

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

**Denmark - 20201214**

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## **Branching stochastic processes as models of Covid-19 epidemic development : Denmark - 20201214**

### **Abstract**

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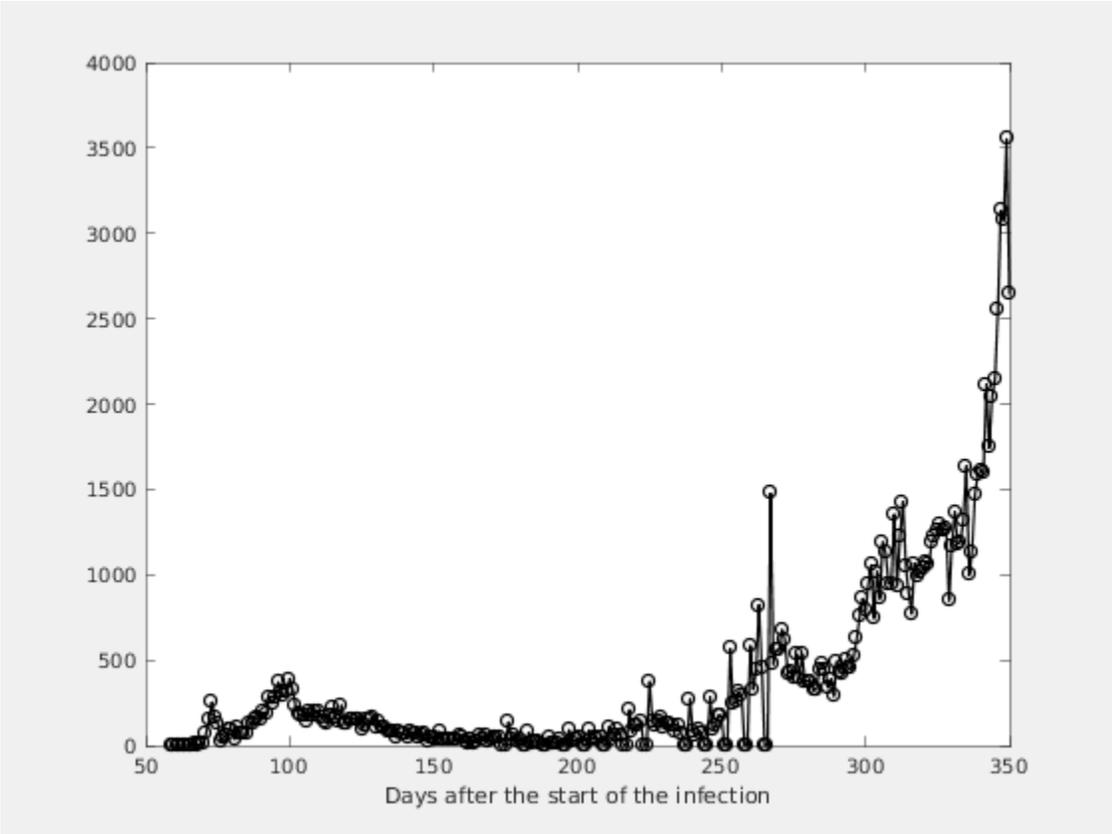
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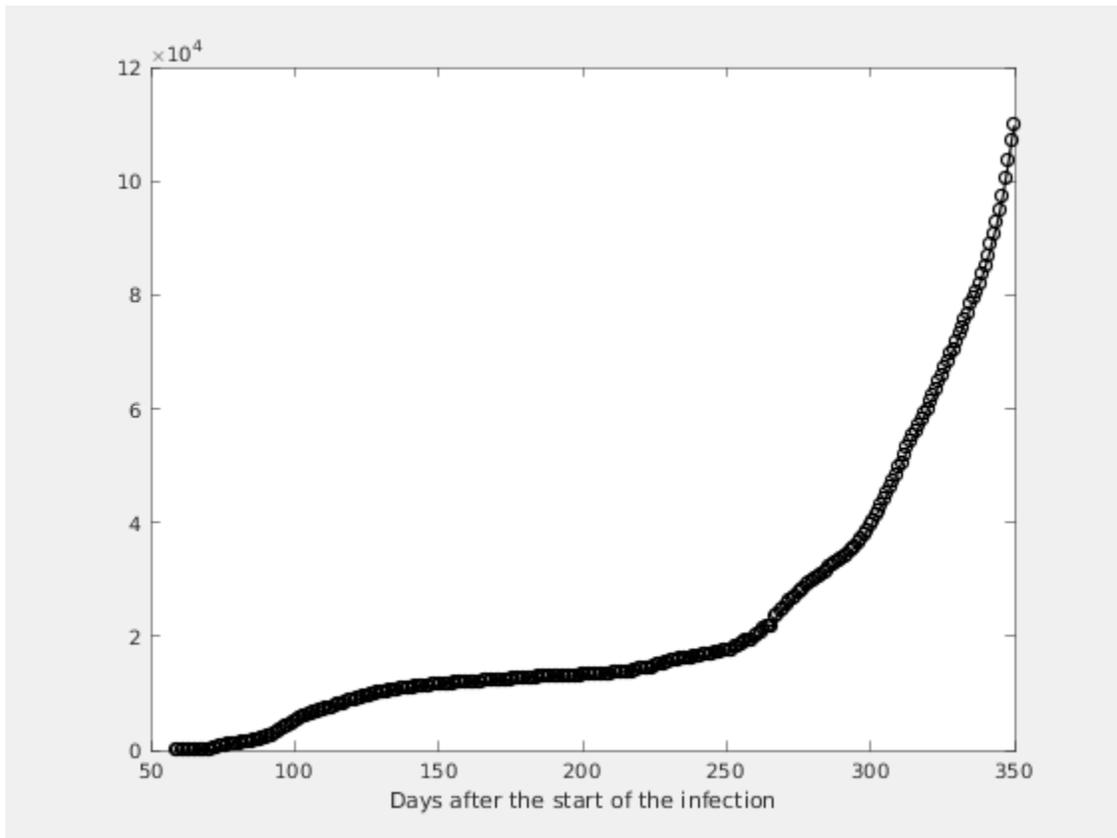
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# Chapter 1. Observed Infection data

