν	beta	0.100	0.0500	0.0924	0.0017
ψ_π	gamm	1.500	0.2500	1.4016	0.0257
ψ_y	gamm	0.500	0.2500	0.3369	0.0539
ρ_R	beta	0.500	0.2000	0.7604	0.0051
ρ_g	beta	0.800	0.1000	0.9467	0.0047
ρ_z	beta	0.660	0.1500	0.8984	0.0022
σ_R	invg	0.300	4.0000	0.2035	0.0021
σ_g	invg	0.400	4.0000	0.5887	0.0047
σ_z	invg	0.400	4.0000	0.2977	0.0031
ρ_ζ	beta	0.500	0.2000	0.7242	0.0273
σ_ζ	invg	0.300	4.0000	0.1731	0.0277

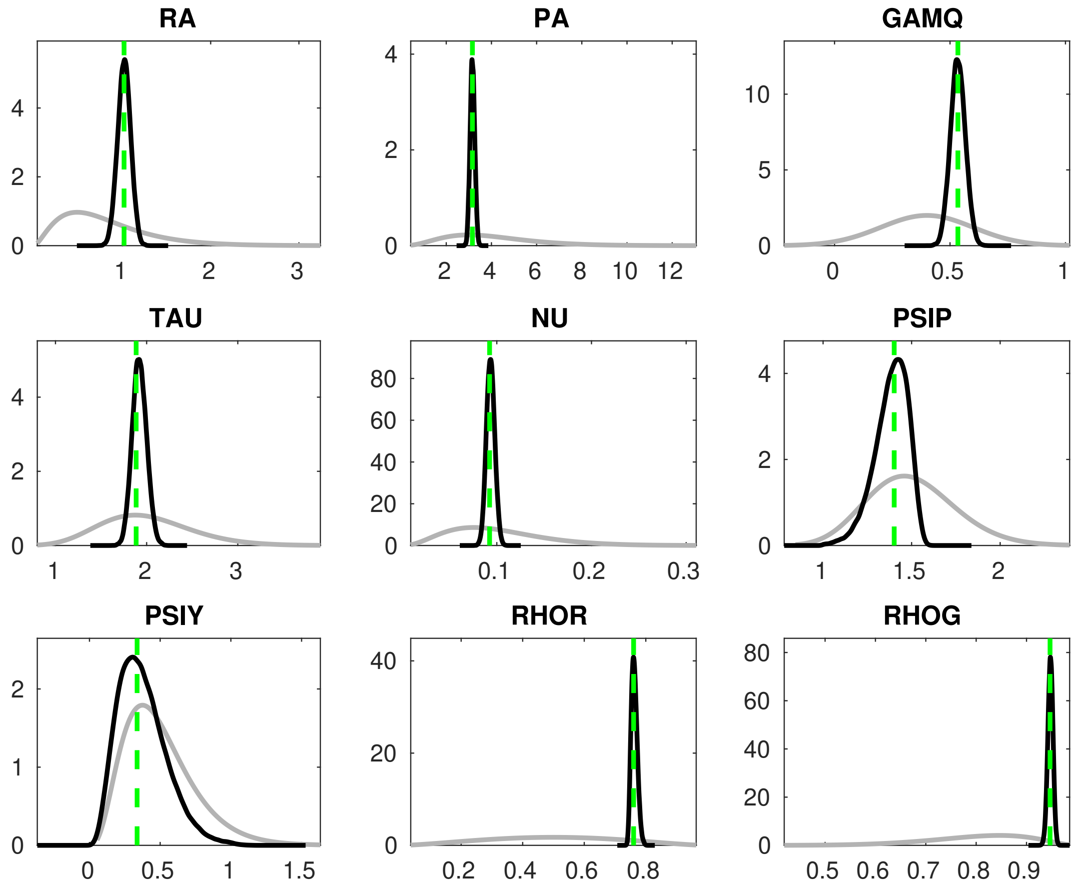

Figure 6: Priors and posteriors.

