Branching stochastic processes as models of Covid-19 epidemic development

theHolySee_VaticanCityState - week 53

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Abstract

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

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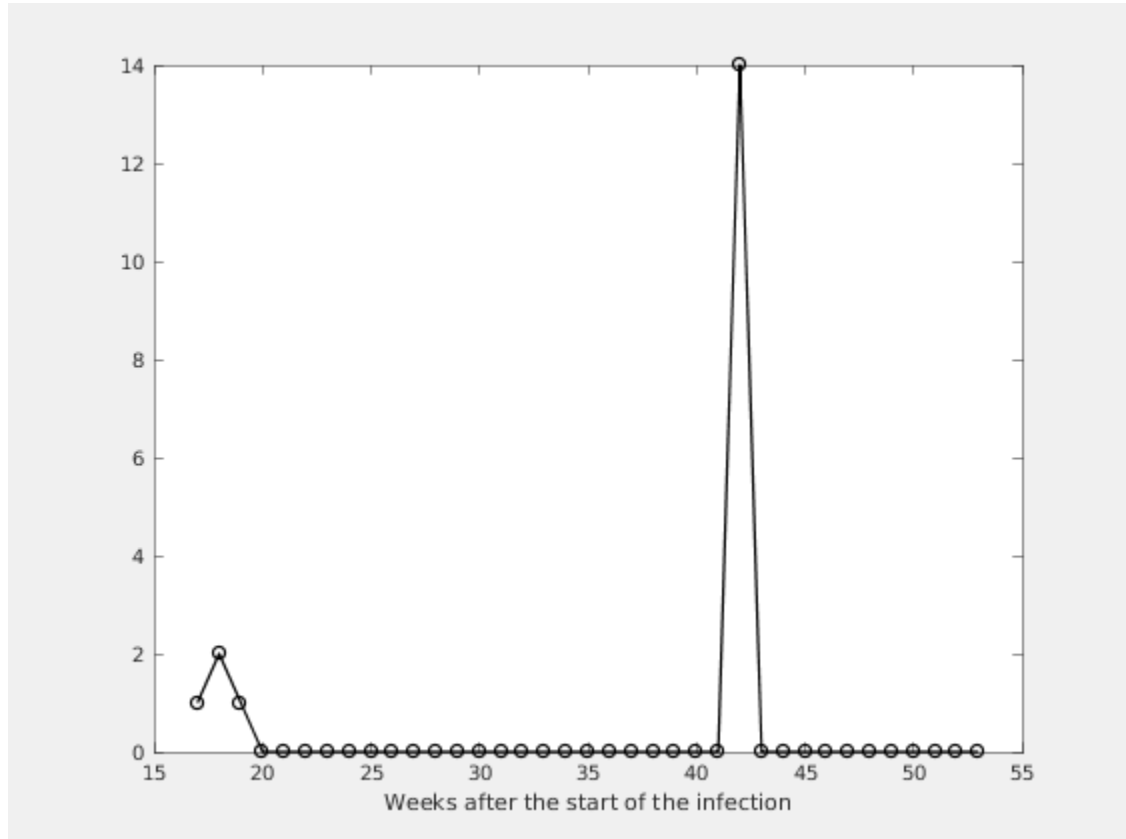**Figure 1.1. Number of the weekly reported laboratory-confirmed cases**
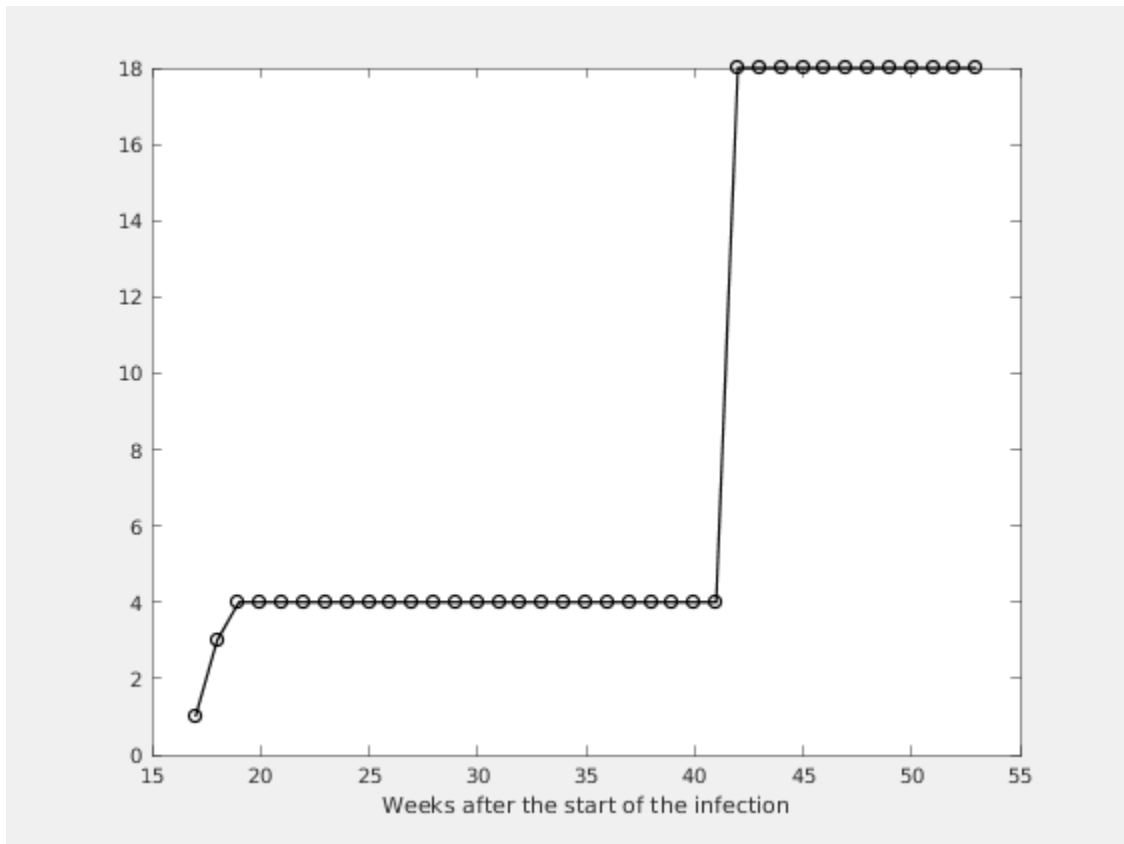
Figure 1.2. Number of the total registered cases