Figure 1.1. Number of the daily 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

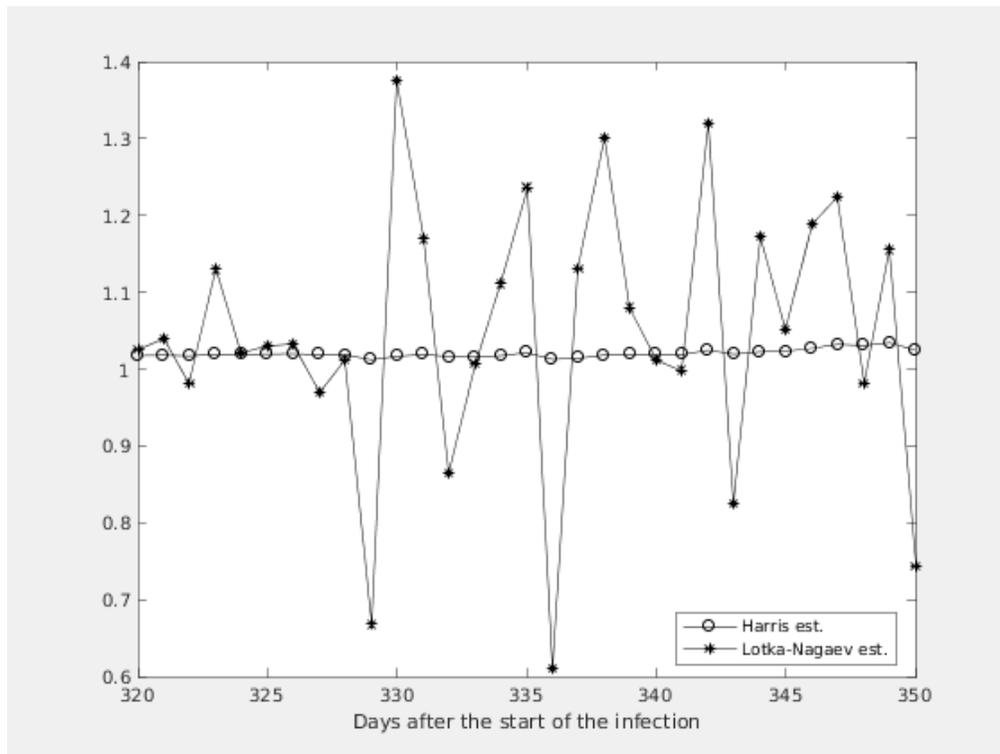
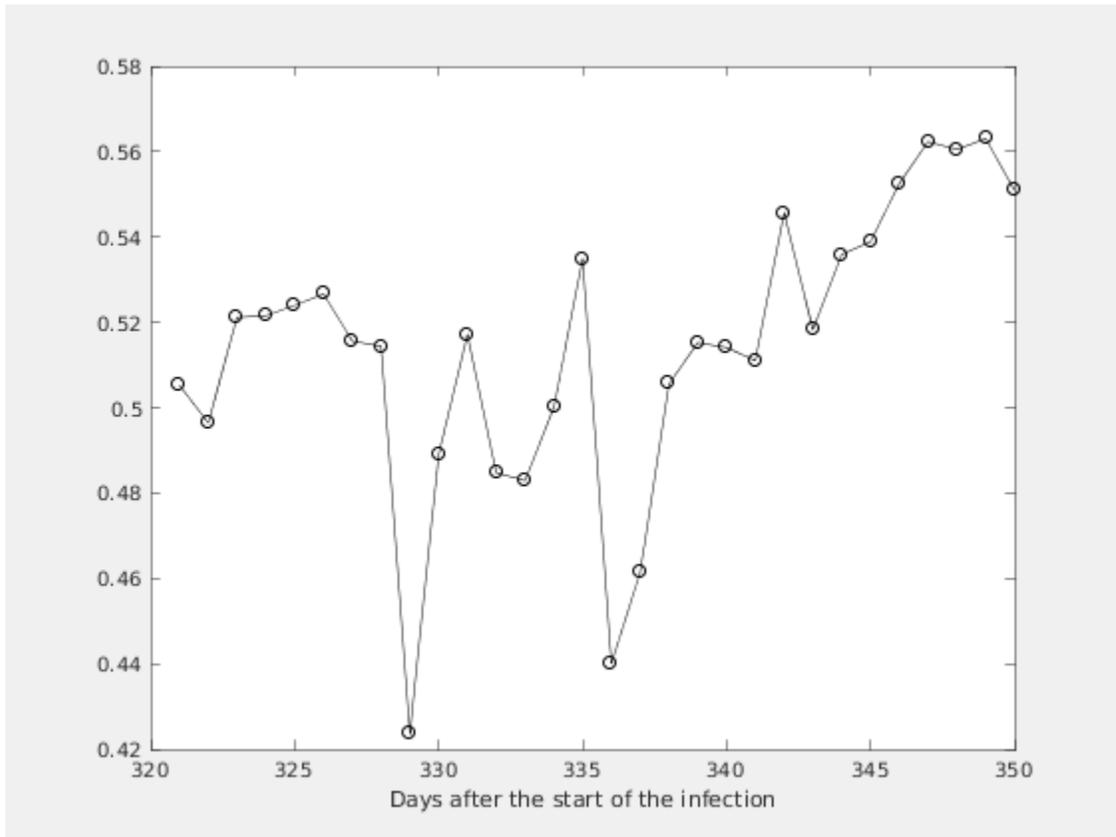
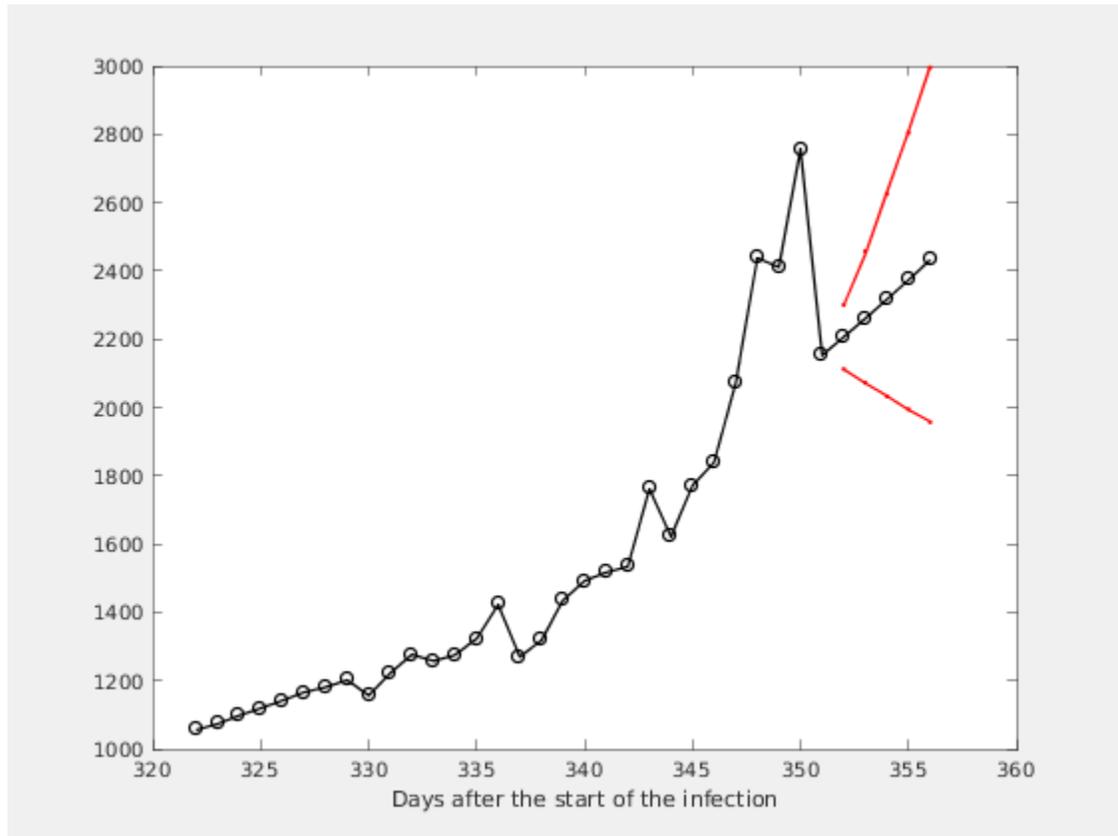


