

# **Branching stochastic processes as models of Covid-19 epidemic development**

**Bahamas - week 53**

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## **Branching stochastic processes as models of Covid-19 epidemic development : Bahamas - week 53**

### **Abstract**

The results presented here are obtained using the methodology proposed in the paper <https://arxiv.org/abs/2004.14838> for the country Bahamas. 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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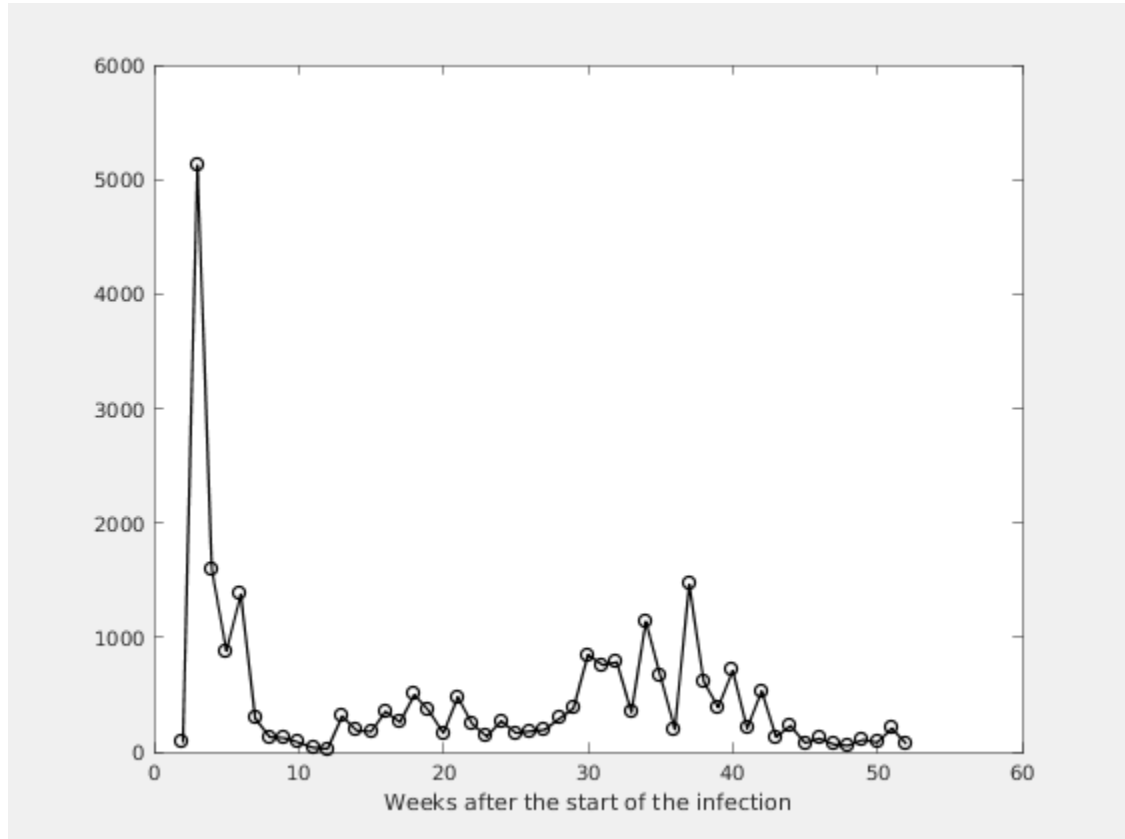
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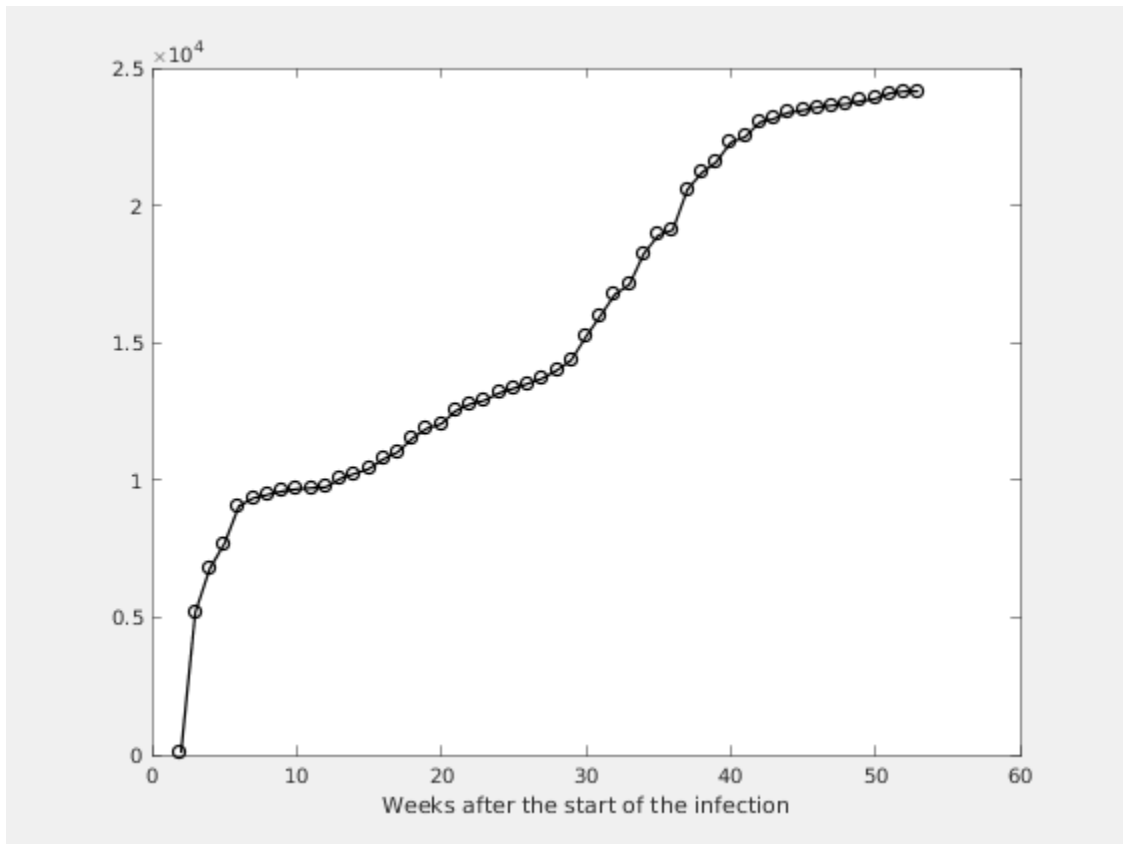
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# Chapter 1. Observed Infection data

