Figure 1: Check plots.
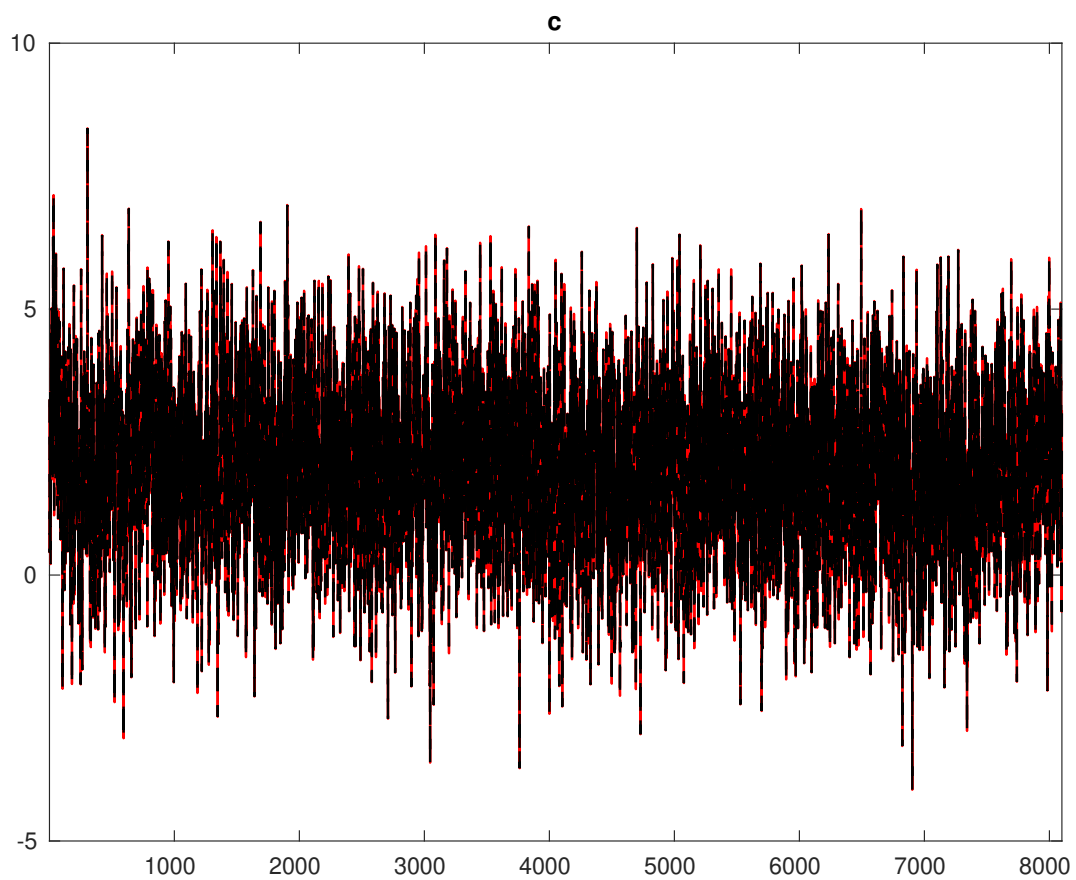
Figure 2: Historical and smoothed variables.
