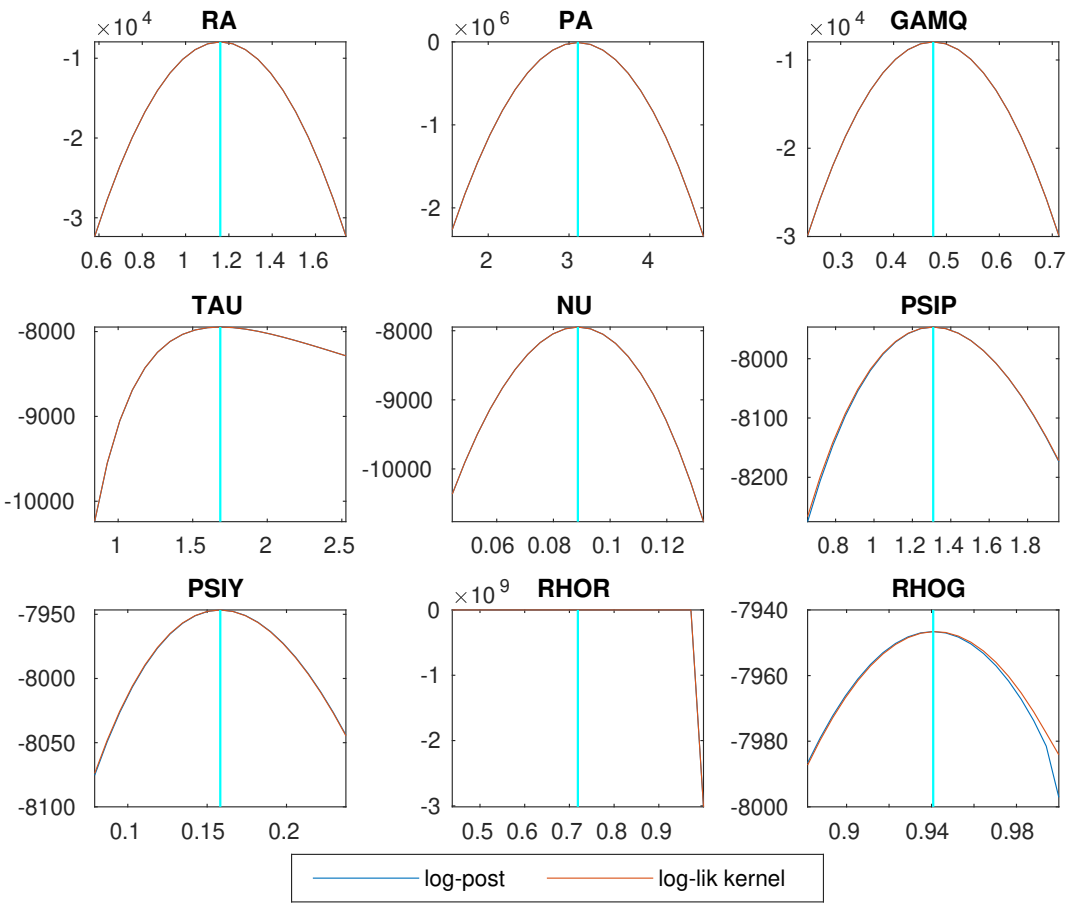

Figure 1: Check plots.

