

Branching stochastic processes as models of Covid-19 epidemic development

North_Macedonia - 20201214

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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 North_Macedonia. 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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Chapter 1. Observed Infection data

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

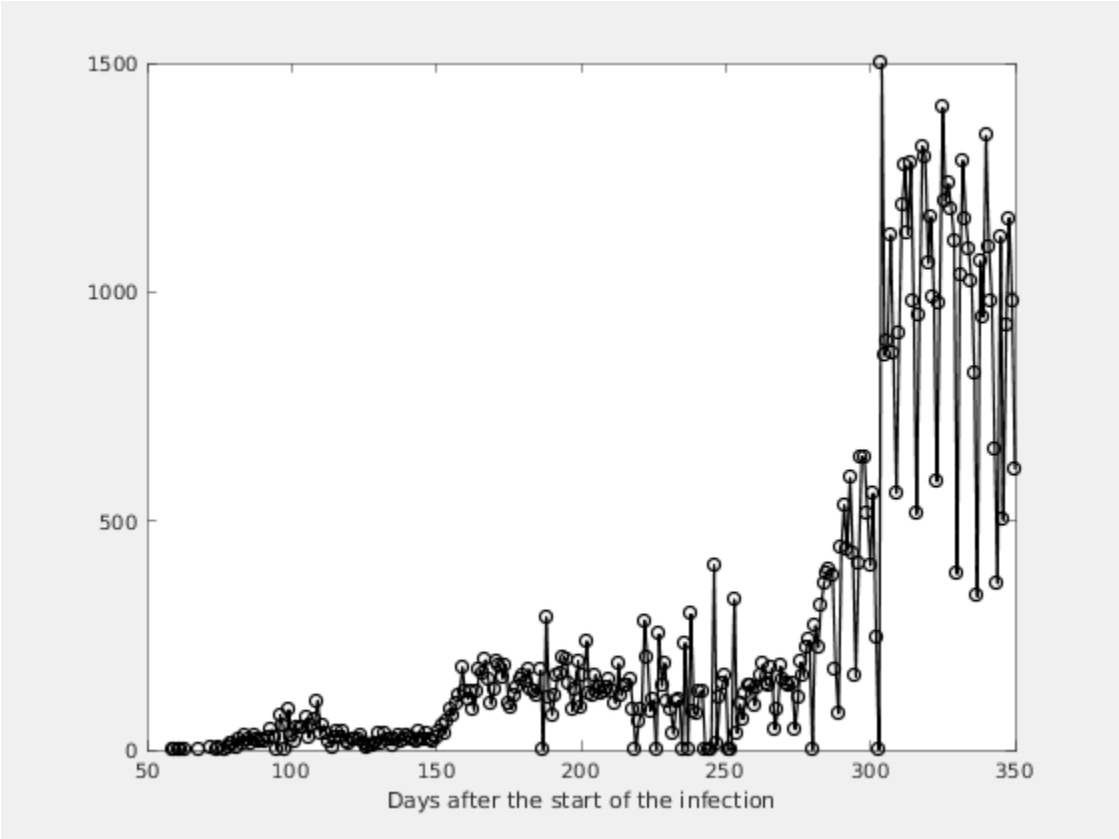
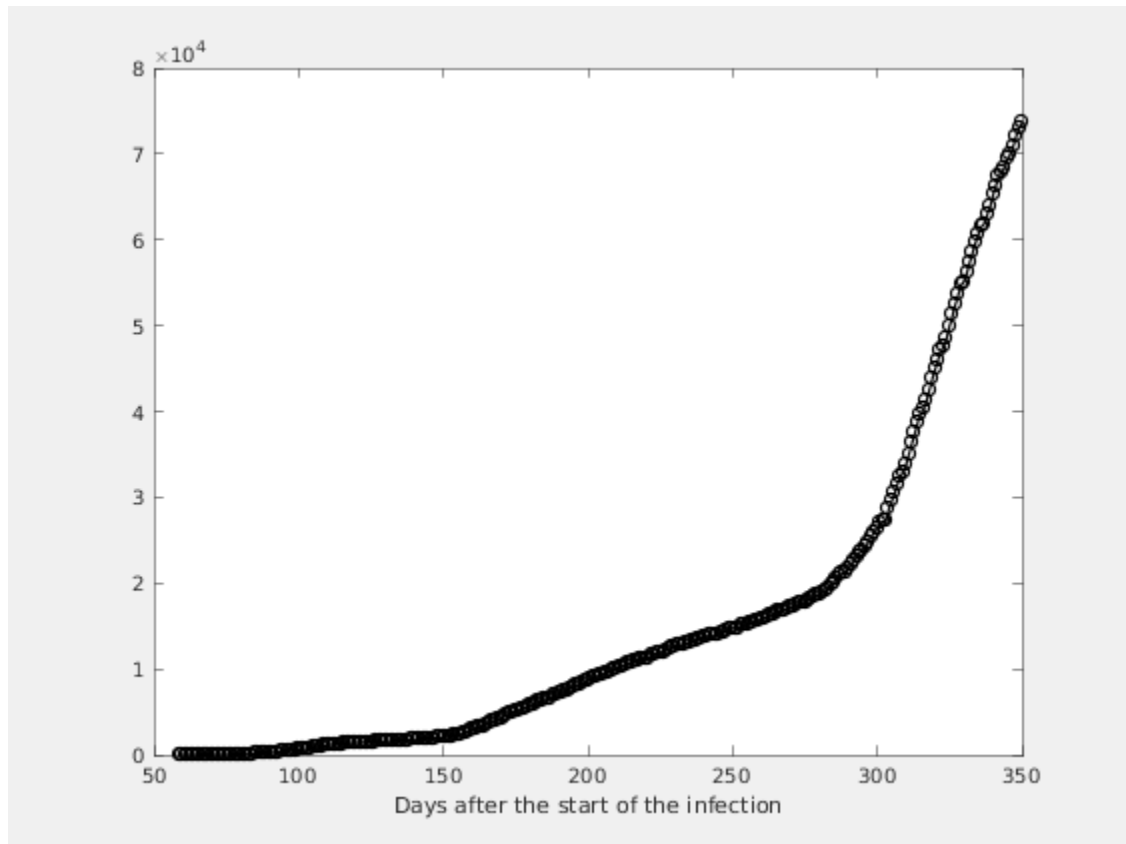


