Figure 1: Check plots.

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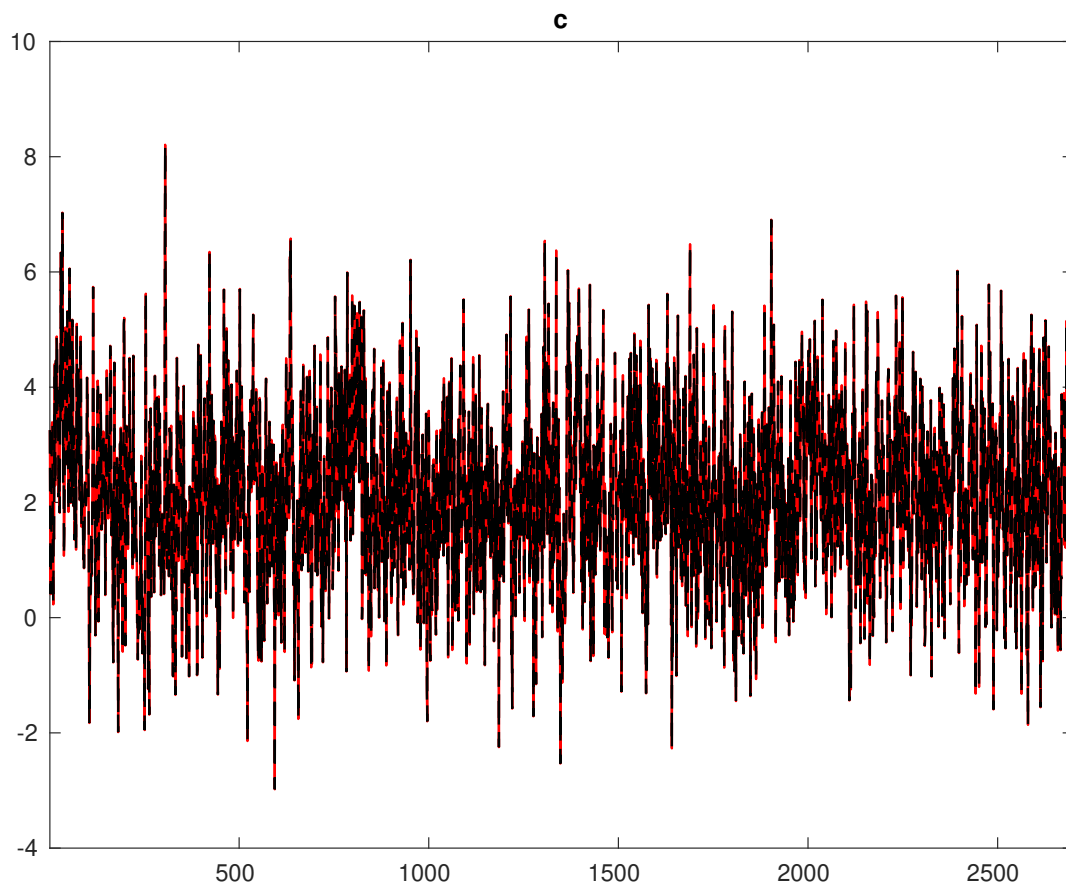
Figure 2: Historical and smoothed variables.
