

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

**Faroes - week 53**

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## **Branching stochastic processes as models of Covid-19 epidemic development : Faroes - 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 Faroes. 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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## Table of Contents

1. Observed Infection data .....	1
2. Estimating of the main parameter and some predictions .....	3

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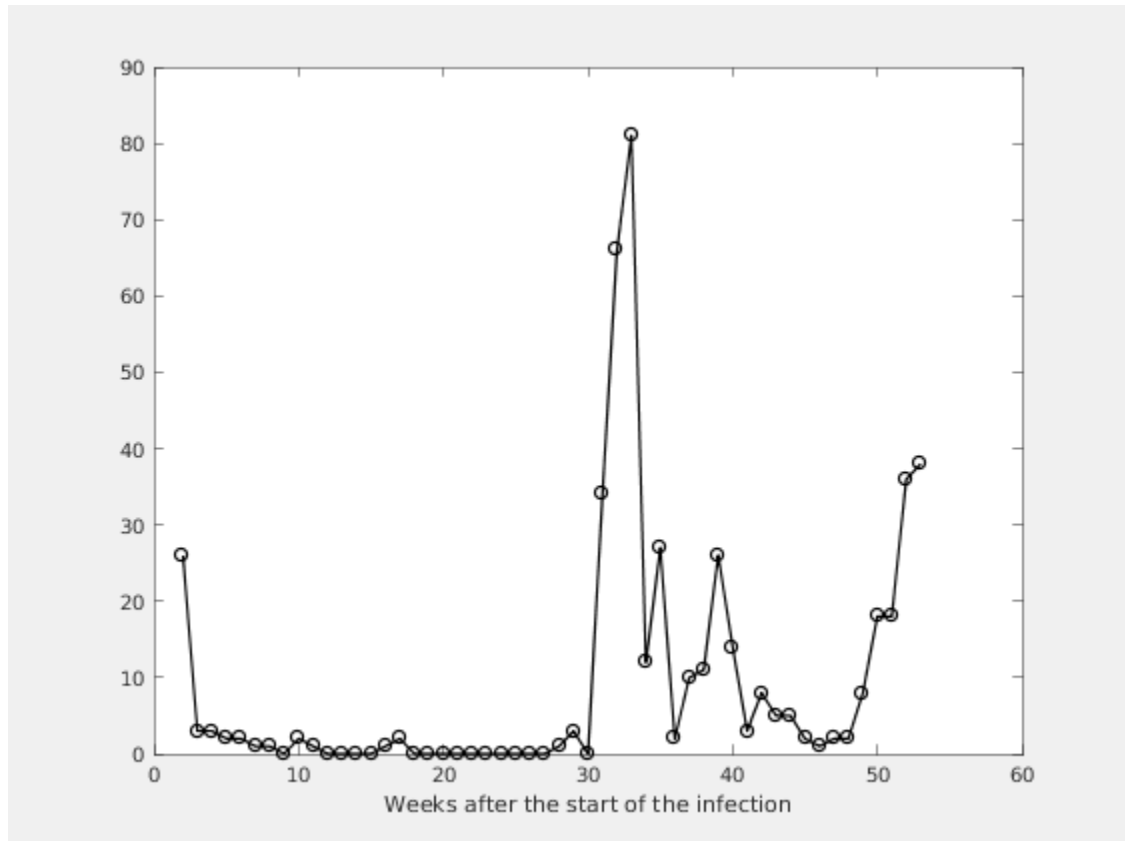
## List of Figures

1.1. Number of the weekly reported laboratory-confirmed cases .....	1
1.2. Number of the total registered cases .....	2
2.1. The Lotka-Nagaev and the Harris type estimator of the growth rate .....	3
2.2. Figure .....	4
2.3. Expected number of the nonregistered infected individuals without immigra- tion .....	5
2.4. Expected number of the nonregistered infected individuals with immigration .....	6

