

Branching stochastic processes as models of Covid-19 epidemic development

Iran - week 53

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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 Iran. 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 weekly reported laboratory-confirmed cases

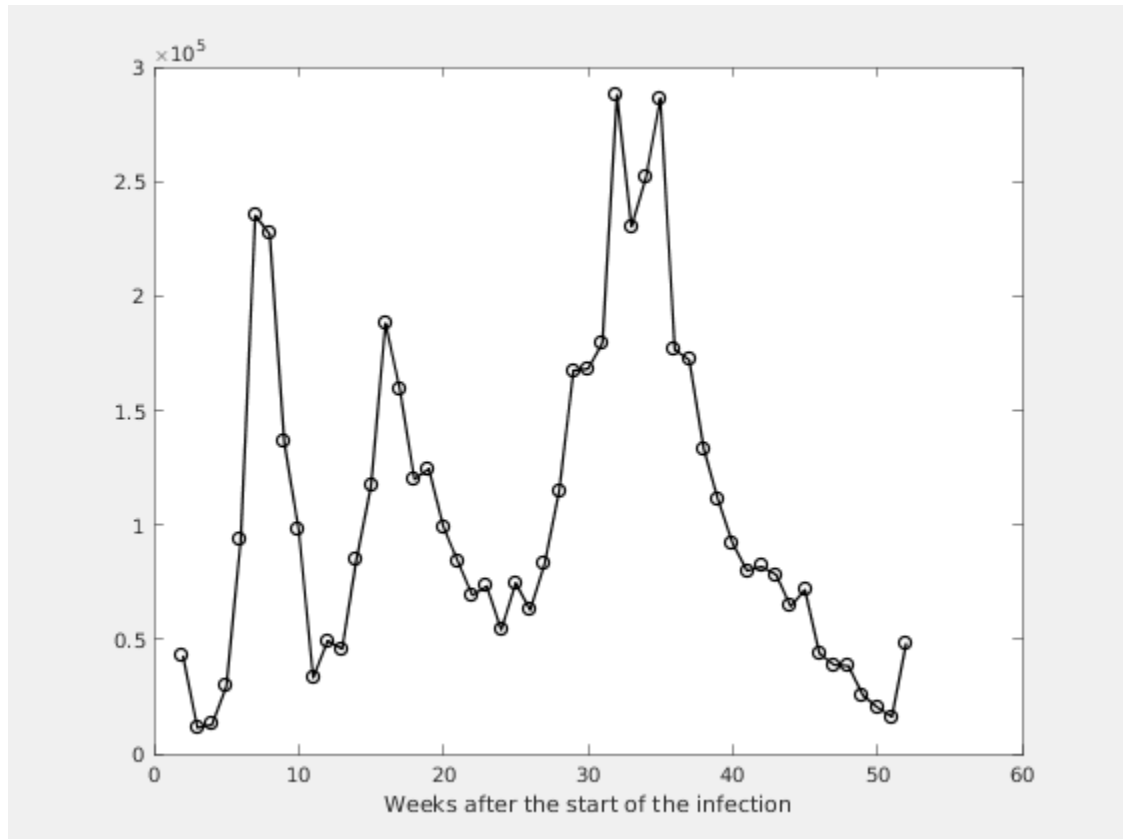
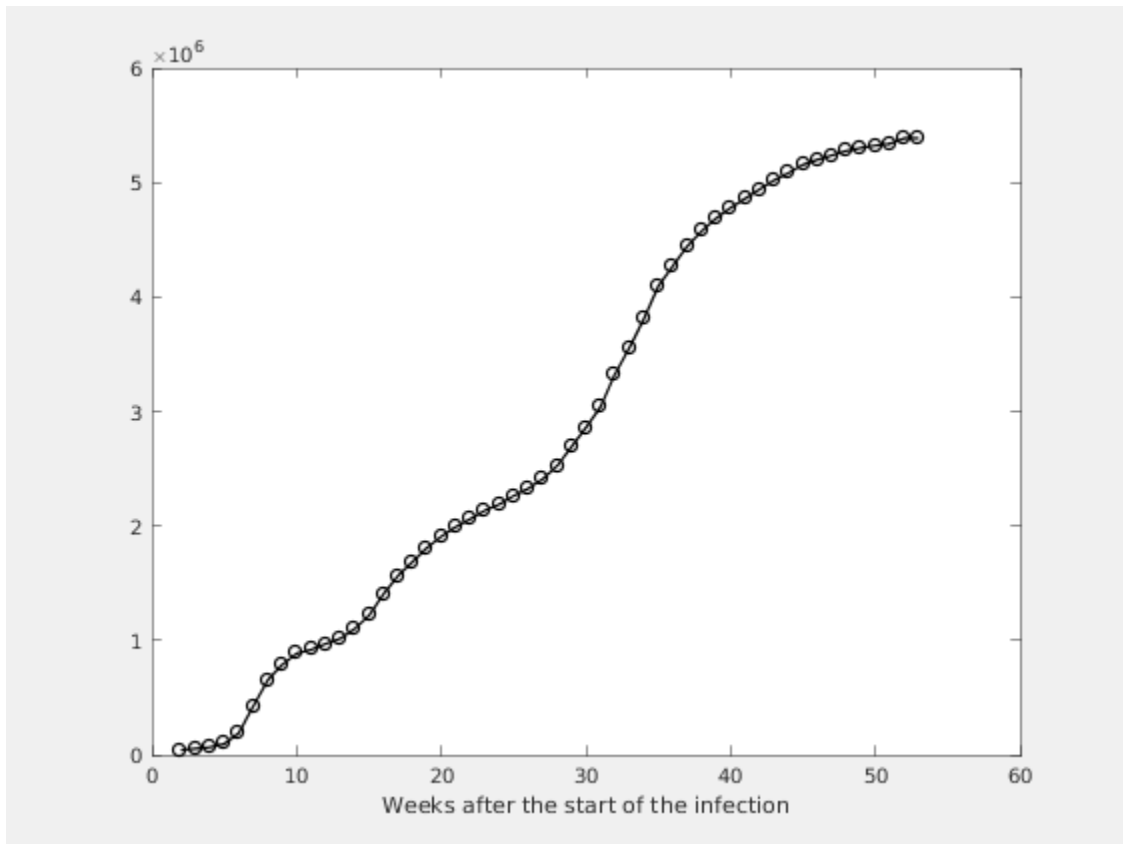