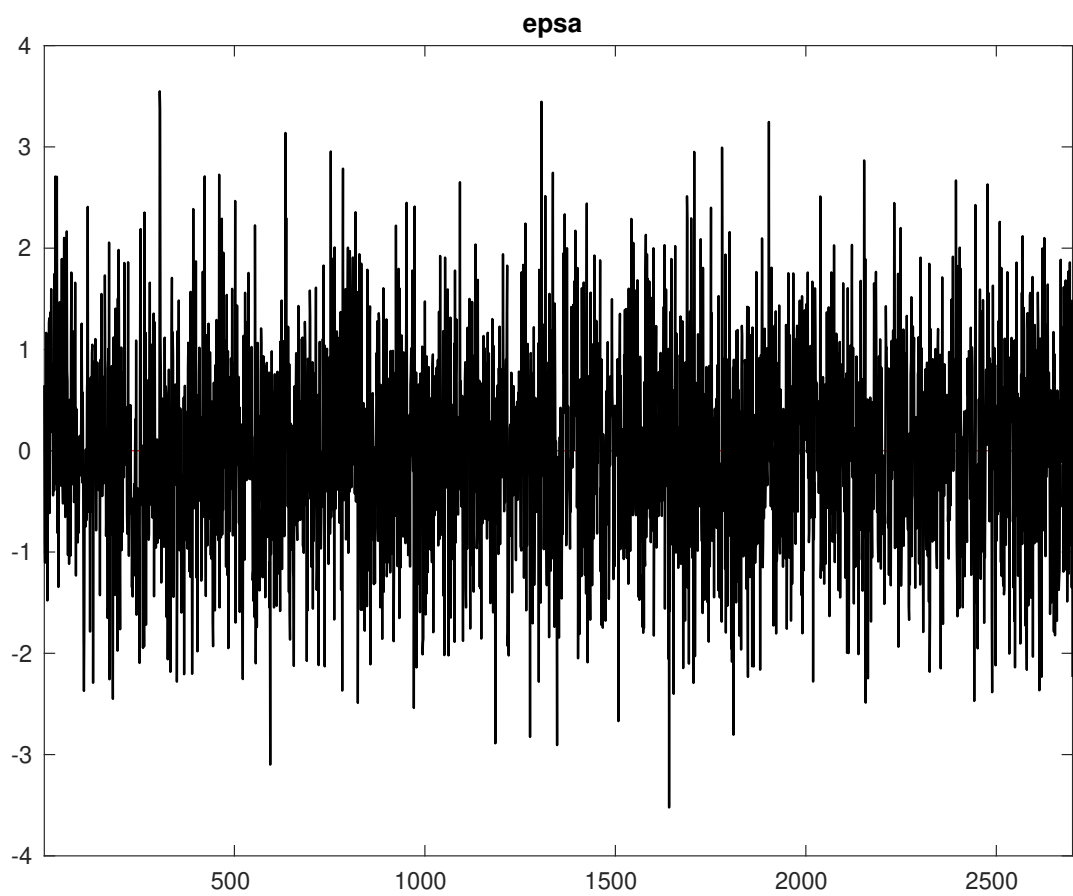
Figure 3: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

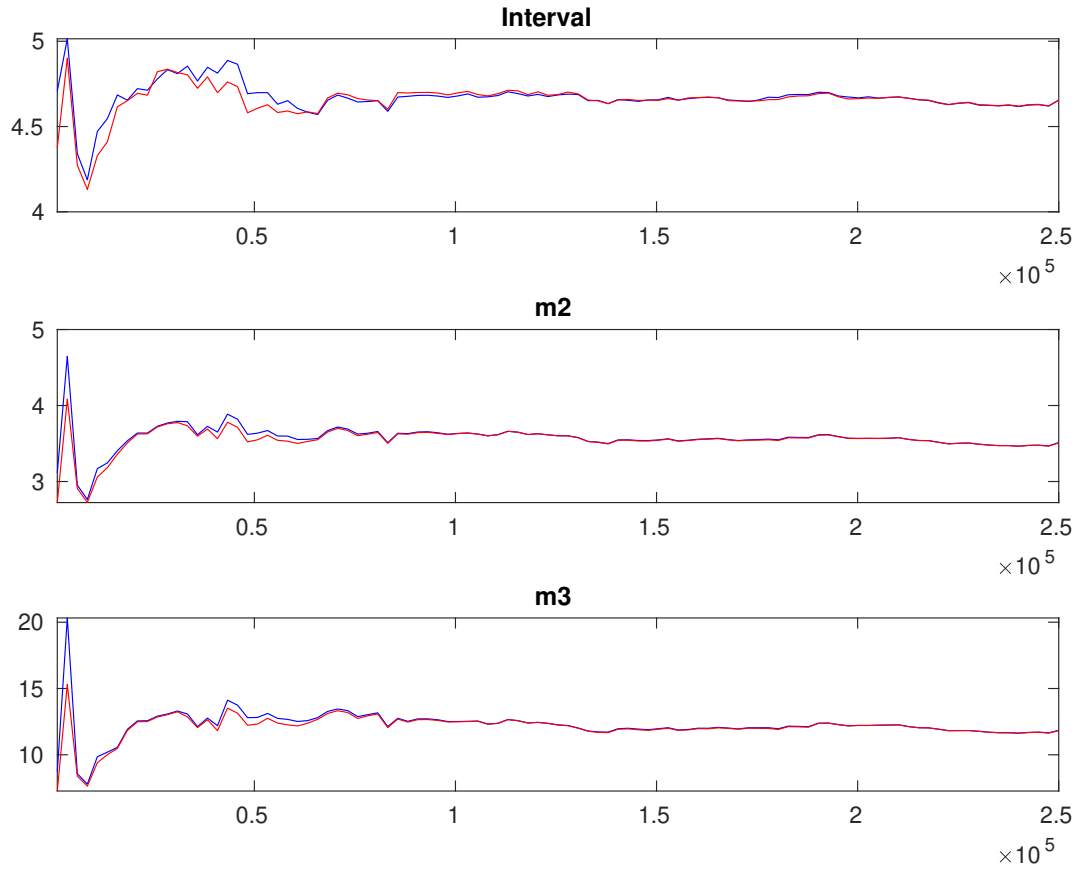| Parameter	Block 1	Block 2	Block 3	Block 4
α	209.891	189.909	213.858	214.300
r_A	52.478	52.136	47.334	44.709
δ	264.357	235.199	259.297	250.986
ρ_A	136.559	170.239	129.301	188.654
σ_A	259.859	322.748	187.278	275.569
