Branching stochastic processes as models of Covid-19 epidemic development

Eswatini - week 53

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Abstract

The results presented here are obtained using the methologi proposed in the paper https://arxiv.org/abs/2004.14838 for the country Eswatini. The data comes from European Centre for Disease Prevention and Control available at https://opendata.ecdc.europa.eu/covid19/casedistribution/csv.

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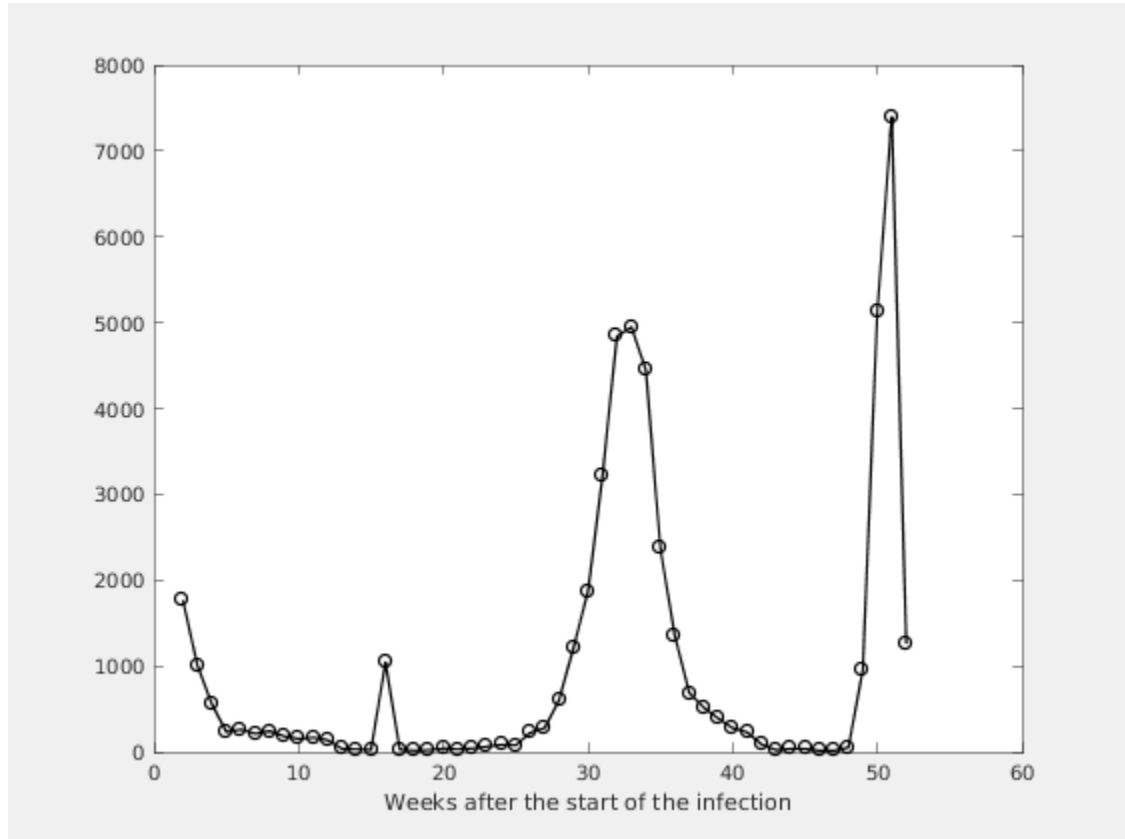**Figure 1.1. Number of the weekly reported laboratory-confirmed cases**
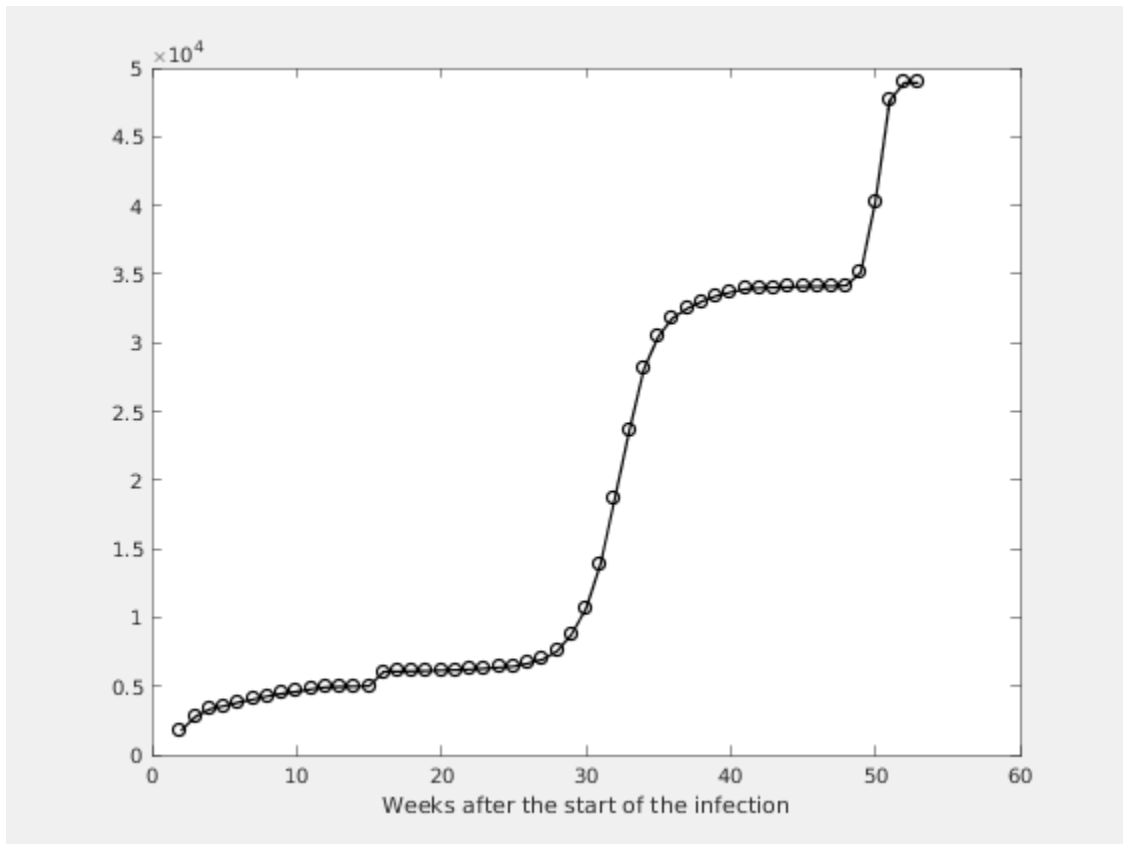
Figure 1.2. Number of the total registered cases