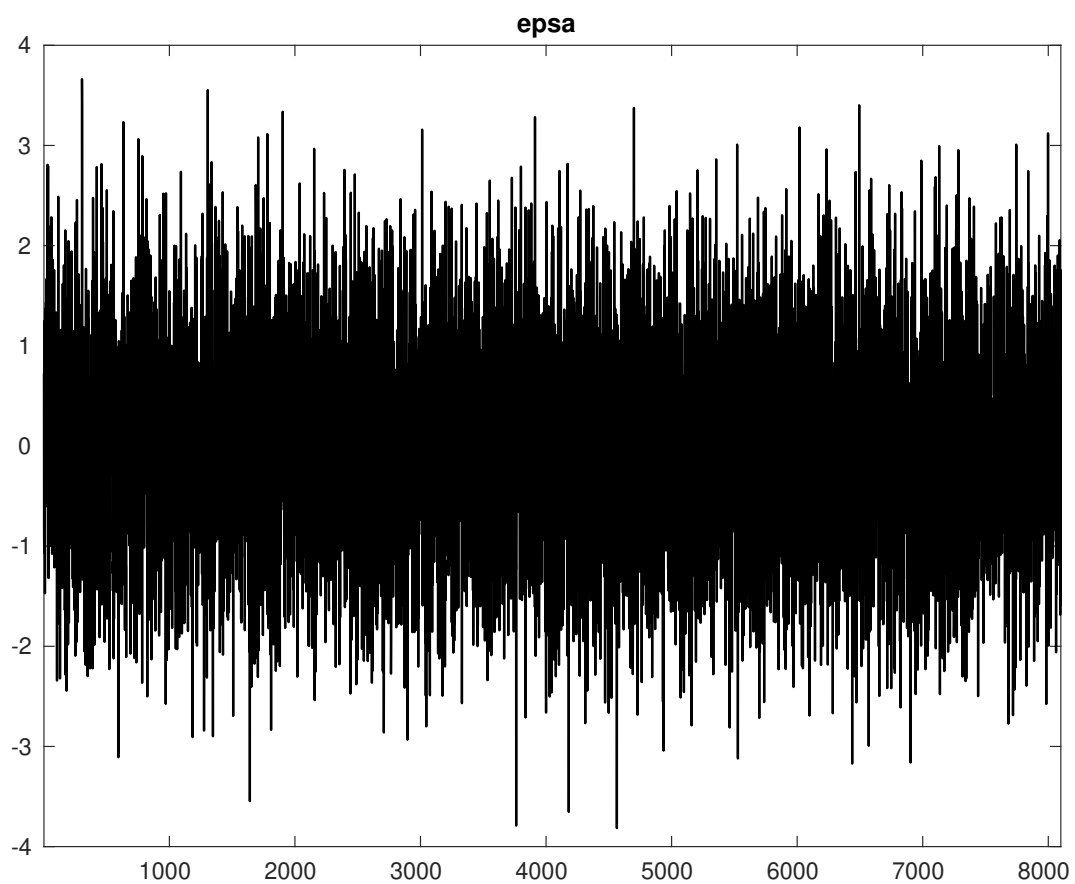
Figure 3: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

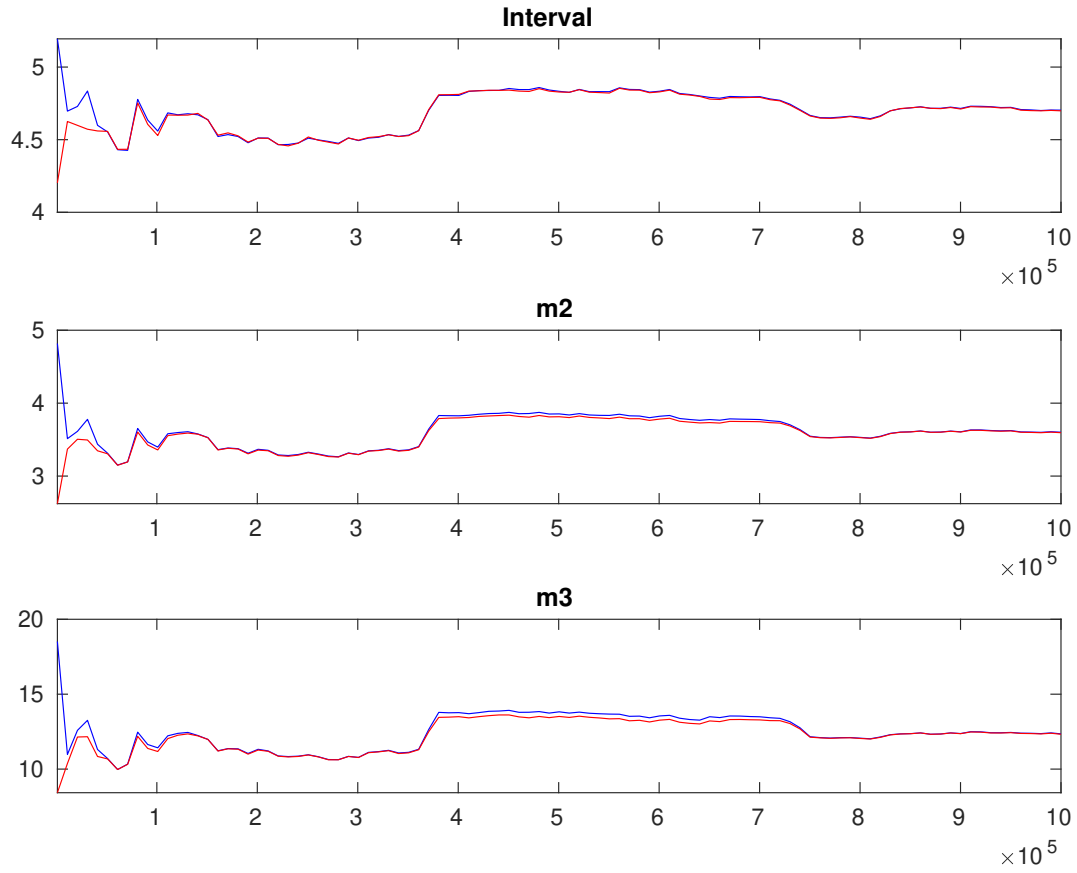| Parameter	Block 1	Block 2	Block 3	Block 4
α	525.701	522.924	531.125	341.643
r_A	88.494	86.675	89.751	84.321
δ	576.598	572.817	583.450	383.445
ρ_A	101.509	104.435	104.013	84.277
σ_A	370.684	363.941	367.655	270.591