θ	101.085	106.429	97.274	88.153
κ	284.629	293.320	228.893	320.868

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	0.306	0.0326	0.2522	0.3598
r_A	gamm	2.000	0.2500	2.003	0.2477	1.5858	2.3950
δ	unif	0.500	0.2887	0.024	0.0097	0.0086	0.0395
ρ_A	beta	0.500	0.1000	0.503	0.0265	0.4607	0.5463
σ_A	invg	0.600	4.0000	0.567	0.0463	0.4916	0.6397
θ	gamm	1.500	0.7500	1.568	0.7086	0.4699	2.6035
κ	gamm	2.000	1.5000	2.306	1.4114	0.0298	4.2564

Table 3: Results from posterior maximization (parameters)

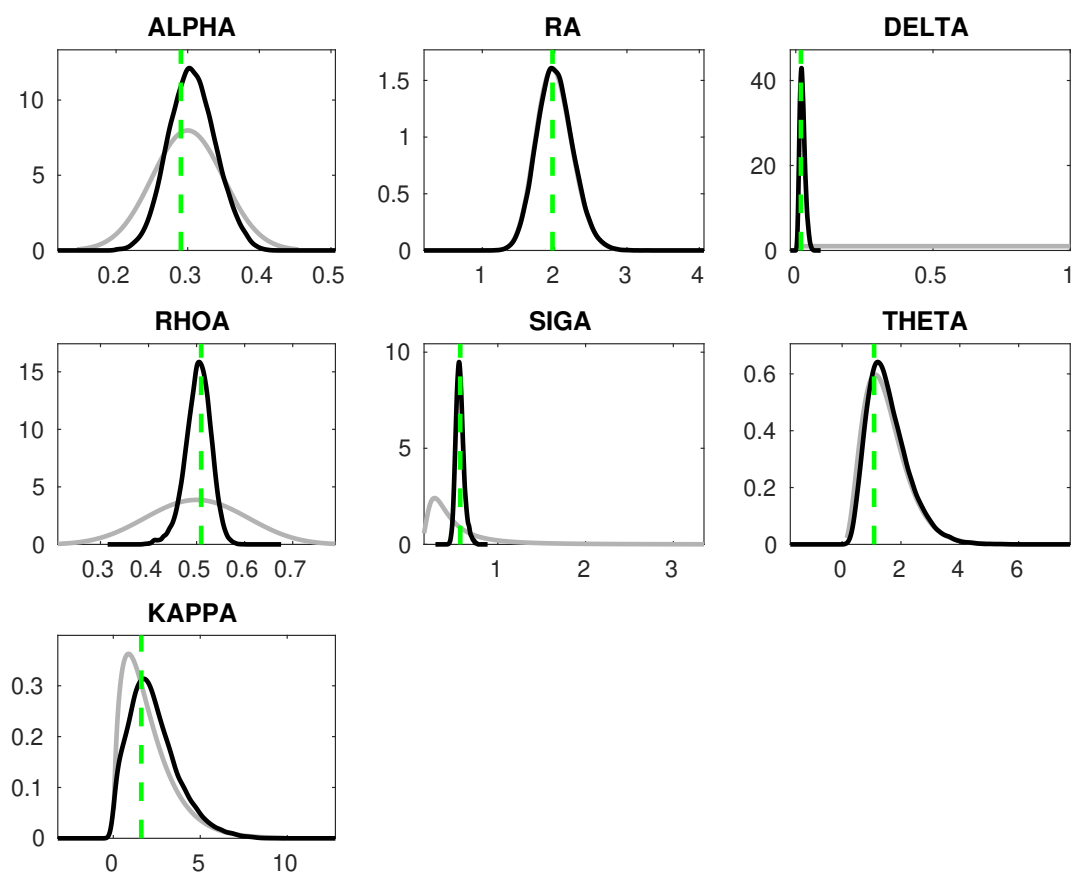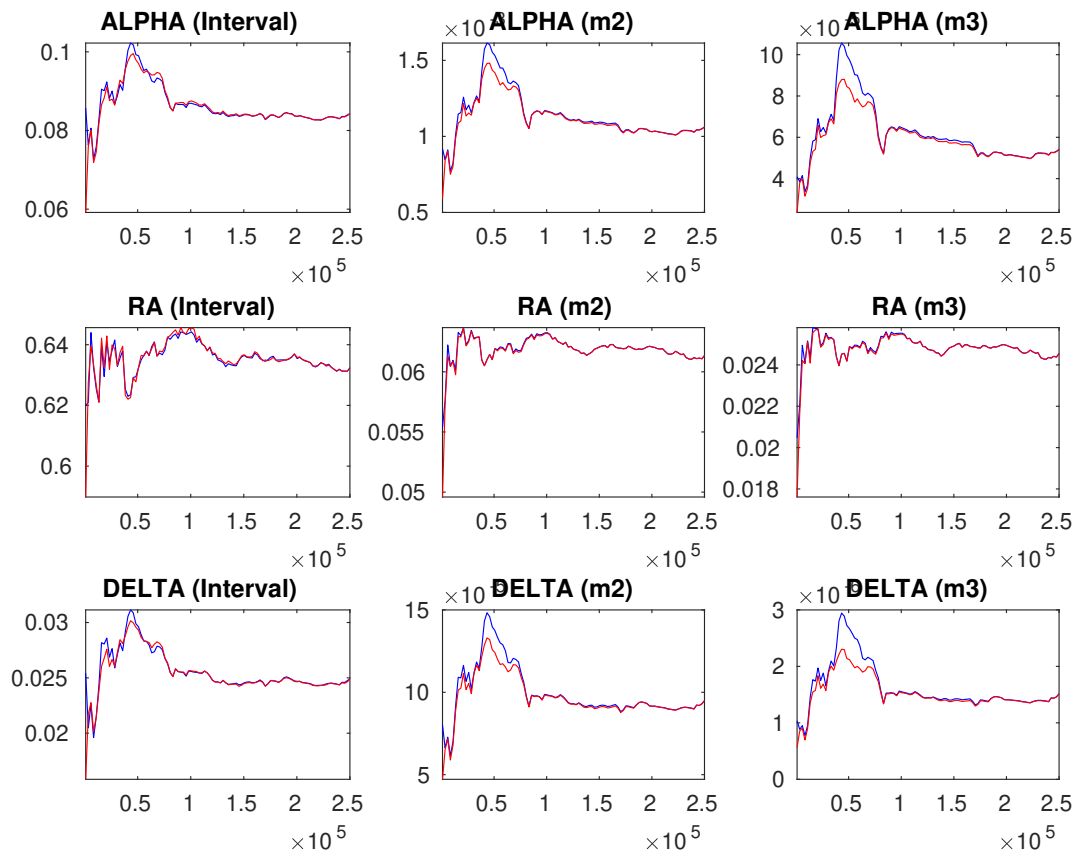|	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
α	norm	0.300	0.0500	0.2905	0.0338
r_A	gamm	2.000	0.2500	1.9709	0.2482