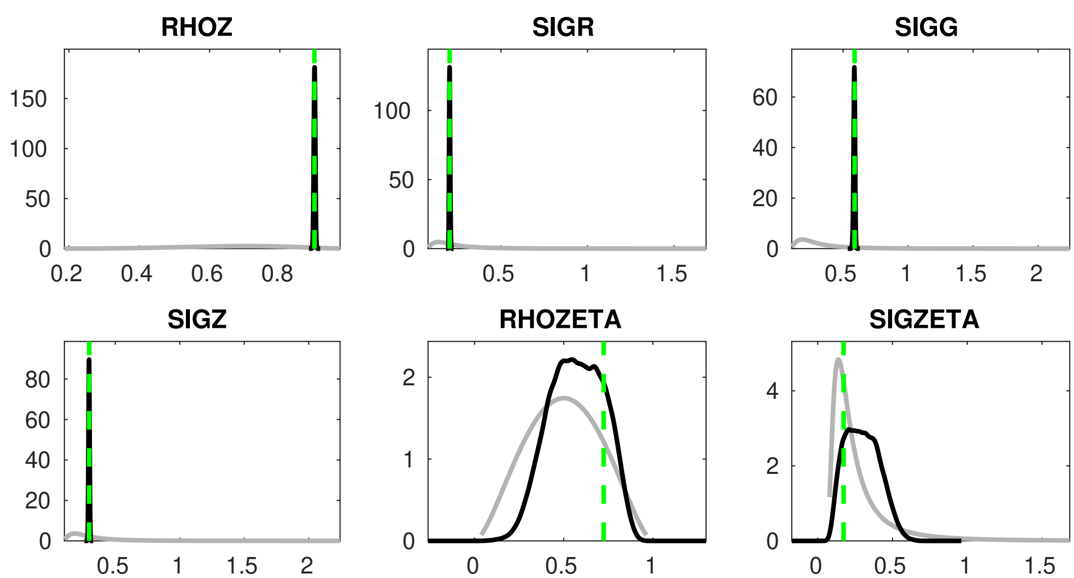

Figure 7: Priors and posteriors.