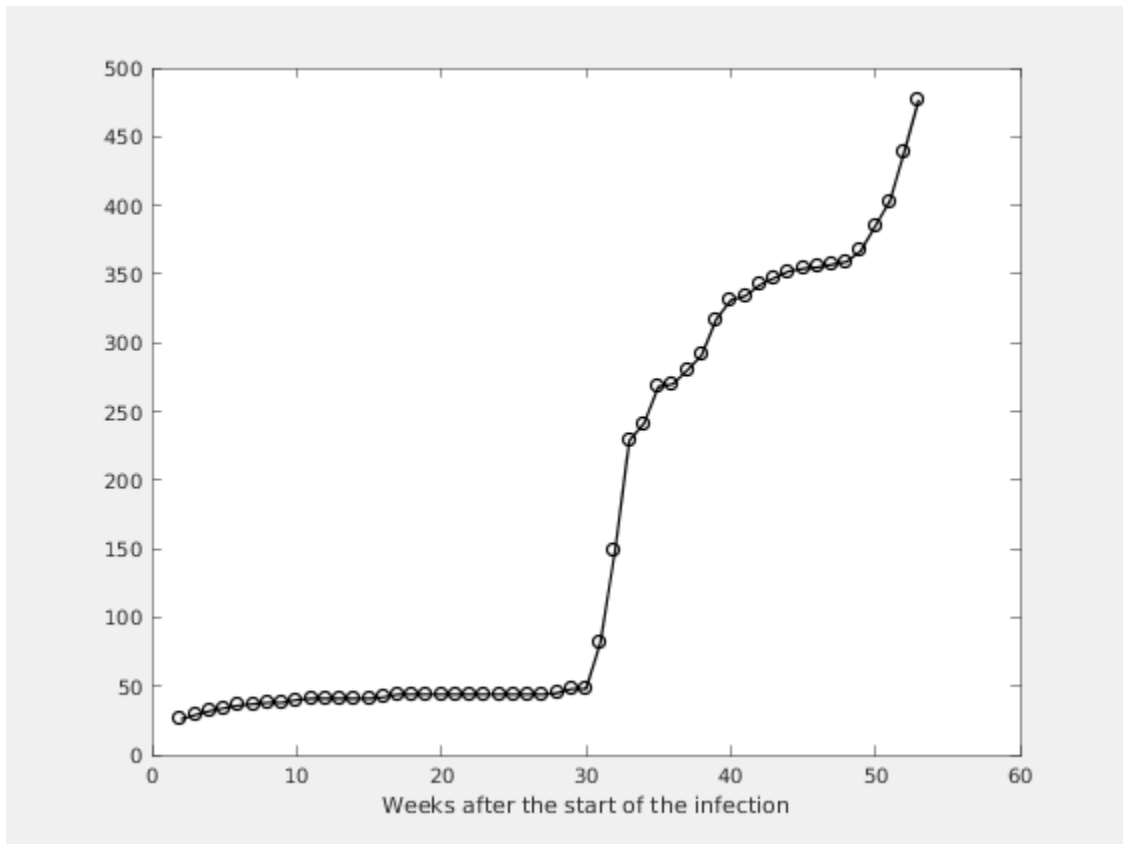
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# Chapter 1. Observed Infection data

