

Supplementary material

Figure S1. Regional log-ratios over time
(top: municipality level, bottom: province)

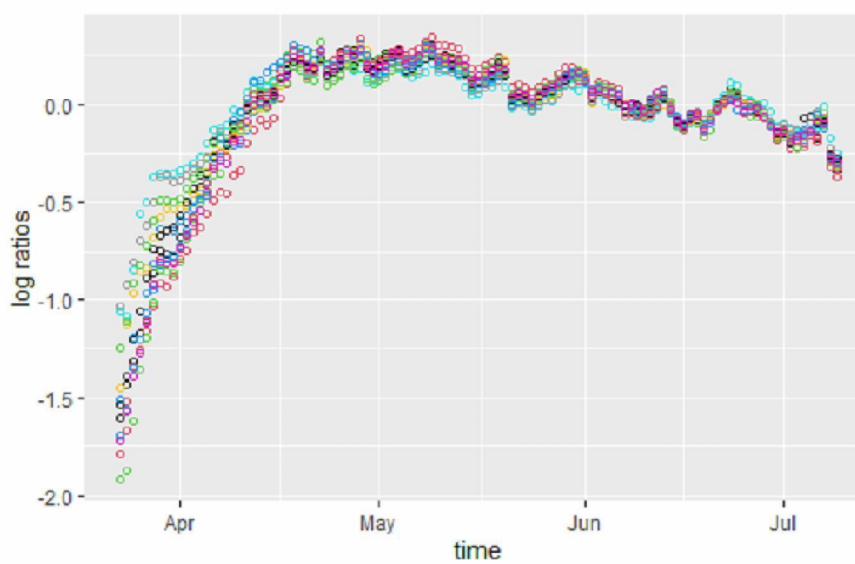
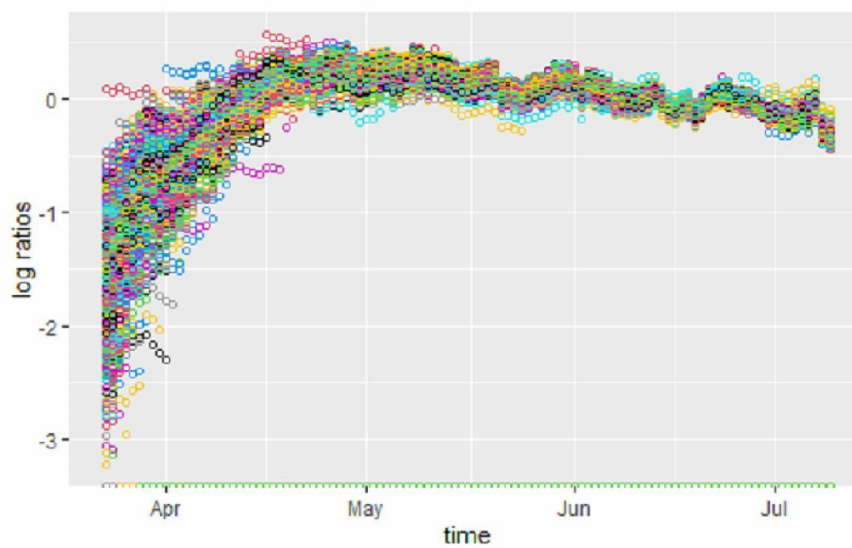


Figure S2. Regional log-ratios against specific humidity
(top: municipality level, bottom: province)