Figure 1.1. Number of the weekly reported laboratory-confirmed cases



**Figure 1.2. Number of the total registered cases**



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# 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

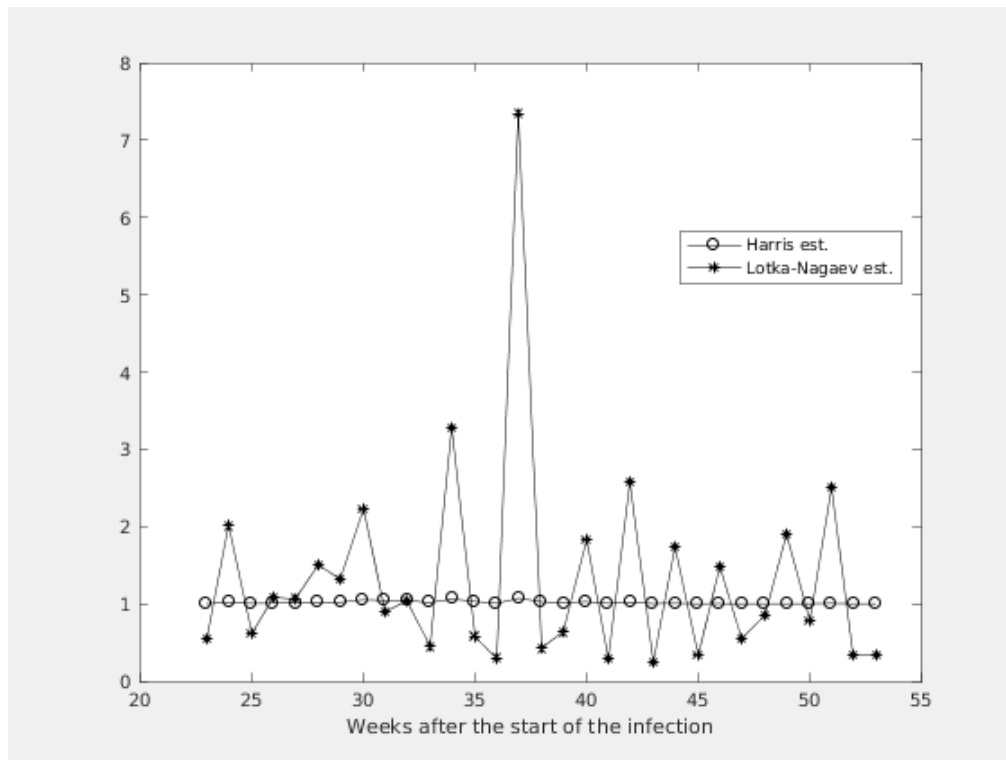
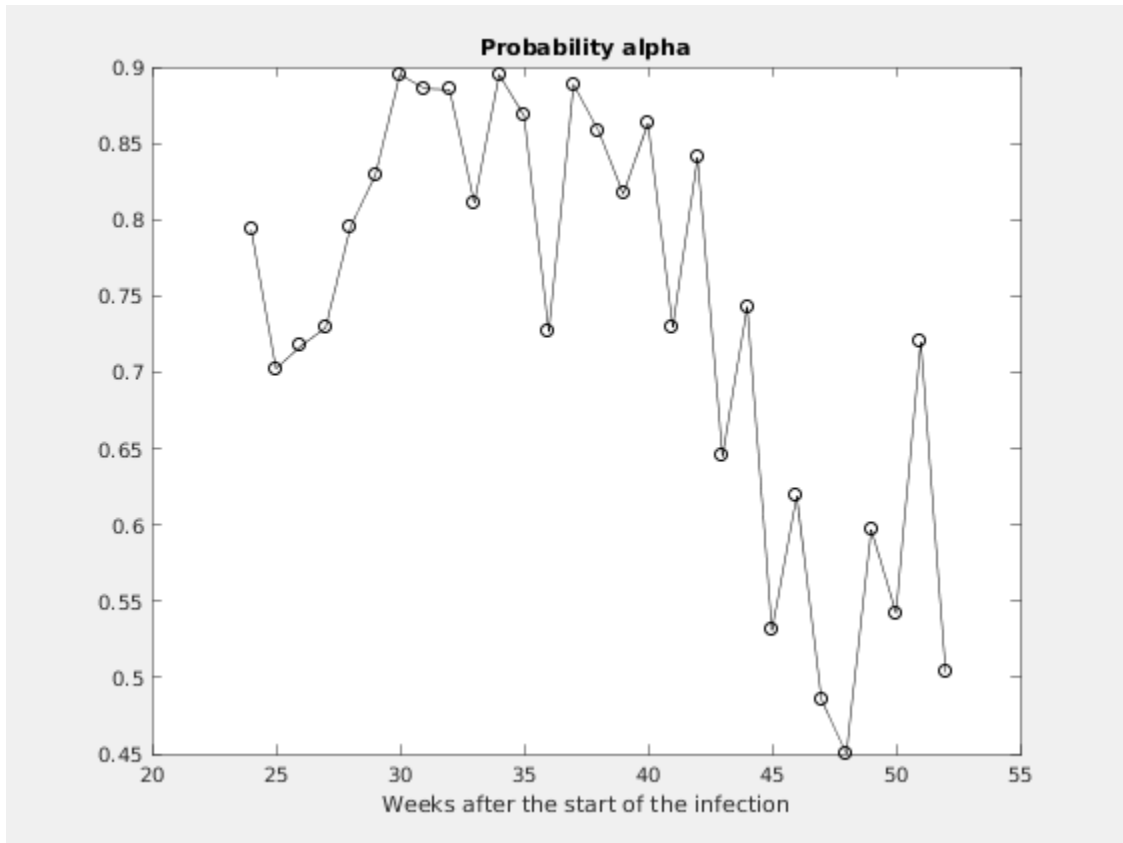
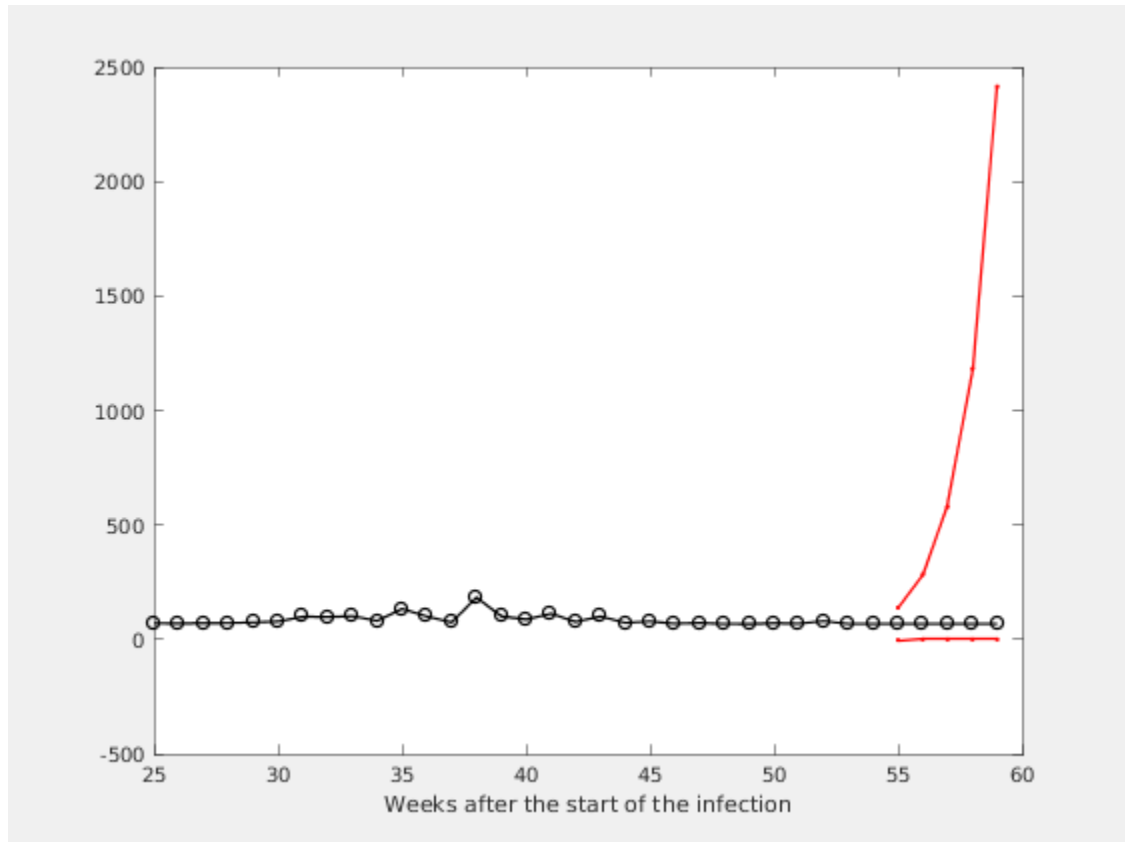