δ	unif	0.500	0.2887	0.0188	0.0089
ρ_A	beta	0.500	0.1000	0.5095	0.0249
σ_A	invg	0.600	4.0000	0.5716	0.0431
θ	gamm	1.500	0.7500	1.0862	0.5671
κ	gamm	2.000	1.5000	1.6087	1.0539

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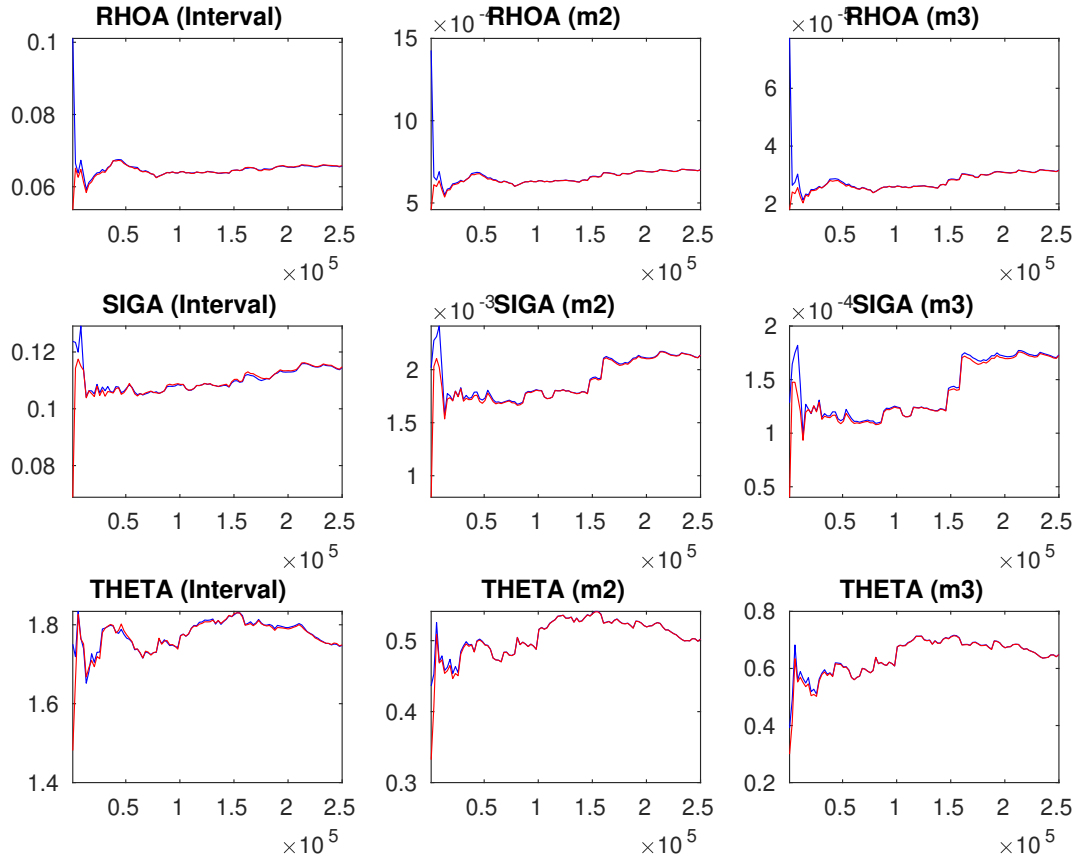
Figure 7: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.
