Branching stochastic processes as models of Covid-19 epidemic development

Var80 - week 53

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Abstract

The results presented here are obtained using the methologi proposed in the paper https://arxiv.org/abs/2004.14838 for the country Var80. The data comes from European Centre for Disease Prevention and Control available at https://opendata.ecdc.europa.eu/covid19/casedistribution/csv.

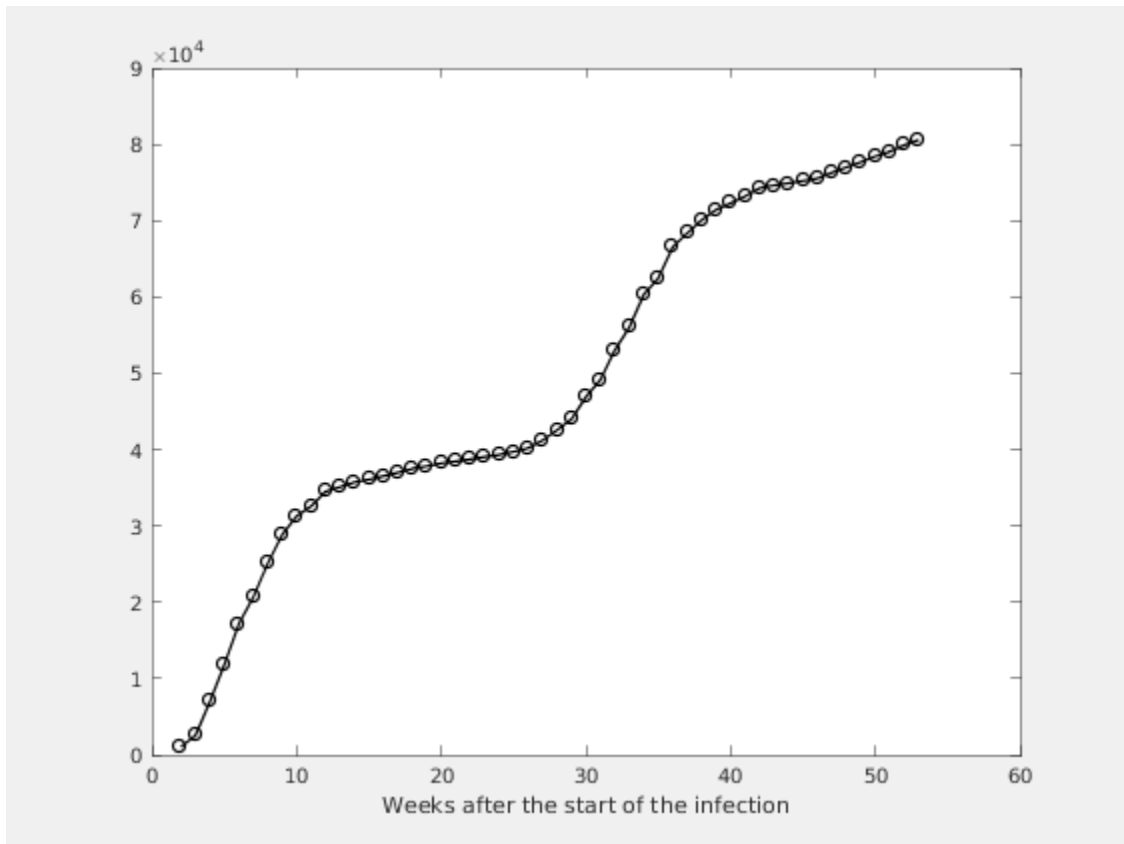# Table of Contents

