Branching stochastic processes as models of Covid-19 epidemic development

Romania - week 53

N. Yanev, V. Stoimenova, D. Atanasov

Publication date 20-Mar-2022 03:19:14

Branching stochastic processes as models of Covid-19 epidemic development : Romania - week 53

Abstract

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

Table of Contents

List of Figures

Chapter 1. Observed Infection data

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

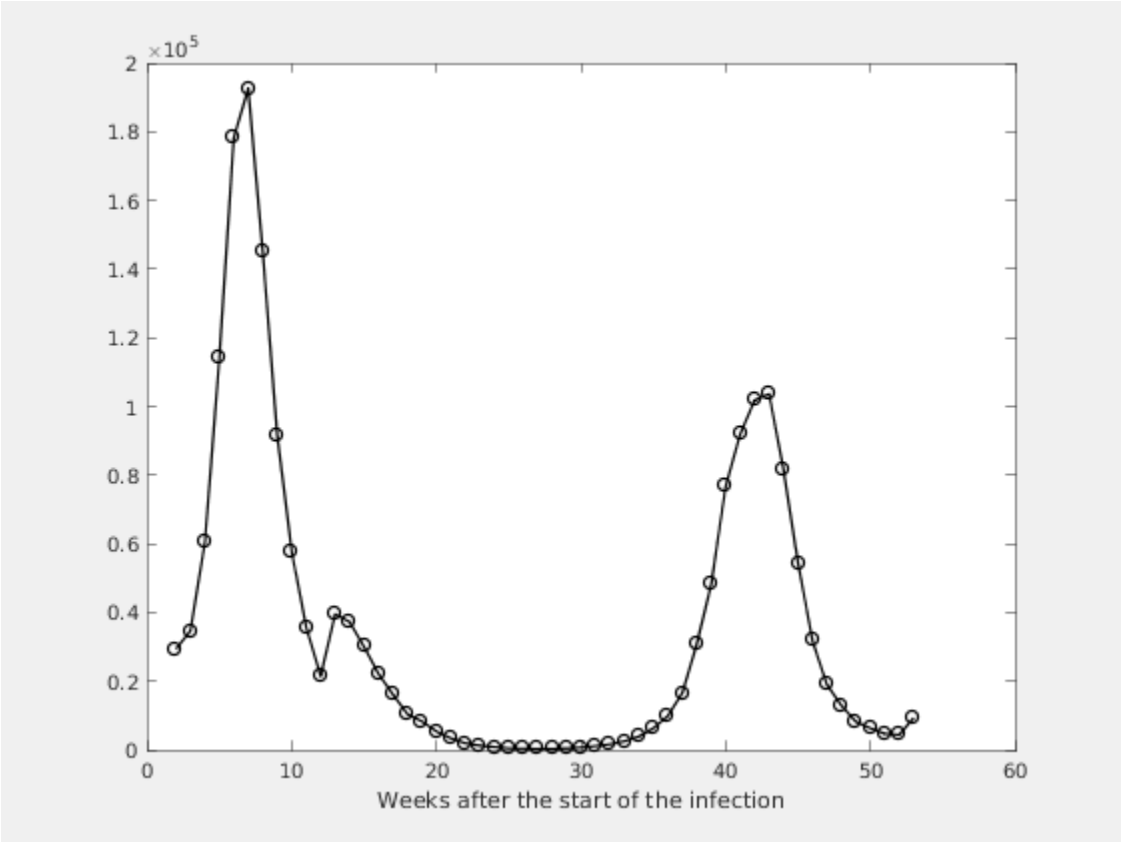
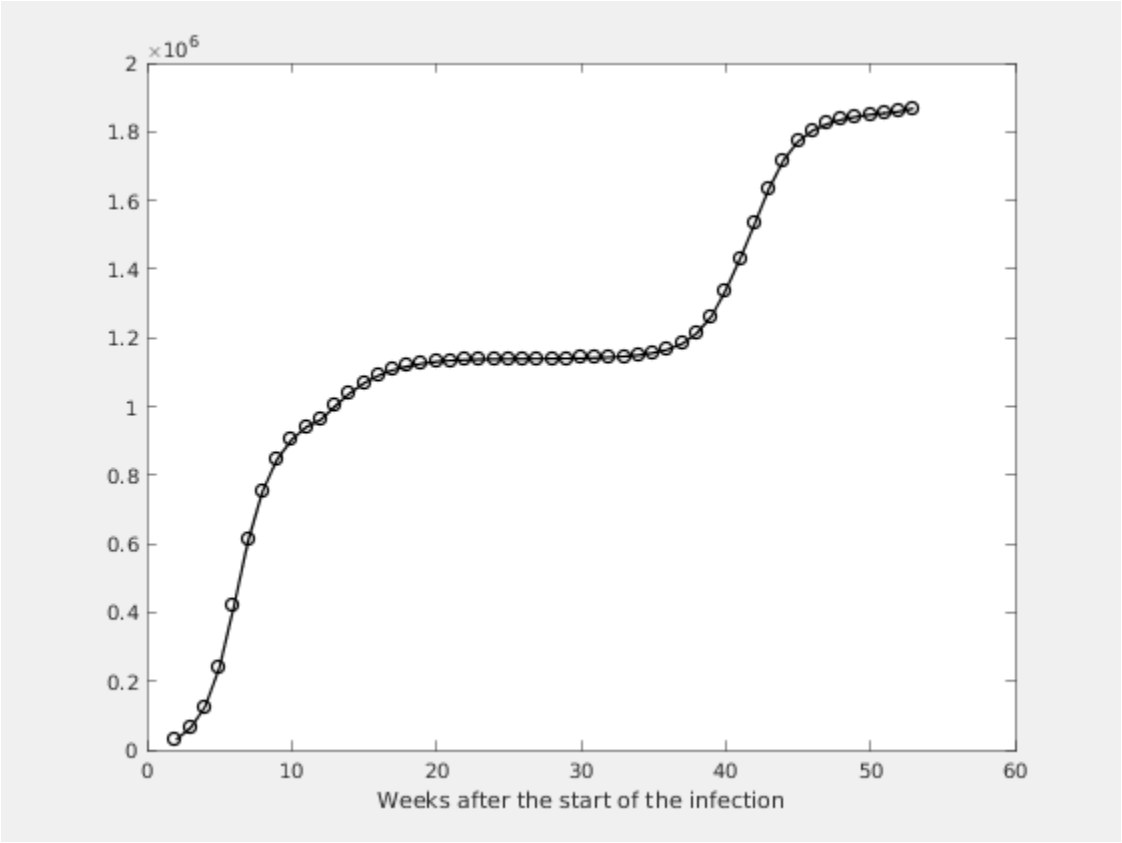