Figure 1.2. Number of the total registered cases



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

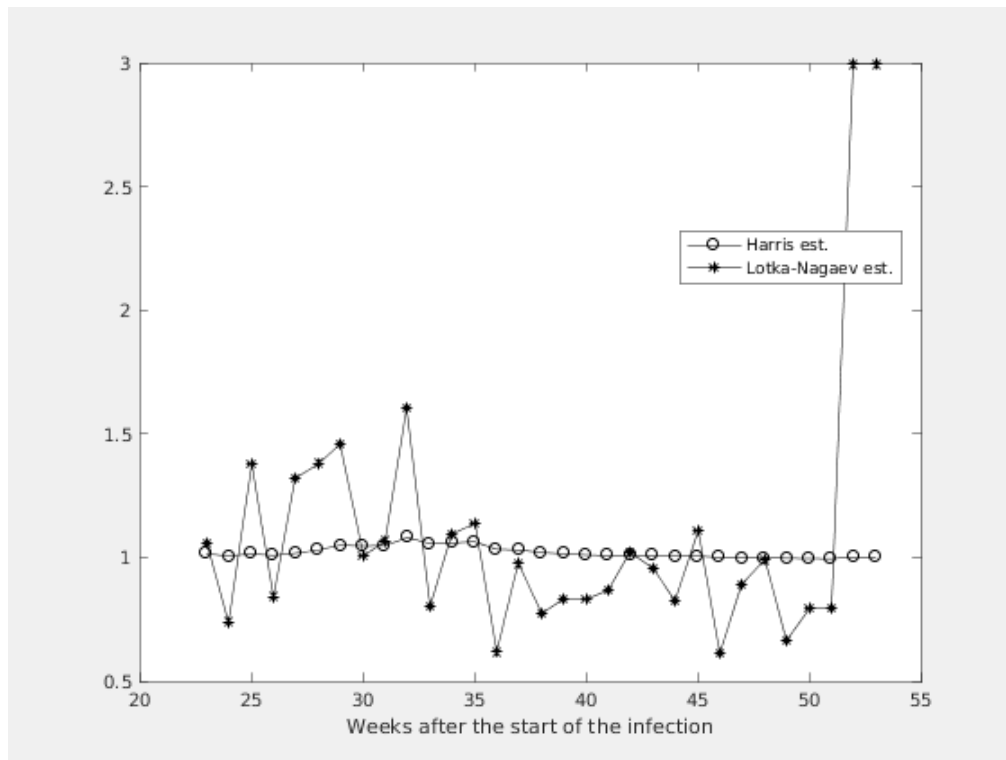


Figure 2.2. Figure

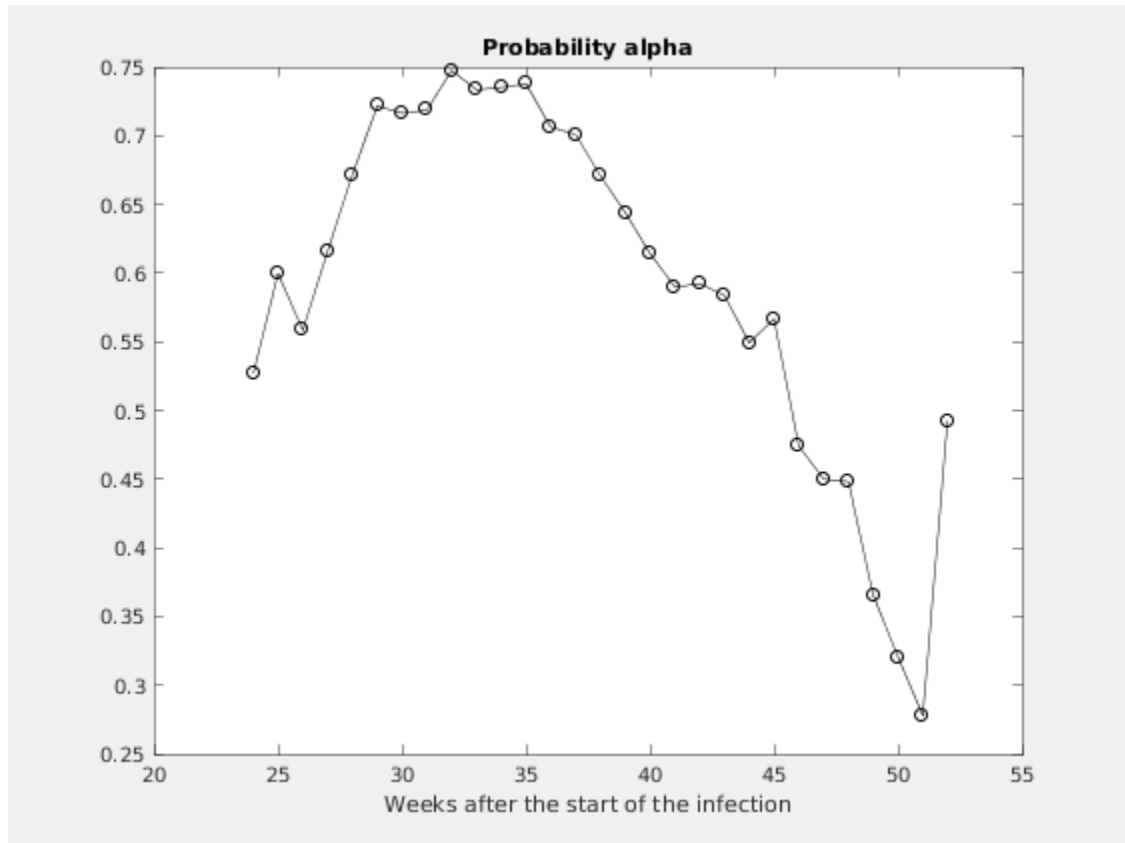


Figure 2.3. Expected number of the nonregistered infected individuals without immigration

