

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

**Austria - week 53**

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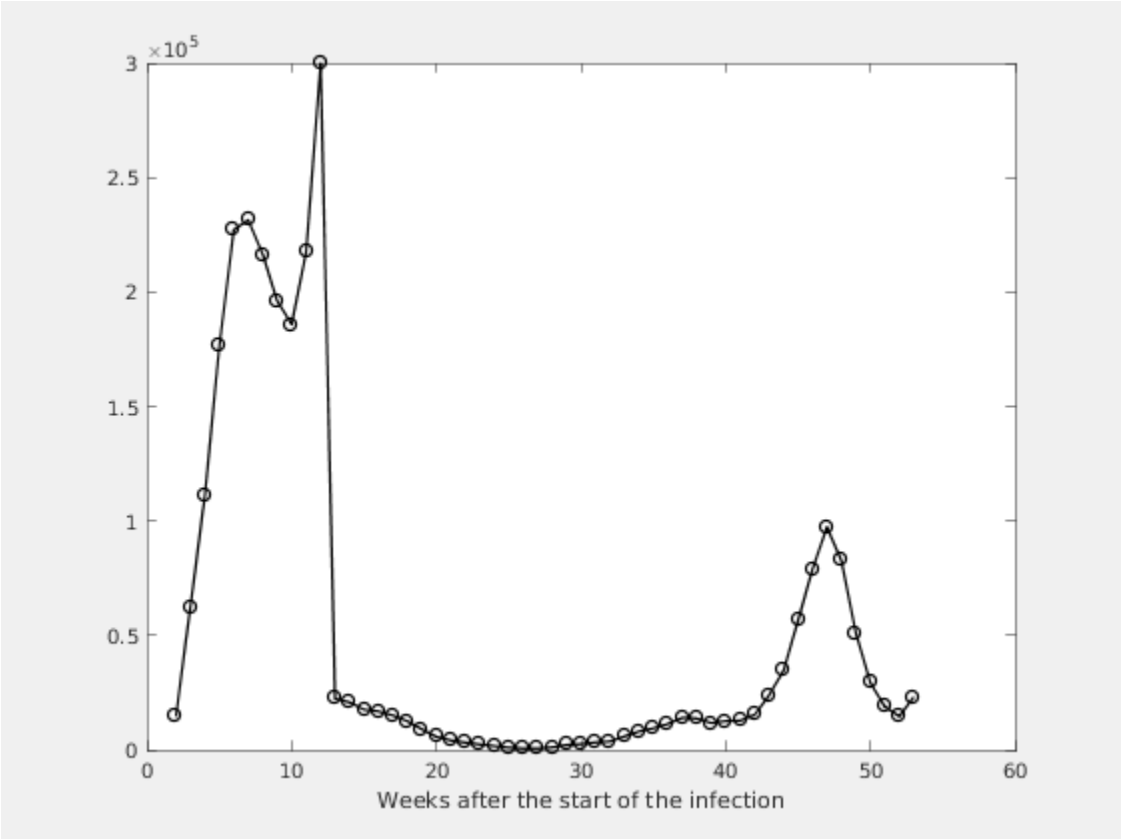
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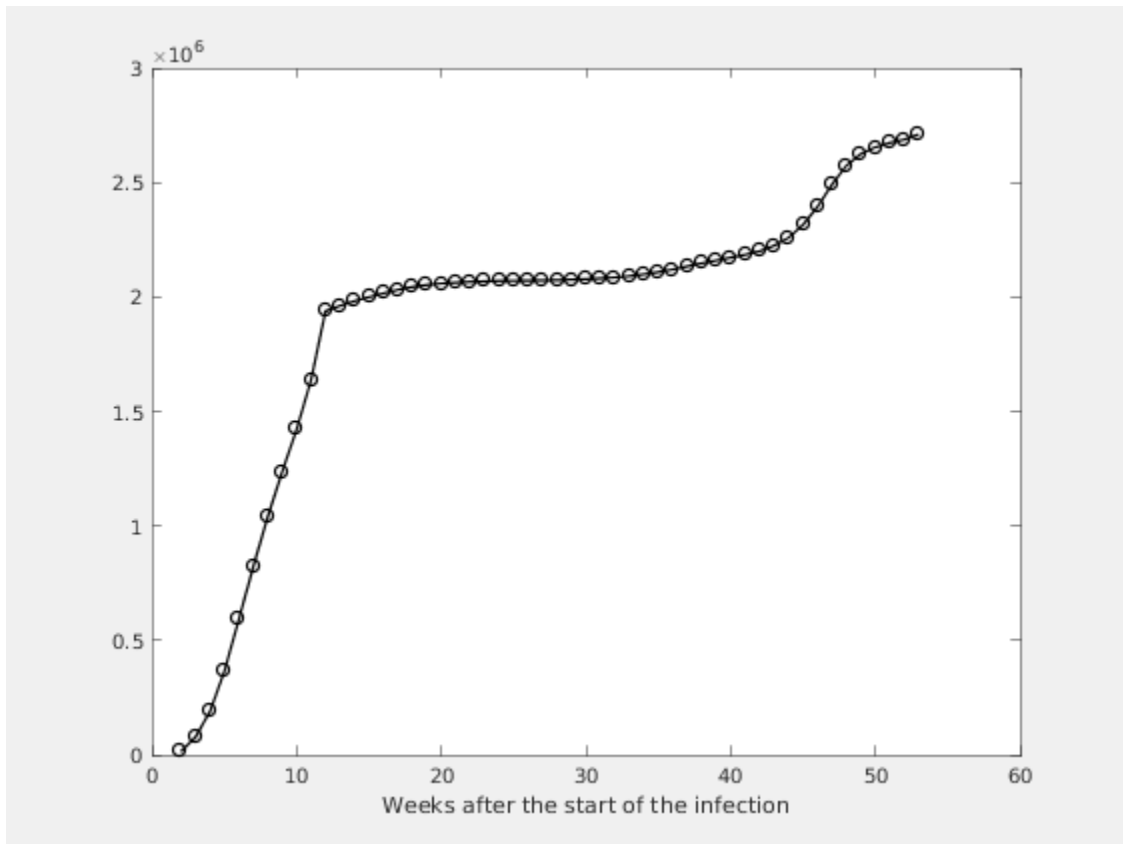
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# Chapter 1. Observed Infection data