θ	118.818	122.701	118.301	87.202
κ	404.239	396.795	395.955	394.440

Figure 4: 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
α	norm	0.300	0.0500	0.278	0.0369	0.2179	0.3413
r_A	gamm	2.000	0.2500	2.002	0.2491	1.5979	2.4124
δ	unif	0.500	0.2887	0.020	0.0101	0.0038	0.0349
ρ_A	beta	0.500	0.1000	0.517	0.0096	0.5014	0.5331
σ_A	invg	0.600	2.0000	0.579	0.0415	0.5101	0.6463
θ	gamm	1.500	0.7500	1.425	0.7227	0.3213	2.4814
κ	gamm	2.000	1.5000	2.985	1.6984	0.3698	5.4932

Table 3: Results from posterior maximization (parameters)

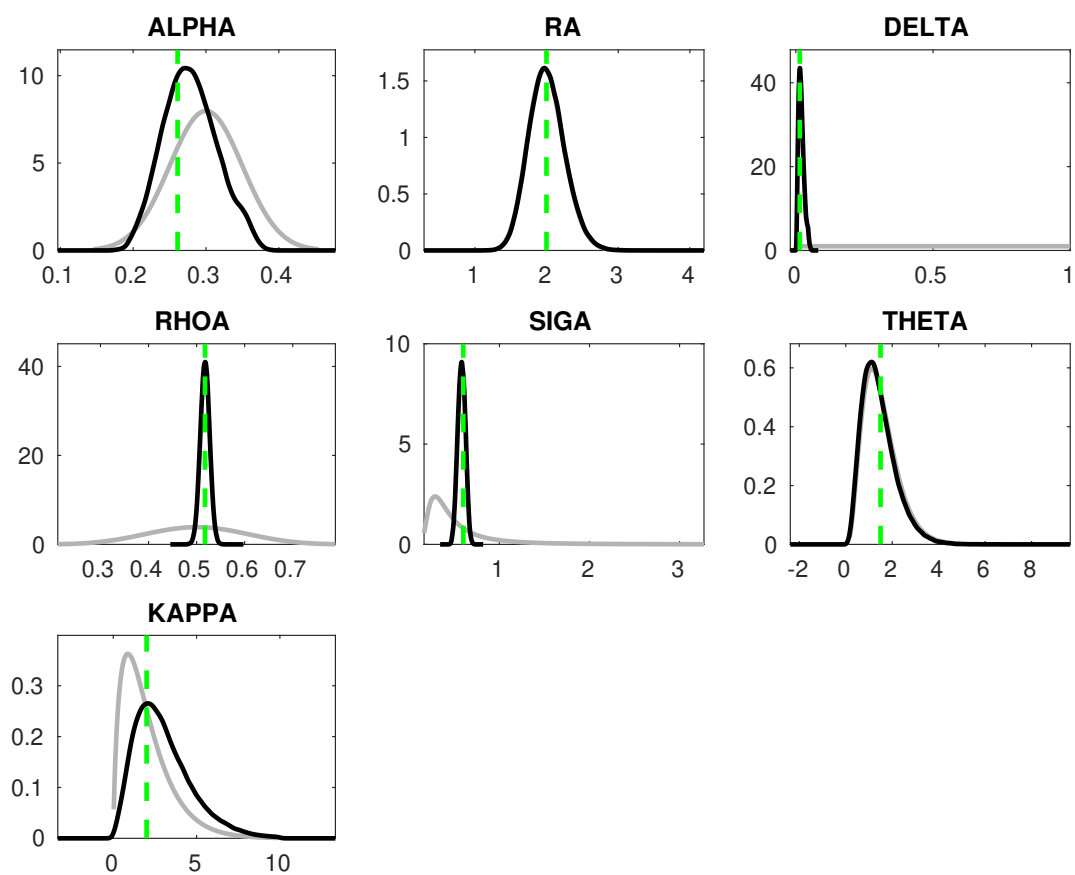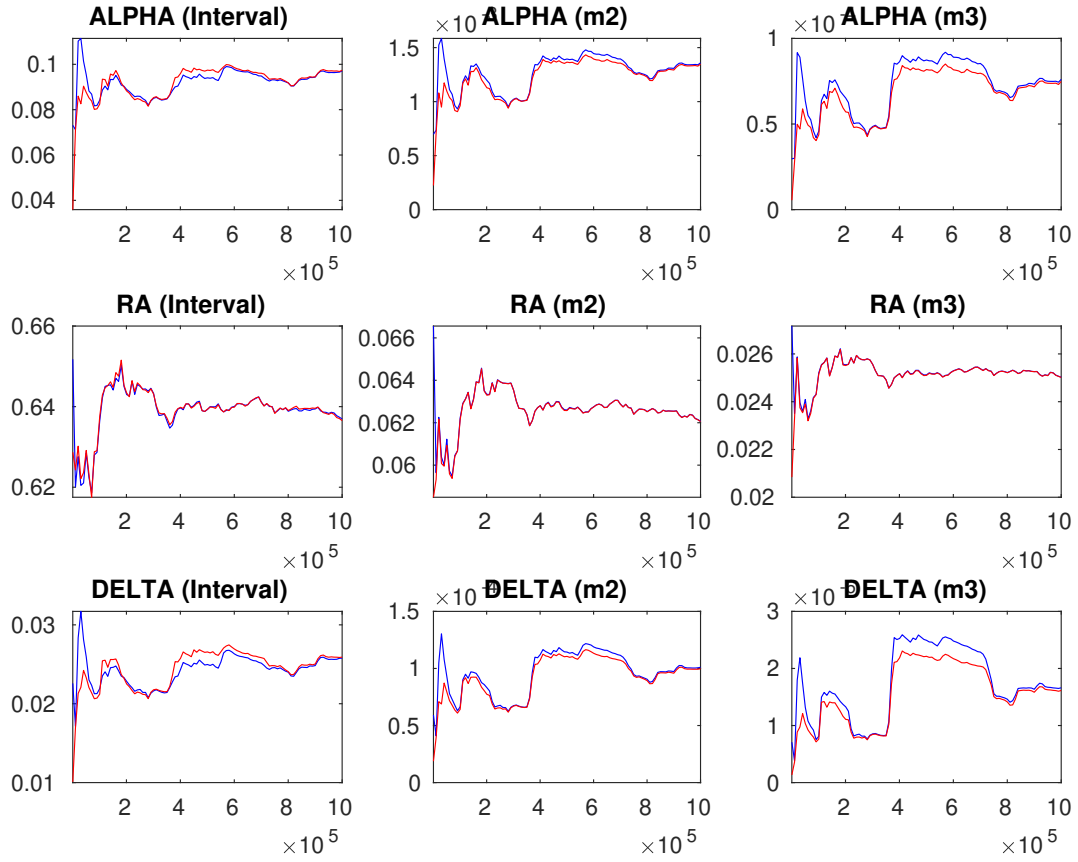|	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
α	norm	0.300	0.0500	0.2610	0.0381
r_A	gamm	2.000	0.2500	1.9989	0.2520