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
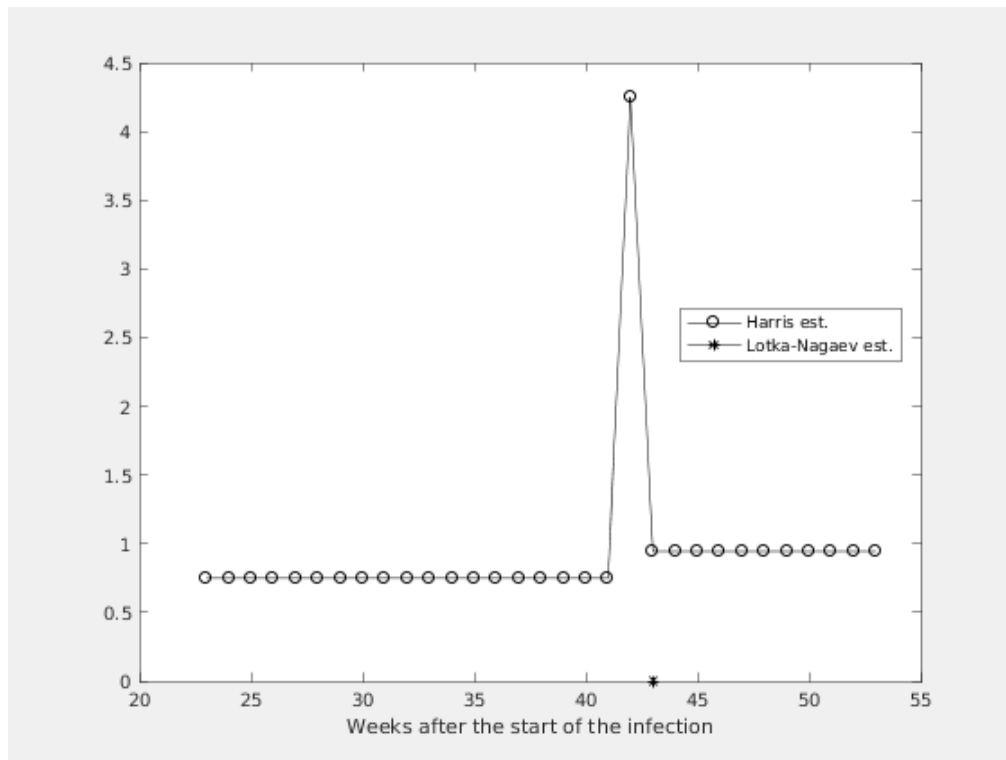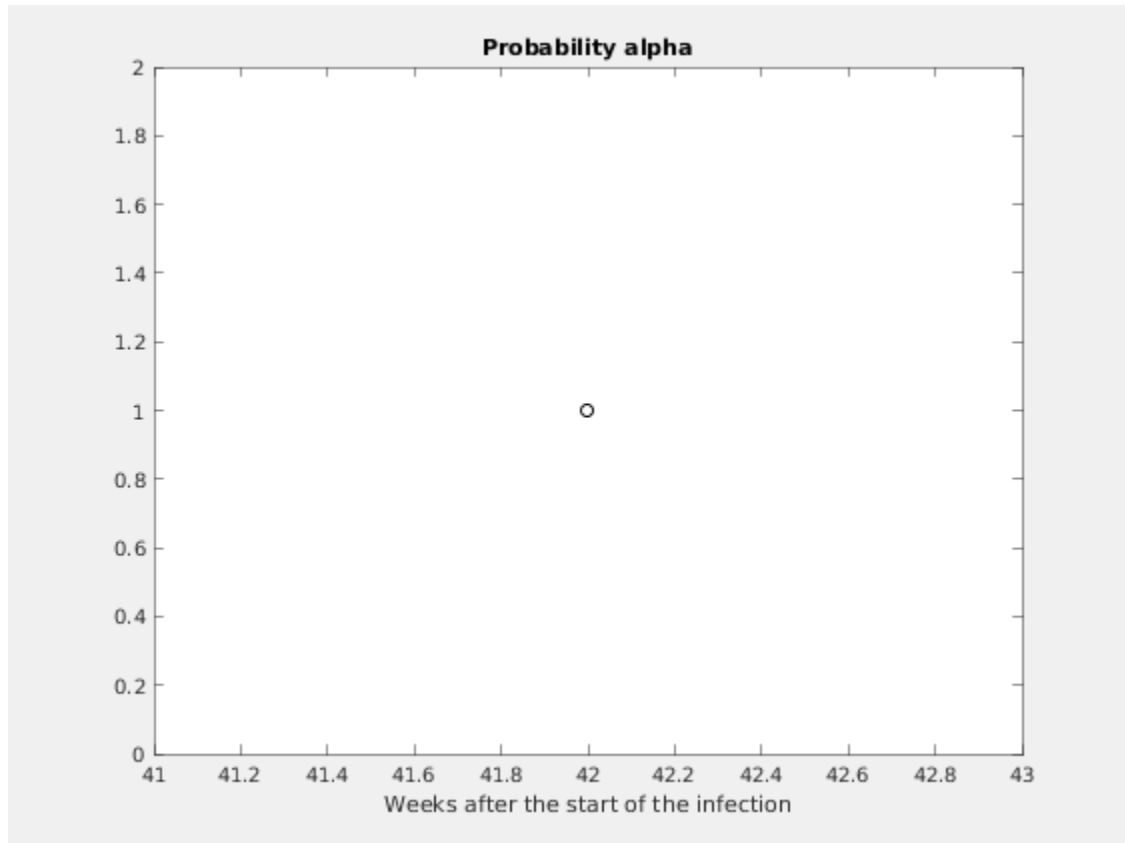
Figure 2.2. Figure

