

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

**Mongolia - week 53**

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### **Abstract**

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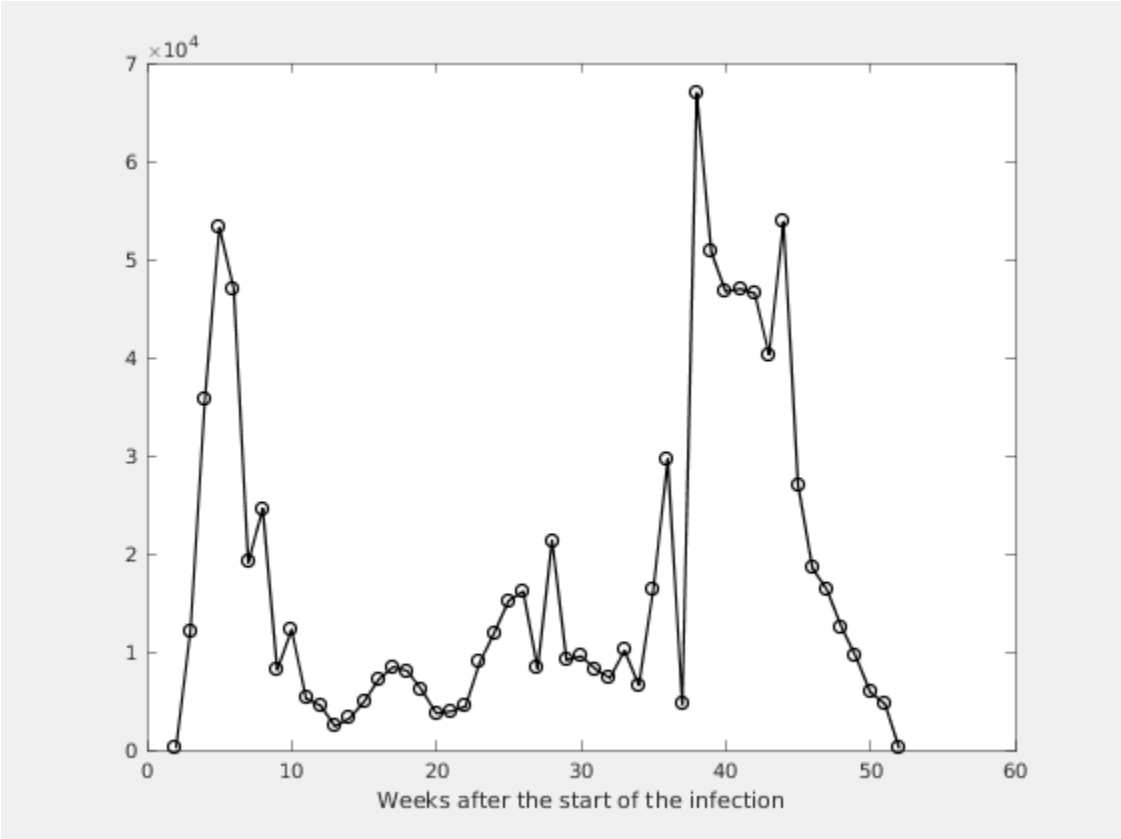
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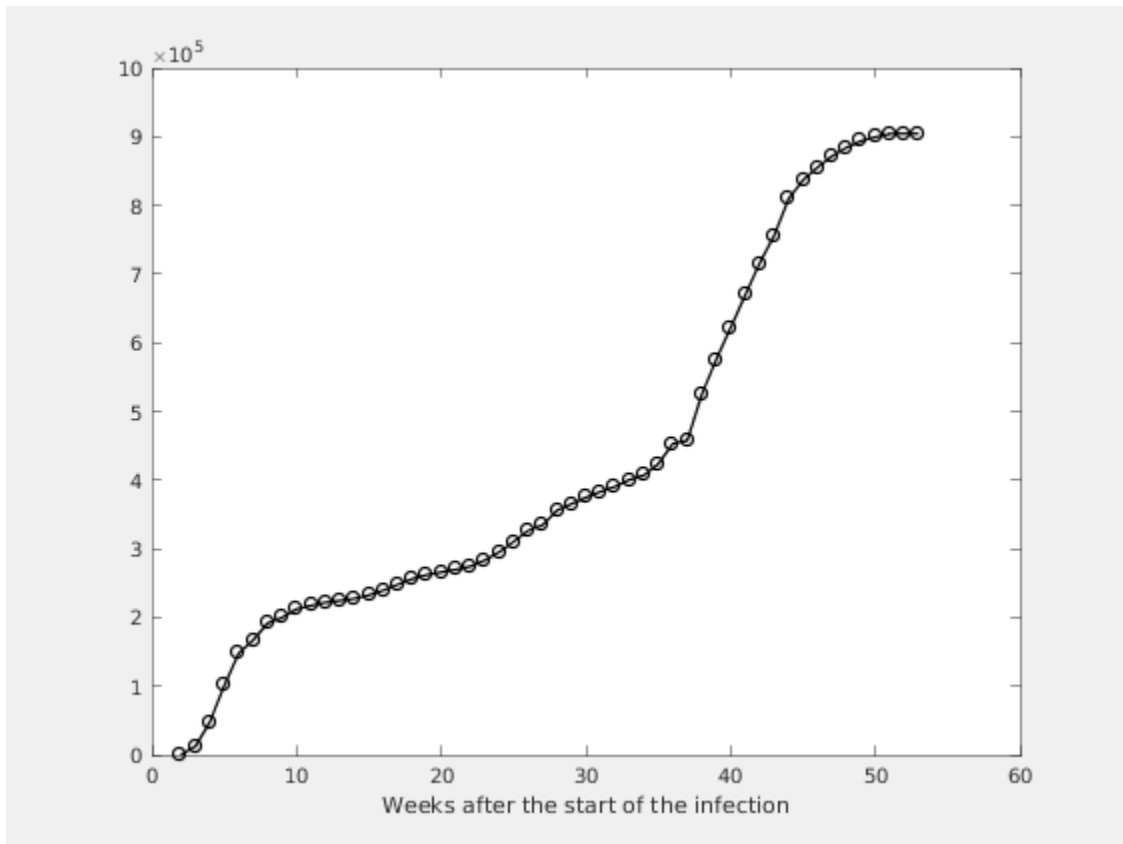
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# Chapter 1. Observed Infection data