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



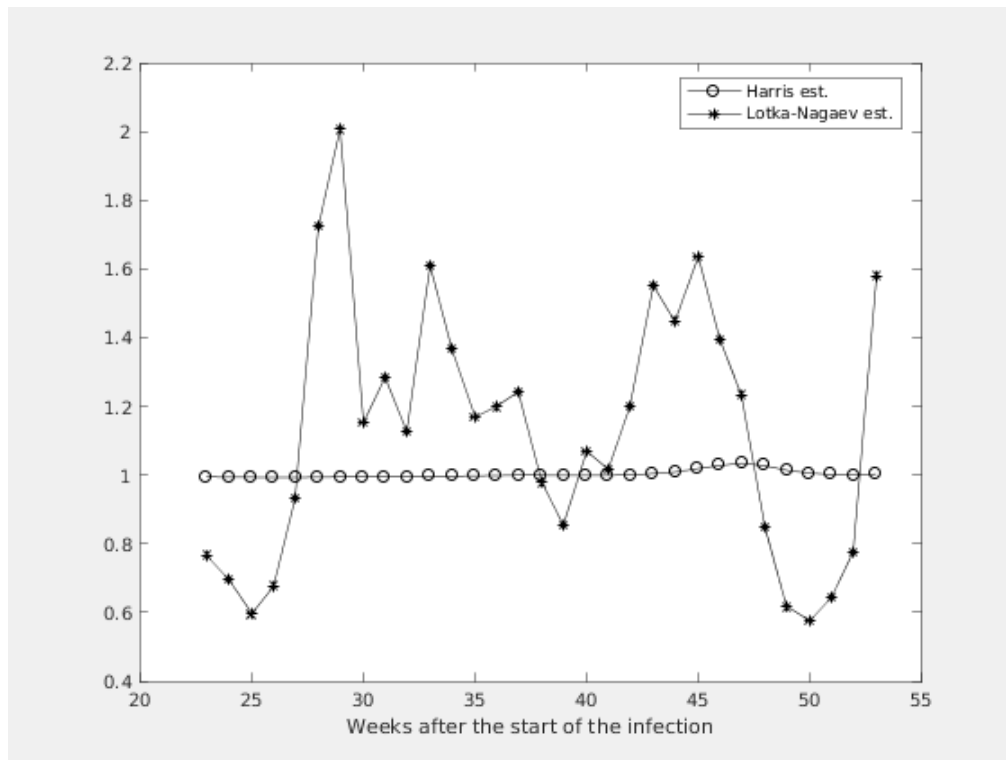
**Figure 1.2. Number of the total registered cases**