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Figure 1.1. Number of the weekly reported laboratory-confirmed cases
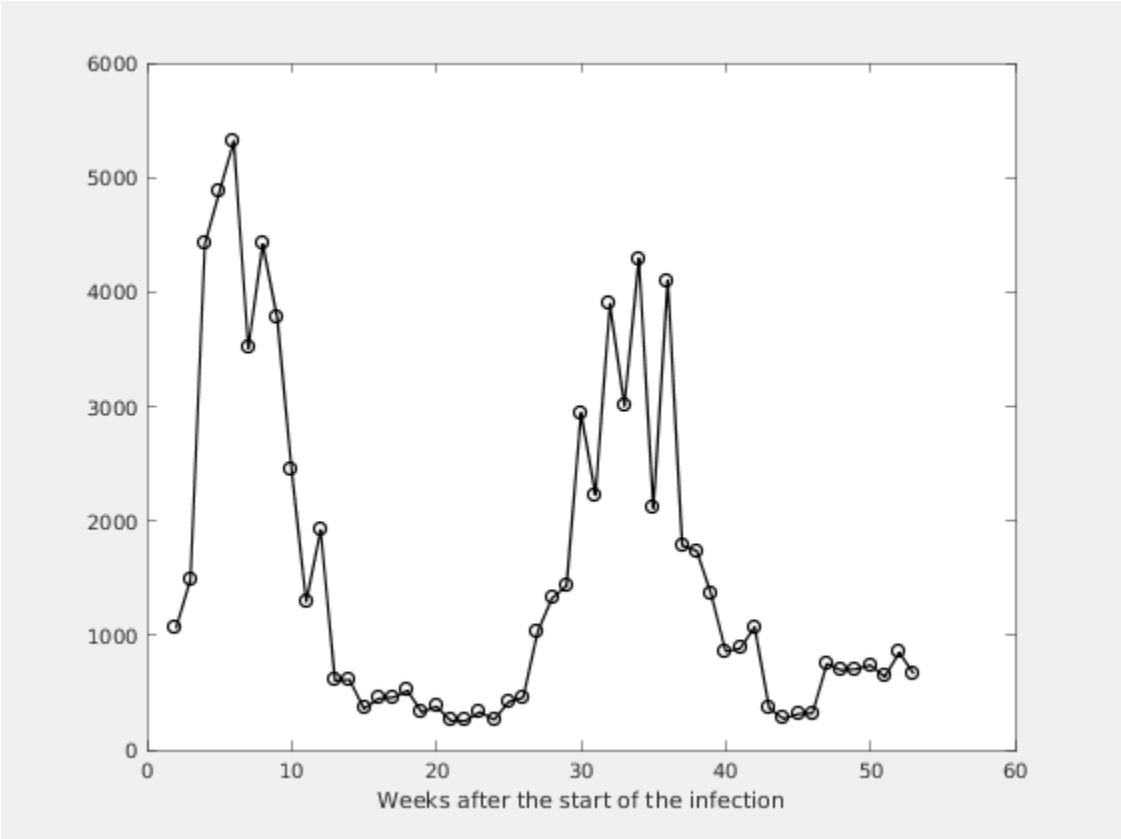
Figure 1.2. Number of the total registered cases

Chapter 2. Estimating of the main parameter and some predictions