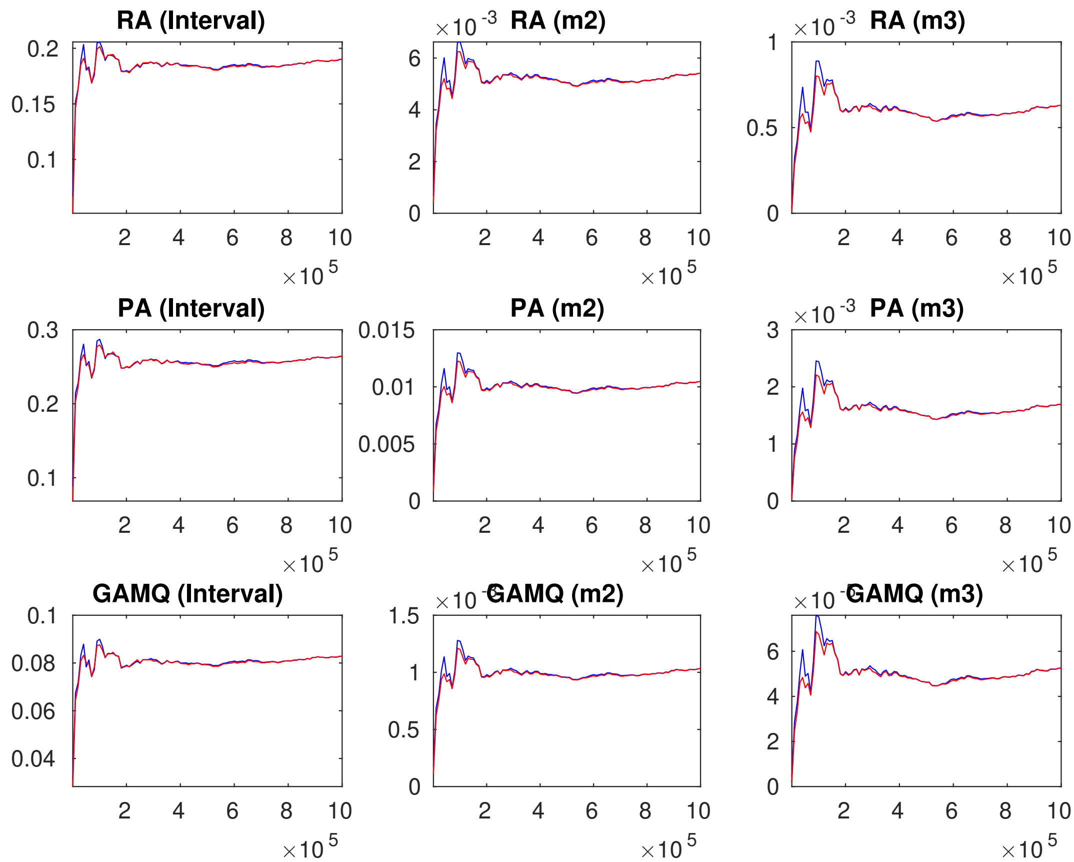

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

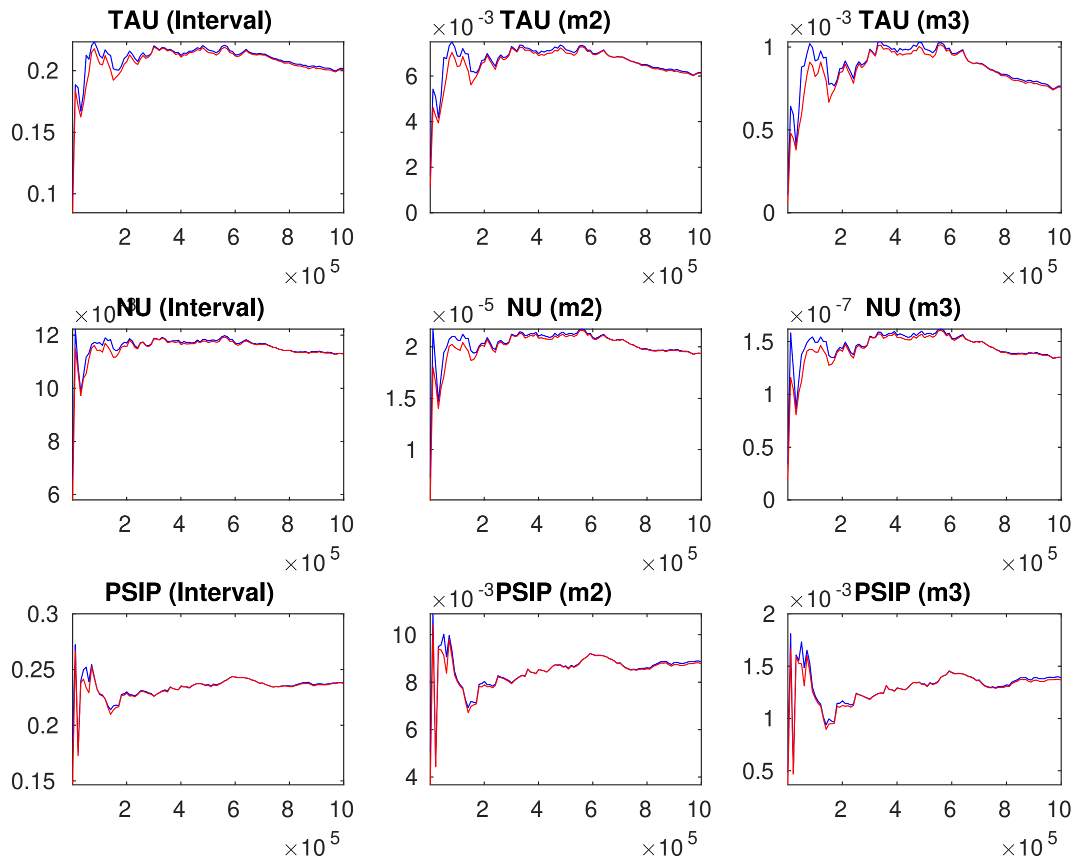