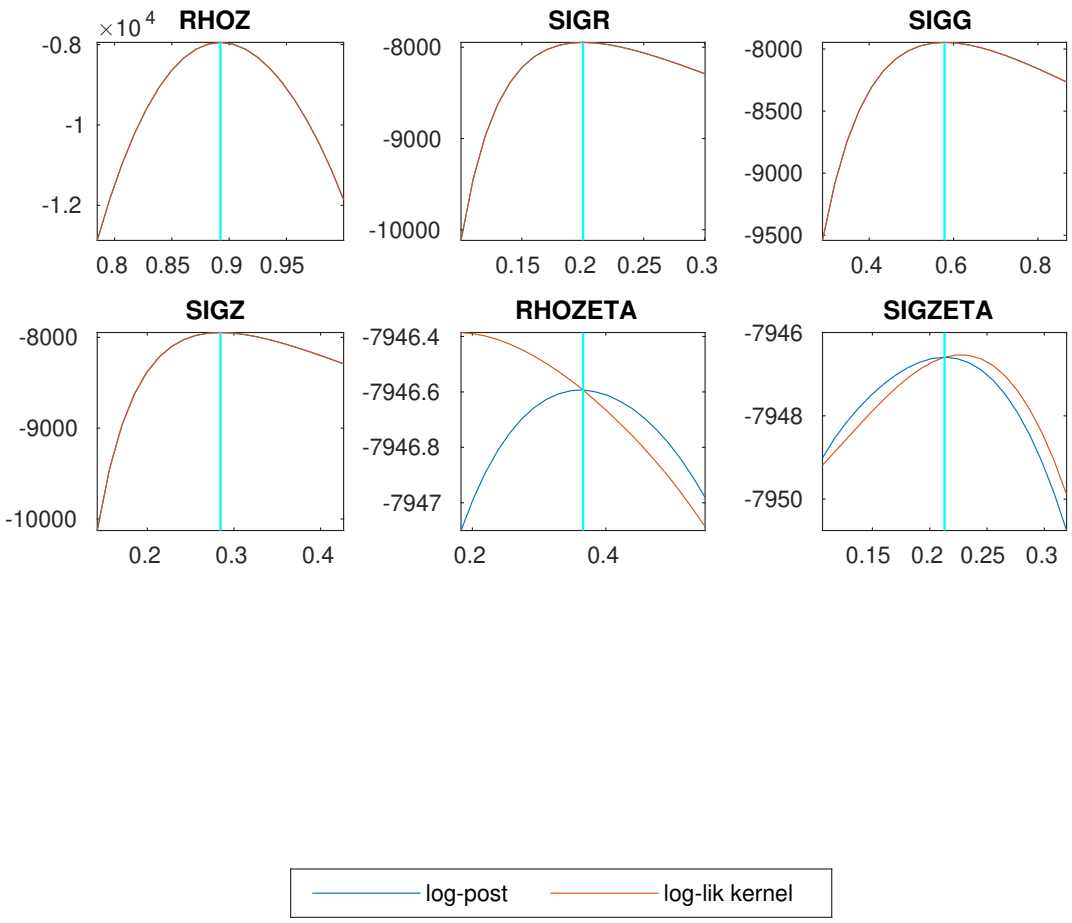

Figure 2: Check plots.

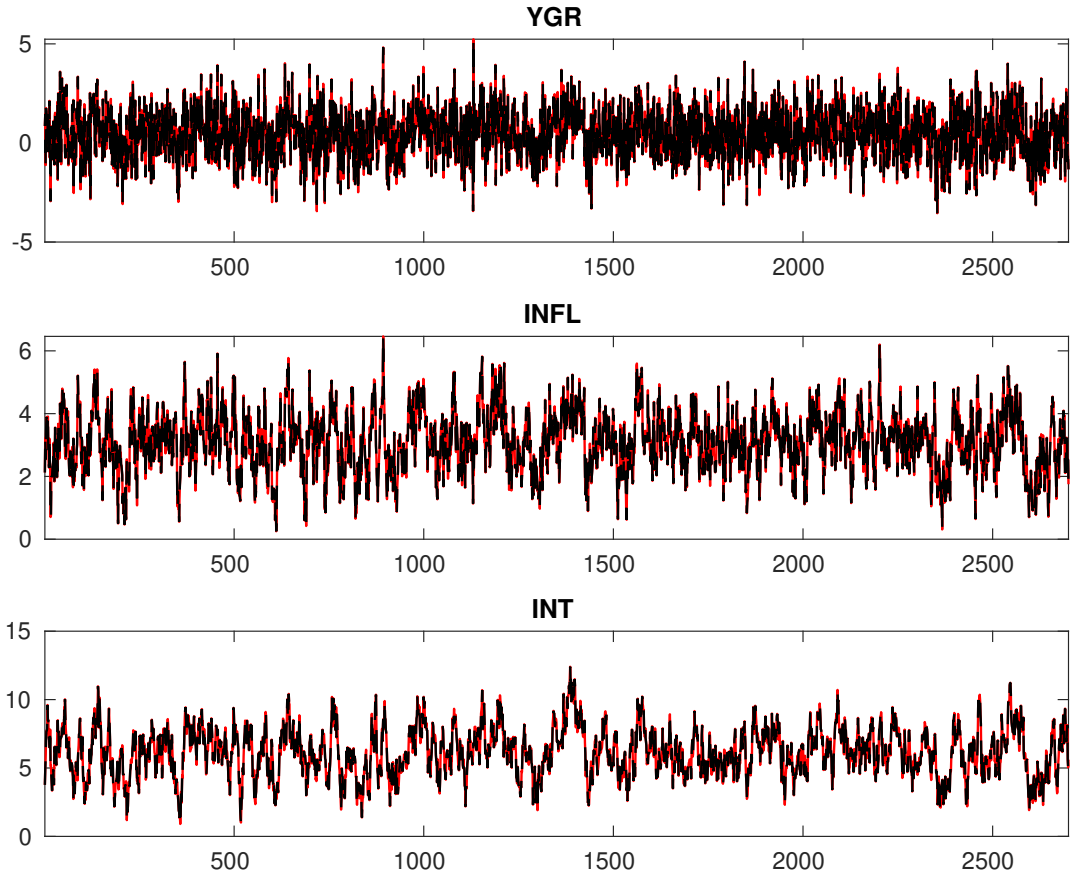

Figure 3: Historical and smoothed variables.