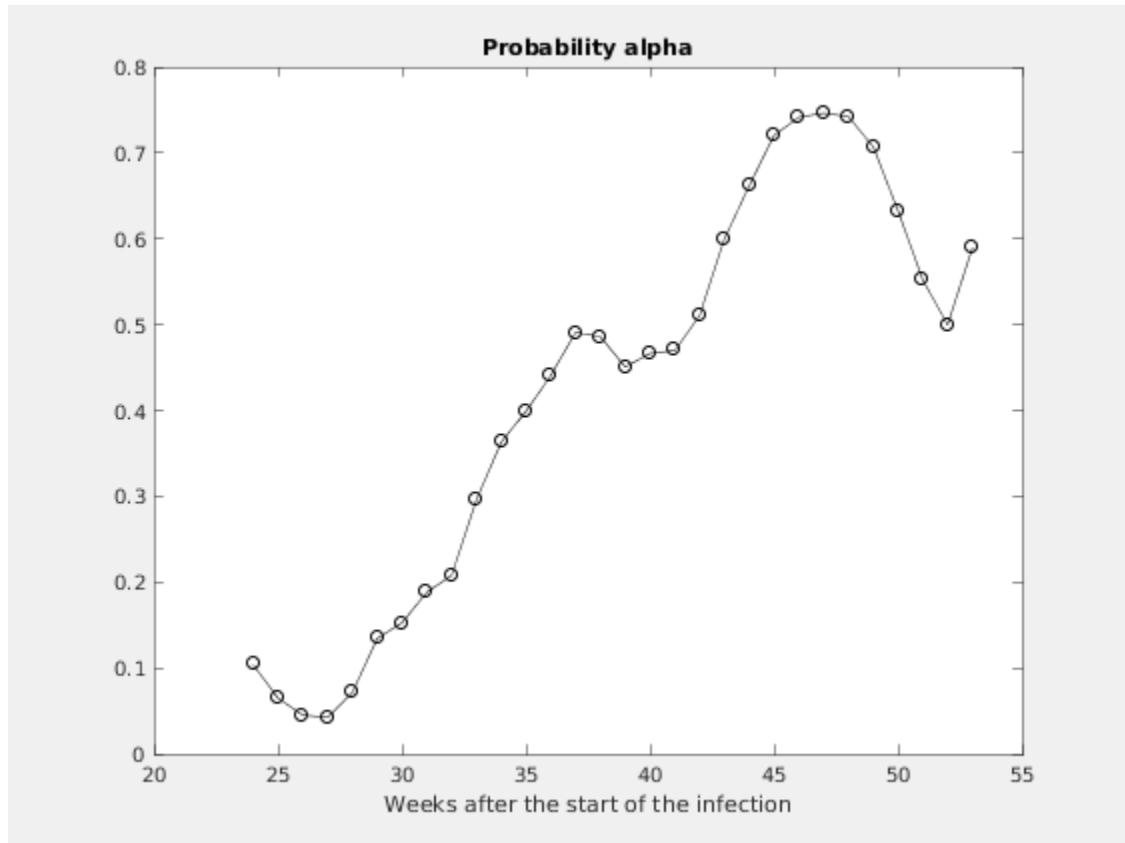
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# Chapter 2. Estimating of the main parameter and some predictions

