

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

**Norway - week 53**

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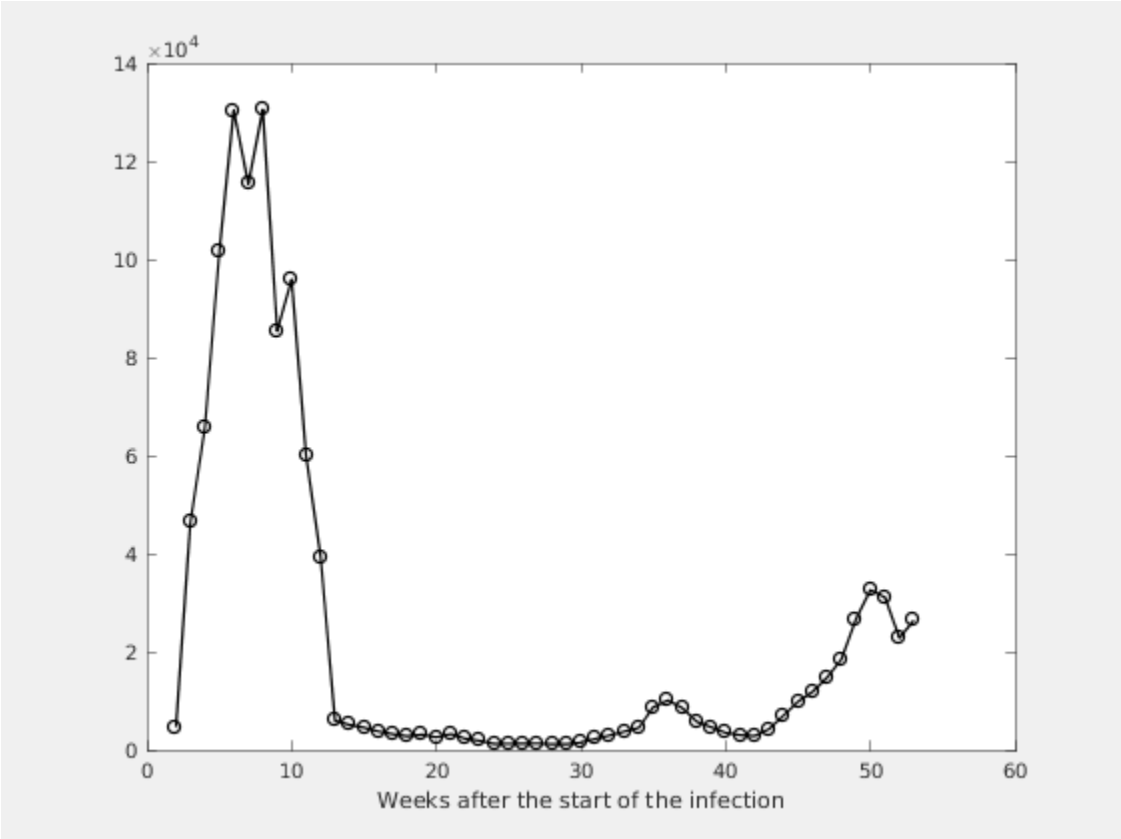
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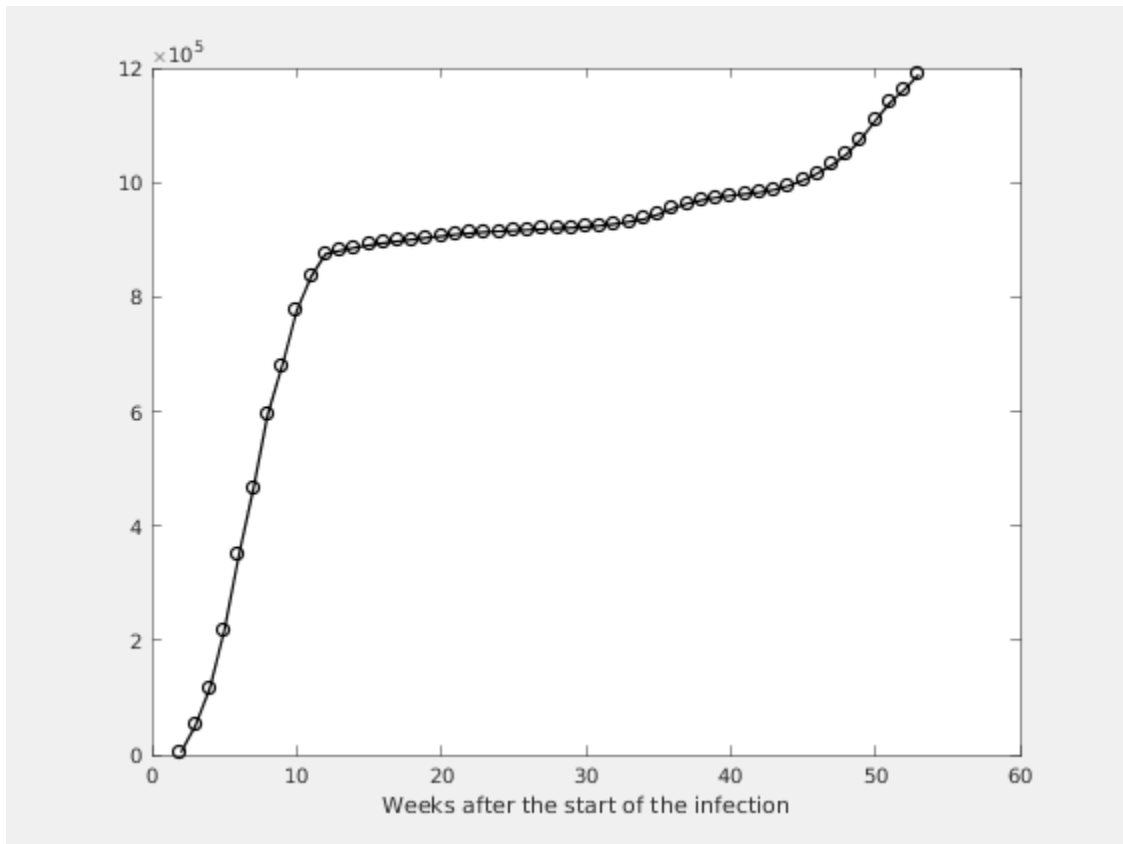
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# Chapter 1. Observed Infection data