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

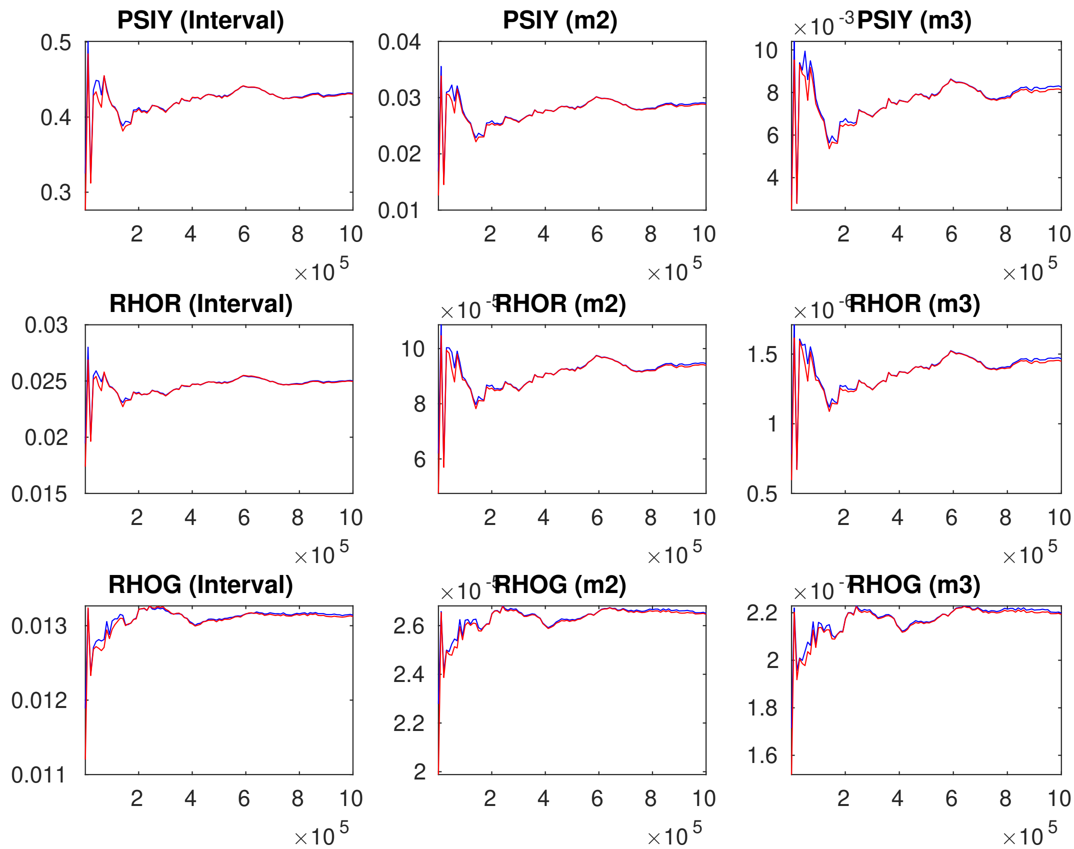

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

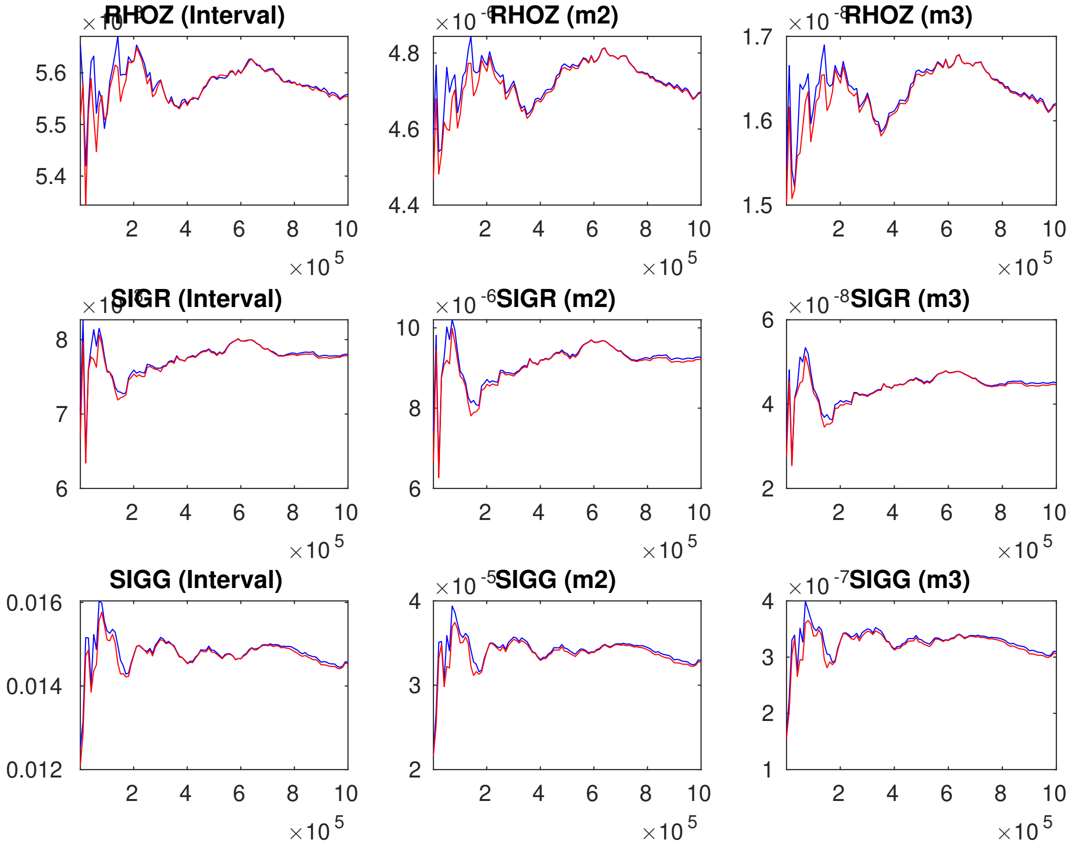

