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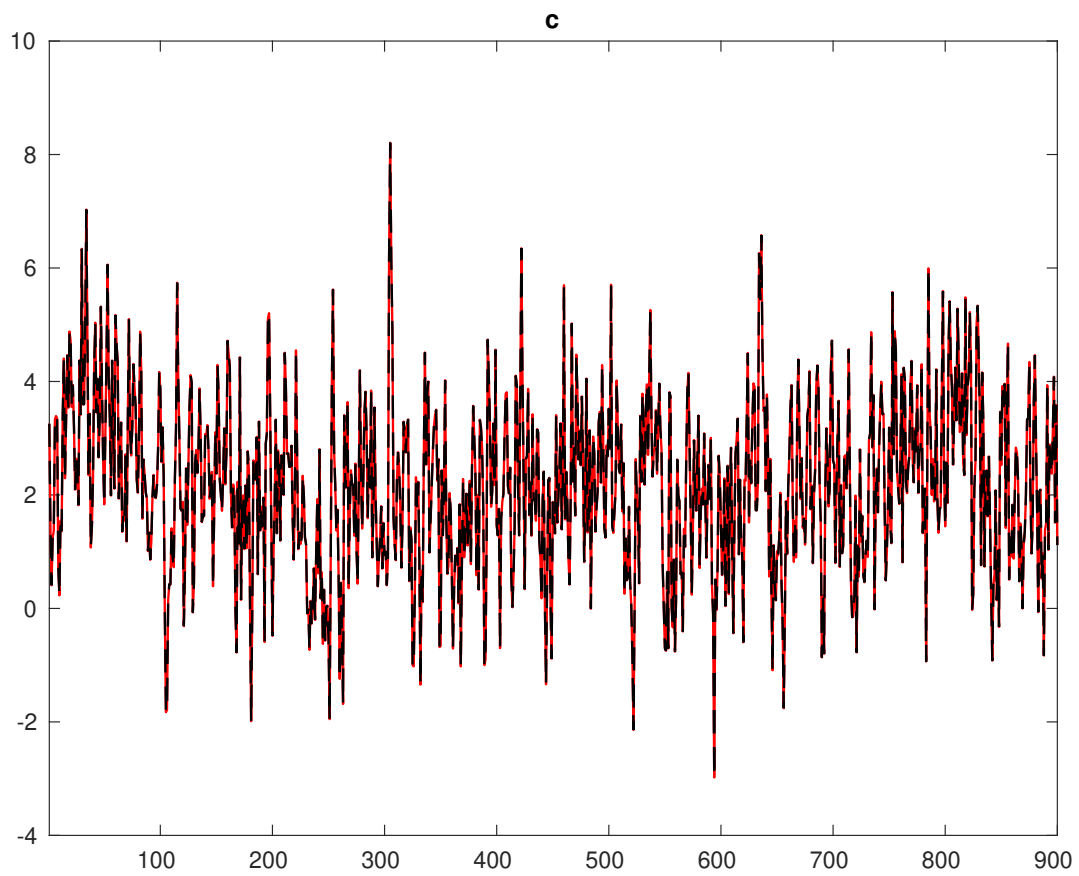
Figure 2: Historical and smoothed variables.