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

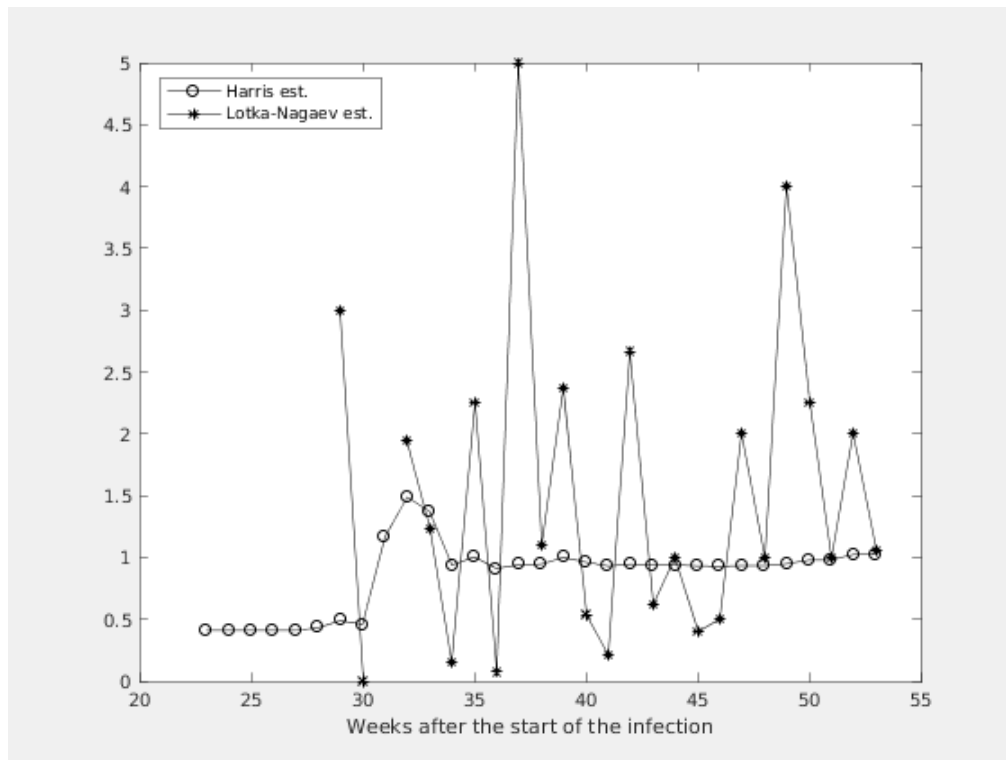
