

Branching stochastic processes as models of Covid-19 epidemic development

Canada - 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 Canada. 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

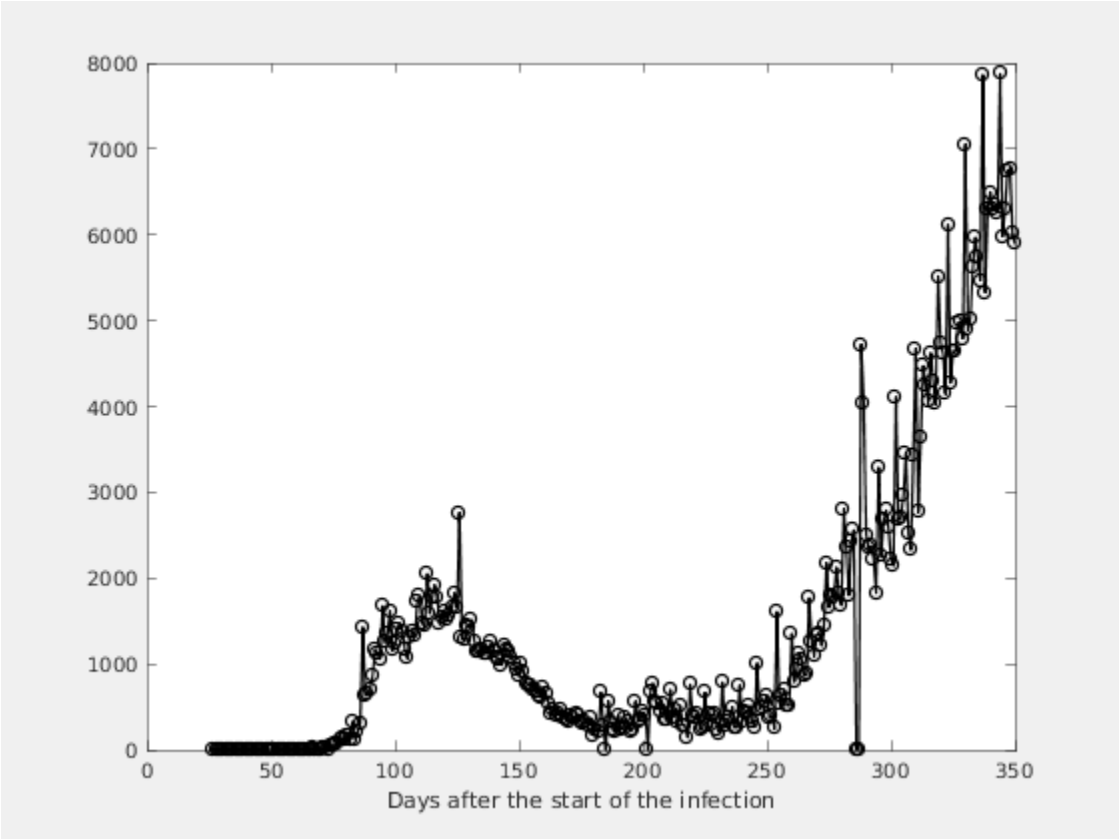
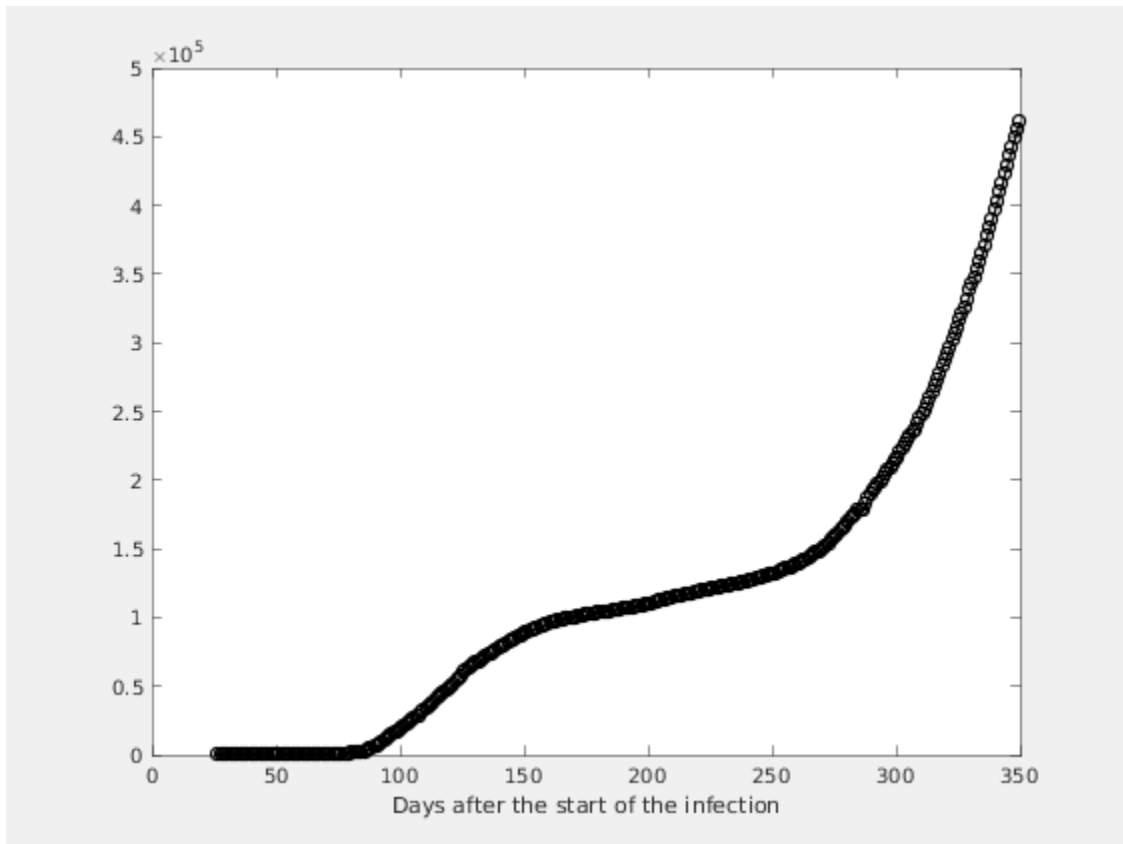