Figure 1.2. Number of the total registered cases



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

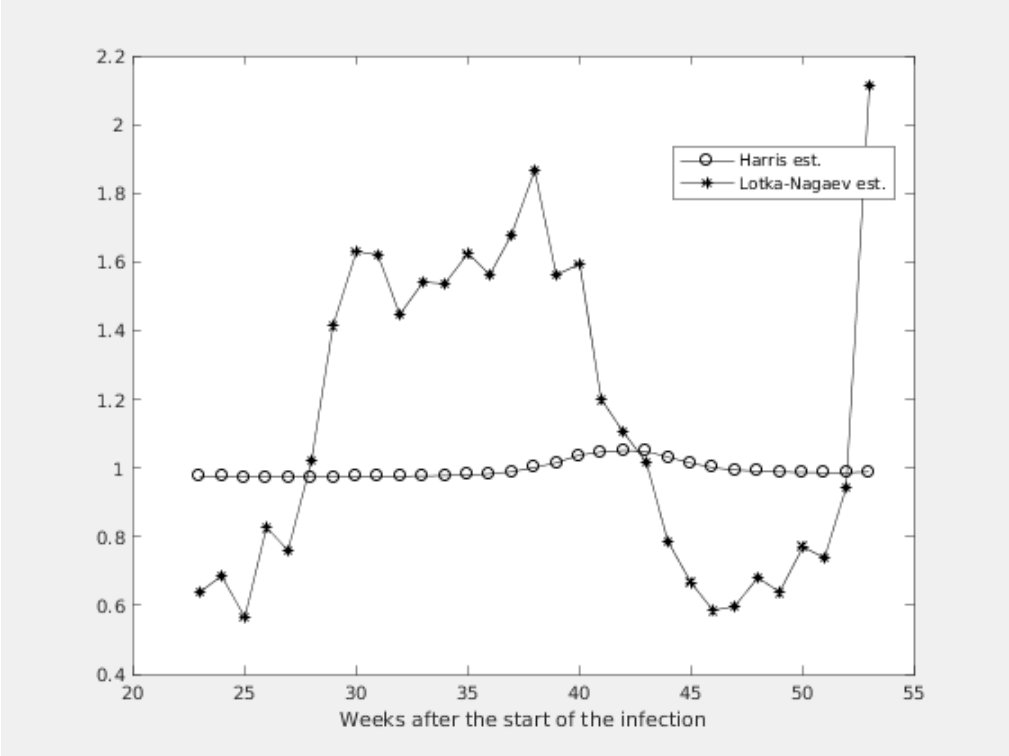


Figure 2.2. Figure

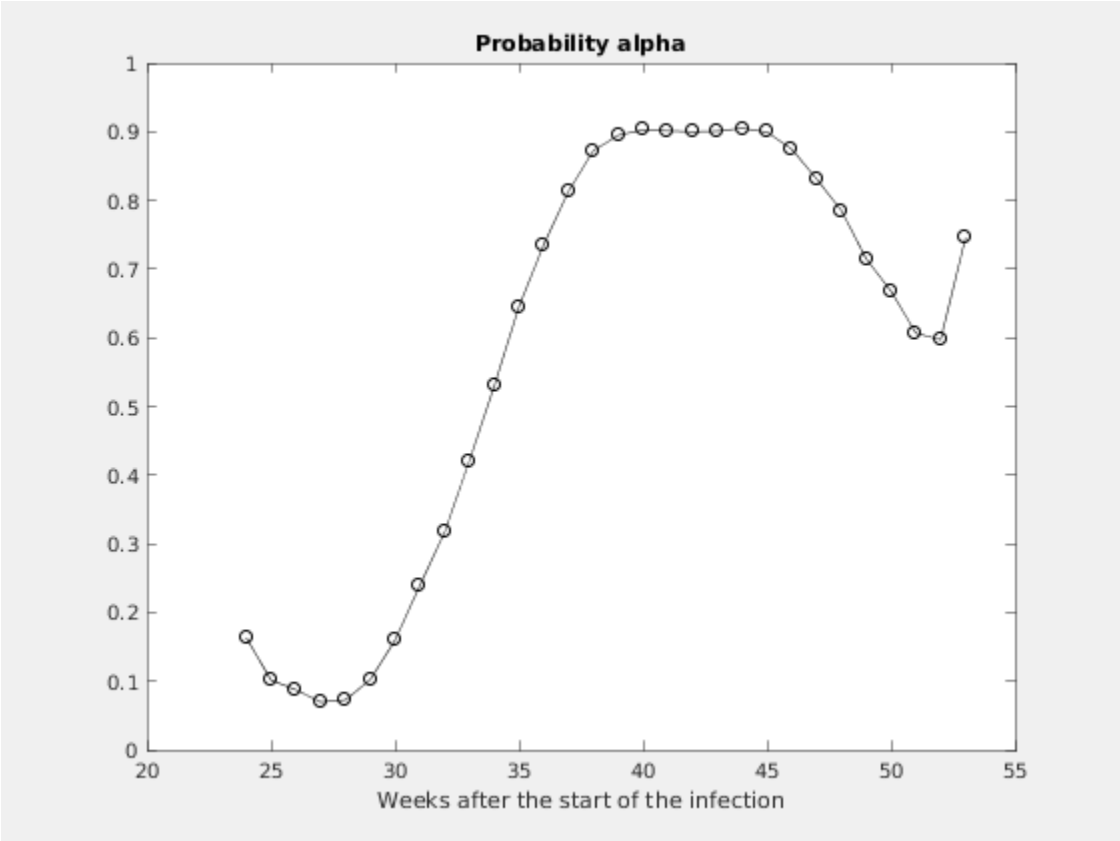


Figure 2.3. Expected number of the nonregistered infected individuals without immigration