Figure 1.2. Number of the total registered cases



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

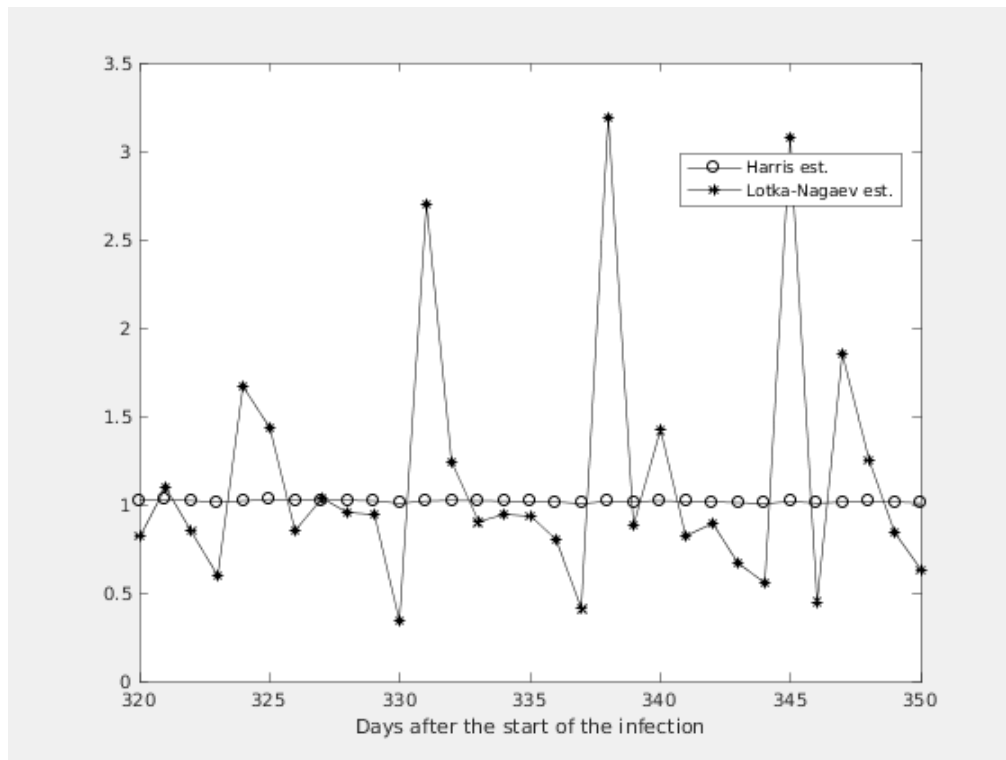


Figure 2.2. Figure

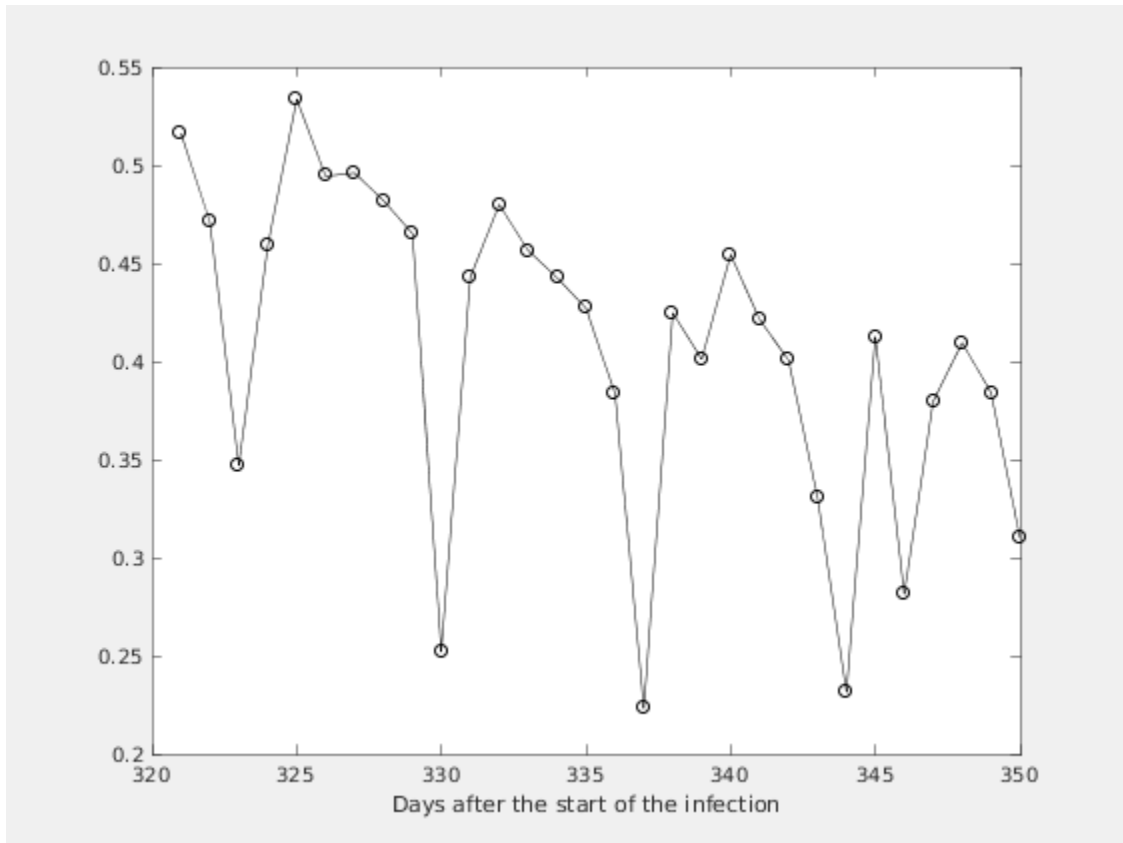


Figure 2.3. Expected number of the nonregistered infected individuals without immigration