Chapter 2. Estimating of the main parameter and some predictions

Figure 2.1. The Lotka-Nagaev and the Harris type estimator of the growth rate
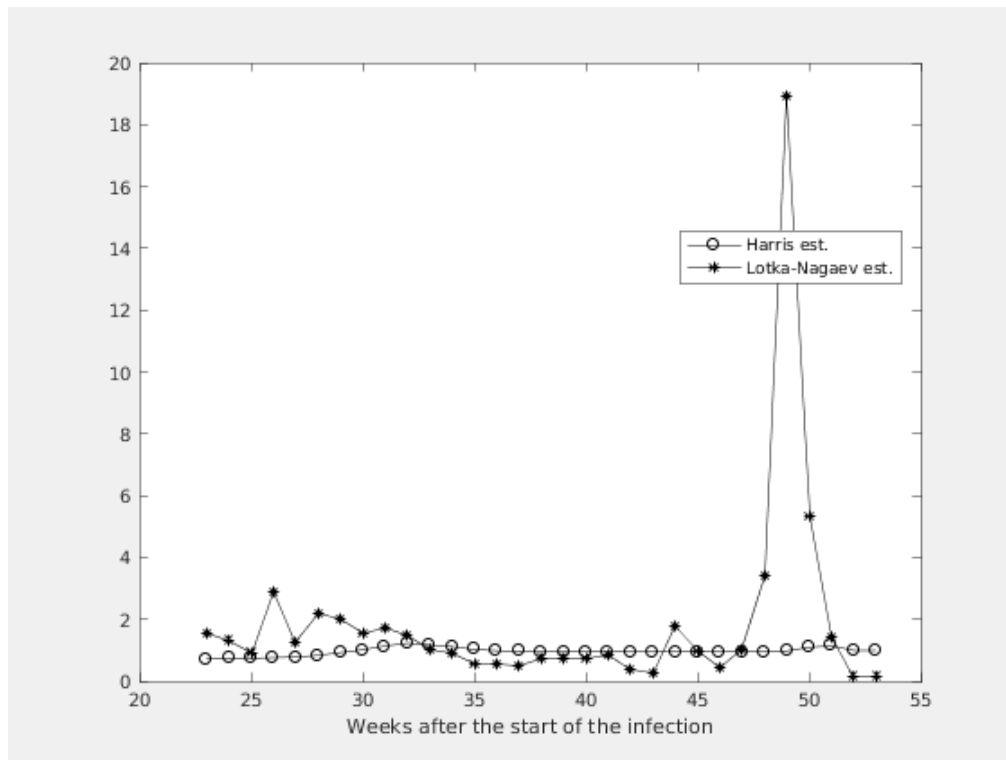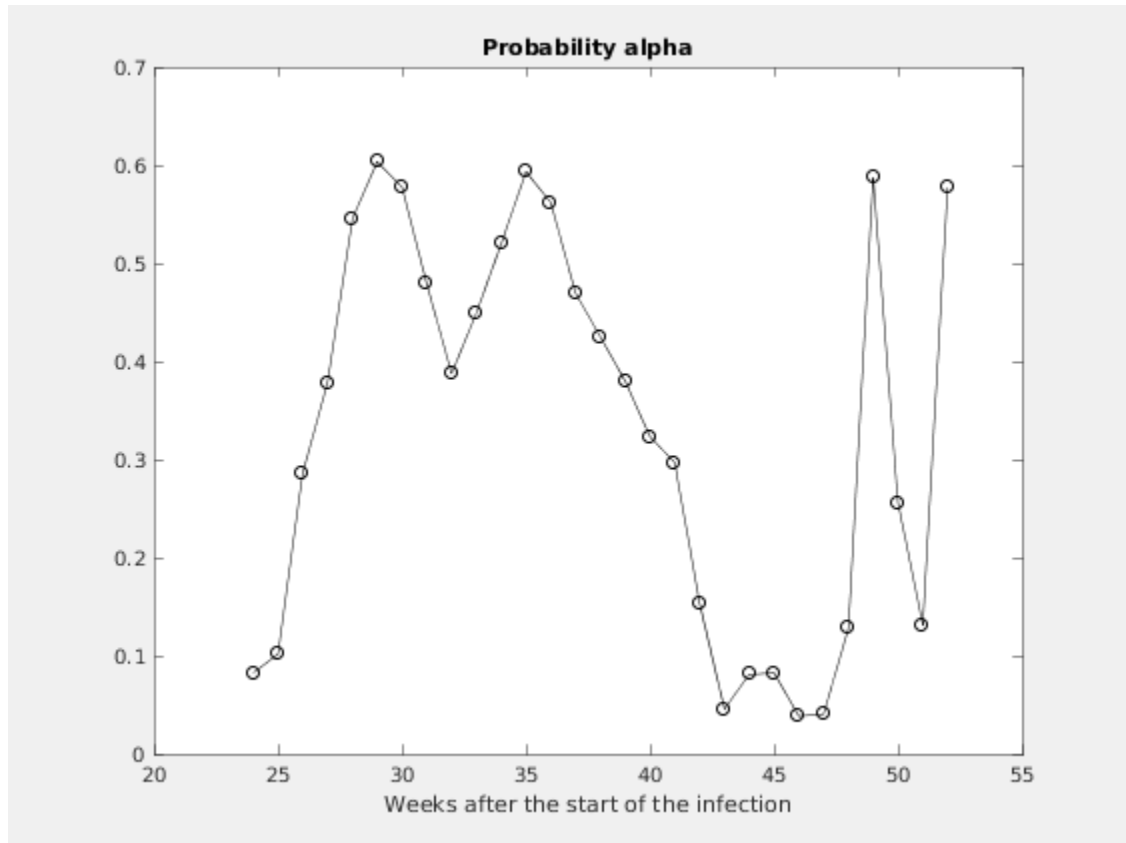
Figure 2.2. Figure