δ	unif	0.500	0.2887	0.0142	0.0088
ρ_A	beta	0.500	0.1000	0.5175	0.0097
σ_A	invg	0.600	2.0000	0.5986	0.0506
θ	gamm	1.500	0.7500	1.4975	0.8842
κ	gamm	2.000	1.5000	2.0008	1.6644

Figure 5: Priors and posteriors.

Figure 6: 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.
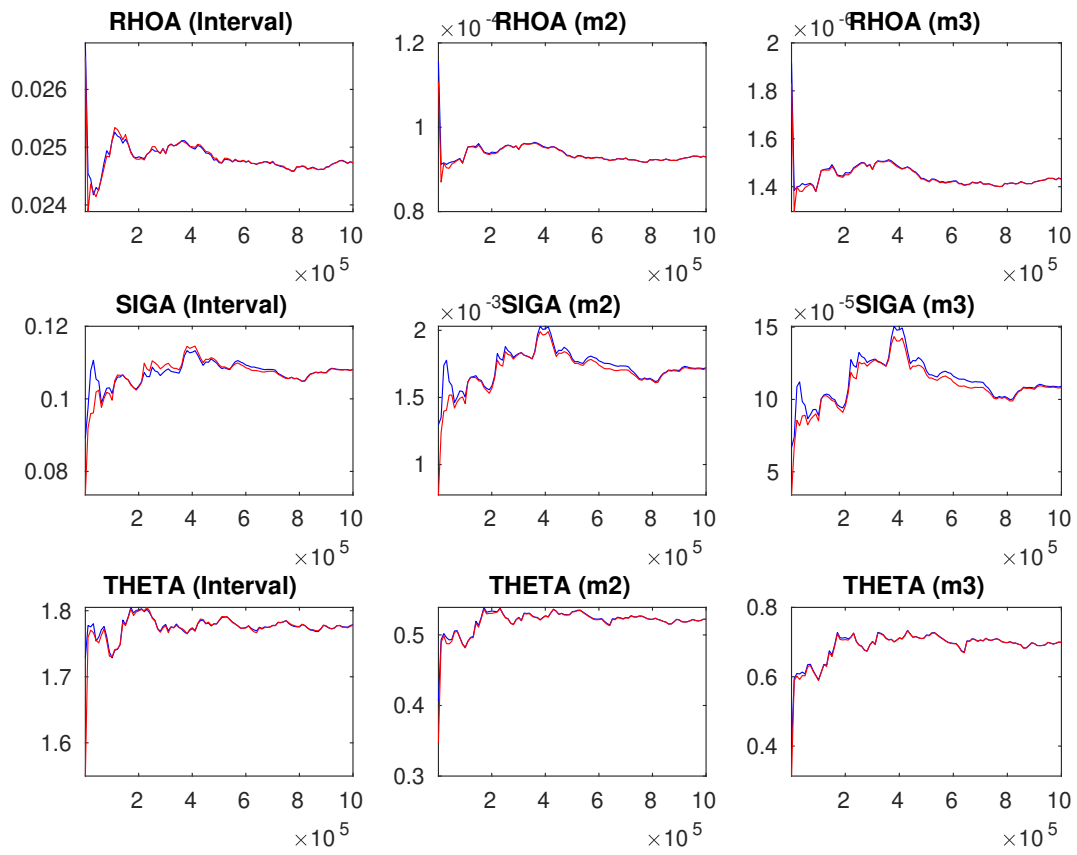
Figure 7: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.