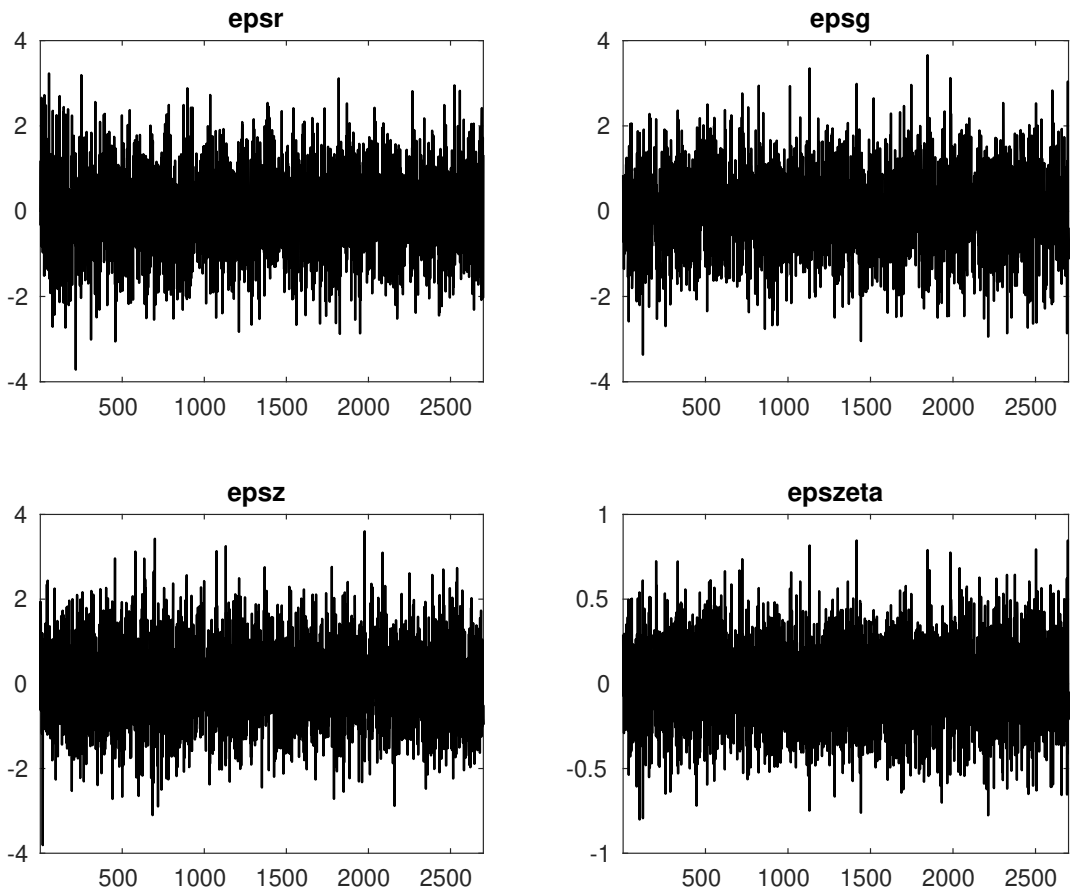

Figure 4: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

Parameter	*Block* 1	*Block* 2	*Block* 3	*Block* 4
r_A	623.801	621.926	630.714	626.465
$\pi^{(A)}$	624.110	624.561	633.190	628.538
$\gamma^{(Q)}$	590.691	593.581	603.240	597.225
τ	482.721	493.627	500.181	505.452
ν	455.859	463.363	473.089	480.391
ψ_π	661.547	641.776	648.995	660.896
ψ_y	584.603	553.497	562.323	583.513
ρ_R	172.575	172.511	168.723	189.622
ρ_g	100.024	94.438	93.746	105.025
ρ_z	228.869	233.396	233.859	246.180
σ_R	60.641	68.168	70.058	67.745
σ_g	280.195	254.010	264.841	291.764
σ_z	182.936	183.484	191.477	196.702
ρ_ζ	676.510	664.229	655.358	665.117
σ_ζ	352.139	317.911	325.381	364.580