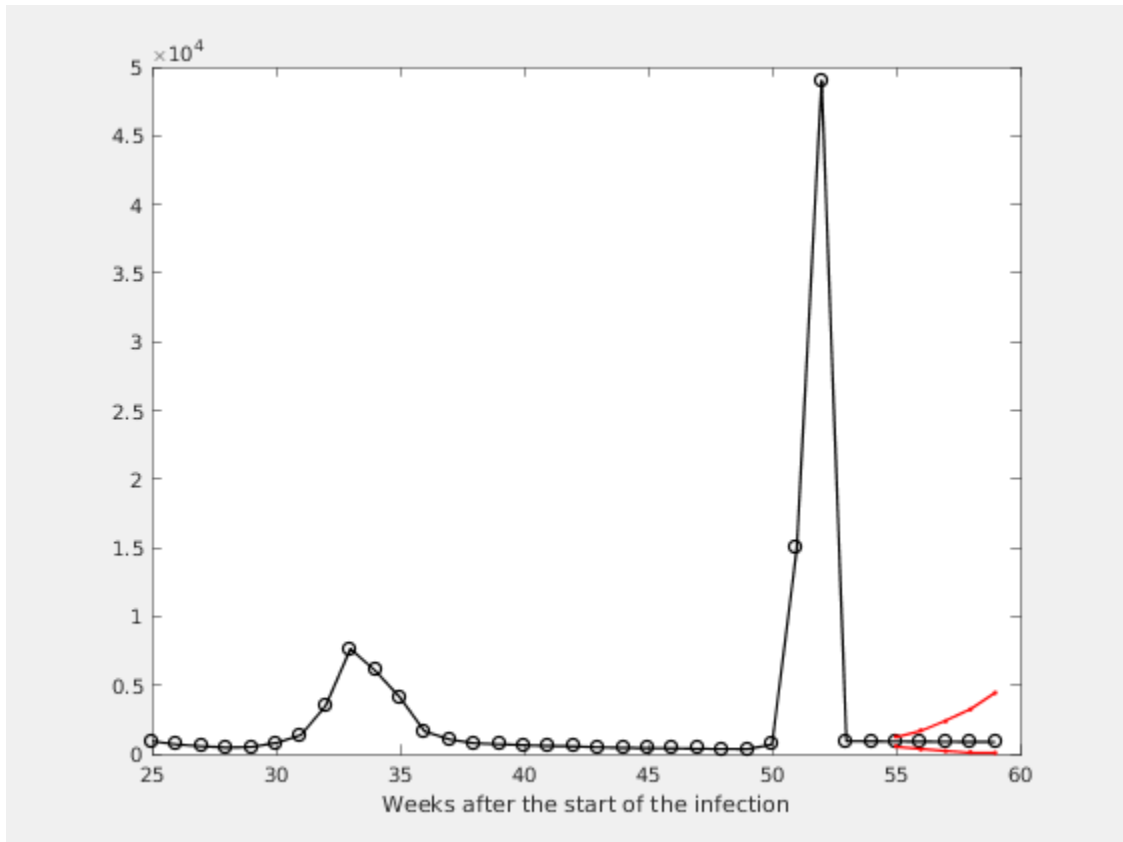**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**
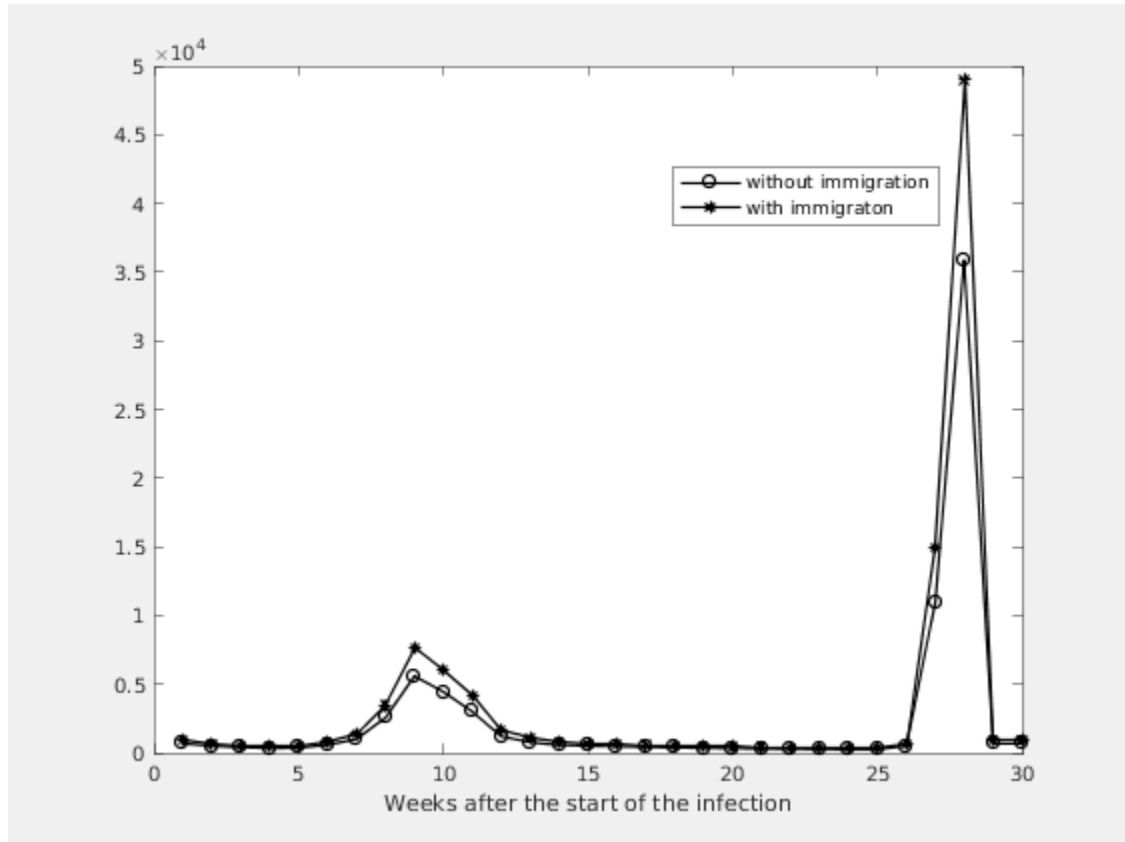
Figure 2.4. Expected number of the nonregistered infected individuals with immigration

Estimation of the model parameters.

k	m	ci	alpha	A1	M1
4	0.9765	0.6214 - 1.3317	0.0405	355	260
3	1.0959	0.7420 - 1.4499	0.1283	347	254
2	1.1397	0.7368 - 1.5425	0.5871	679	497
1	0.9893	0.5492 - 1.4295	0.2558	14951	10942
0	0.9893	0.5799 - 1.3987	0.1311	48997	35859