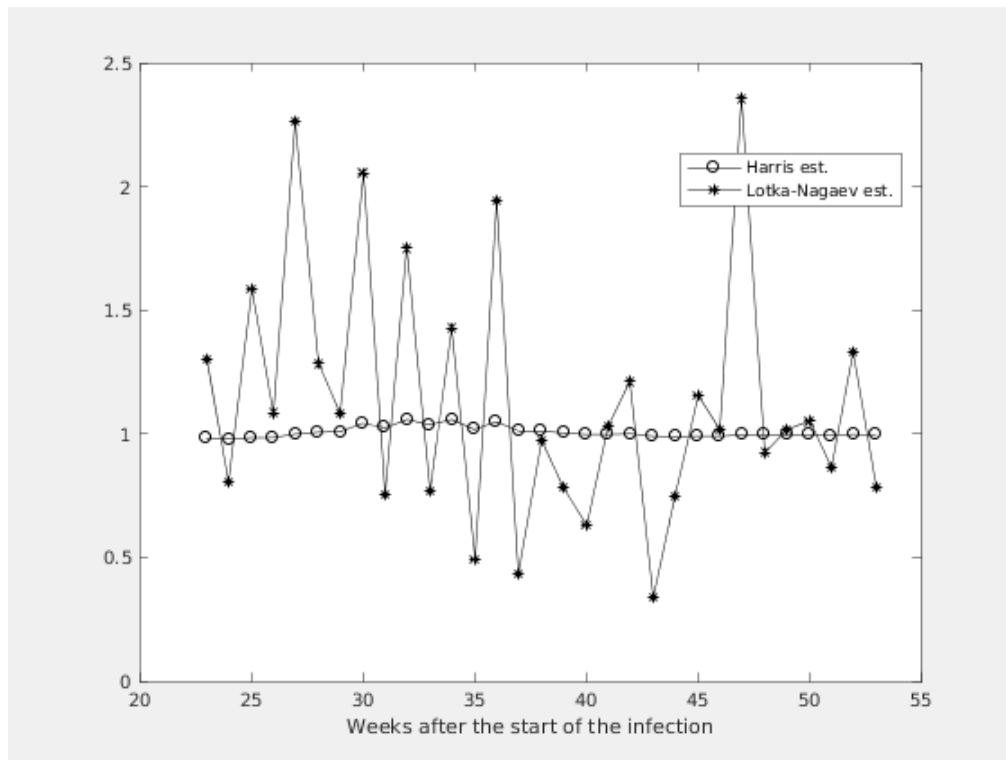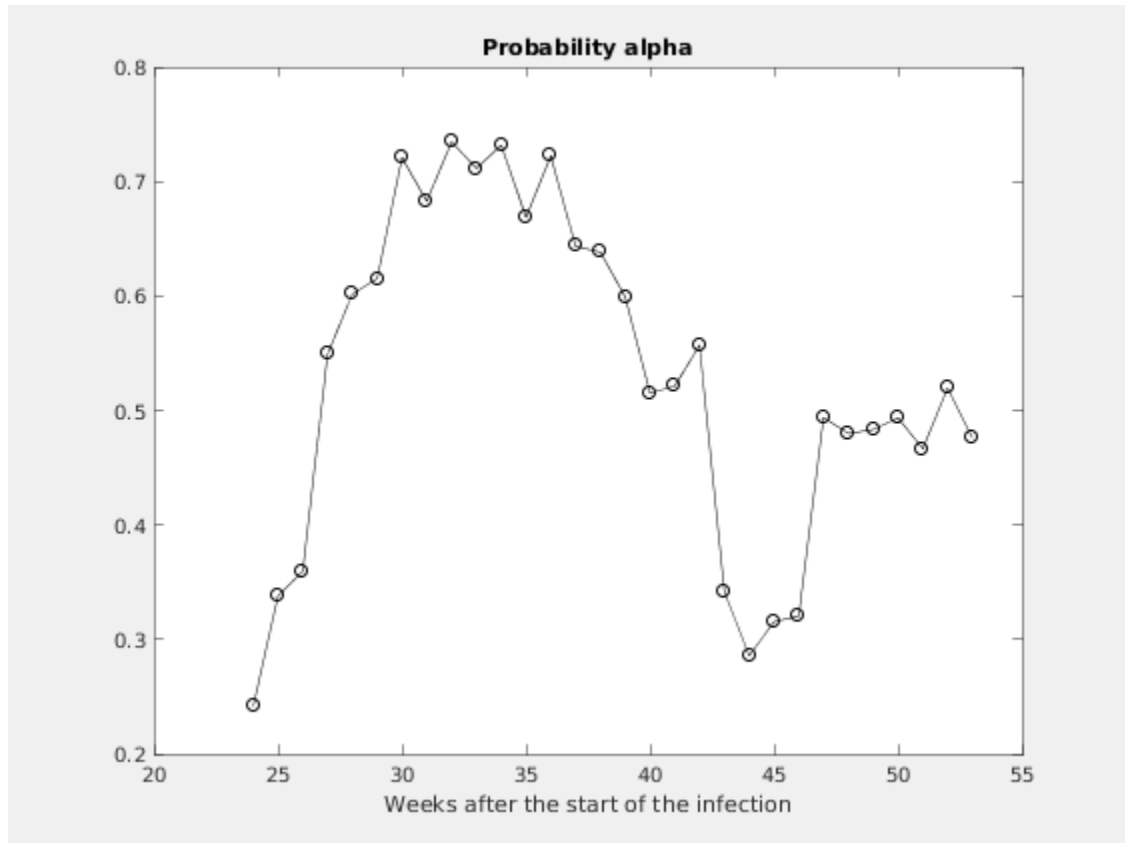**Figure 2.1. The Lotka-Nagaev and the Harris type estimator of the growth rate**
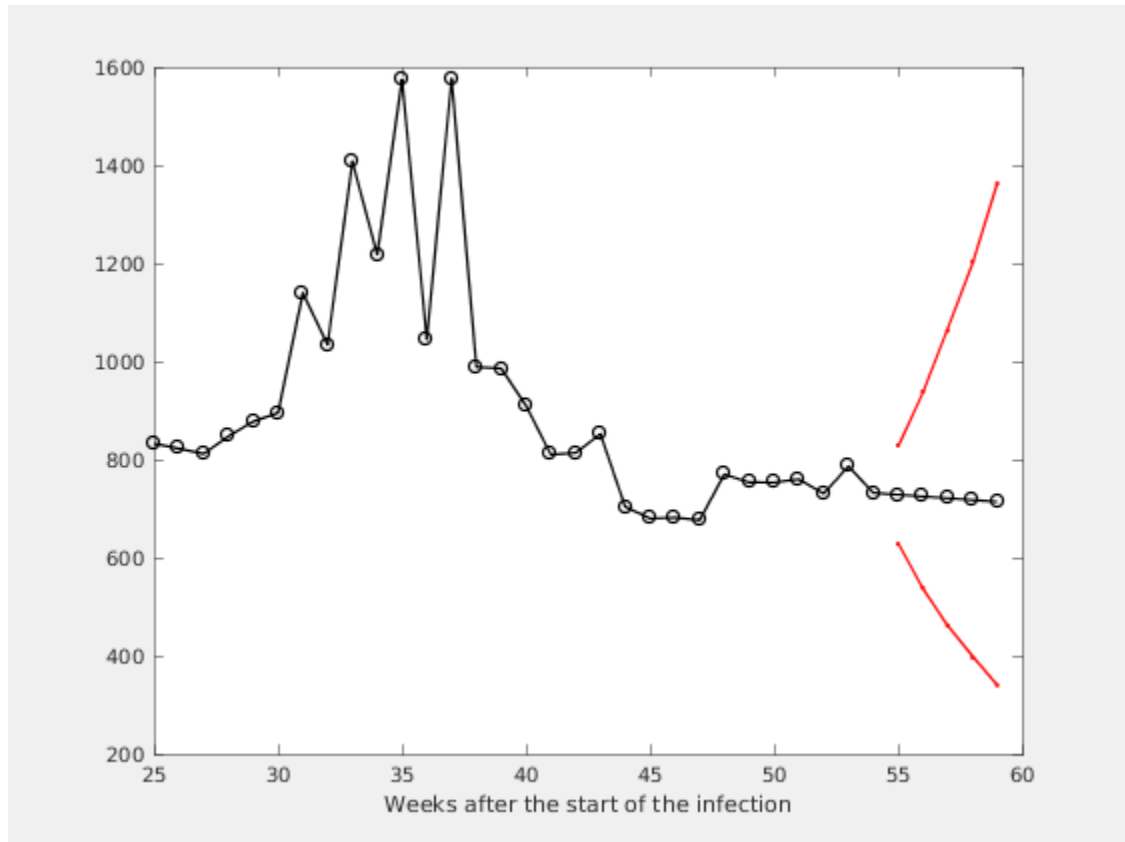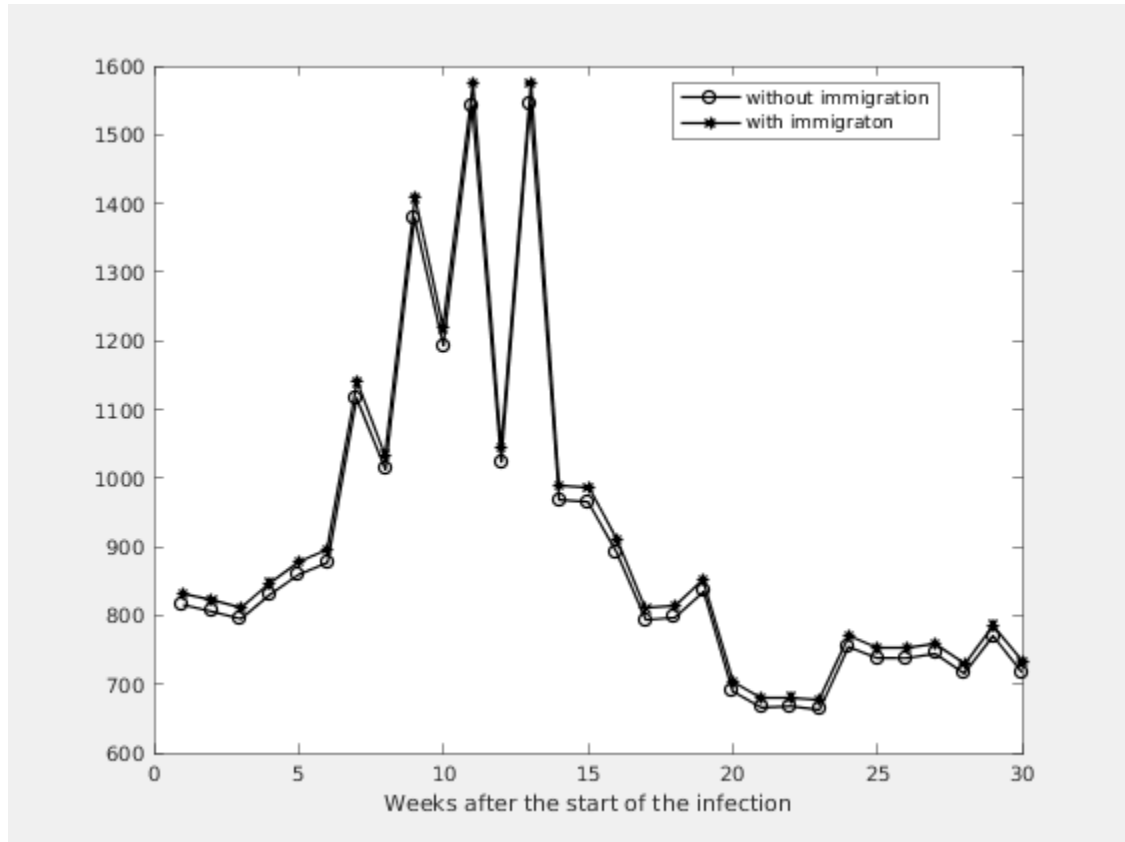
Figure 2.2. Figure

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	0.9954	0.8455 - 1.1452	0.4938	770	754
3	0.9959	0.8483 - 1.1434	0.4798	753	738
2	0.9946	0.8493 - 1.1399	0.4835	753	738
1	0.9973	0.8542 - 1.1404	0.4934	760	744
0	0.9950	0.8540 - 1.1361	0.4666	731	716