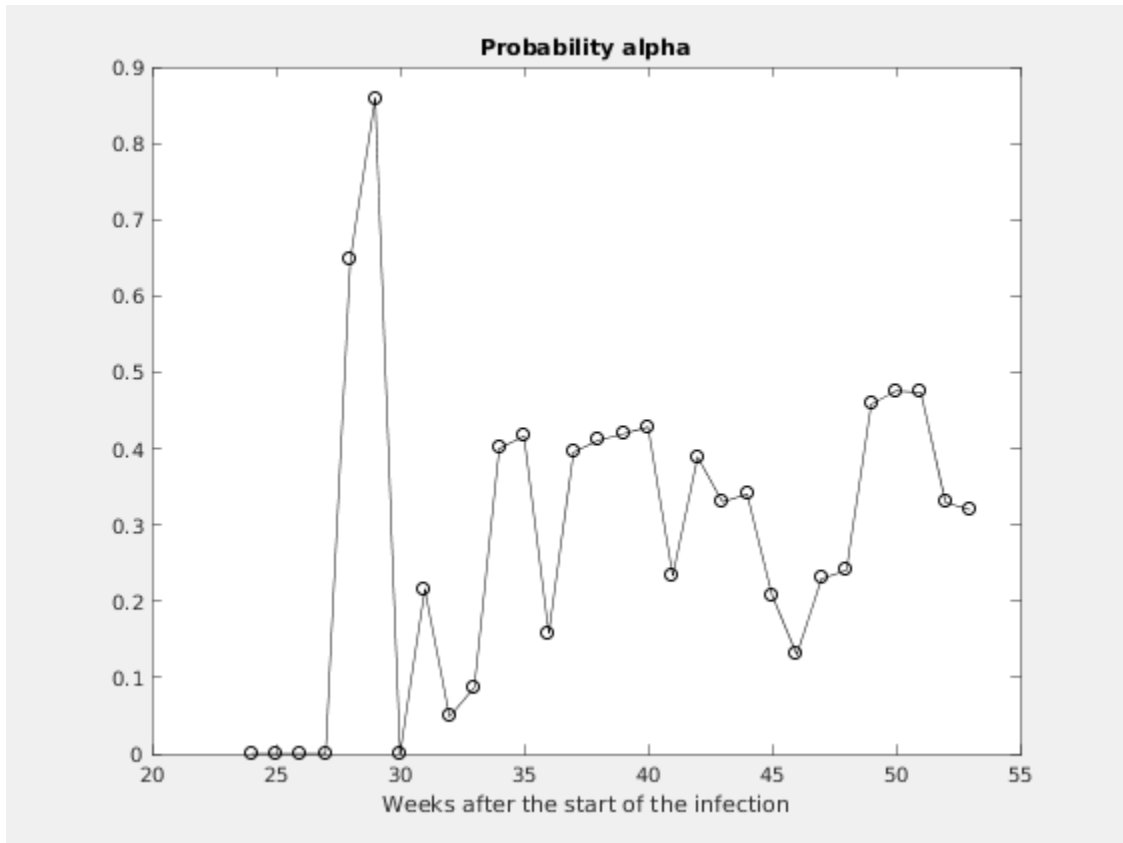
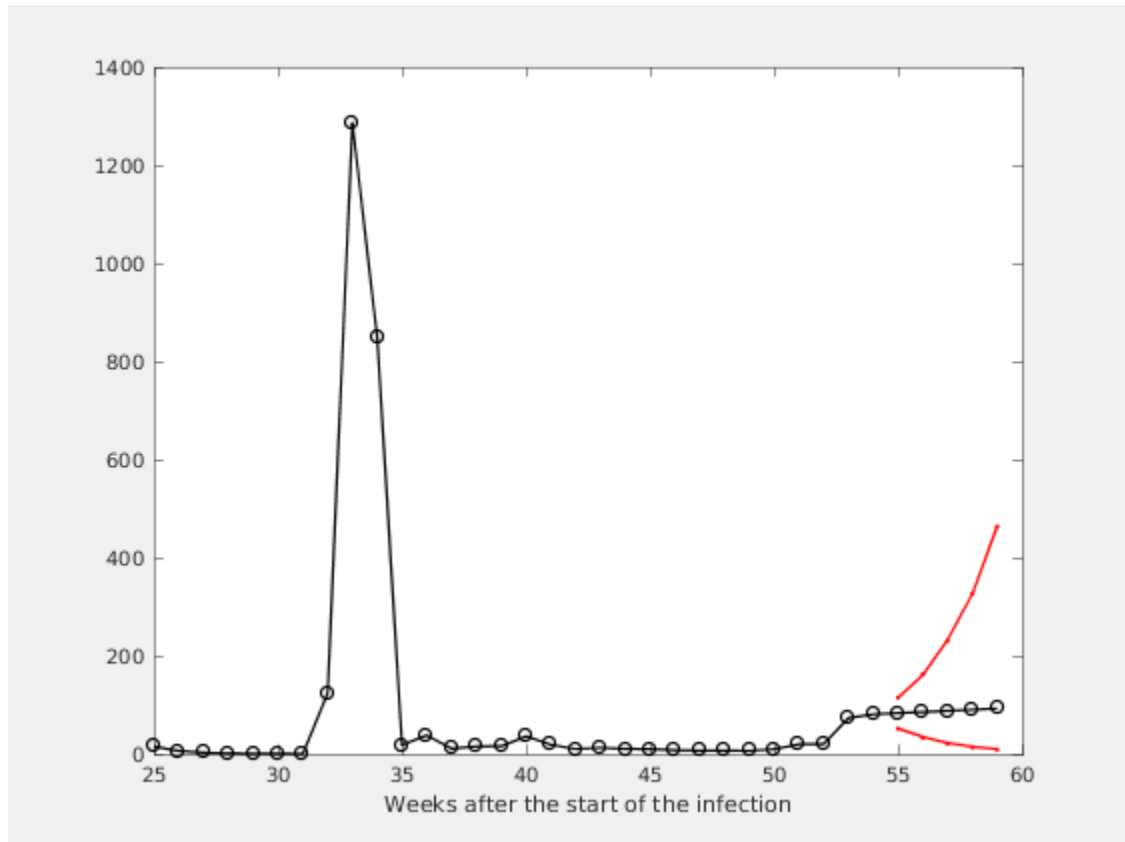