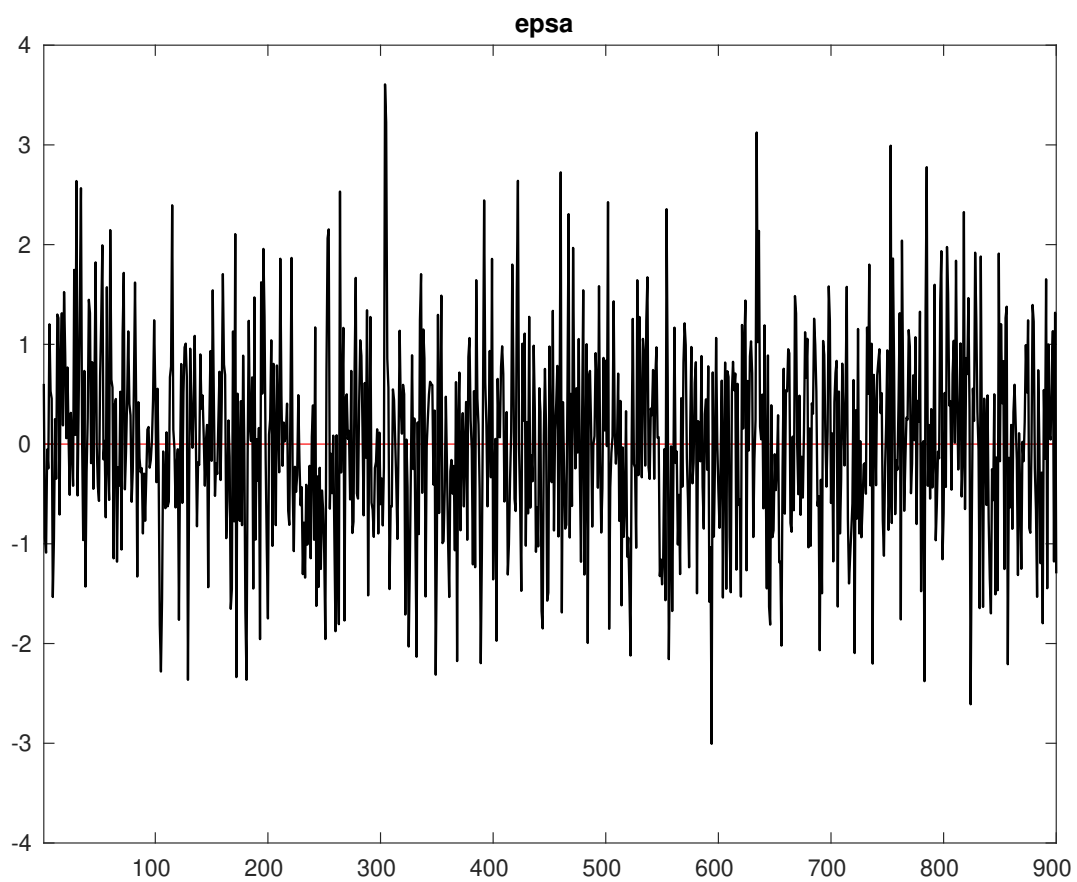
Figure 3: Smoothed shocks.

Table 1: MCMC Inefficiency factors per block

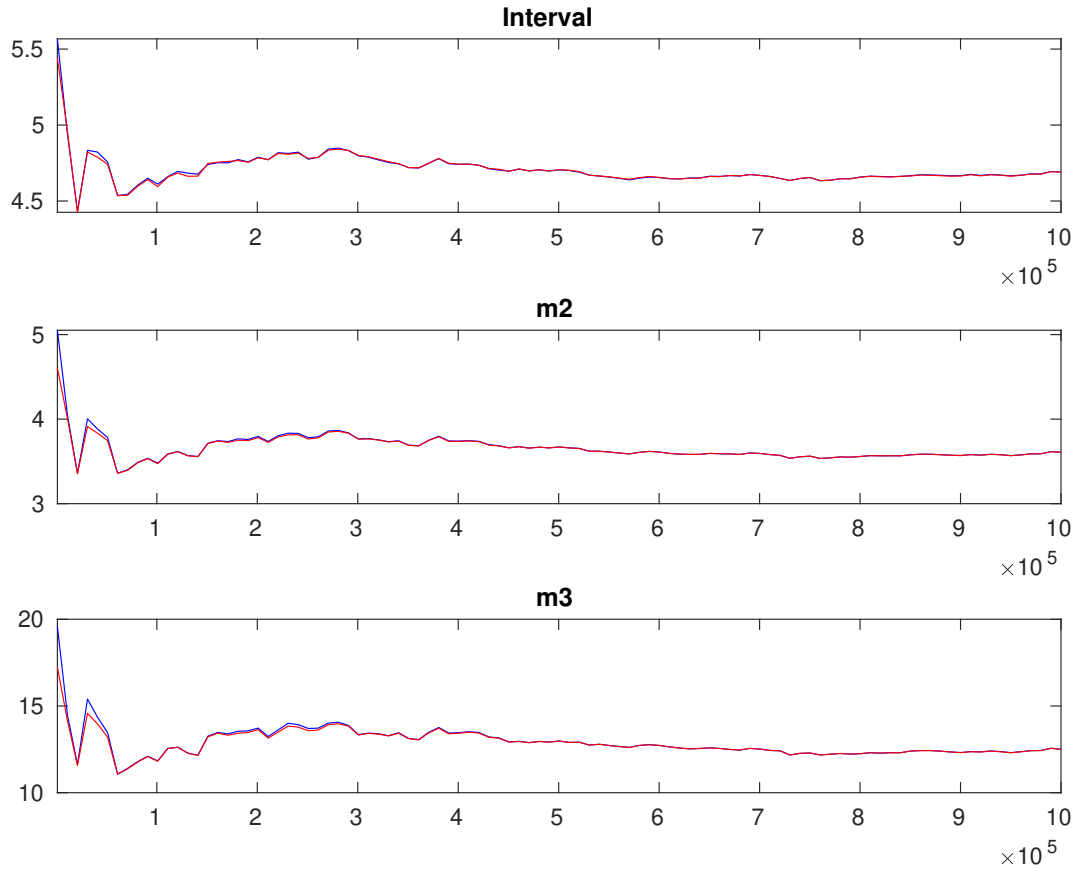| Parameter	Block 1	Block 2	Block 3	Block 4
α	115.223	135.474	149.837	148.222
r_A	45.961	45.909	41.394	51.211
δ	152.533	185.683	173.396	196.268
ρ_A	117.493	122.202	74.964	176.685
σ_A	211.884	252.726	119.275	307.046
θ	82.195	89.375	90.918	95.826
κ	193.119	215.600	163.165	221.042