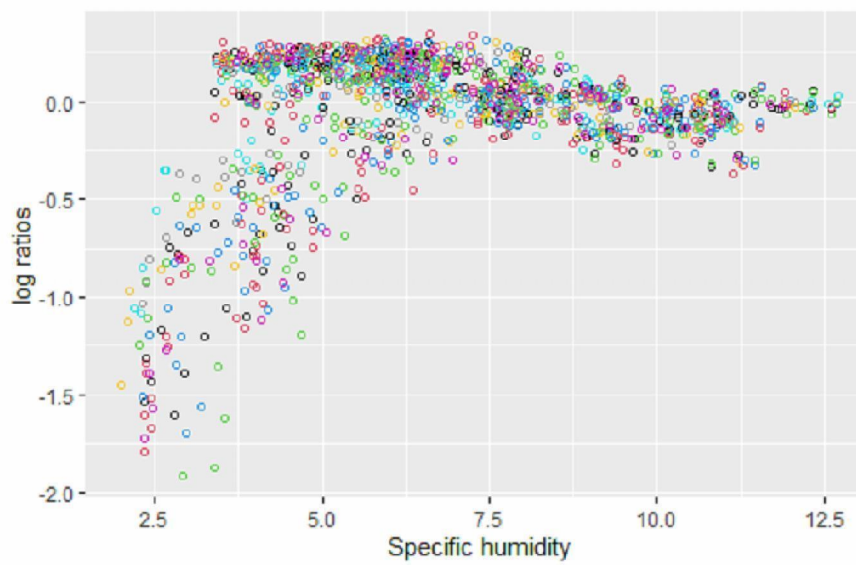
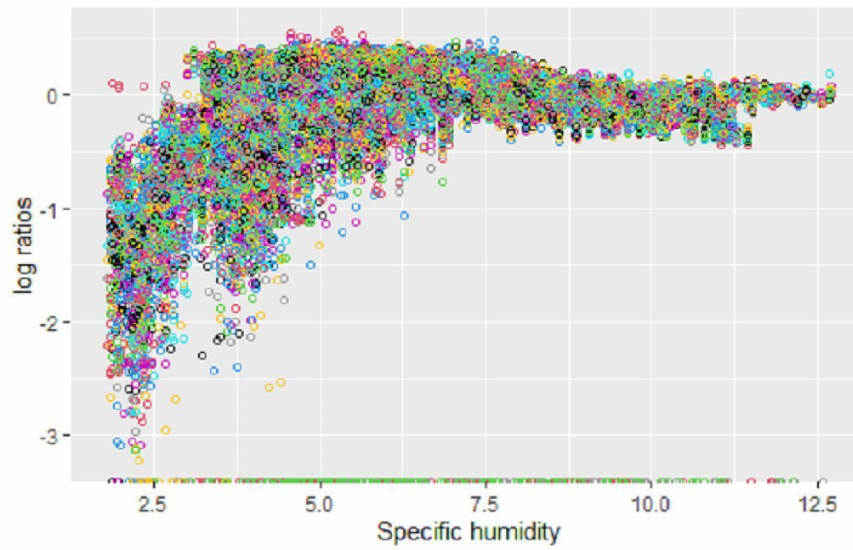


Figure S3. Estimated standard deviations of the random effects in the spatio-temporal model (top: municipality level, bottom: province)