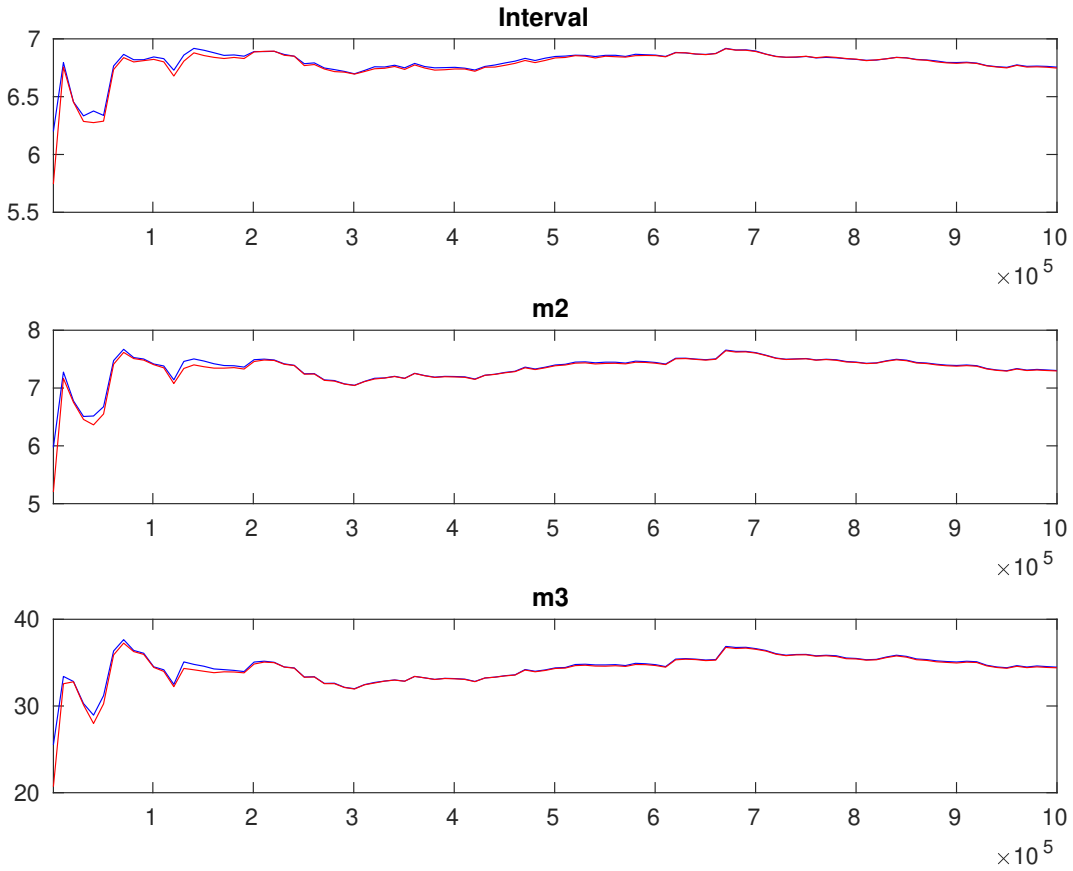

Figure 5: Multivariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments. The different parameters are aggregated using the posterior kernel.

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	1.157	0.1285	0.9447	1.3668
$\pi^{(A)}$	gamm	4.000	2.0000	3.111	0.0658	3.0033	3.2193
$\gamma^{(Q)}$	norm	0.400	0.2000	0.476	0.0493	0.3961	0.5579
τ	gamm	2.000	0.5000	1.709	0.1043	1.5372	1.8773
ν	beta	0.100	0.0500	0.090	0.0040	0.0830	0.0961
ψ_π	gamm	1.500	0.2500	1.337	0.1913	1.0231	1.6494
ψ_y	gamm	0.500	0.2500	0.154	0.0369	0.0936	0.2149
ρ_R	beta	0.500	0.2000	0.721	0.0095	0.7048	0.7361
ρ_g	beta	0.800	0.1000	0.942	0.0072	0.9302	0.9538
ρ_z	beta	0.660	0.1500	0.893	0.0044	0.8858	0.9005
σ_R	invg	0.300	4.0000	0.200	0.0030	0.1953	0.2052
σ_g	invg	0.400	4.0000	0.576	0.0174	0.5490	0.6036
σ_z	invg	0.400	4.0000	0.285	0.0058	0.2758	0.2949
ρ_ζ	beta	0.500	0.2000	0.442	0.1706	0.1639	0.7224
σ_ζ	invg	0.300	4.0000	0.224	0.0818	0.0938	0.3486

Table 3: Results from posterior maximization (parameters)

	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
r_A	gamm	0.800	0.5000	1.1603	0.0179
$\pi^{(A)}$	gamm	4.000	2.0000	3.1096	0.0086
$\gamma^{(Q)}$	norm	0.400	0.2000	0.4749	0.0115
τ	gamm	2.000	0.5000	1.6849	0.0208
ν	beta	0.100	0.0500	0.0886	0.0012
ψ_π	gamm	1.500	0.2500	1.3084	0.0230
ψ_y	gamm	0.500	0.2500	0.1583	0.0156
ρ_R	beta	0.500	0.2000	0.7190	0.0099
ρ_g	beta	0.800	0.1000	0.9408	0.0061
ρ_z	beta	0.660	0.1500	0.8924	0.0040
σ_R	invg	0.300	4.0000	0.2002	0.0029
σ_g	invg	0.400	4.0000	0.5786	0.0085
σ_z	invg	0.400	4.0000	0.2844	0.0047
ρ_ζ	beta	0.500	0.2000	0.3659	0.0189
σ_ζ	invg	0.300	4.0000	0.2129	0.0254