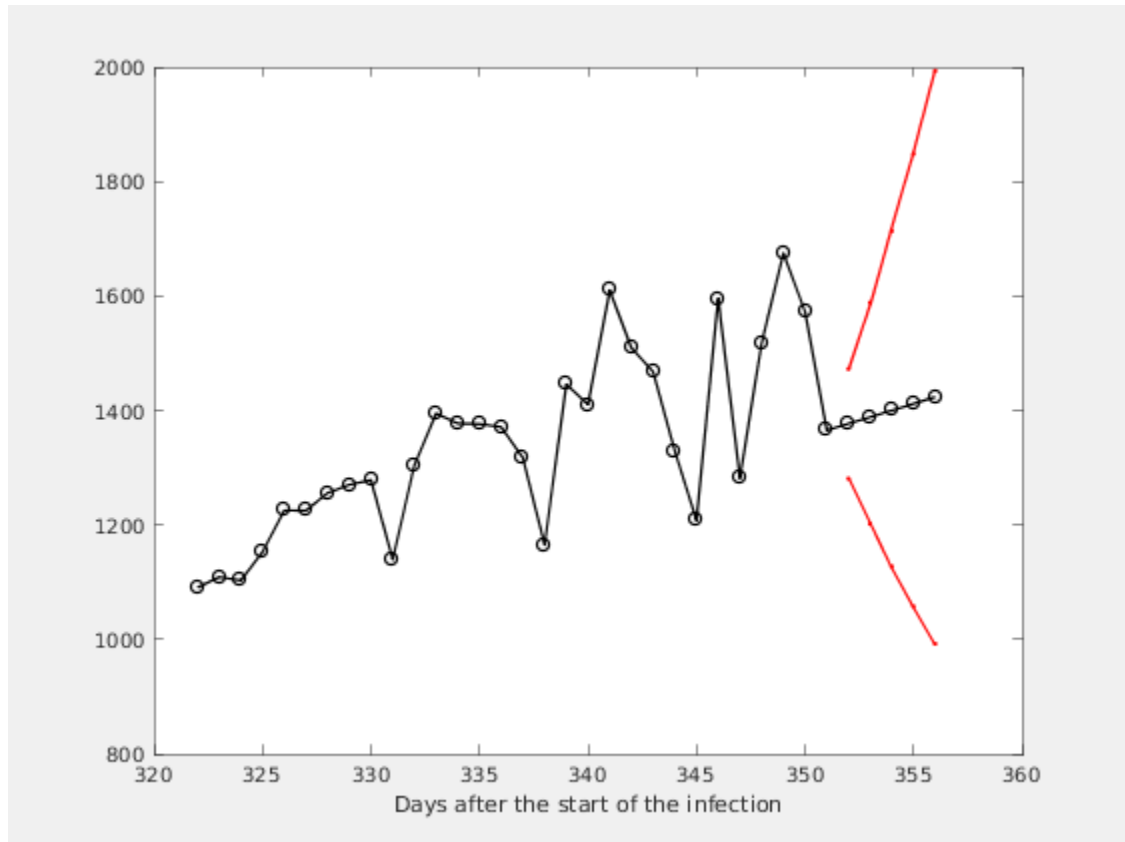
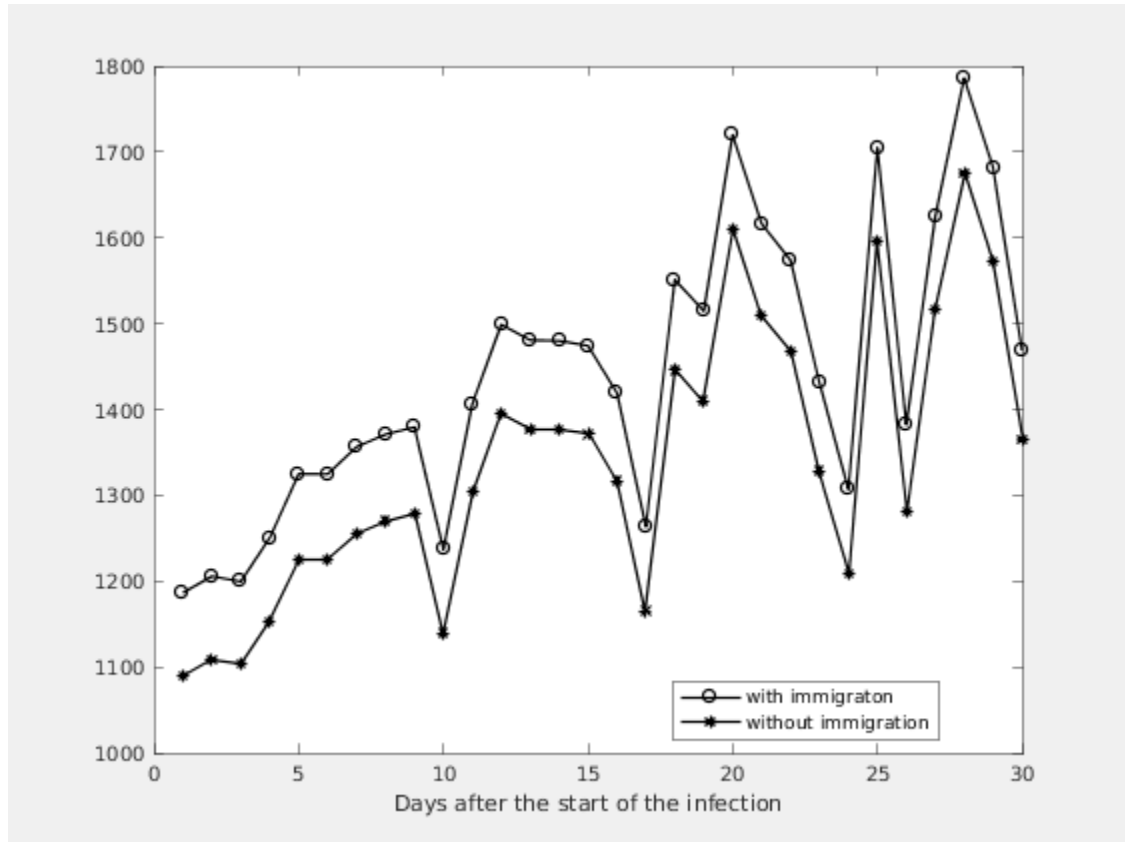


Figure 2.4. Expected number of the nonregistered infected individuals with immigration



Estimation of the model parameters.

k	m	ci	alpha	M1	A1
4	1.0072	0.9374 - 1.0770	0.2316	1208	1307
3	1.0133	0.9414 - 1.0851	0.4124	1595	1705
2	1.0164	0.9447 - 1.0881	0.2815	1281	1382
1	1.0136	0.9418 - 1.0854	0.3798	1517	1624
0	1.0084	0.9371 - 1.0797	0.4094	1675	1786