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.

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Table 2: Results from Metropolis-Hastings (parameters)

	Prior			Posterior			
	Dist.	Mean	Stdev.	Mean	Stdev.	HPD inf	HPD sup
α	norm	0.300	0.0500	0.327	0.0386	0.2625	0.3899
r_A	gamm	2.000	0.2500	2.005	0.2509	1.5855	2.4066
δ	unif	0.500	0.2887	0.031	0.0134	0.0096	0.0519
ρ_A	beta	0.500	0.1000	0.567	0.0369	0.5079	0.6286
σ_A	invg	0.600	2.0000	0.560	0.0663	0.4564	0.6619
θ	gamm	1.500	0.7500	1.408	0.7495	0.2860	2.4850
κ	gamm	2.000	1.5000	2.399	1.6175	0.0115	4.5787

Table 3: Results from posterior maximization (parameters)

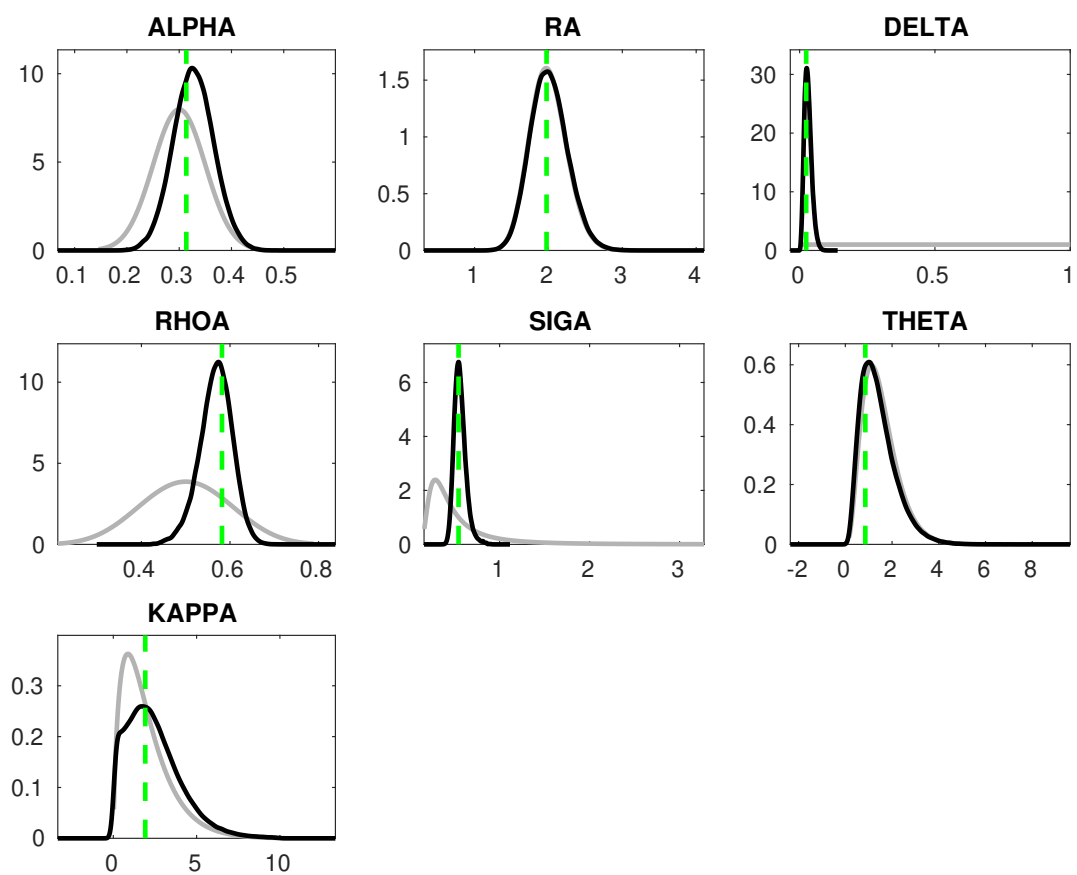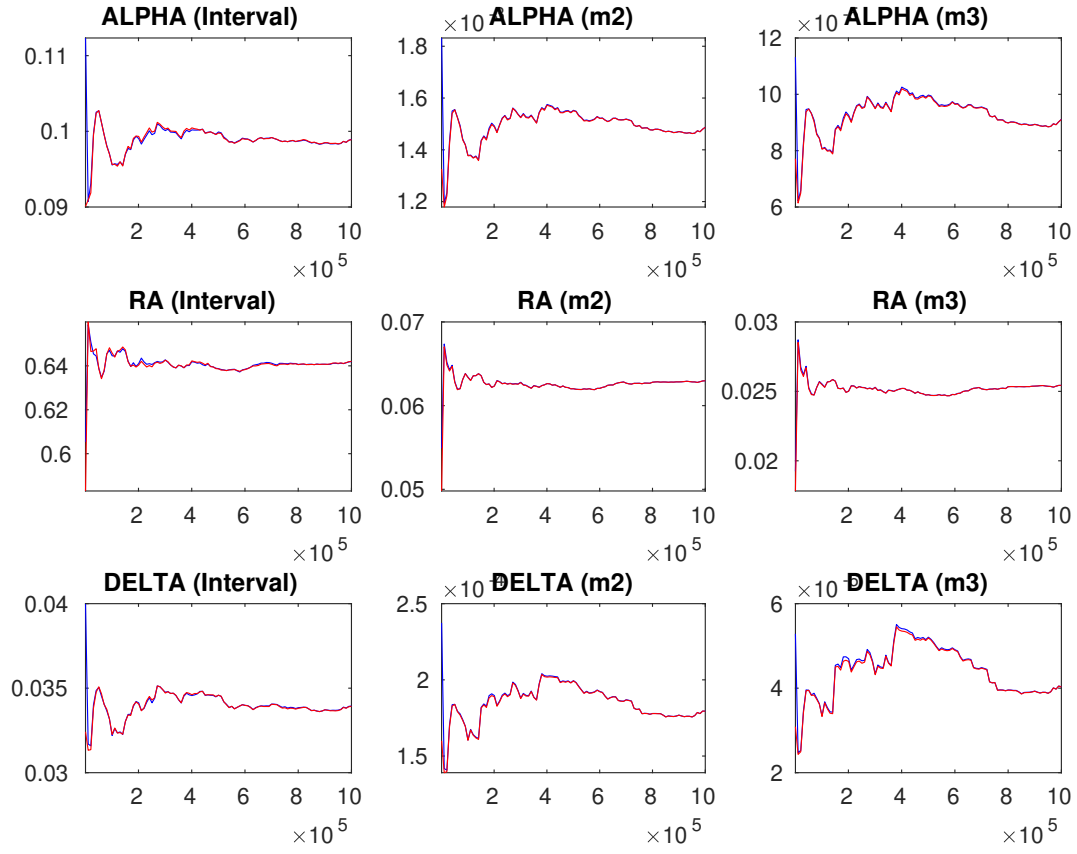|	Prior			Posterior	
	Dist.	Mean	Stdev	Mode	Stdev
α	norm	0.300	0.0500	0.3136	0.0405
r_A	gamm	2.000	0.2500	1.9744	0.2484