Figure 1.2. Number of the total registered cases



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

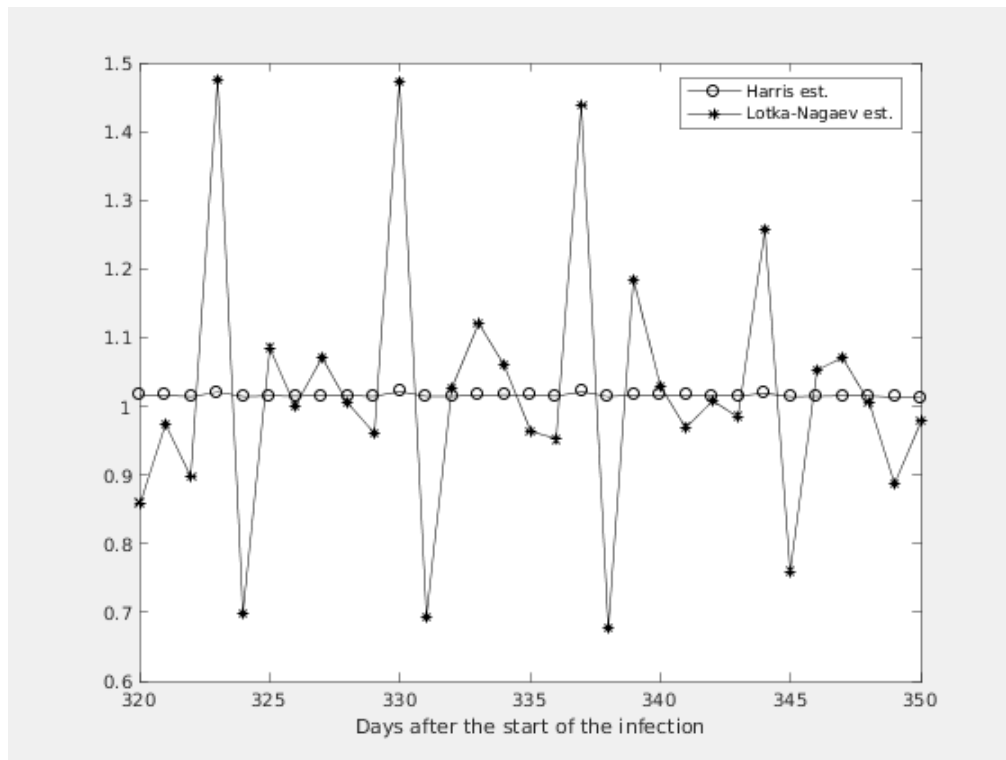


Figure 2.2. Figure

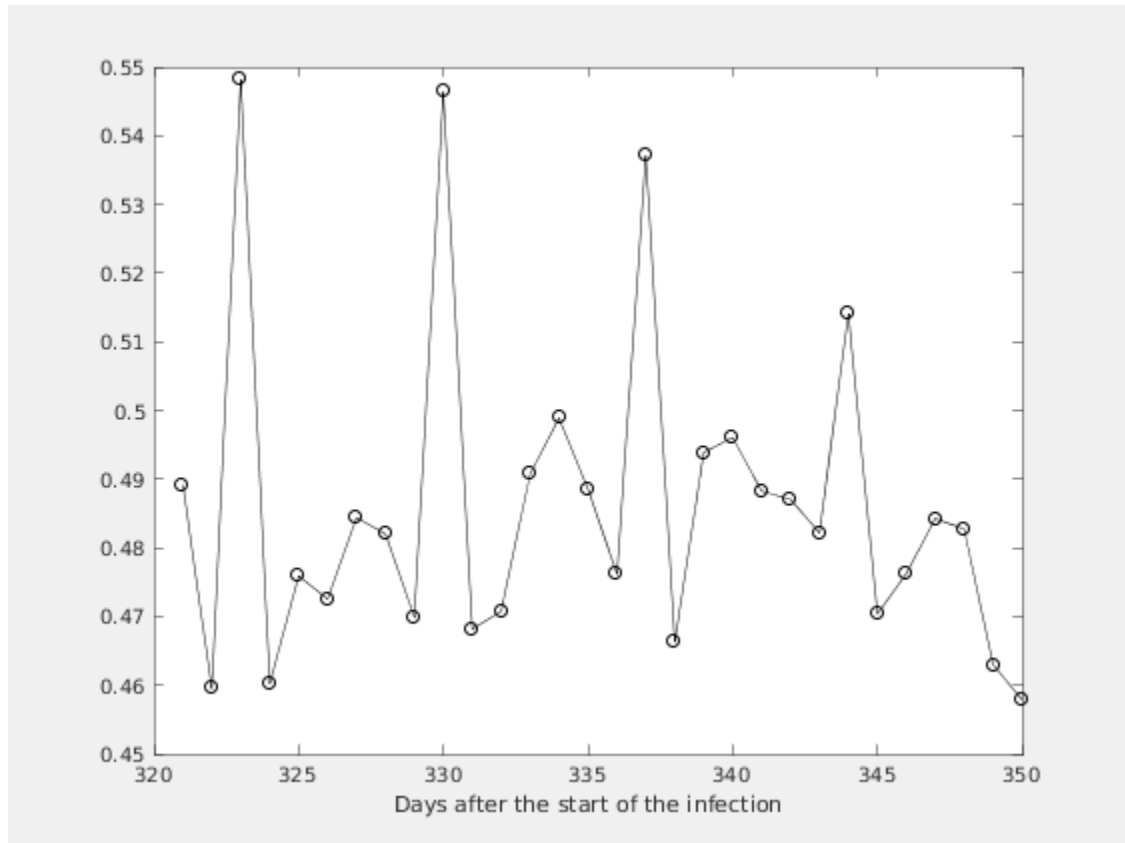


Figure 2.3. Expected number of the nonregistered infected individuals without immigration