Figure 2.2. Figure

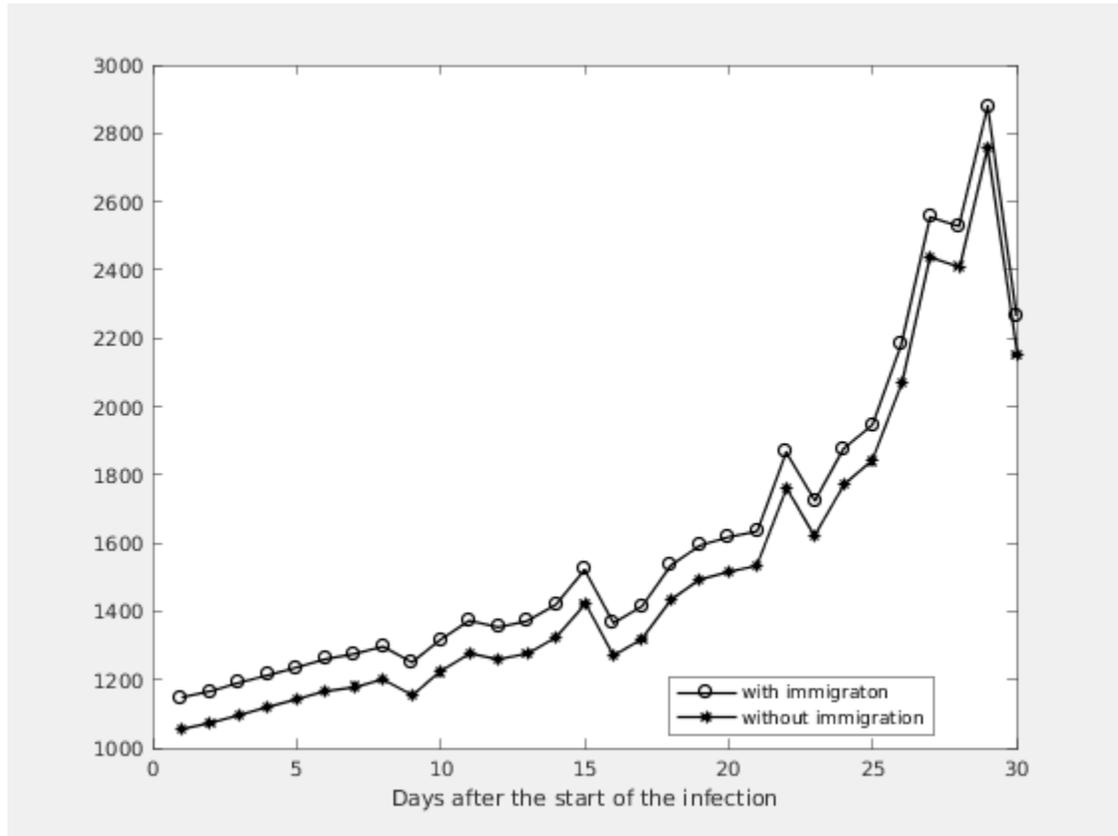




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	M1	A1
4	1.0270	0.9799 - 1.0741	0.5359	1772	1877
3	1.0322	0.9856 - 1.0787	0.5389	1840	1946
2	1.0306	0.9846 - 1.0766	0.5525	2072	2182
1	1.0343	0.9888 - 1.0797	0.5623	2438	2555
0	1.0247	0.9800 - 1.0693	0.5605	2411	2528