δ	unif	0.500	0.2887	0.0243	0.0124
ρ_A	beta	0.500	0.1000	0.5819	0.0341
σ_A	invg	0.600	2.0000	0.5441	0.0556
θ	gamm	1.500	0.7500	0.8551	0.5583
κ	gamm	2.000	1.5000	1.9181	1.2547

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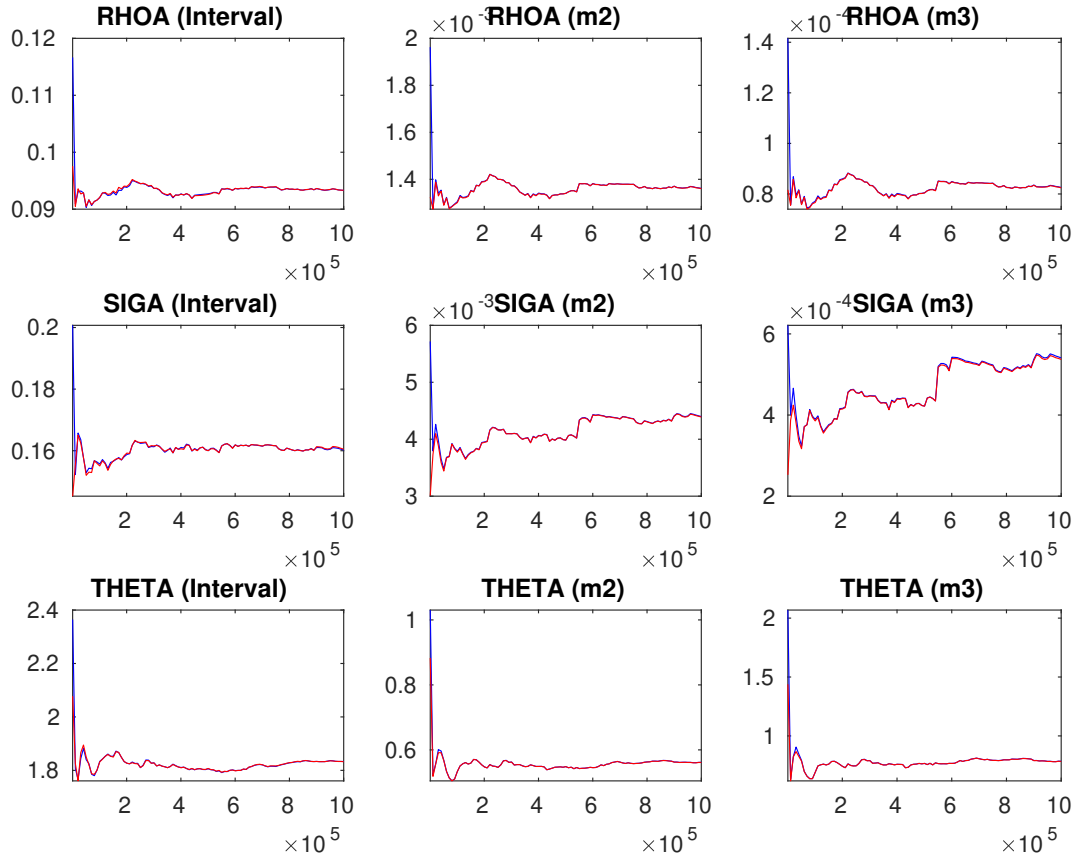
Figure 7: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third columns are respectively the criteria based on the eighty percent interval, the second and third moments.