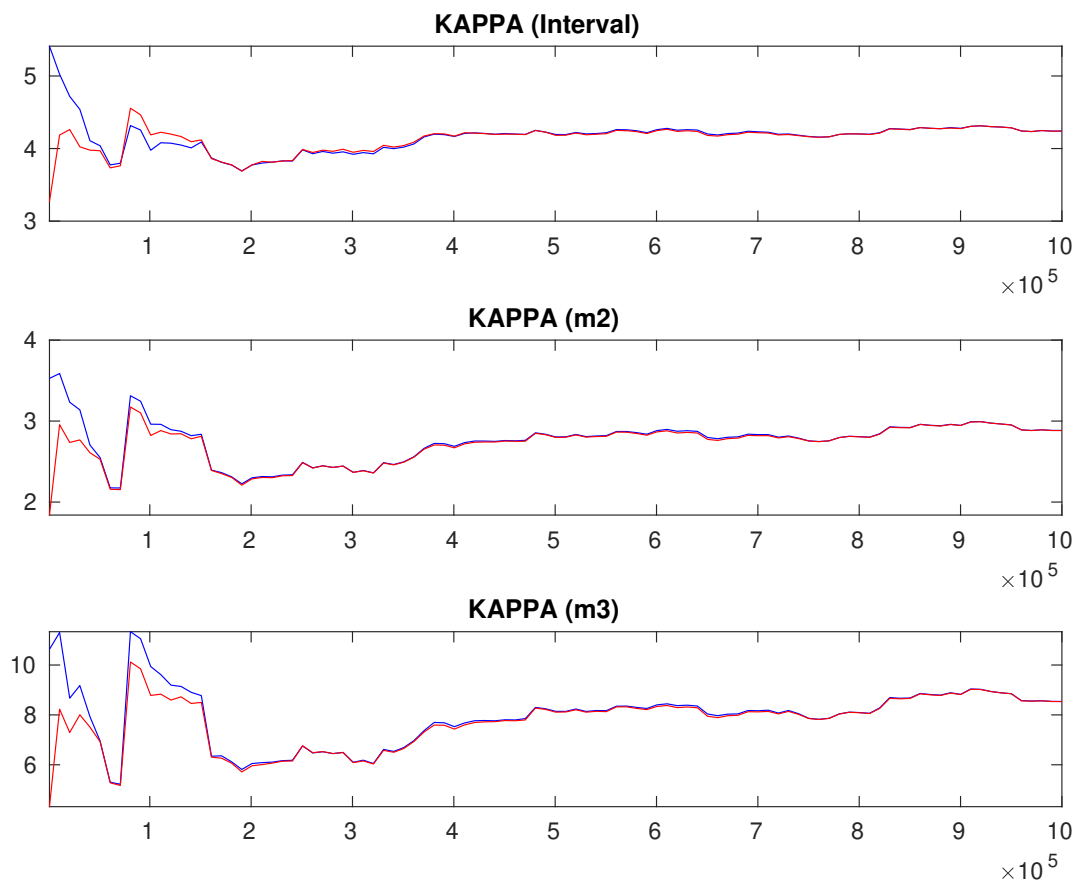
Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments.