

Branching stochastic processes as models of Covid-19 epidemic development

France - 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 France. 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

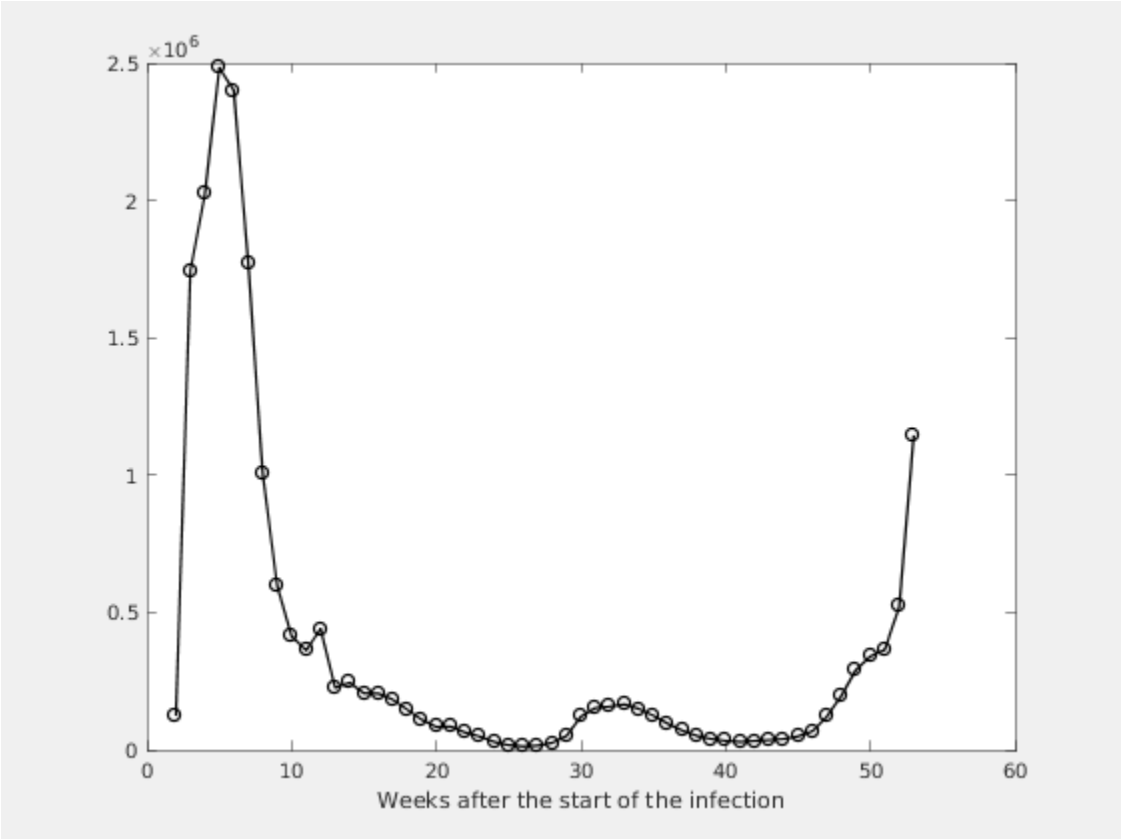
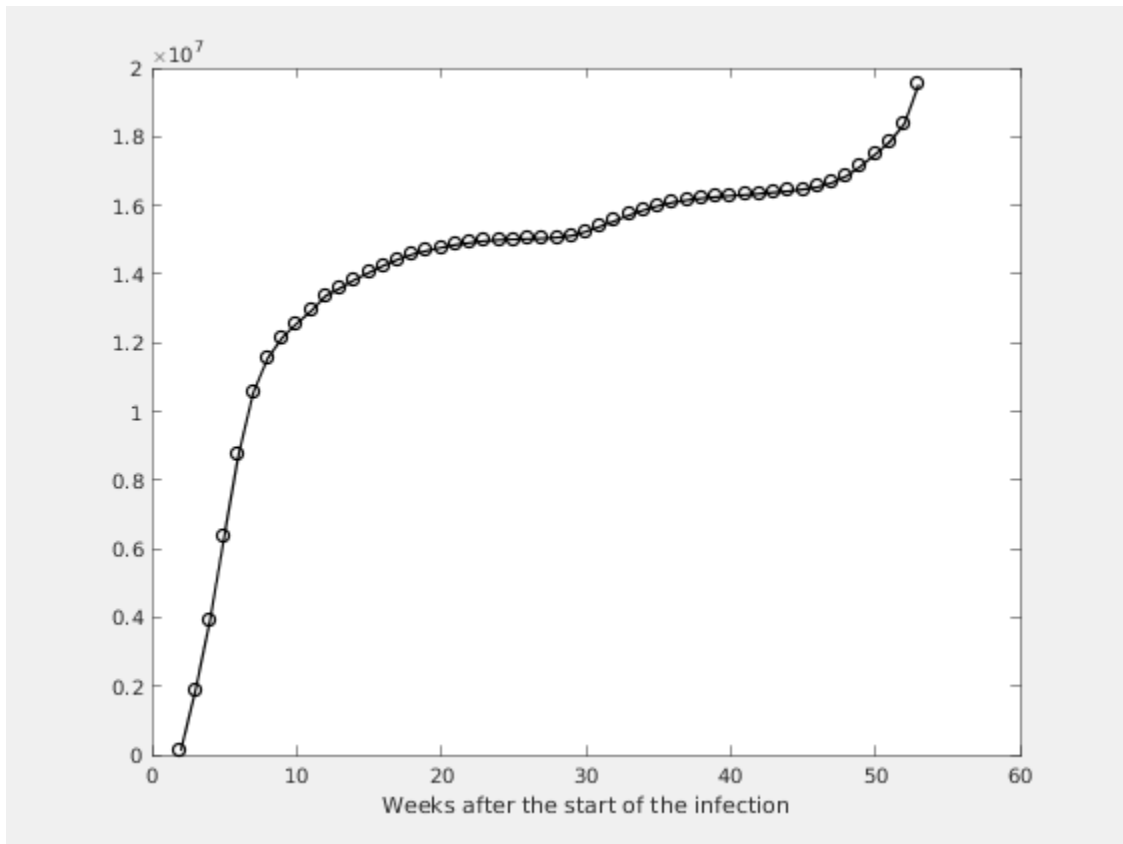