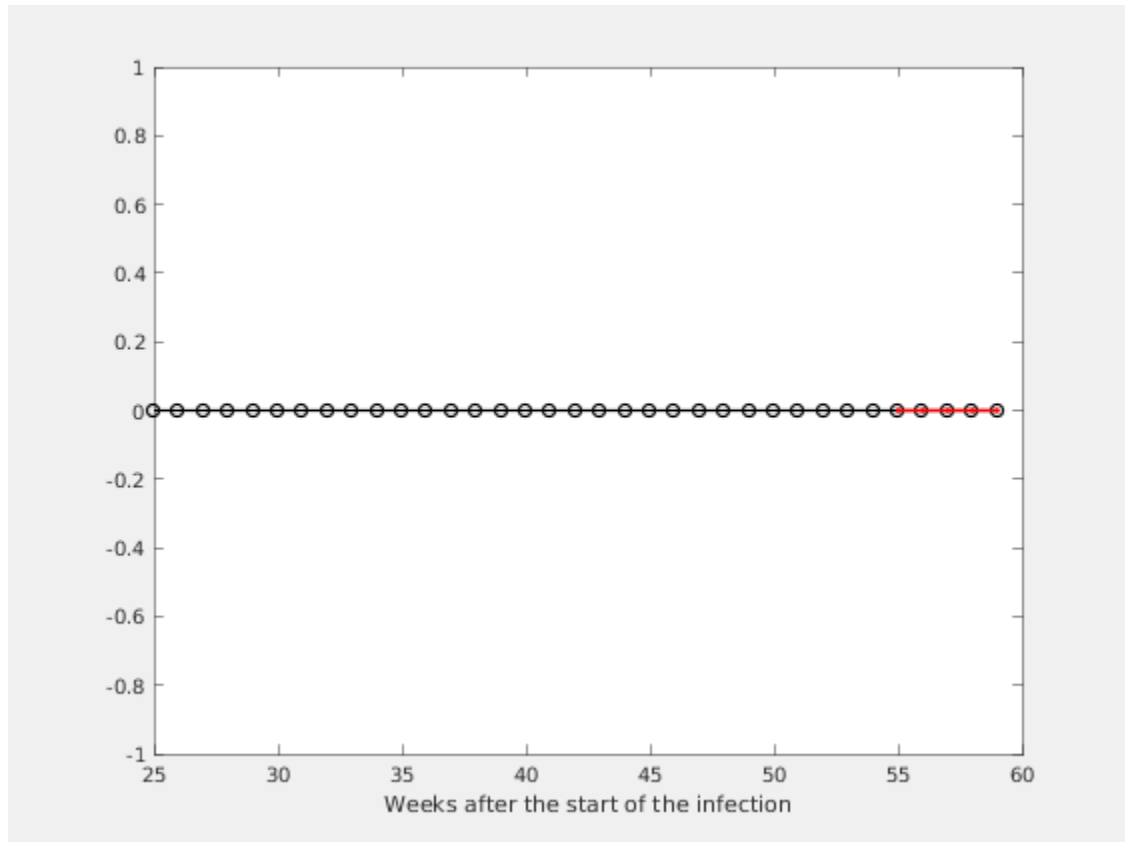**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**
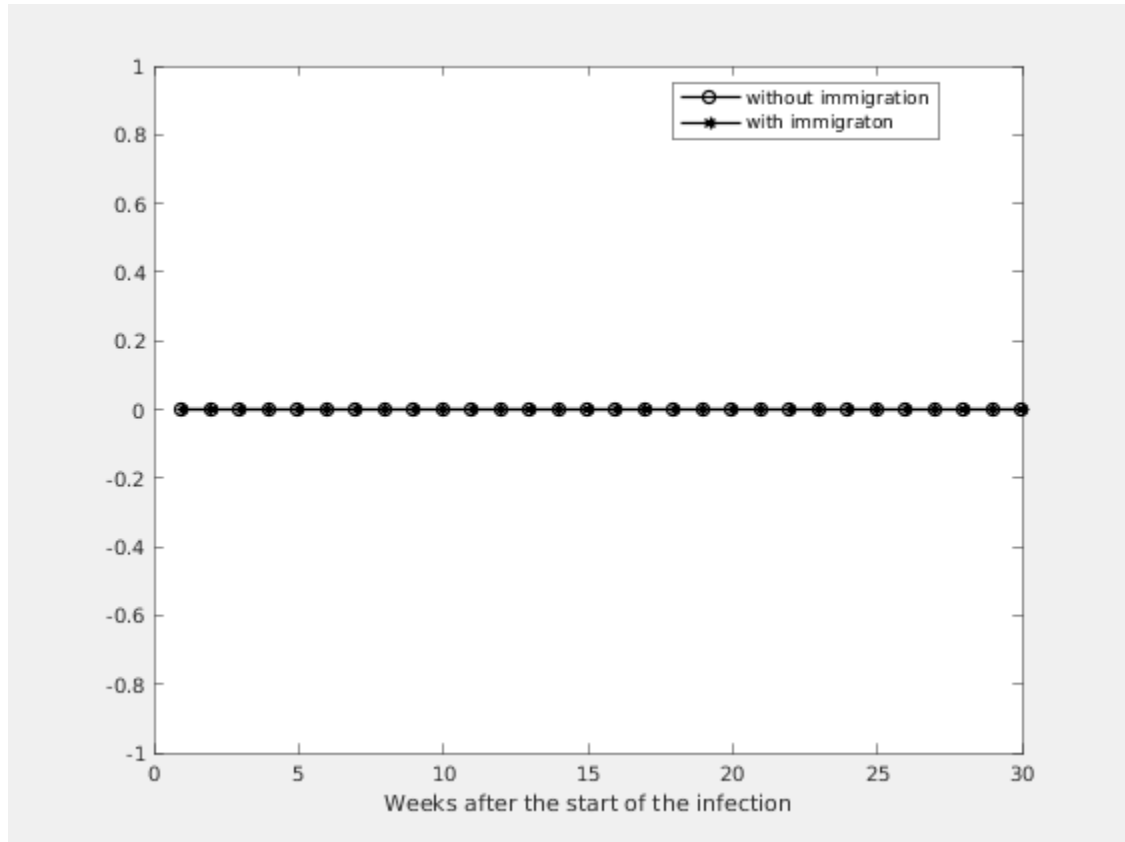
Figure 2.4. Expected number of the nonregistered infected individuals with immigration

Estimation of the model parameters.

k	m	ci	alpha	A1	M1
4	0.9444	-2.5531 - 4.4420	NaN	0	0
3	0.9444	-2.5531 - 4.4420	NaN	0	0
2	0.9444	-2.5531 - 4.4420	NaN	0	0
1	0.9444	-2.5531 - 4.4420	NaN	0	0
0	0.9444	-2.5531 - 4.4420	NaN	0	0