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



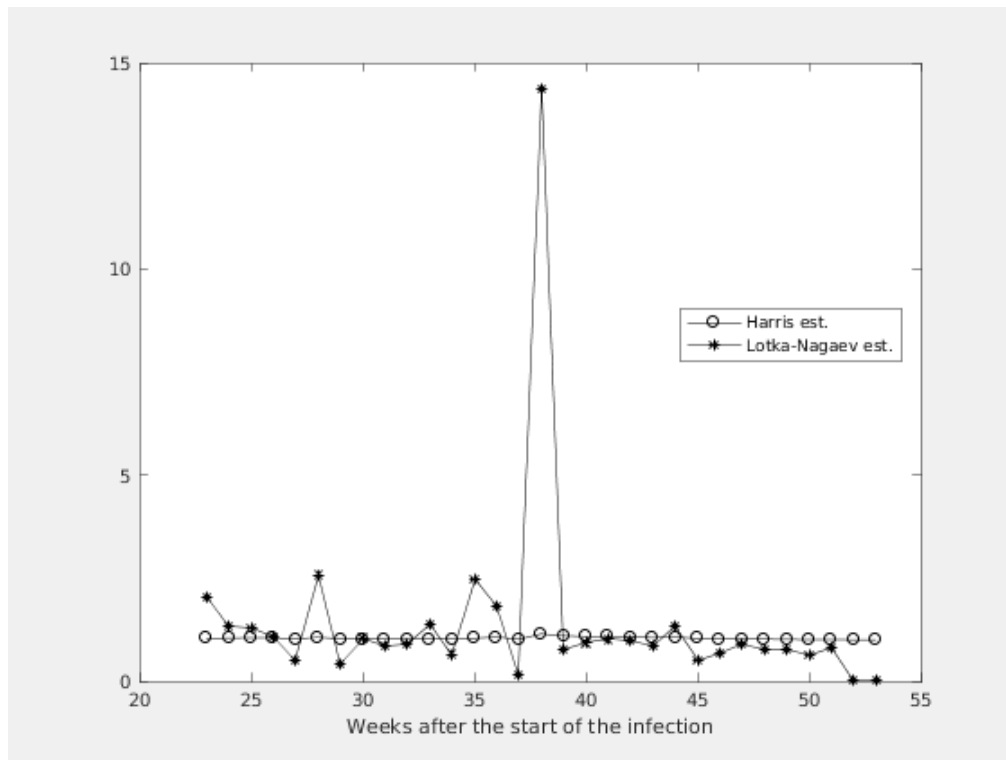
**Figure 1.2. Number of the total registered cases**