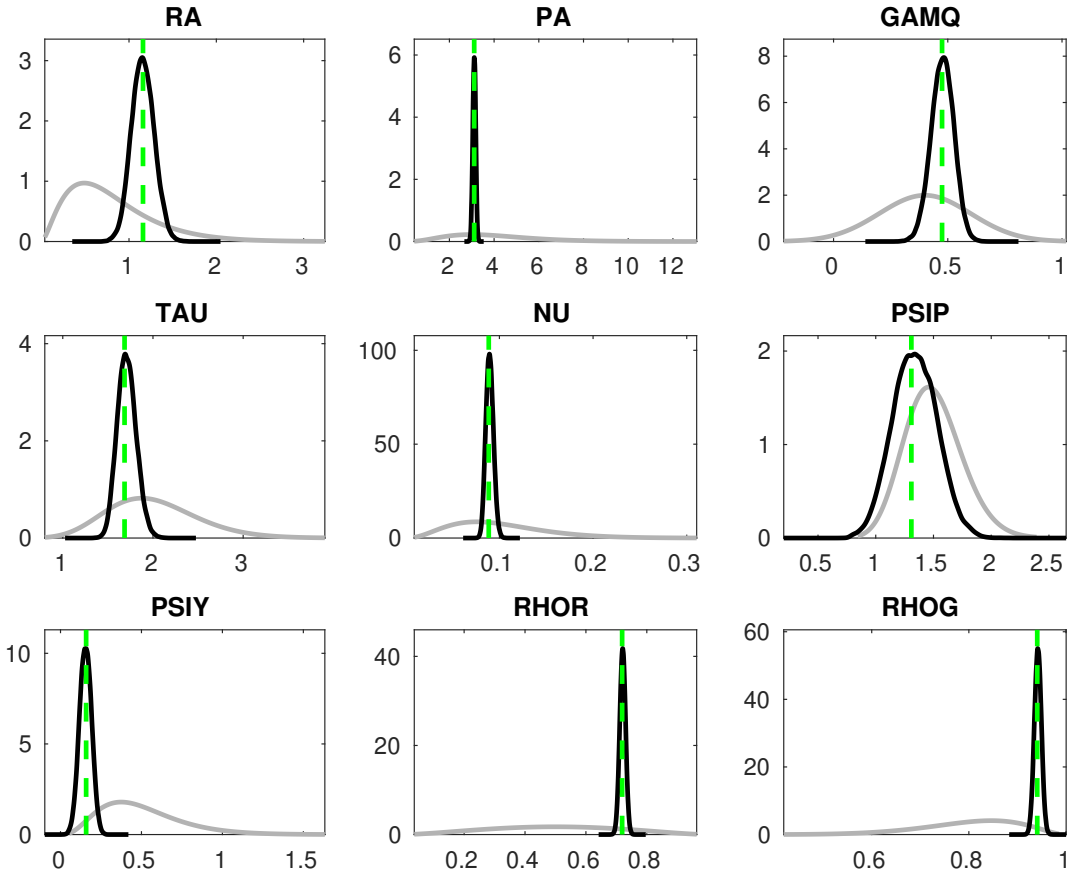

Figure 6: Priors and posteriors.

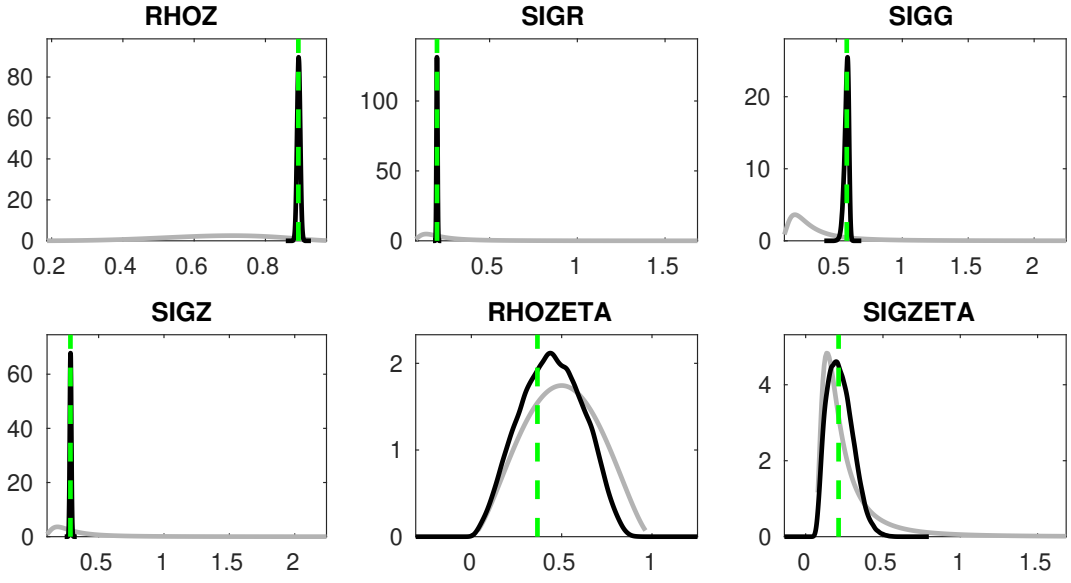

Figure 7: Priors and posteriors.

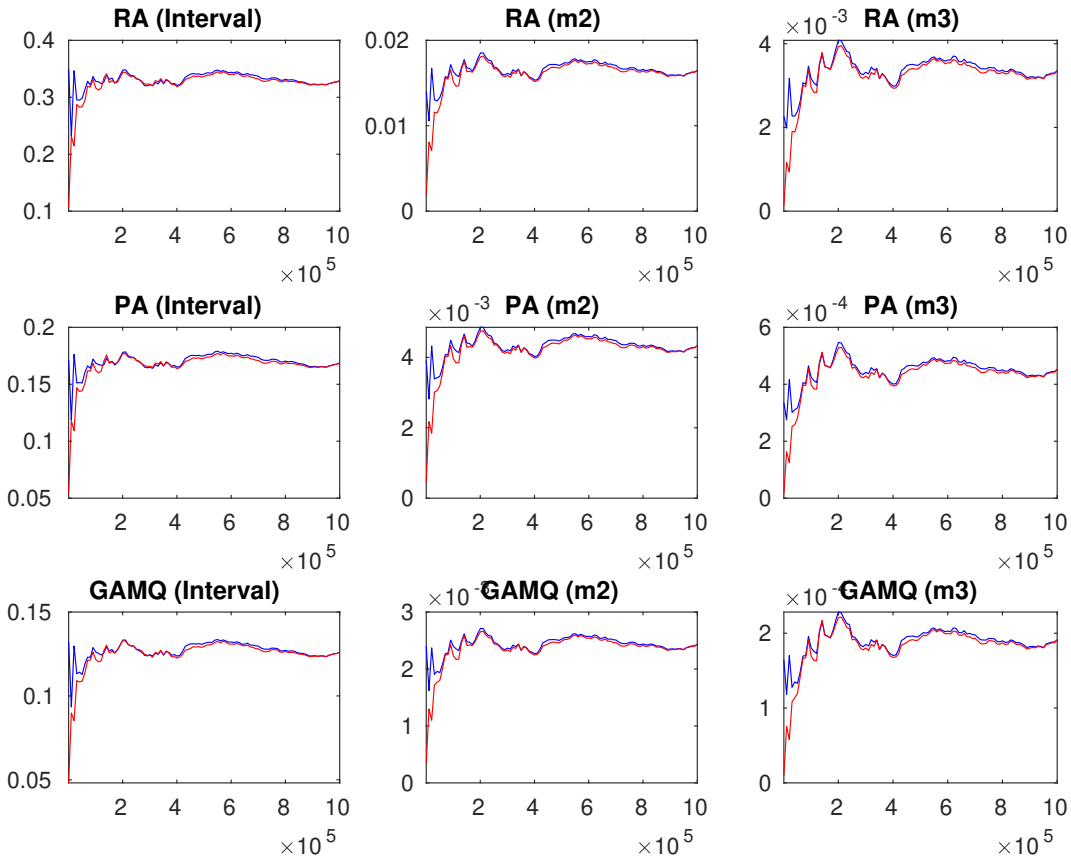

Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

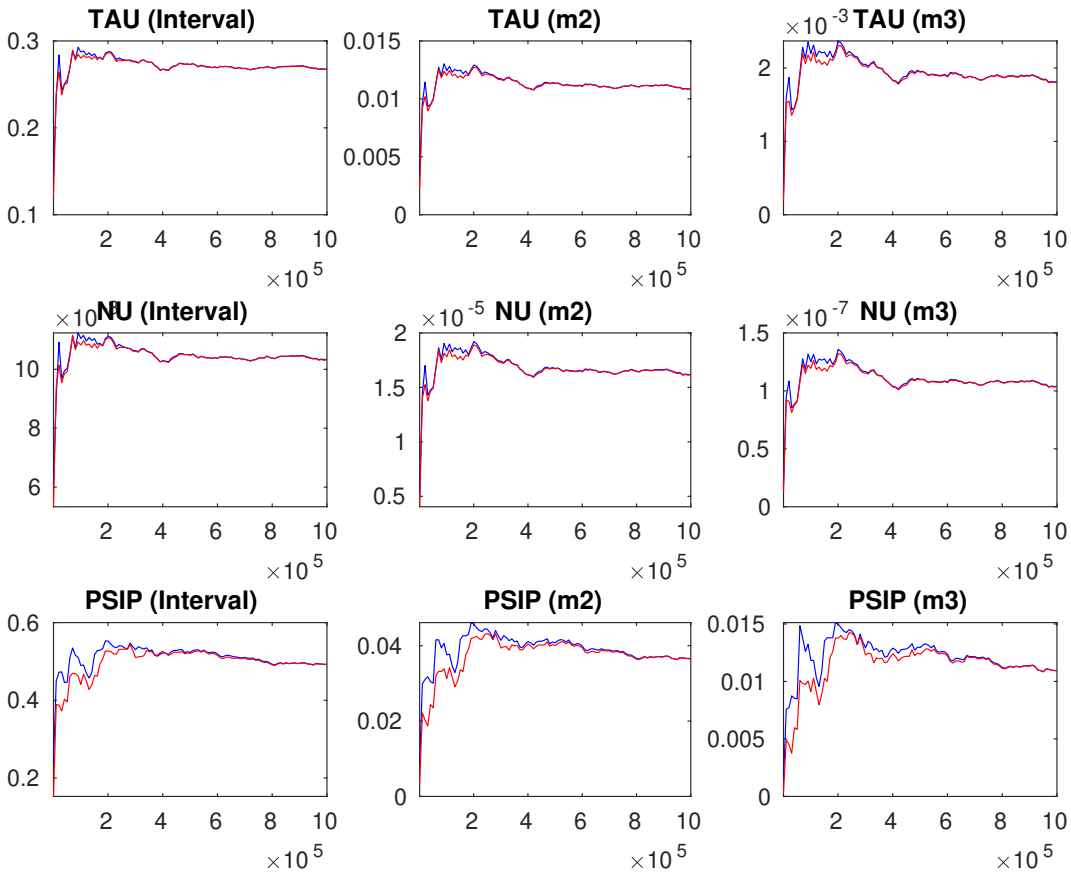

Figure 9: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