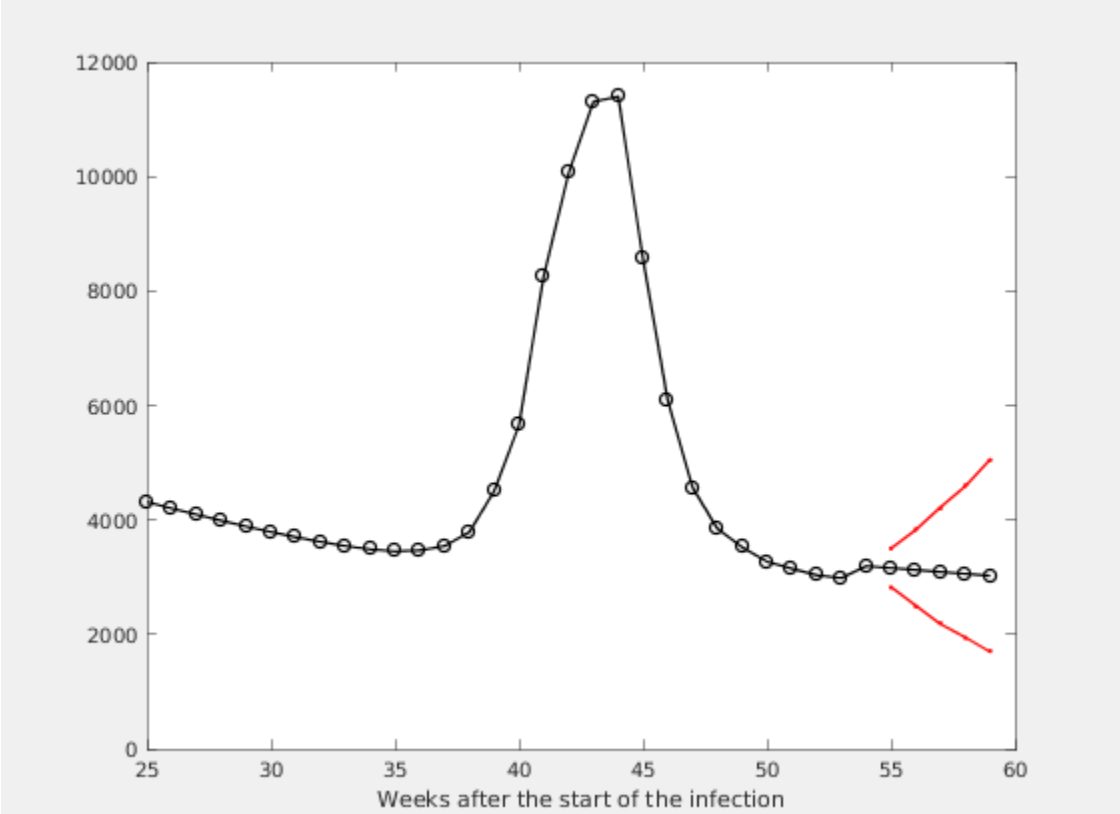
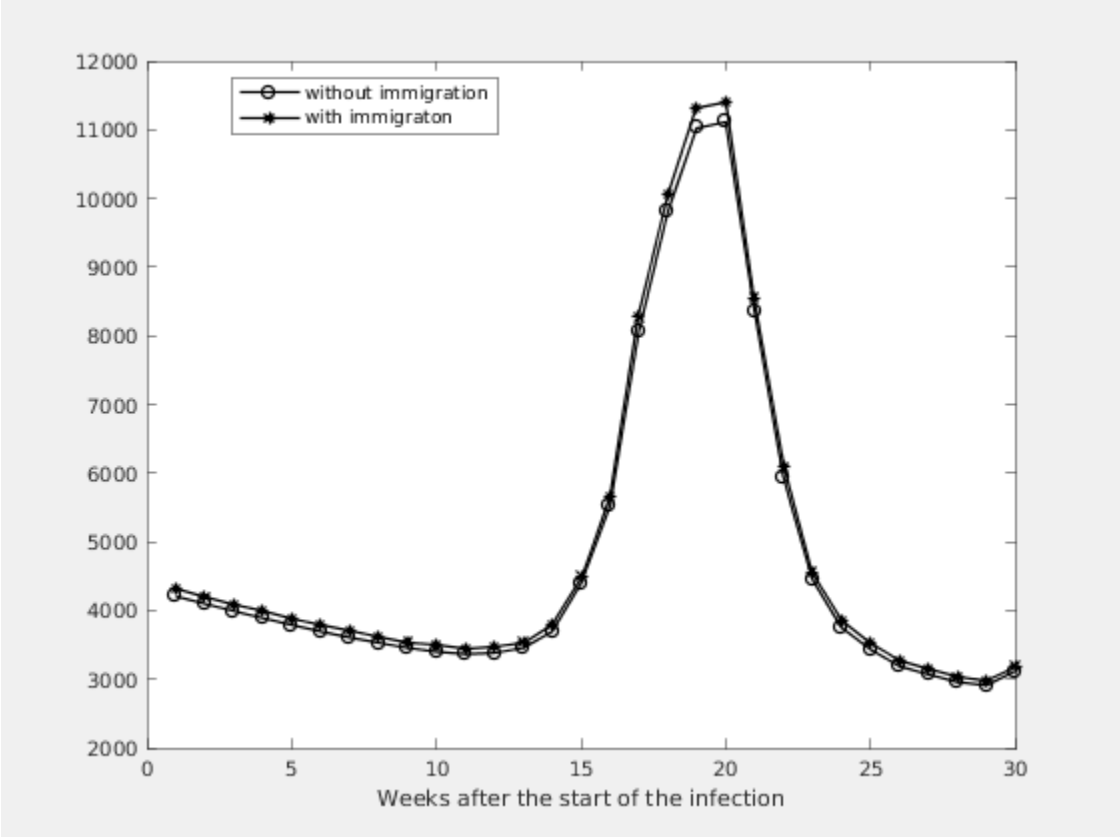


Figure 2.4. Expected number of the nonregistered infected individuals with immigration



Estimation of the model parameters.

k	m	ci	alpha	A1	M1
4	0.9884	0.8753 - 1.1016	0.8312	3848	3751
3	0.9875	0.8758 - 1.0992	0.7853	3523	3434
2	0.9866	0.8762 - 1.0971	0.7149	3270	3188
1	0.9865	0.8774 - 1.0956	0.6680	3149	3069
0	0.9892	0.8813 - 1.0971	0.6069	3035	2959