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

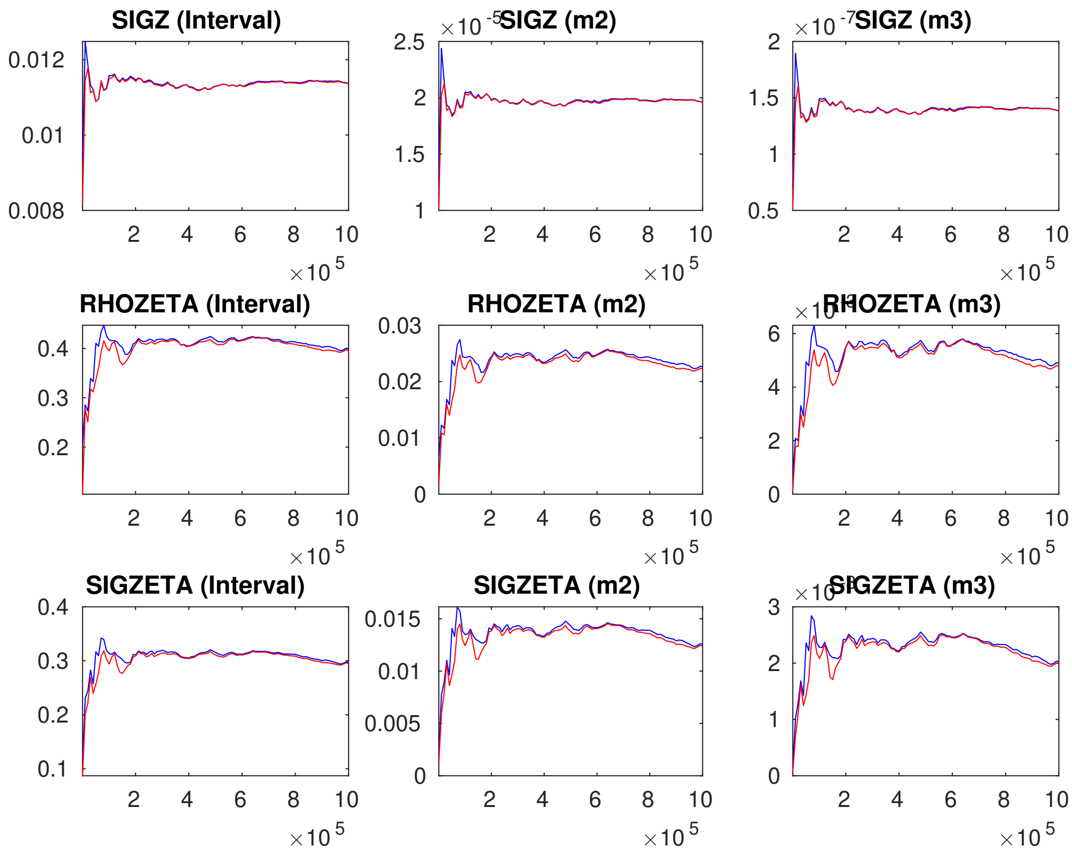

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.