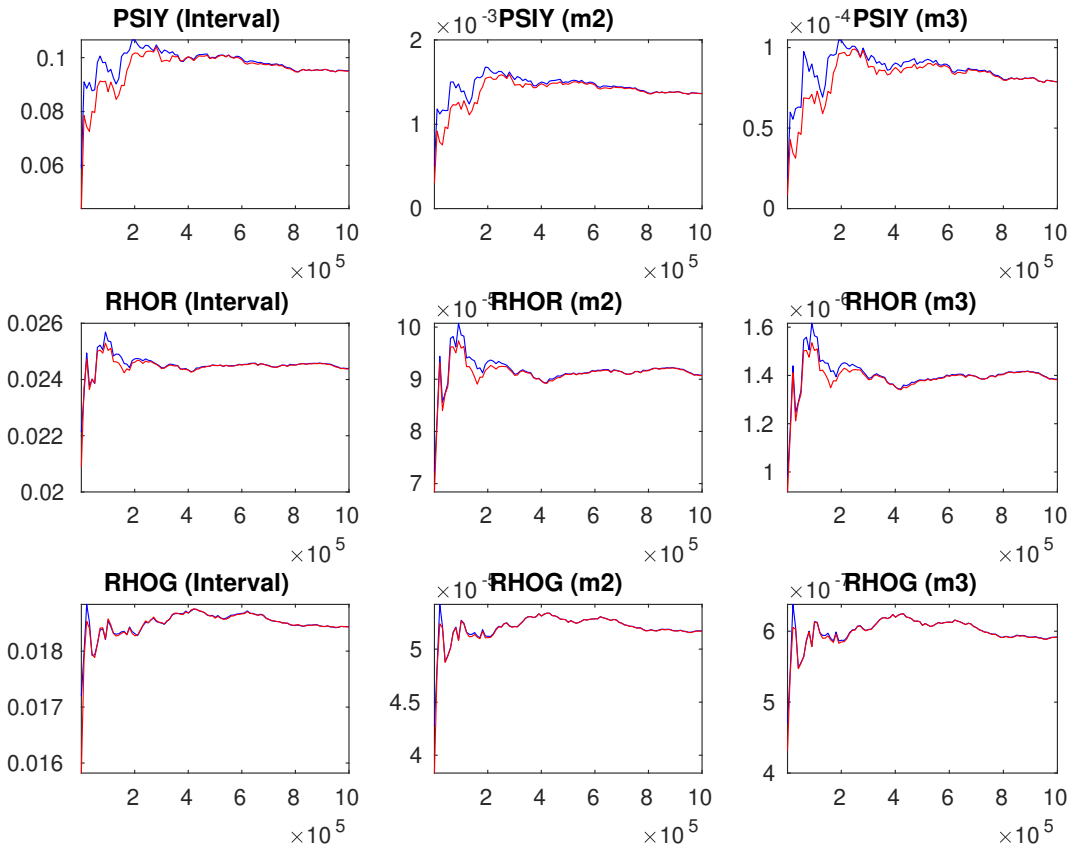

Figure 10: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

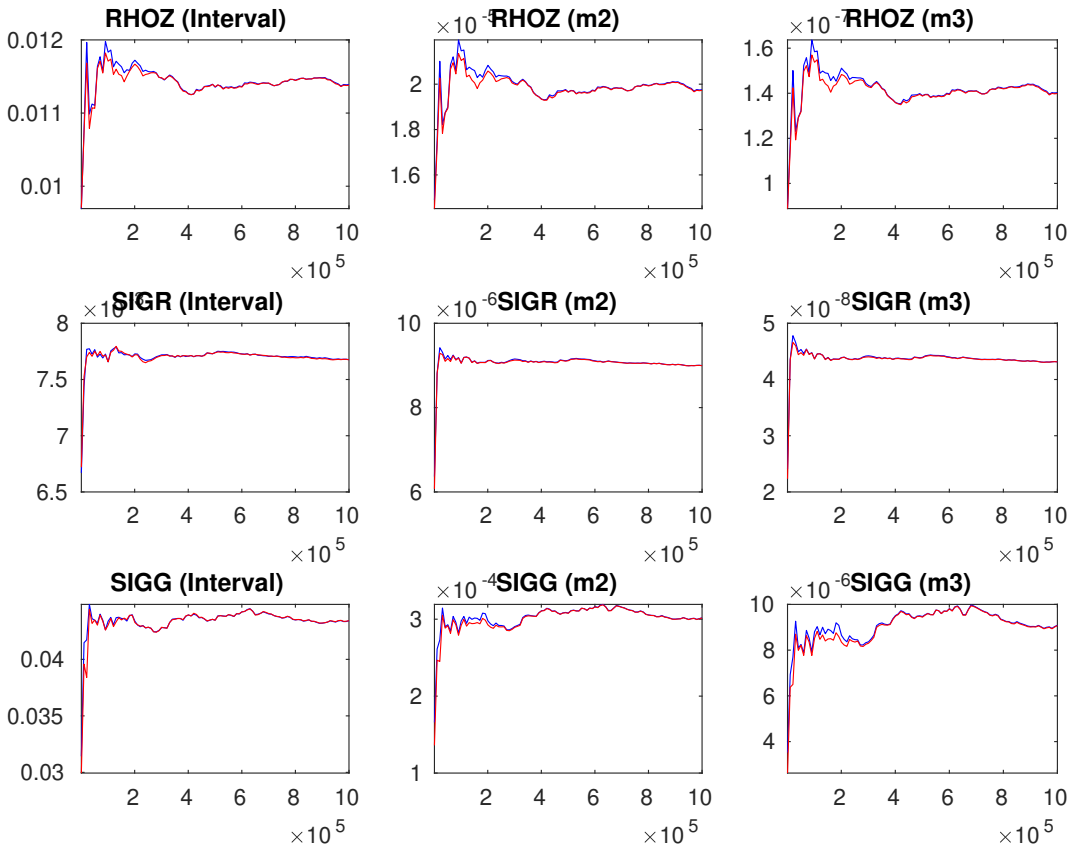