Figure 2.2. Figure

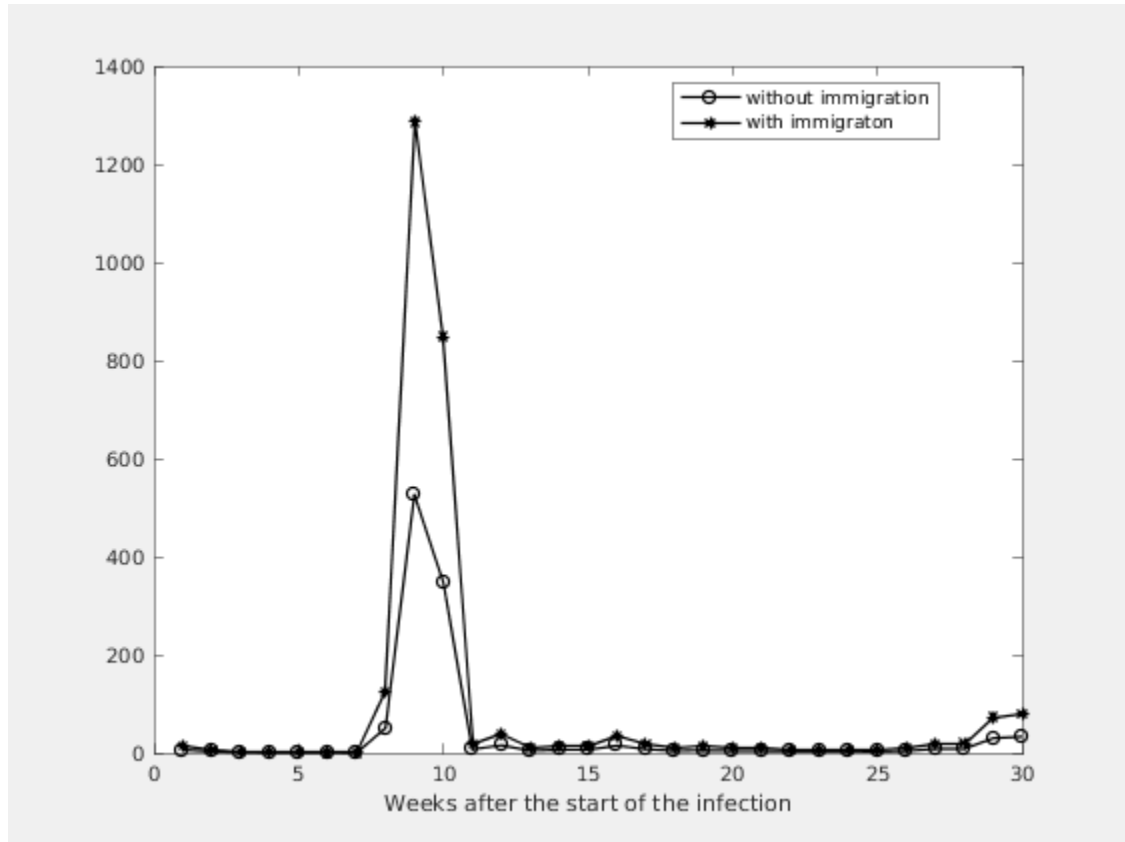




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	0.9499	0.4925 - 1.4073	0.2296	7	3
3	0.9782	0.5295 - 1.4269	0.2404	6	3
2	0.9792	0.5319 - 1.4265	0.4584	9	4
1	1.0248	0.5843 - 1.4654	0.4755	20	8
0	1.0273	0.6037 - 1.4509	0.4737	20	8