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

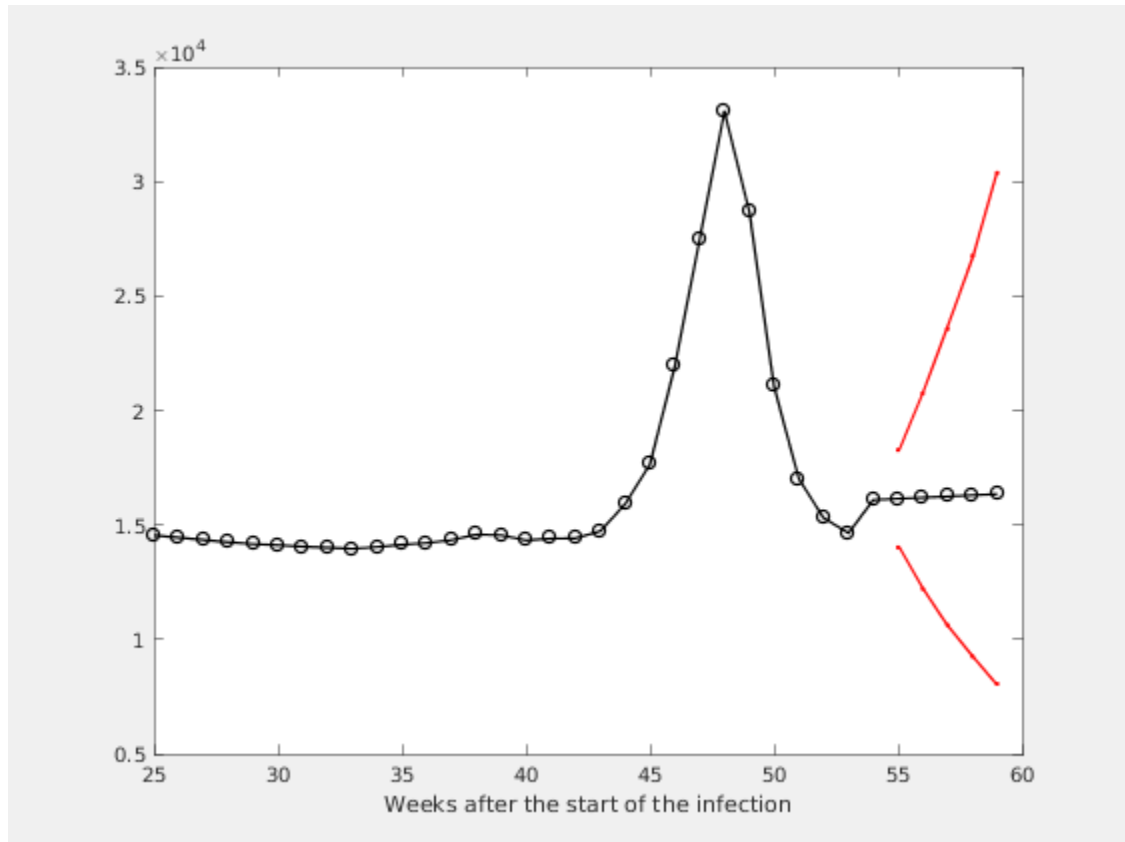


**Figure 2.2. Figure**

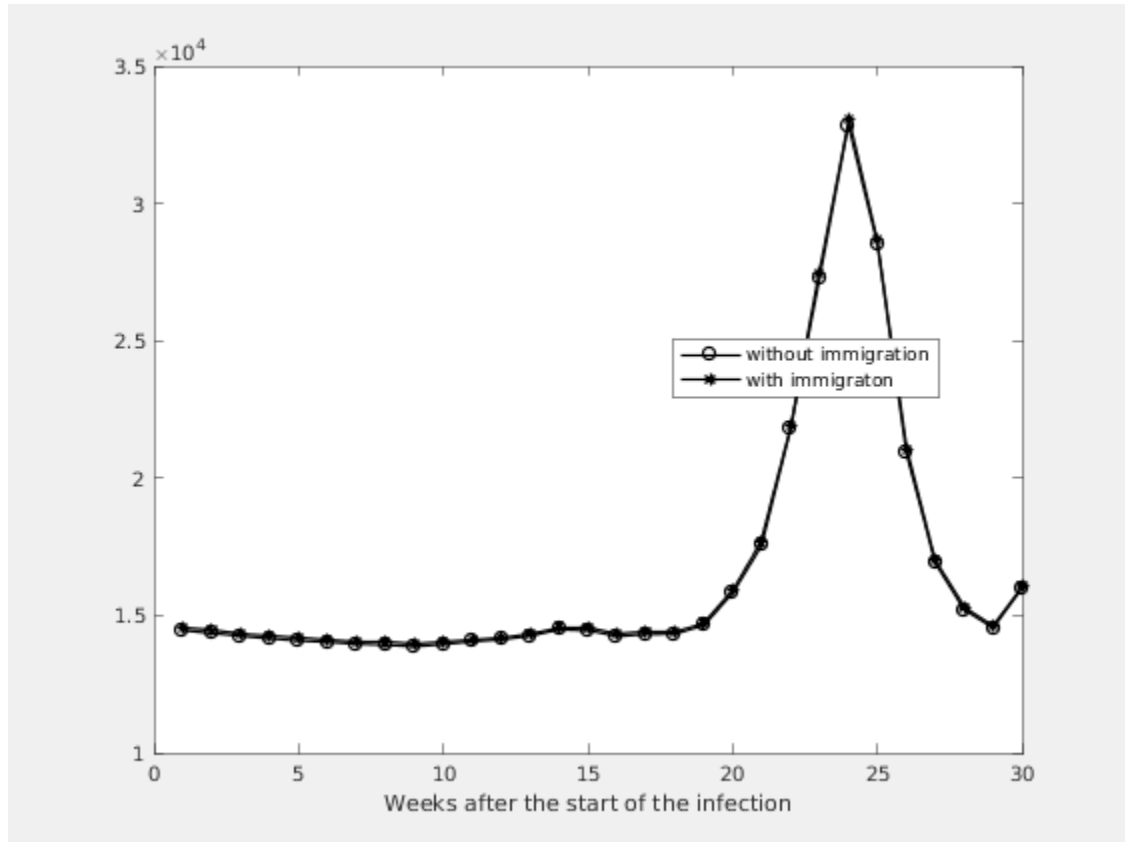




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	1.0141	0.8691 - 1.1591	0.7464	33056	32849
3	1.0056	0.8646 - 1.1466	0.7422	28713	28533
2	1.0016	0.8629 - 1.1403	0.7073	21059	20927
1	1.0000	0.8630 - 1.1370	0.6327	17017	16910
0	1.0032	0.8679 - 1.1384	0.5520	15306	15211