Figure 2.2. Figure

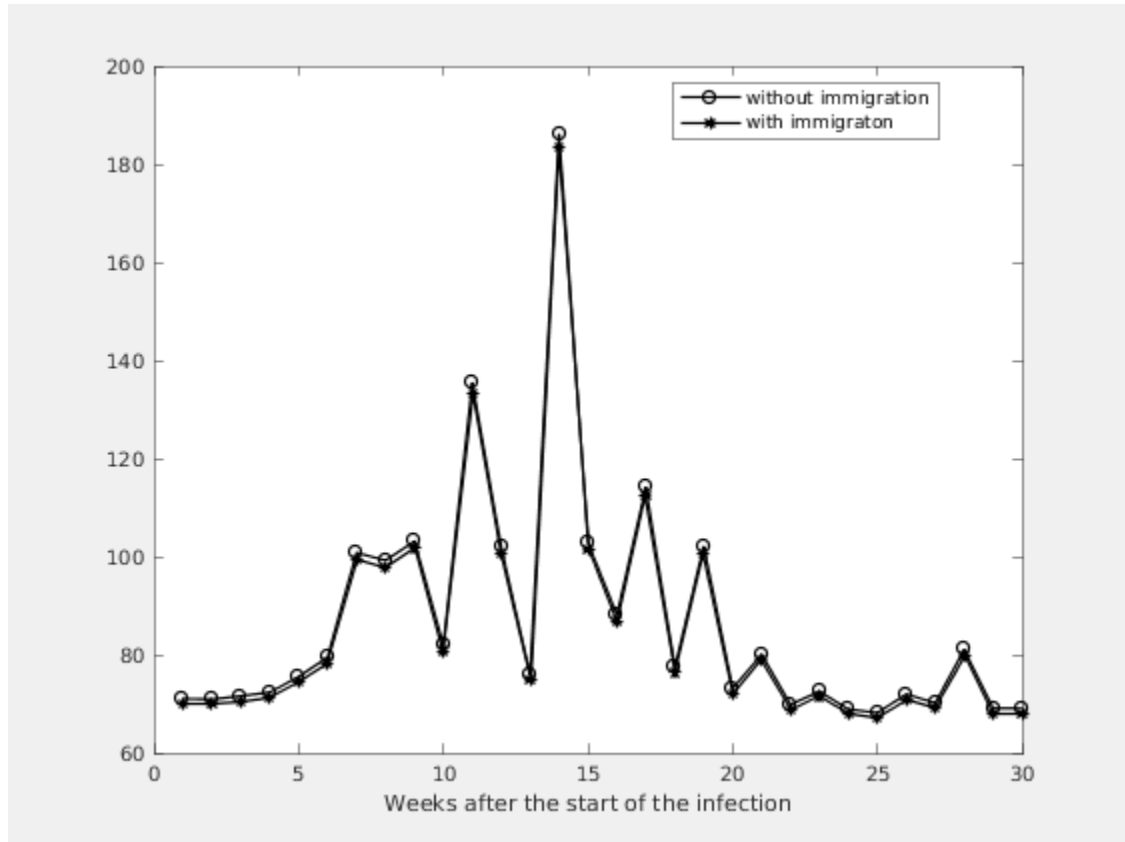




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



**Figure 2.4. Expected number of the nonregistered infected individuals with immigration**



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	1.0011	-0.1088 - 2.1109	0.4853	68	69
3	1.0001	-0.0962 - 2.0963	0.4501	67	68
2	1.0052	-0.0781 - 2.0886	0.5969	71	72
1	0.9995	-0.0701 - 2.0692	0.5425	69	70
0	0.9995	-0.0576 - 2.0567	0.7196	80	81