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

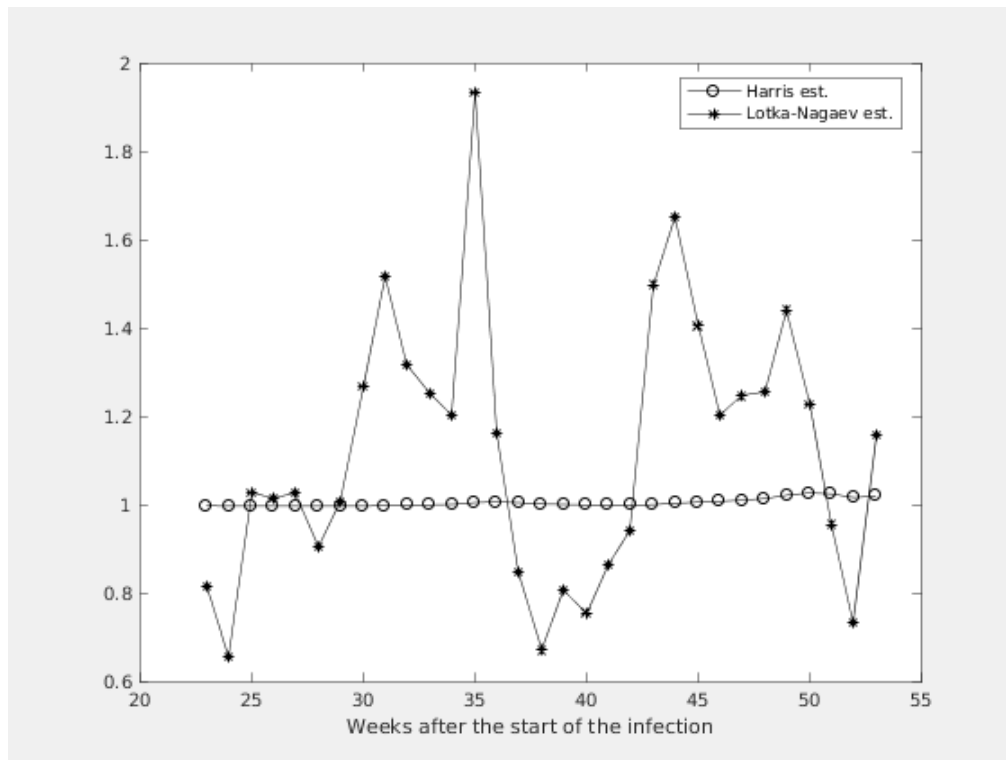