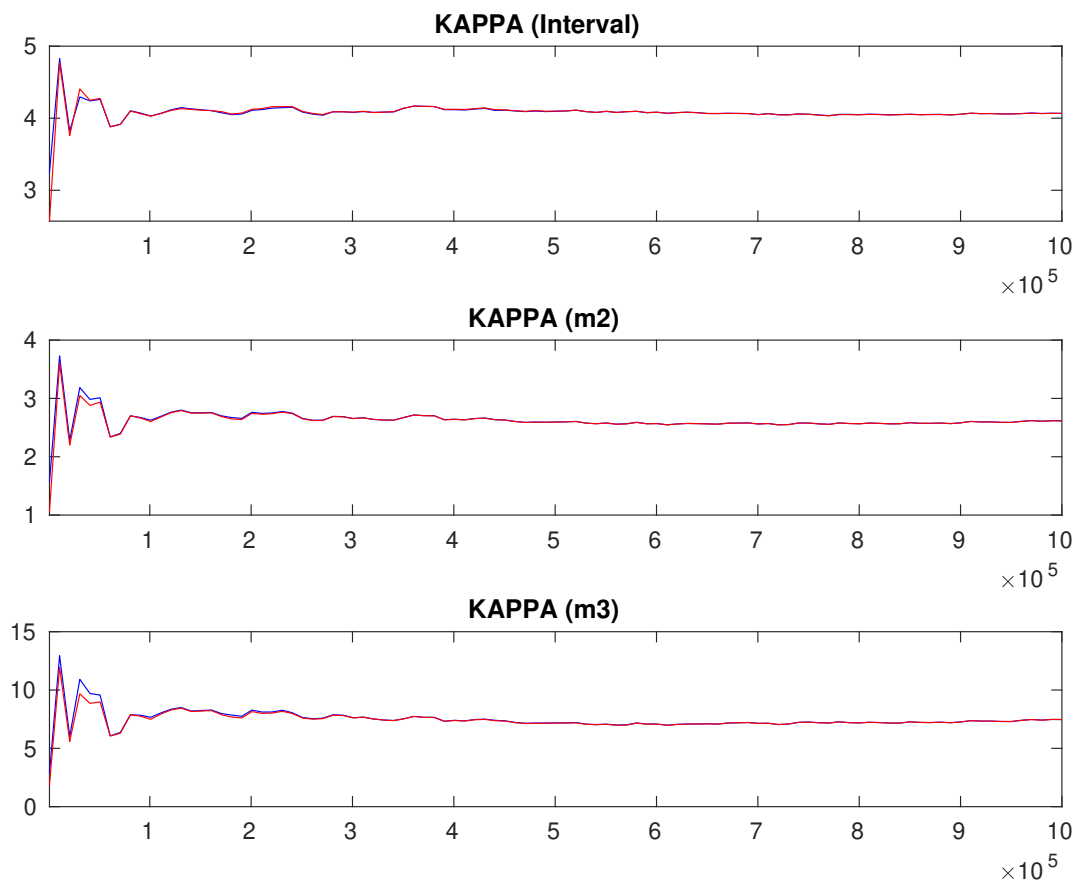
Figure 8: Univariate convergence diagnostics for the Metropolis-Hastings. The first, second and third rows are respectively the criteria based on the eighty percent interval, the second and third moments.