Figure 11: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.

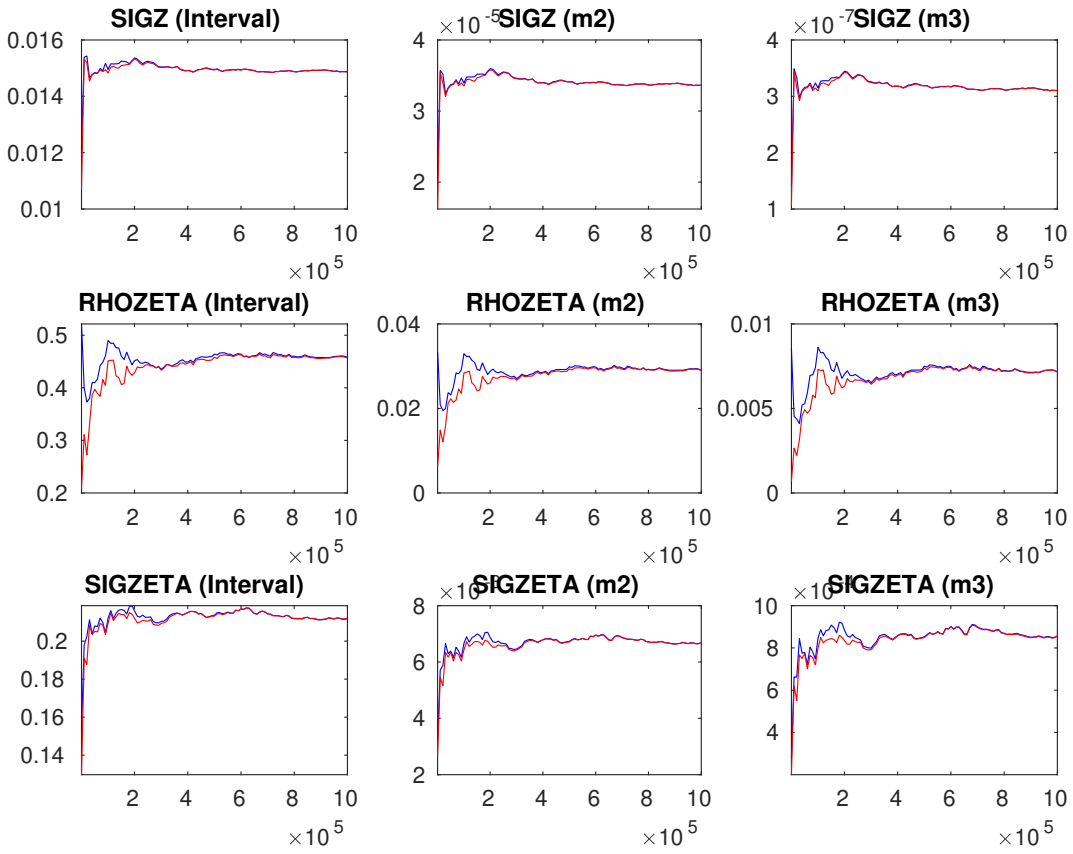

Figure 12: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.