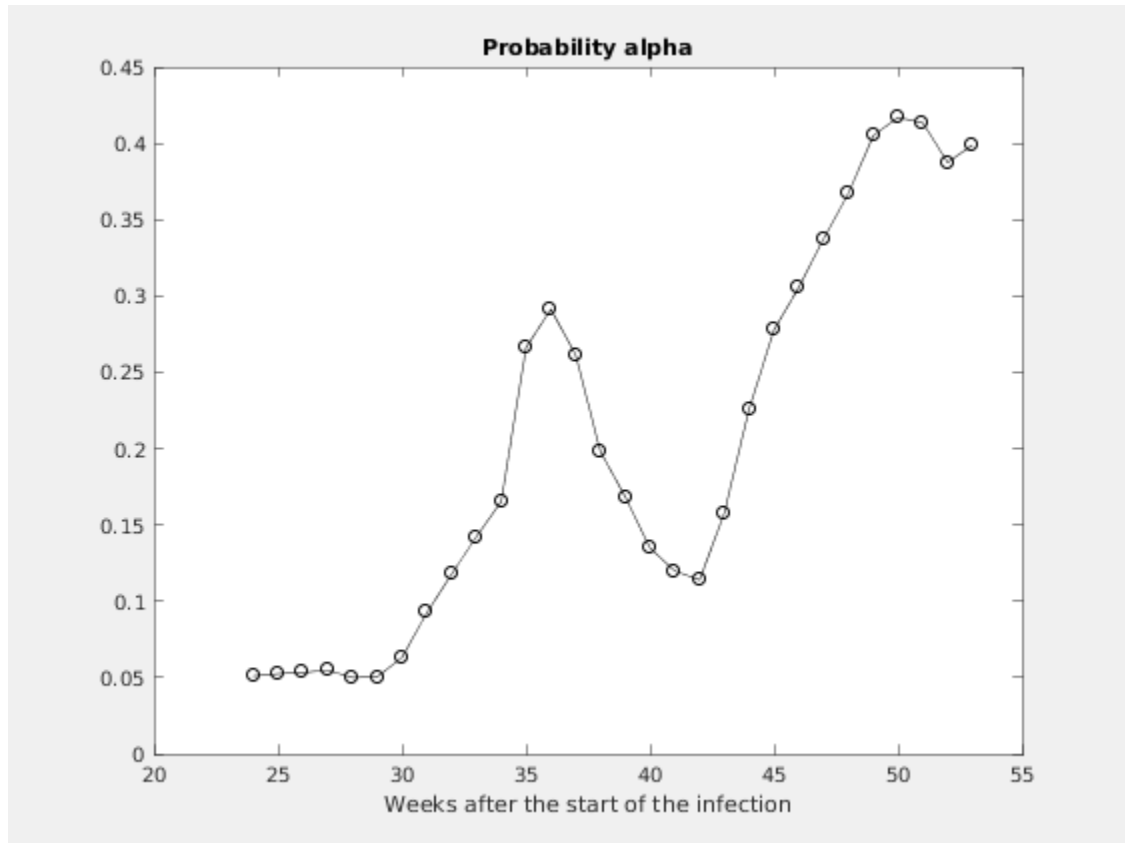
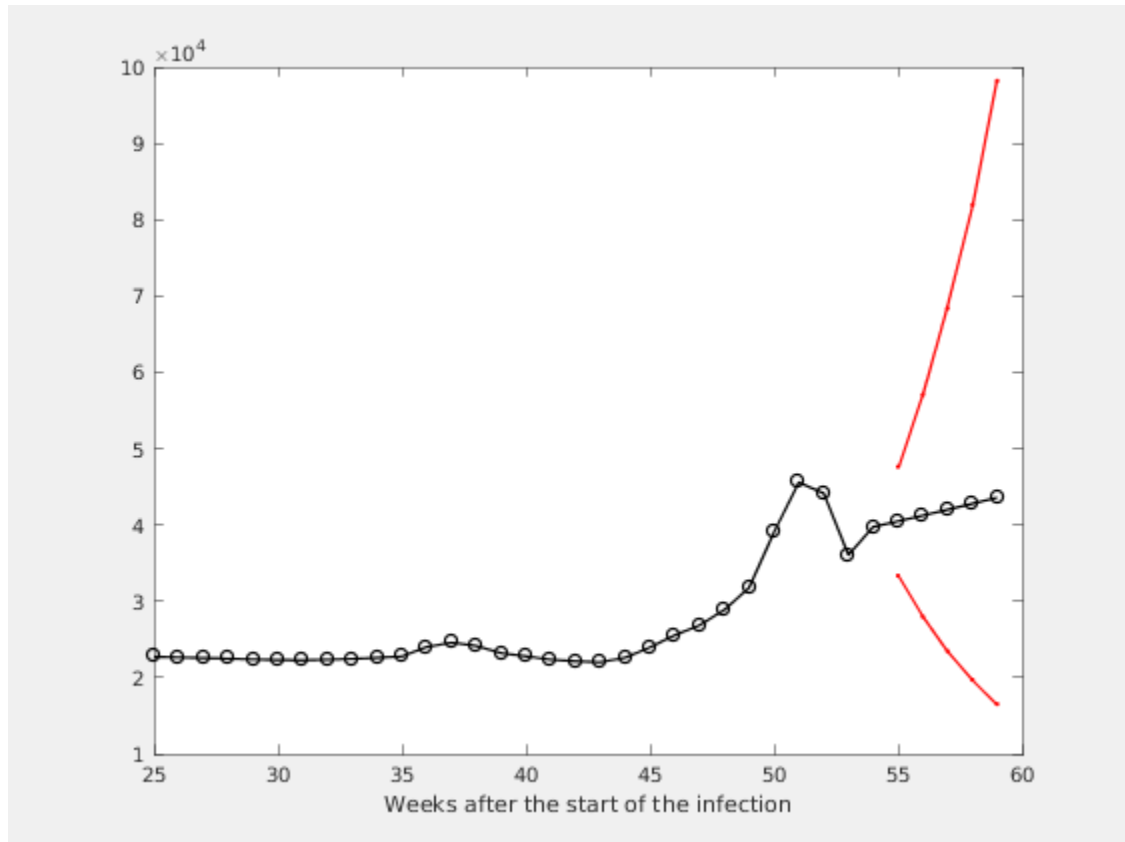