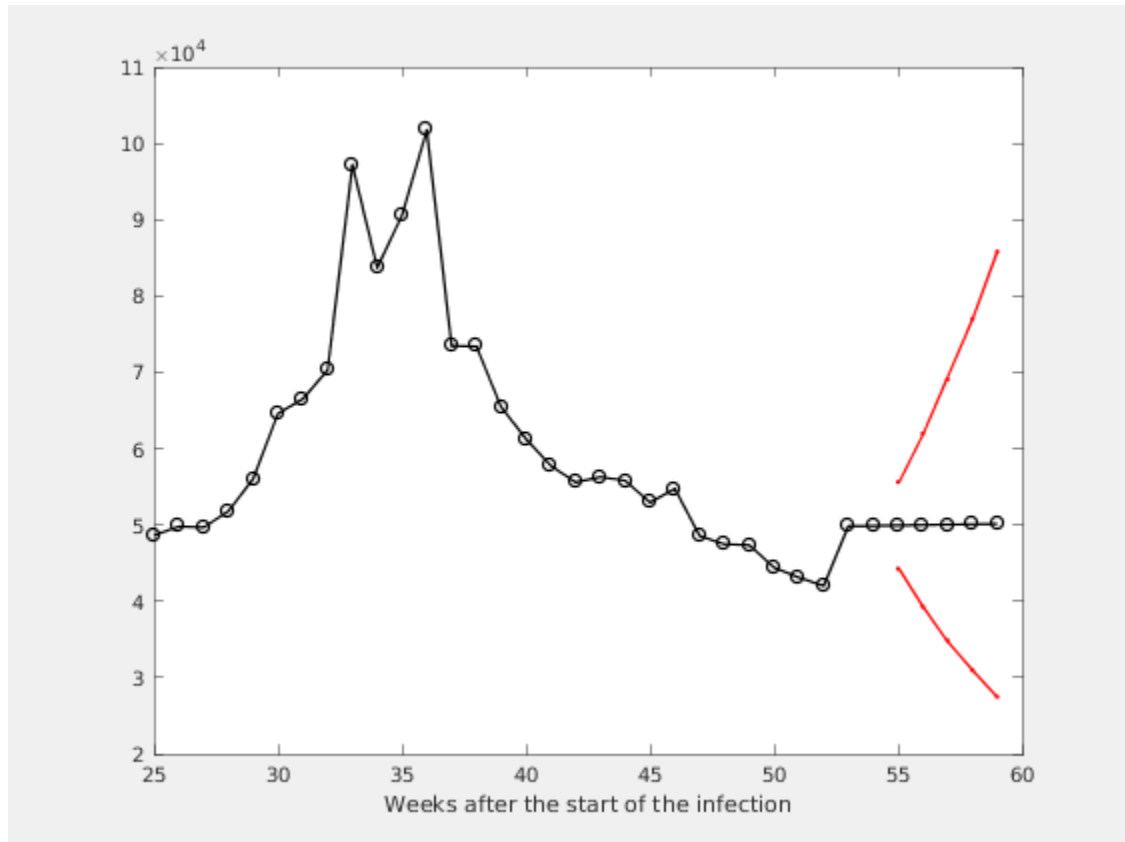
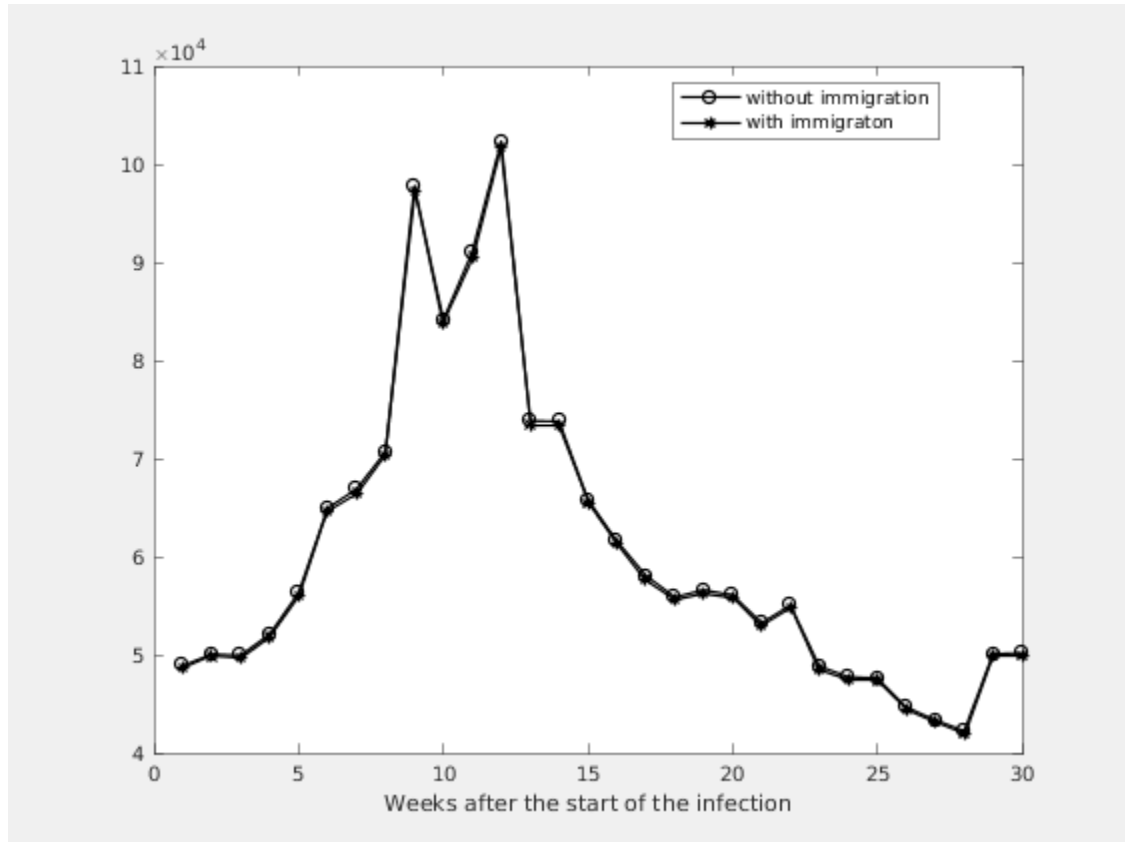


Figure 2.4. Expected number of the nonregistered infected individuals with immigration



Estimation of the model parameters.

k	m	ci	alpha	A1	M1
4	0.9967	0.8803 - 1.1131	0.4501	47483	47732
3	0.9957	0.8810 - 1.1105	0.4481	47358	47606
2	0.9950	0.8816 - 1.1083	0.3655	44413	44646
1	1.0010	0.8890 - 1.1130	0.3206	43117	43343
0	1.0010	0.8903 - 1.1117	0.2779	42014	42234