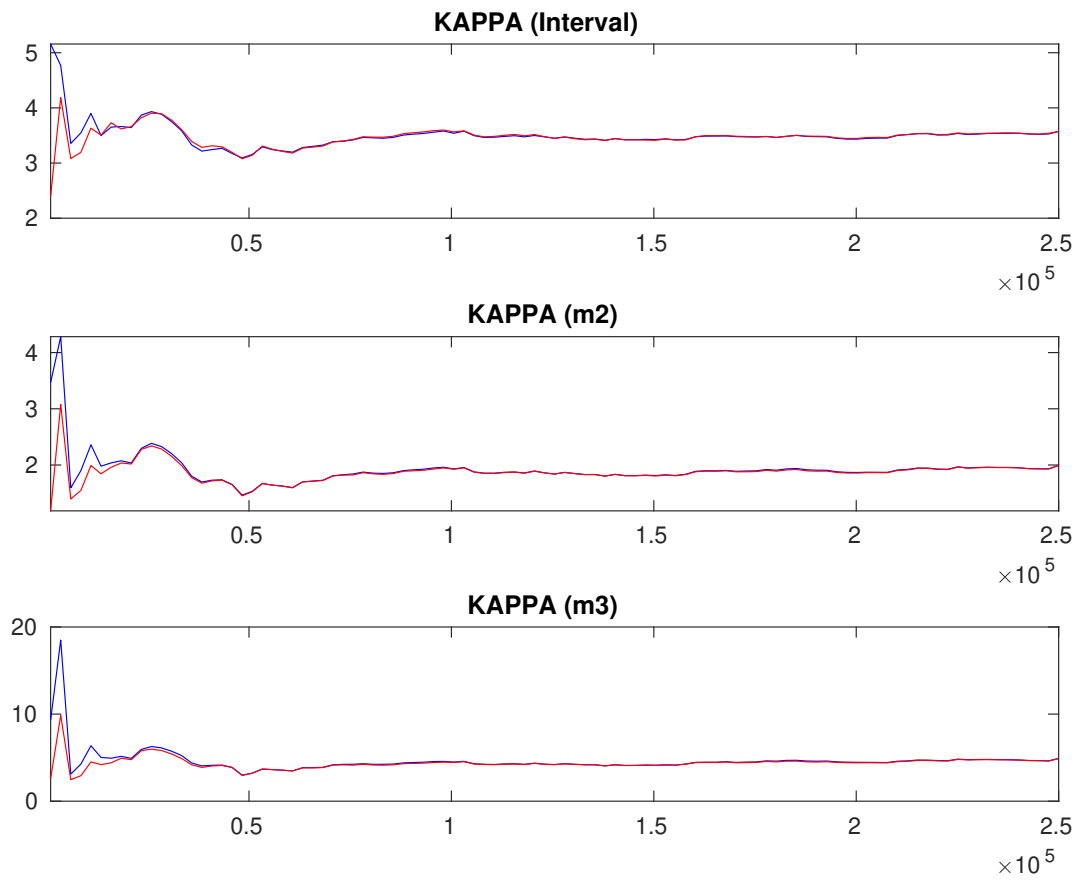
Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments.