

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

**Switzerland - week 53**

**N. Yanev, V. Stoimenova, D. Atanasov**

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## **Branching stochastic processes as models of Covid-19 epidemic development : Switzerland - 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 Switzerland. 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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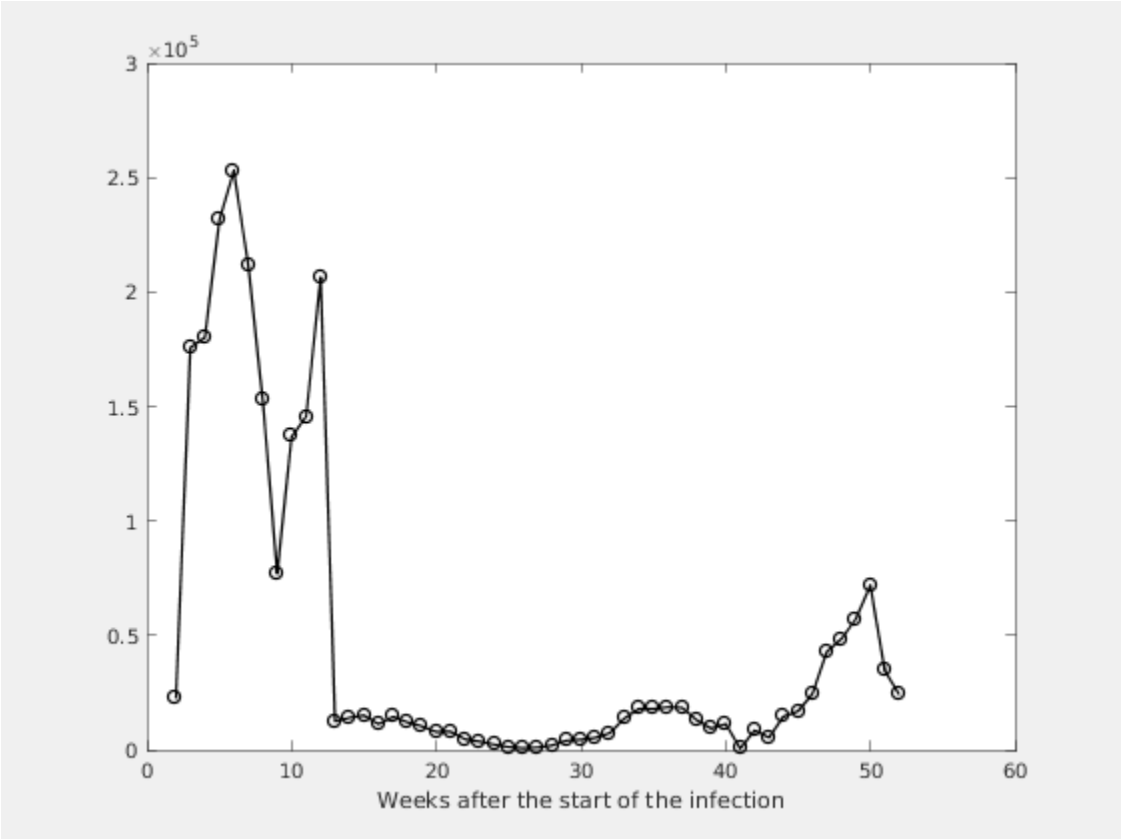
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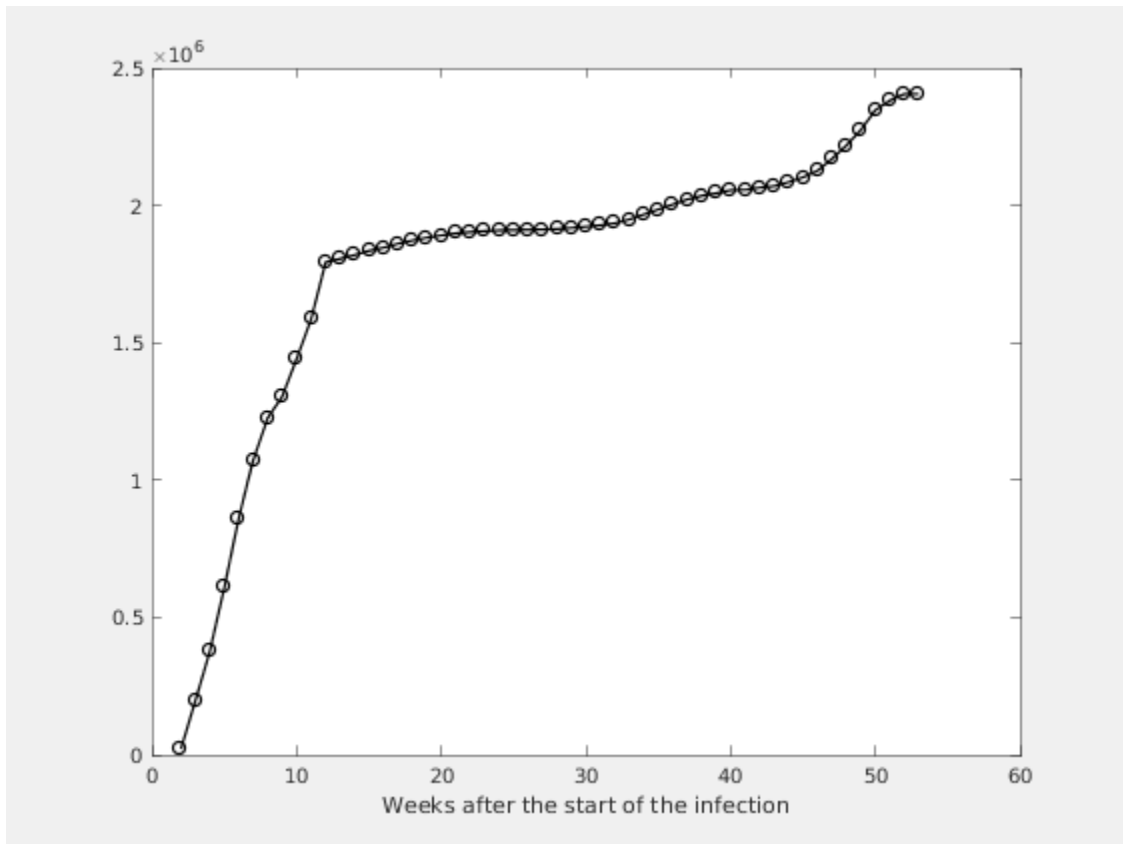
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# Chapter 1. Observed Infection data

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

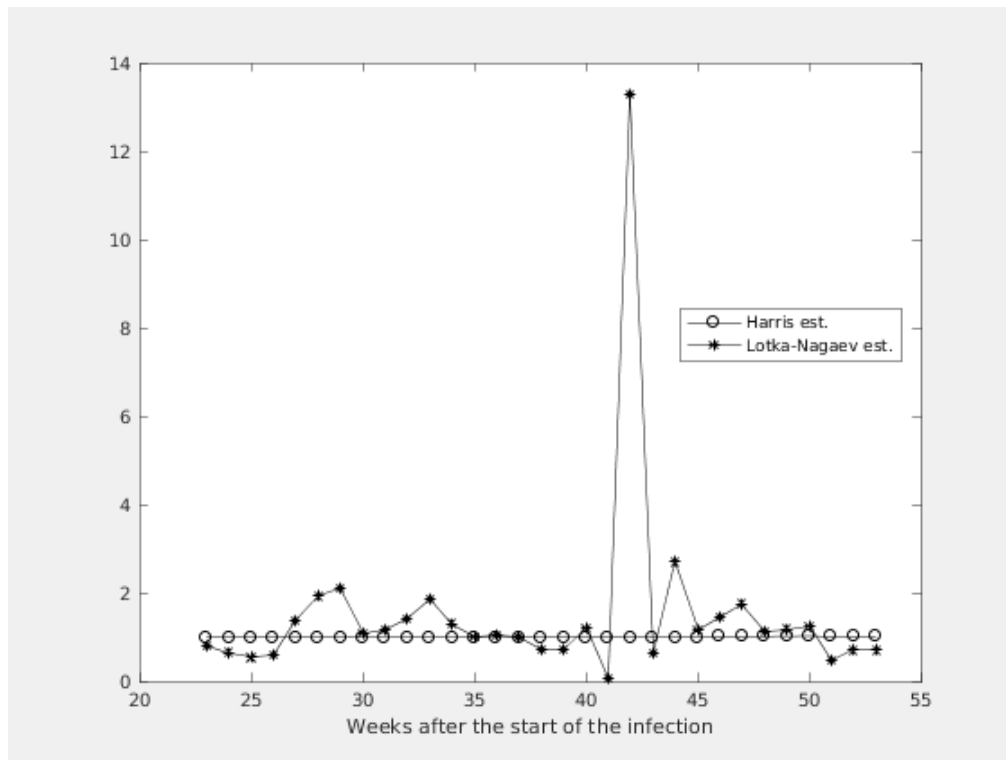