Figure 1.2. Number of the total registered cases



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

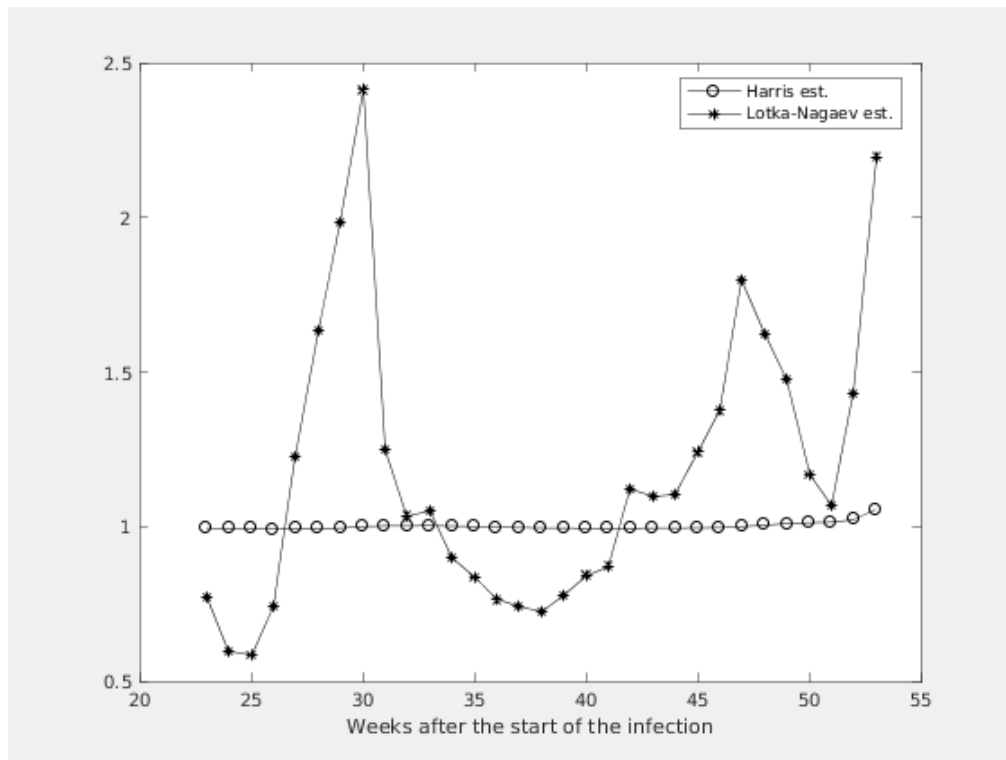


Figure 2.2. Figure

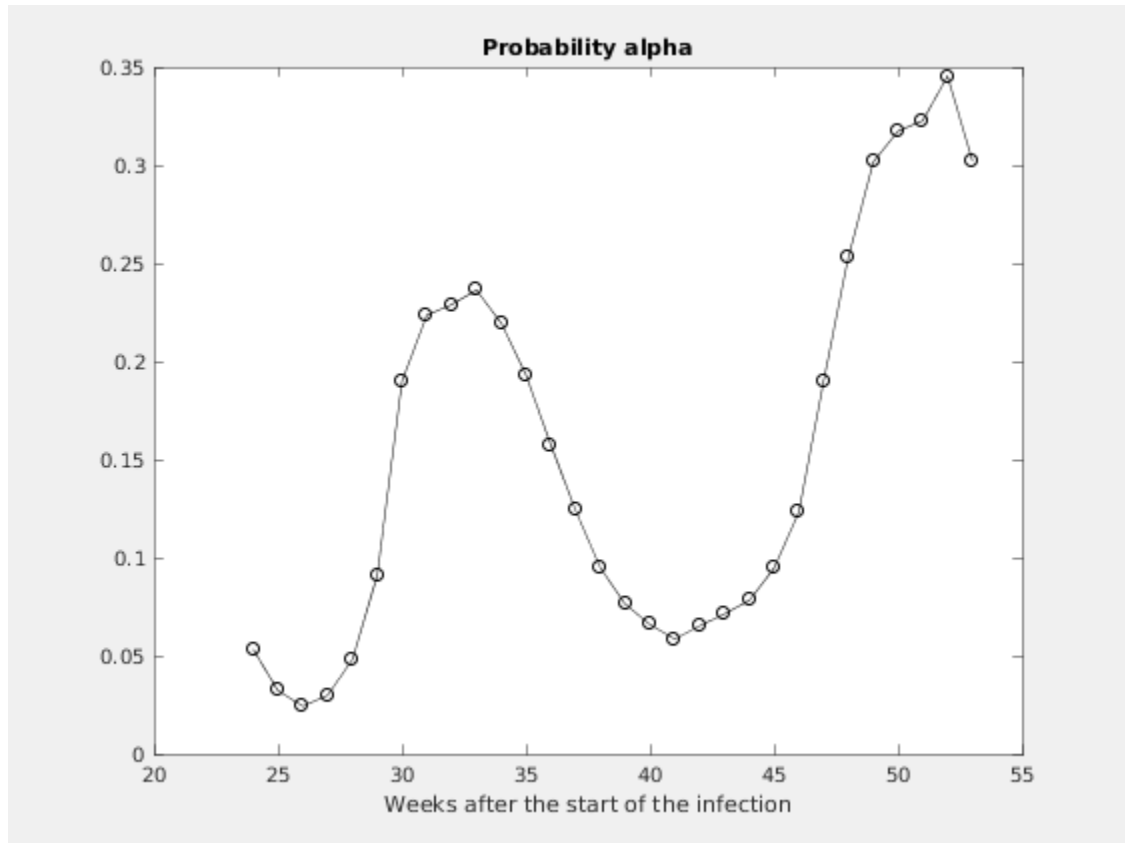


Figure 2.3. Expected number of the nonregistered infected individuals without immigration