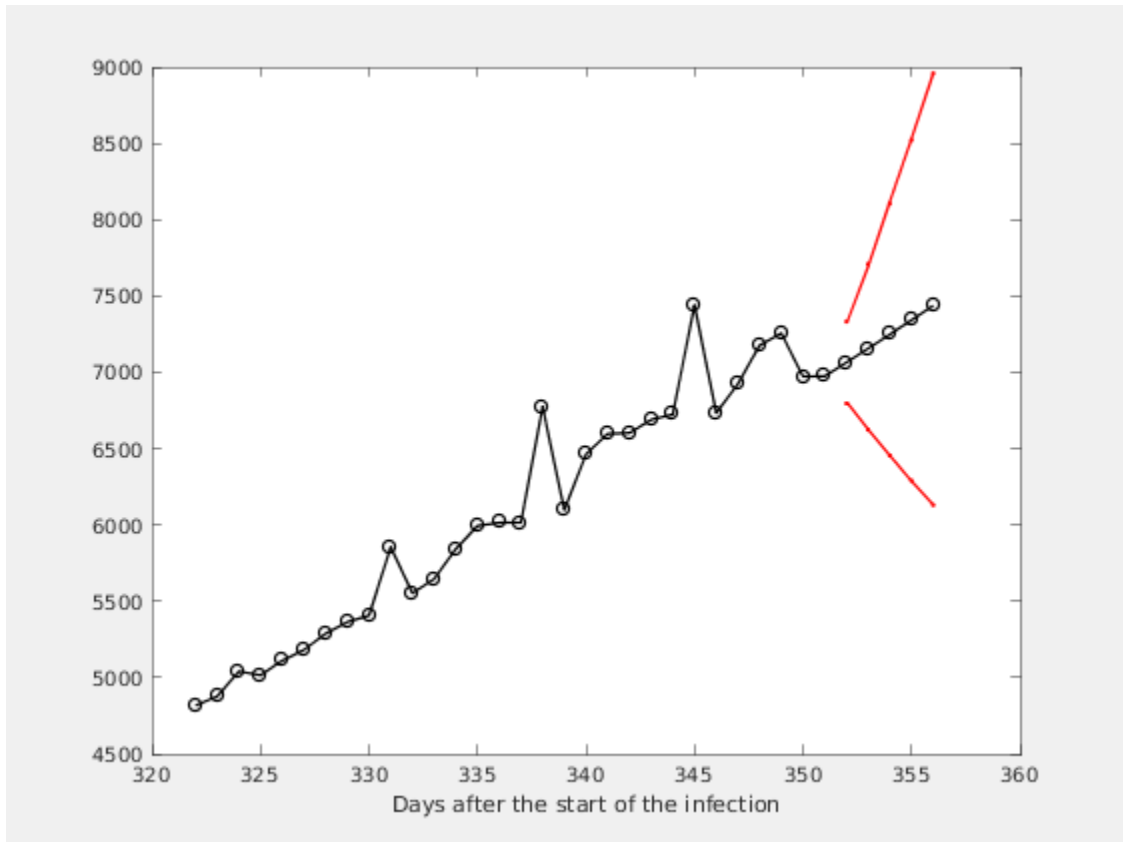
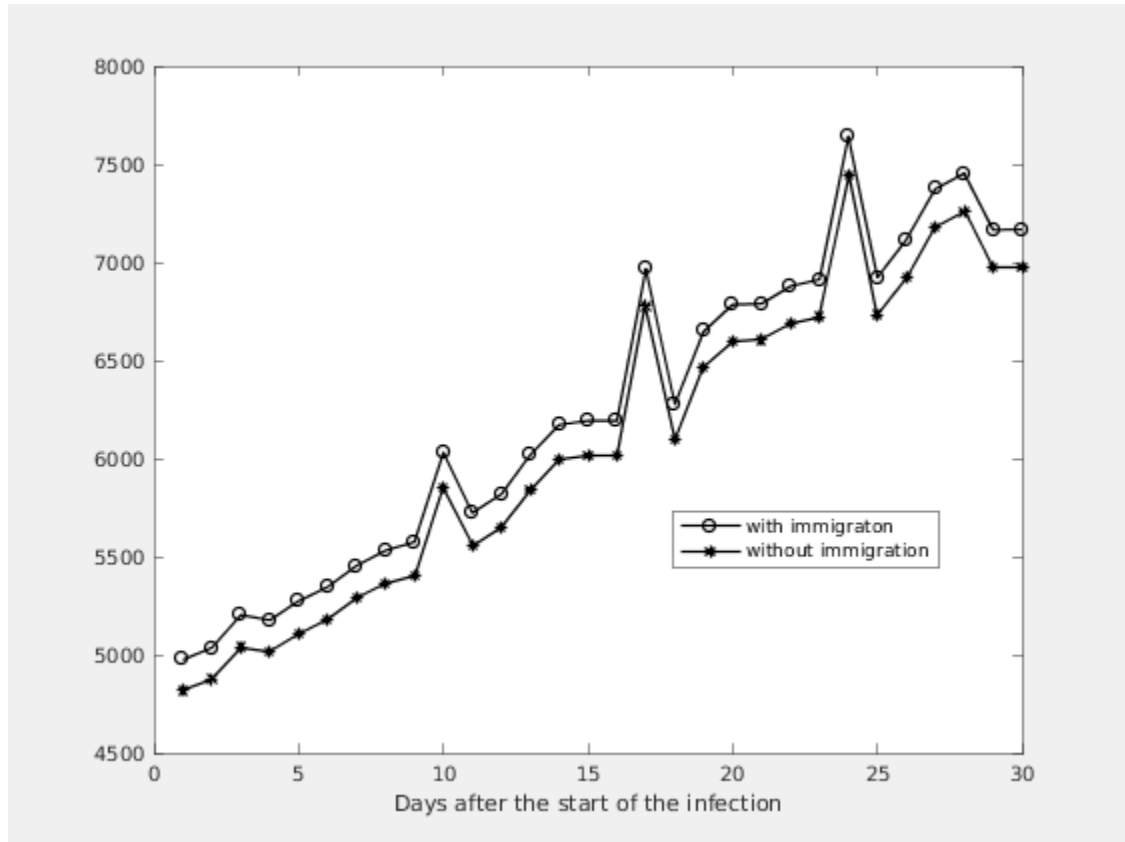


Figure 2.4. Expected number of the nonregistered infected individuals with immigration



Estimation of the model parameters.

k	m	ci	alpha	M1	A1
4	1.0147	0.9743 - 1.0550	0.5141	7441	7641
3	1.0155	0.9754 - 1.0556	0.4704	6734	6923
2	1.0153	0.9755 - 1.0551	0.4762	6923	7115
1	1.0134	0.9740 - 1.0528	0.4842	7177	7374
0	1.0129	0.9739 - 1.0520	0.4827	7256	7454