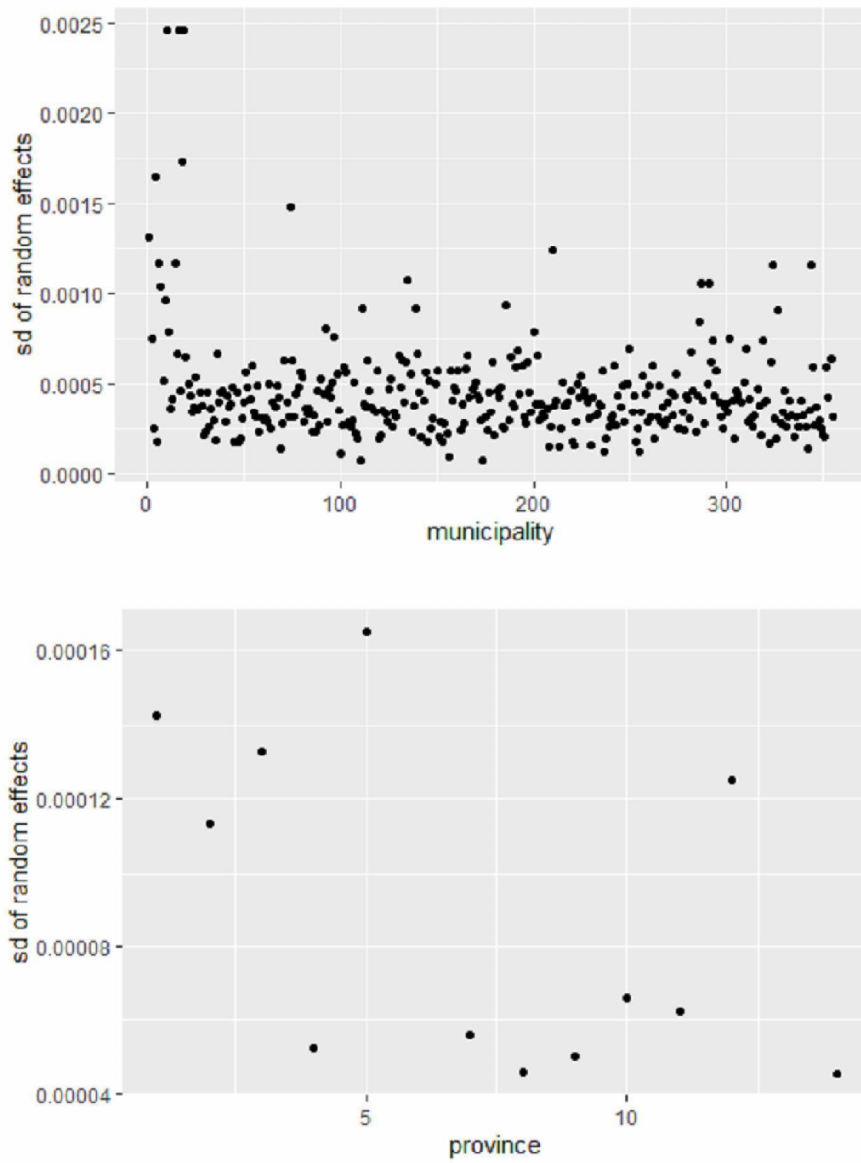


Table S1. Additional model estimations including containment policies (non-pharmaceutical interventions: NPI)

Parameter	Area's break	Mean estimate	Standard deviation	Credible interval		
				2.50%	97.50%	
Number of cases of SARS-CoV-2 (COVID-19)	Province	6.517443	0.093393	6.331345	6.703339	
	Municipality	3.155587	0.043865	3.069369	3.241703	
	Province	0.016914	0.000044	0.016827	0.017001	
	Municipality	0.016667	0.000043	0.016583	0.016751	
	Province	-0.030813	0.000364	-0.031527	-0.030099	
	Municipality	-0.033287	0.000365	-0.034003	-0.032571	
	NPI	Province	-0.376441	0.001872	-0.380115	-0.372769
	Municipality	-0.375562	0.001839	-0.379172	-0.371955	
Incidence of cases of SARS-CoV-2 (COVID-19) per 100,000h	Province	22.773241	5.946721	11.098209	34.44197	
	Municipality	34.75898	1.187247	32.428011	37.088004	
	Province	2.792373	0.059892	2.674759	2.909865	
	Municipality	3.246967	0.011993	3.223421	3.270493	
	Province	-4.019908	0.686483	-5.367929	-2.67312	
	Municipality	-5.49548	0.140261	-5.770859	-5.220331	
	NPI	Province	-58.039375	3.534035	-64.977495	-51.104719
	Municipality	-69.926506	0.712642	-71.32566	-68.528512	

Table S2. Additional model estimations with an intrinsic prior

Parameter	Area's break	Mean estimate	Standard deviation	Credible interval	
				2.50%	97.50%
Number of cases of SARS-CoV-2 (COVID-19)	Province	7.096411	0.095775	6.905629	7.286852
	Municipality	3.7297	0.002112	3.725551	3.733841
	Province	0.012539	0.000038	0.012464	0.012613
	Municipality	0.012246	0.000037	0.012174	0.012318
	Province	-0.044876	0.000358	-0.045578	-0.044174
	Municipality	-0.047047	0.000359	-0.047752	-0.046343
Incidence of cases of SARS-CoV-2 (COVID-19) per 100,000h	Province	108.811539	3.108803	102.706913	114.910821
	Municipality	137.739929	0.660979	136.4422	139.036566
	Province	2.210833	0.053419	2.105937	2.315638
	Municipality	2.535345	0.011373	2.513015	2.557655
	Province	-6.672161	0.737605	-8.120552	-5.225013
	Municipality	-8.641515	0.162752	-8.961052	-8.322243

Table S3. Additional model estimations with an IID normal prior

Parameter	Area's break	Mean estimate	Standard deviation	Credible interval	
				2.50%	97.50%
Number of cases of SARS-CoV-2 (COVID-19)	Province	7.80212	0.001579	7.799019	7.805218
	Municipality	4.482169	0.001517	4.47919	4.485146
	Province	0.001995	0.000032	0.001932	0.002059
	Municipality	-0.002473	0.000248	-0.002981	-0.00201
	Province	-0.051330	-0.052031	0.000357	-0.052733
	Municipality	-0.062647	0.000358	-0.063349	-0.061946
Incidence of cases of SARS-CoV-2 (COVID-19) per 100,000h	Province	108.813065	2.974982	102.971539	114.649662
	Municipality	136.271179	0.865785	134.571355	137.969593
	Province	2.210863	0.05112	2.110486	2.311154
	Municipality	2.539324	0.014935	2.510002	2.568622
	Province	-6.672659	0.70586	-8.058639	-5.287826
	Municipality	-8.713435	0.213506	-9.13262	-8.2946