Figure 2.2. Figure

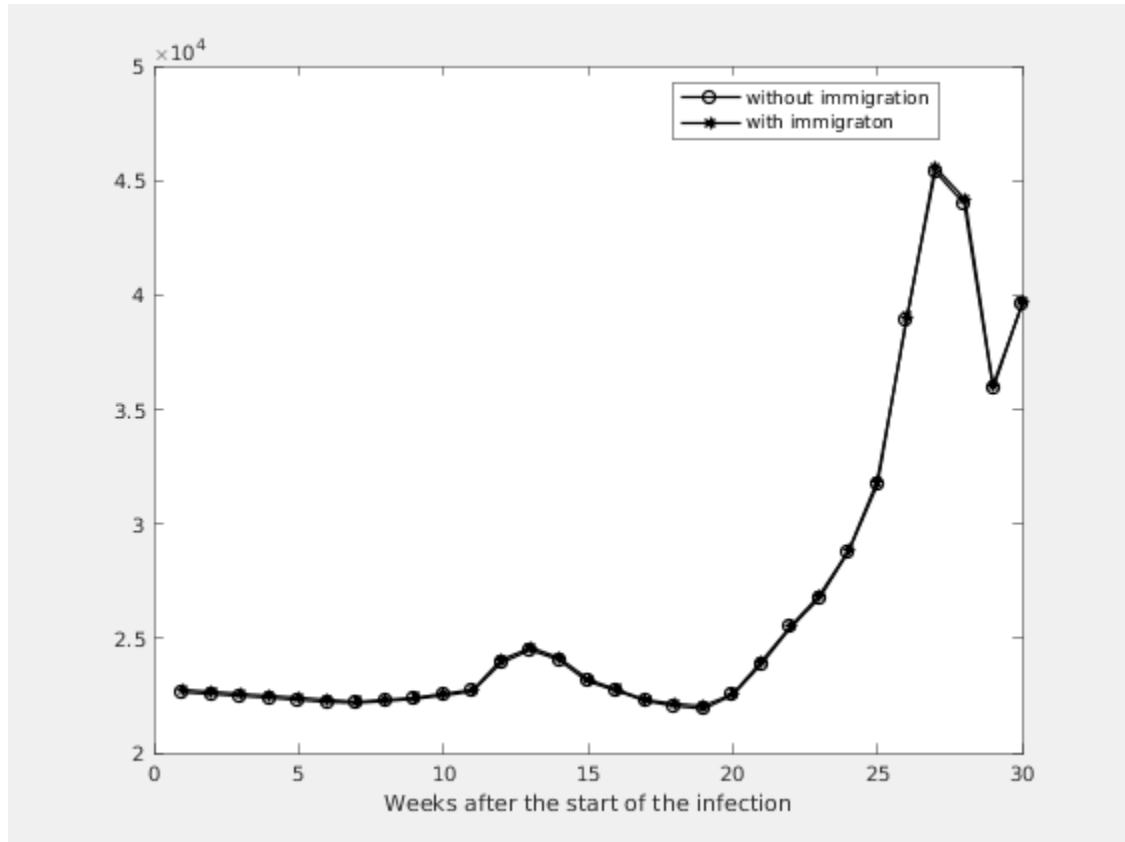




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	1.0209	0.8181 - 1.2237	0.3375	28892	28782
3	1.0259	0.8266 - 1.2253	0.3673	31808	31687
2	1.0239	0.8277 - 1.2200	0.4051	39066	38918
1	1.0159	0.8240 - 1.2078	0.4170	45568	45396
0	1.0187	0.8316 - 1.2058	0.4134	44161	43994