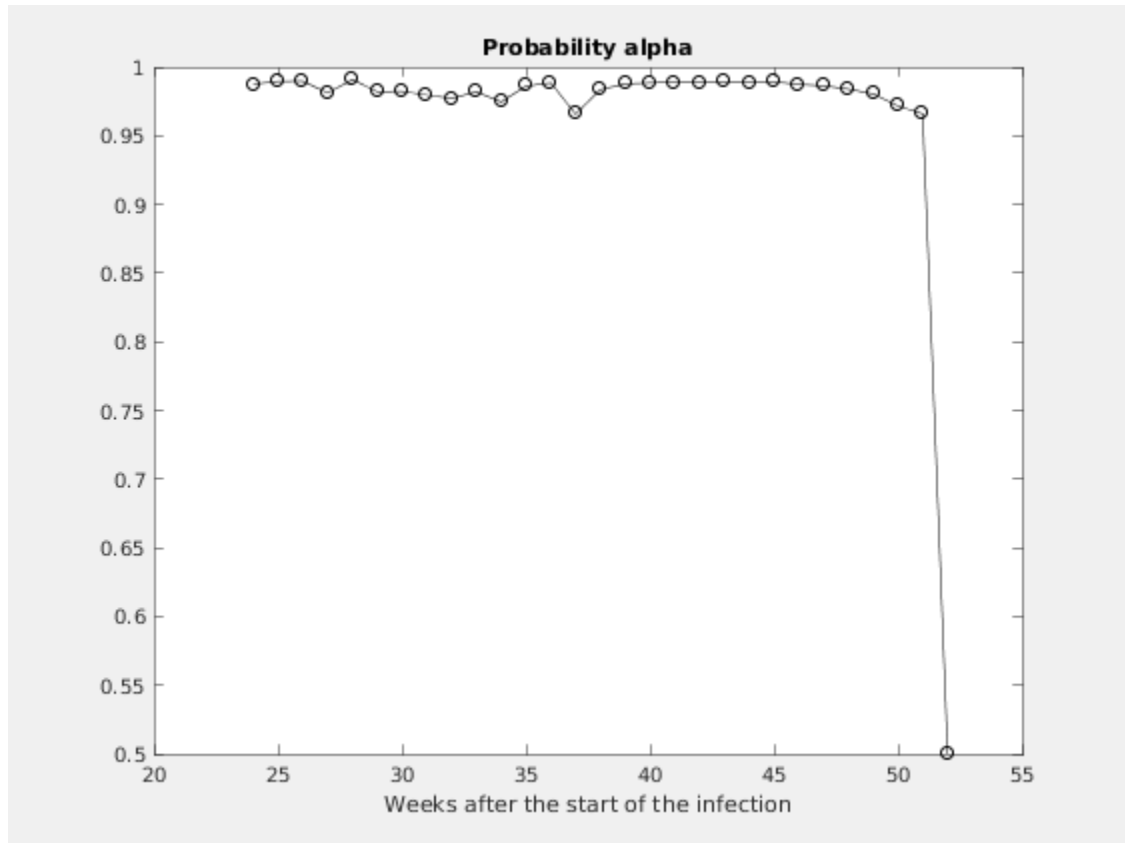
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# Chapter 2. Estimating of the main parameter and some predictions