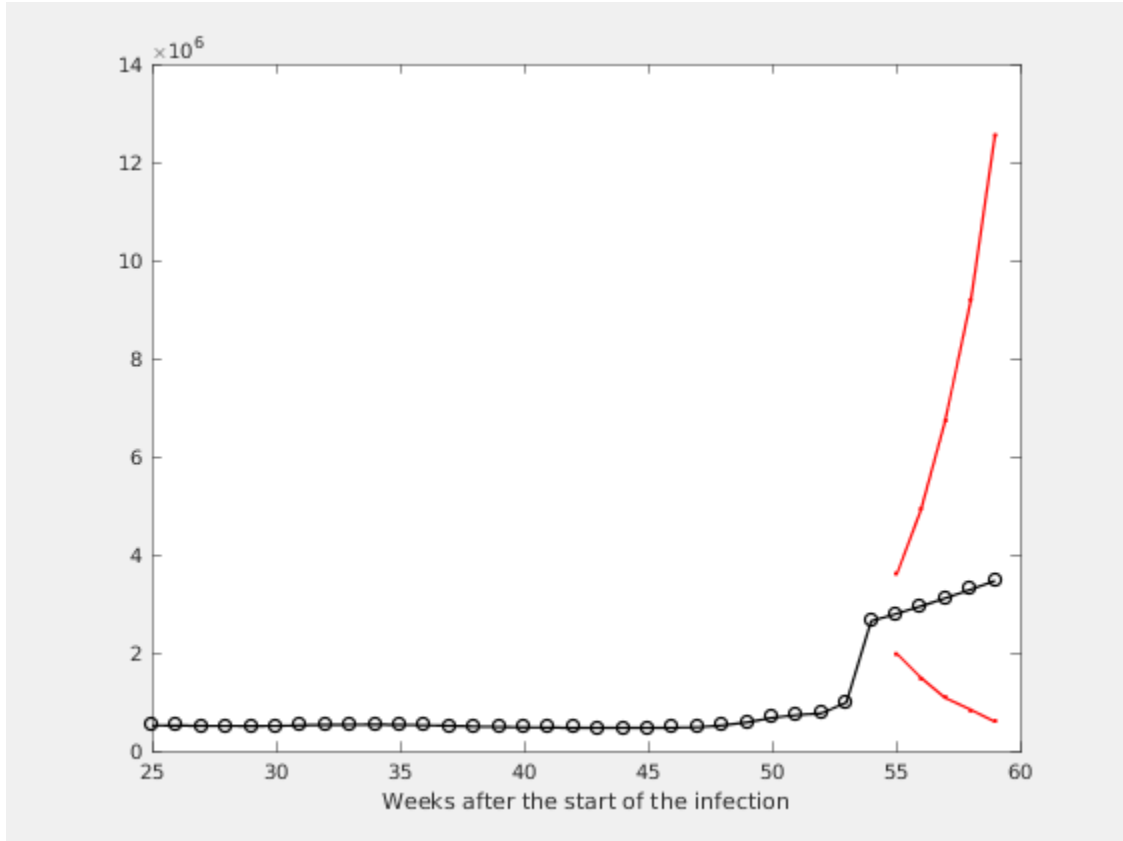
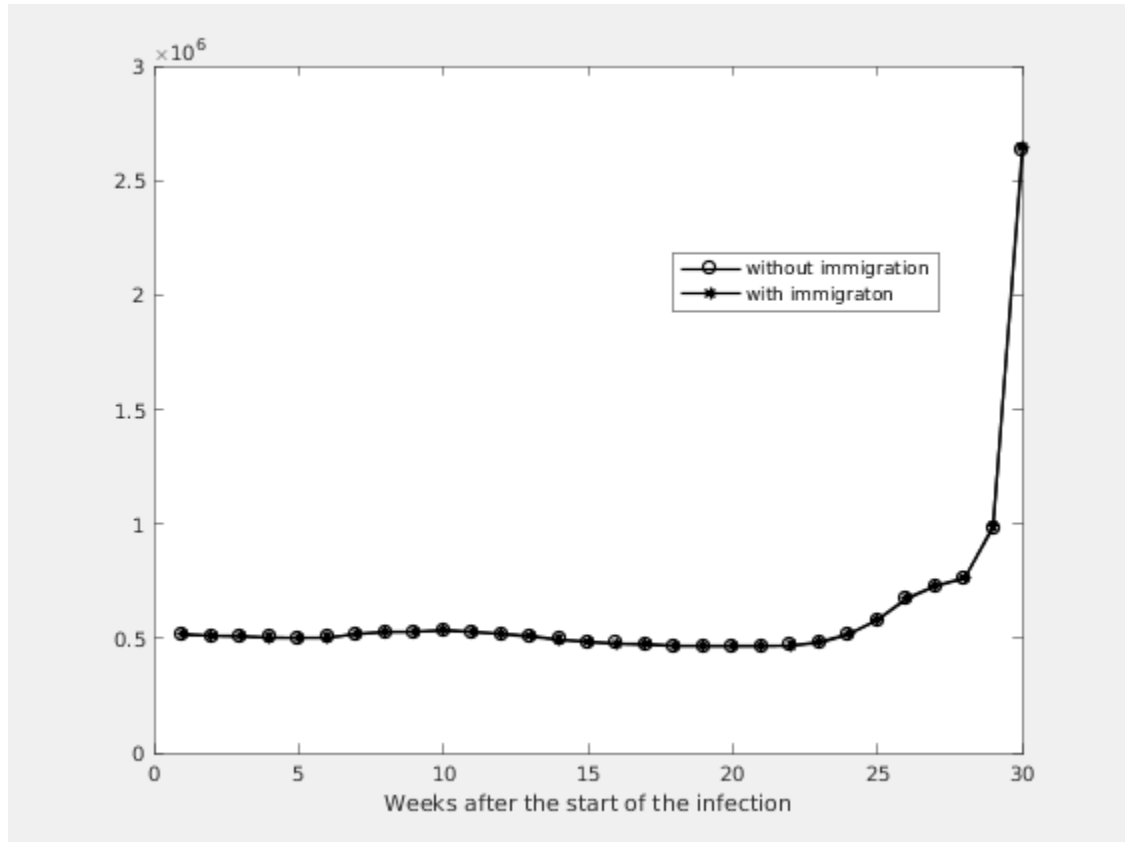


Figure 2.4. Expected number of the nonregistered infected individuals with immigration



Estimation of the model parameters.

k	m	ci	alpha	A1	M1
4	1.0099	0.6689 - 1.3509	0.1898	520221	516932
3	1.0126	0.6763 - 1.3490	0.2532	582593	578910
2	1.0138	0.6826 - 1.3449	0.3016	674662	670397
1	1.0223	0.6974 - 1.3472	0.3174	732192	727563
0	1.0556	0.7370 - 1.3743	0.3227	764970	760134