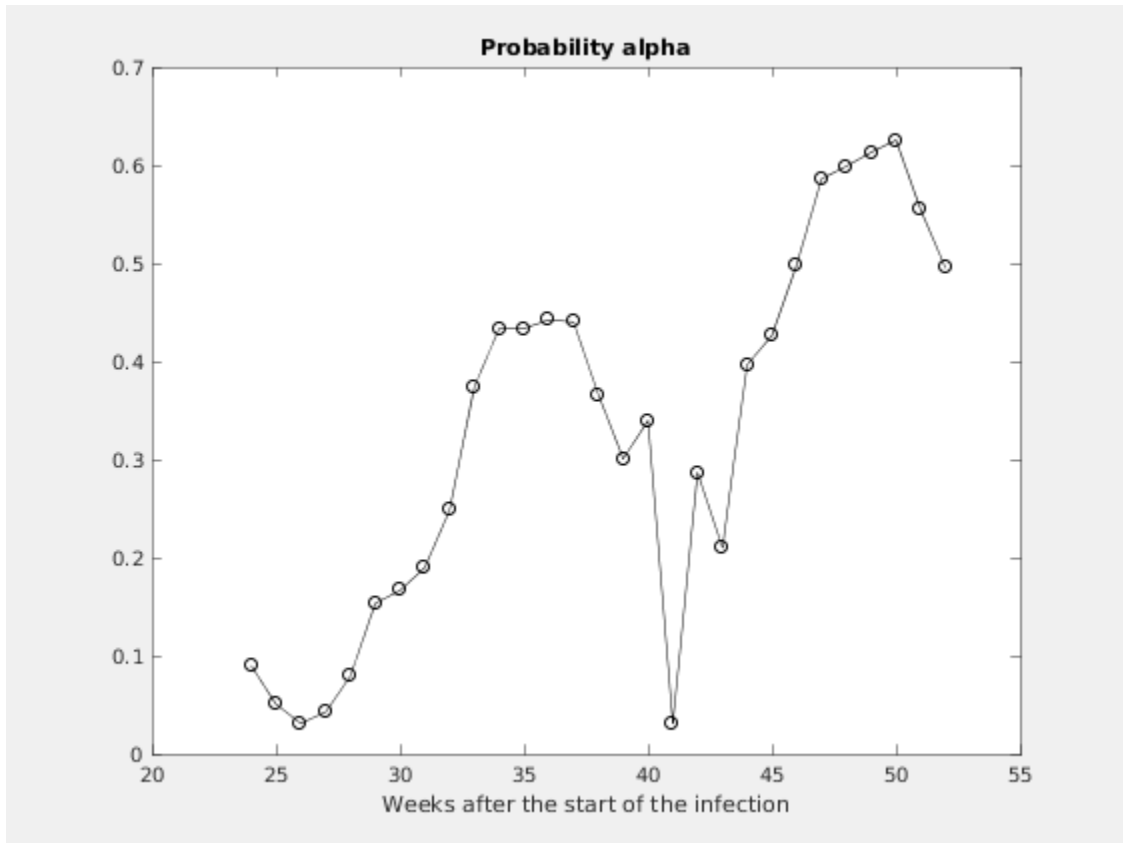
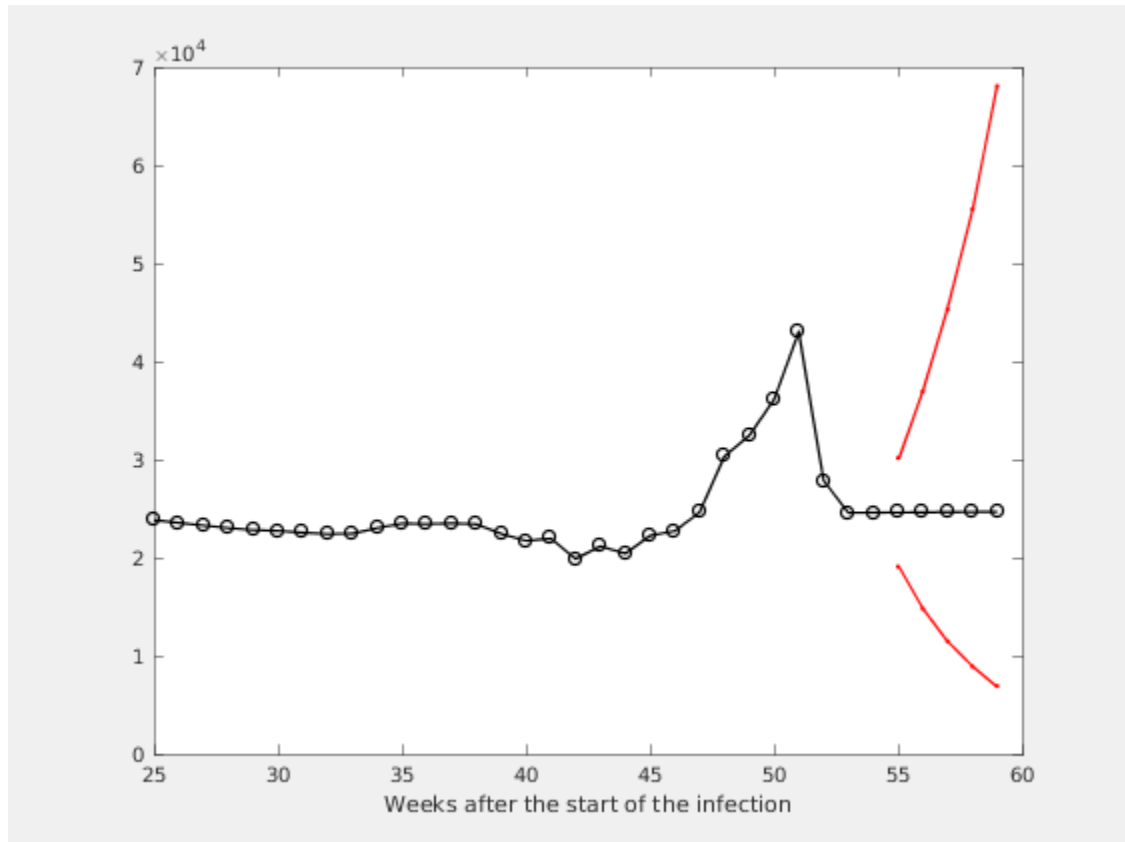


Figure 2.2. Figure

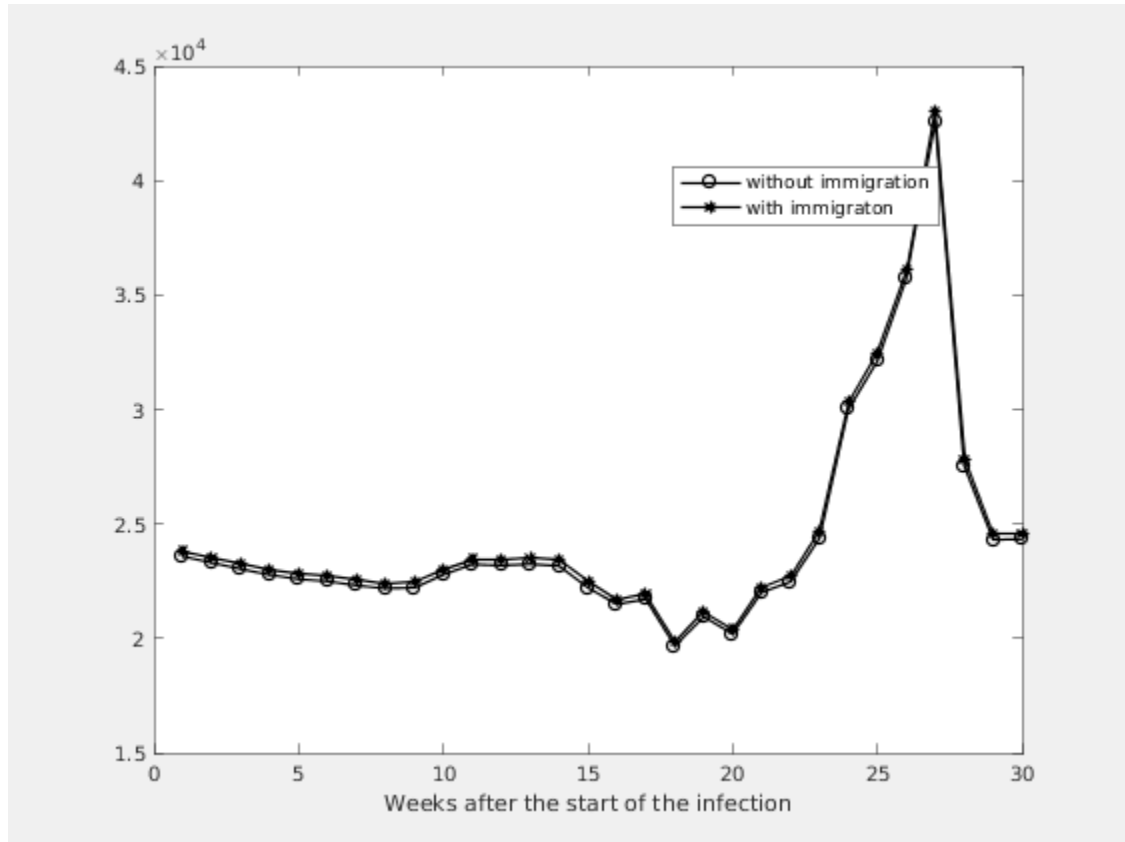




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	1.0157	0.7669 - 1.2645	0.5862	30330	30011
3	1.0217	0.7780 - 1.2654	0.5990	32450	32109
2	1.0052	0.7667 - 1.2437	0.6132	36103	35723
1	1.0007	0.7673 - 1.2340	0.6255	43036	42583
0	1.0007	0.7719 - 1.2295	0.5543	27843	27550