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

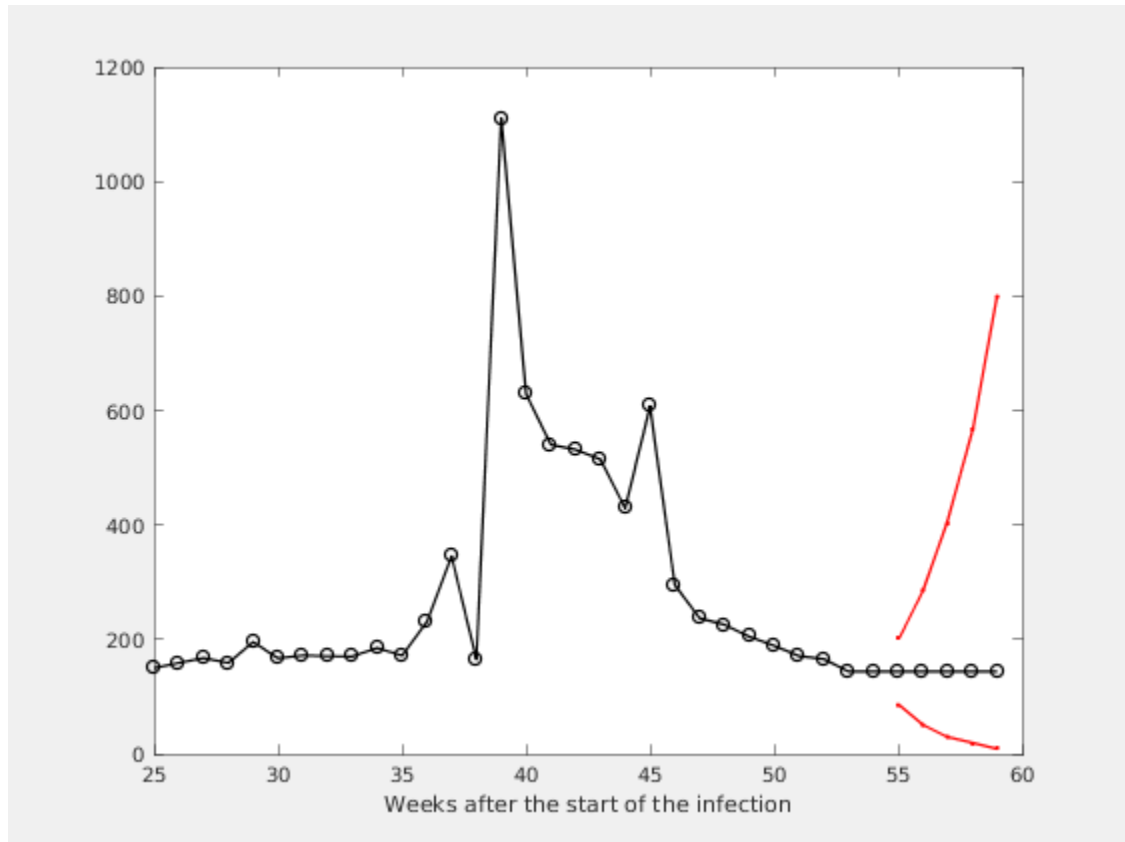


**Figure 2.2. Figure**

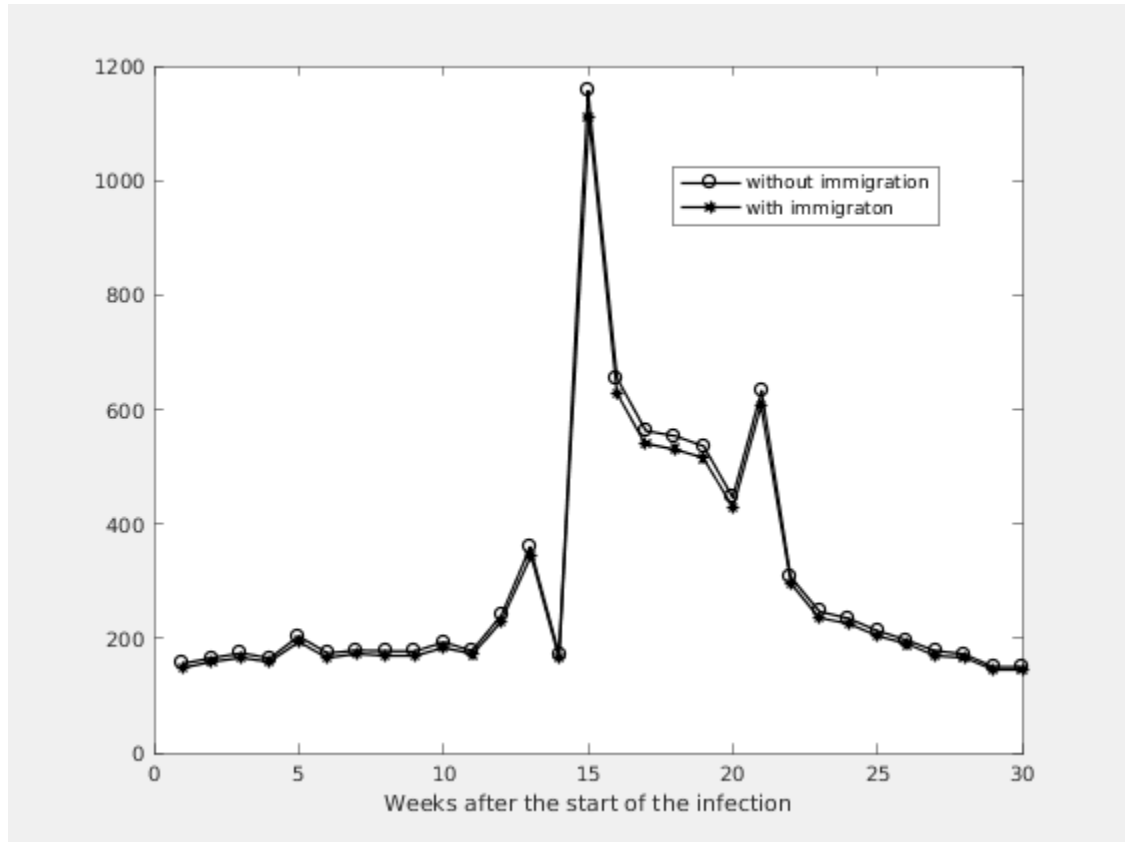




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	1.0106	0.5684 - 1.4528	0.9864	226	235
3	1.0064	0.5730 - 1.4398	0.9839	205	213
2	1.0051	0.5793 - 1.4308	0.9805	189	197
1	1.0000	0.5808 - 1.4192	0.9717	171	178
0	1.0000	0.5864 - 1.4136	0.9660	166	173