

# **Branching stochastic processes as models of Covid-19 epidemic development**

**Honduras - week 53**

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## **Branching stochastic processes as models of Covid-19 epidemic development : Honduras - week 53**

### **Abstract**

The results presented here are obtained using the methodology proposed in the paper <https://arxiv.org/abs/2004.14838> for the country Honduras. 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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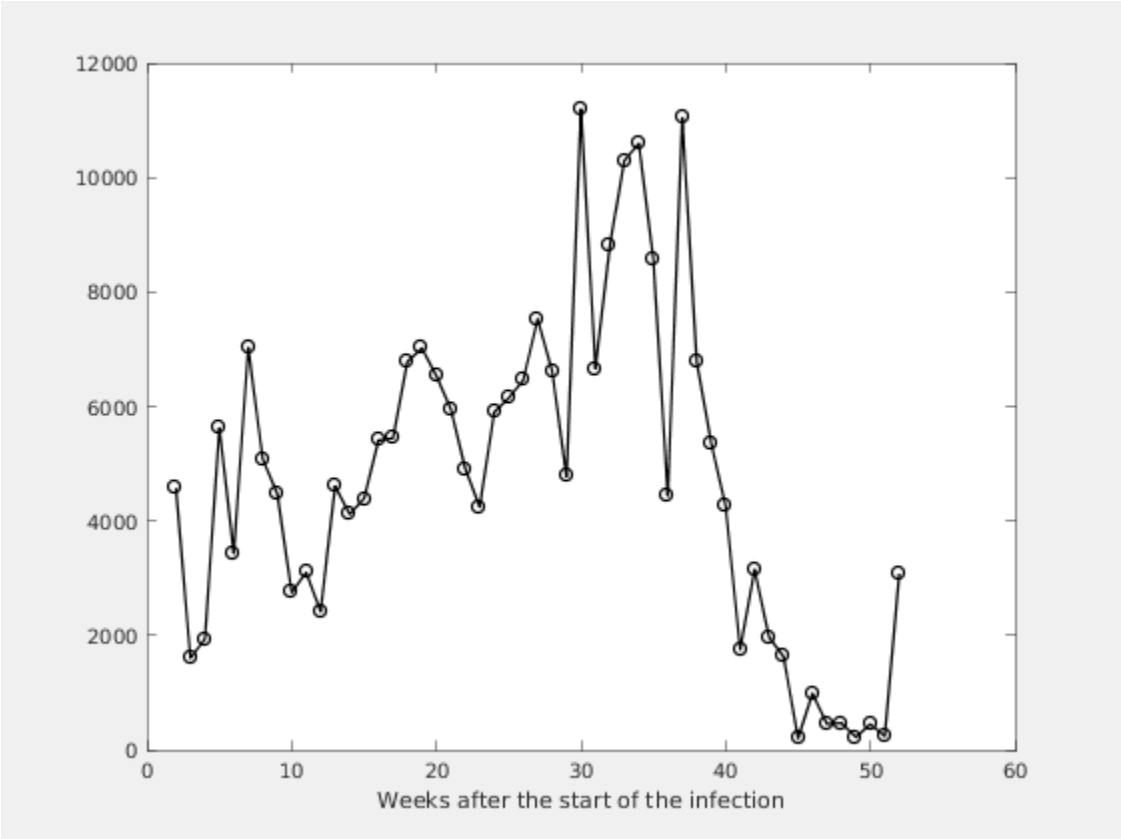
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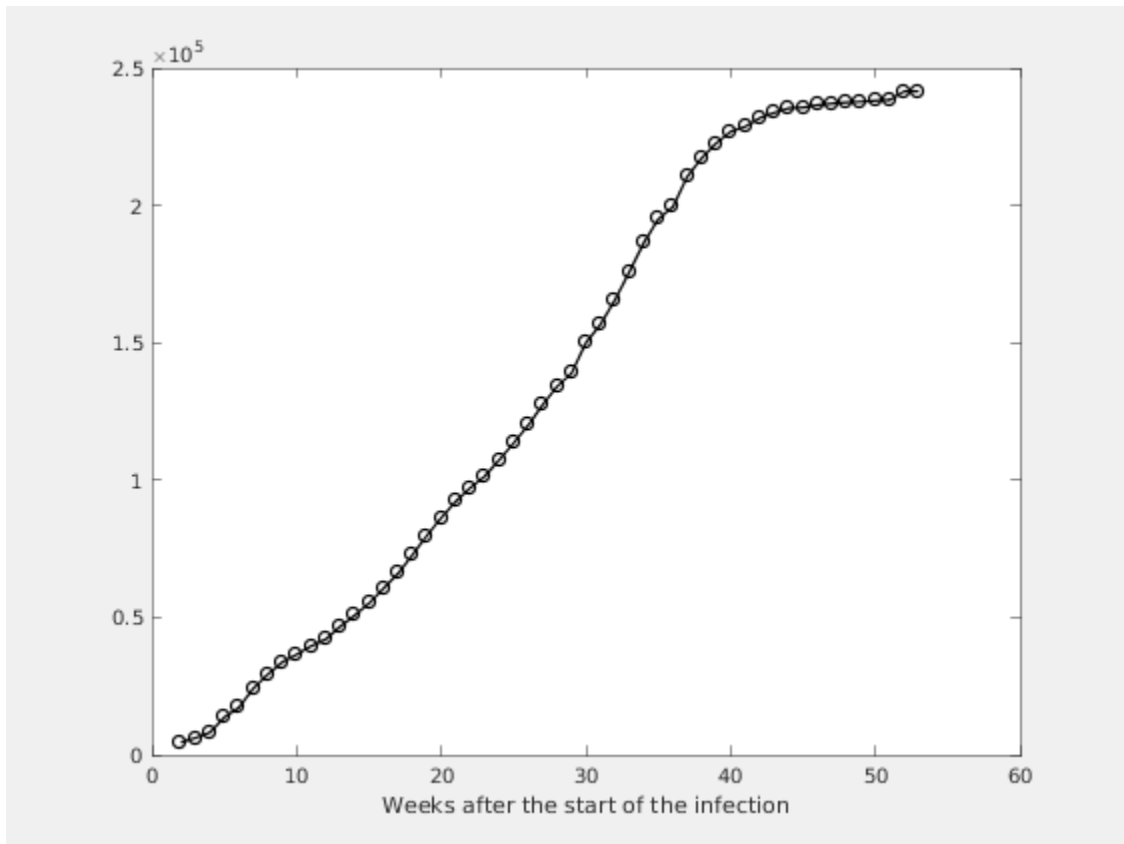
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# Chapter 1. Observed Infection data

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



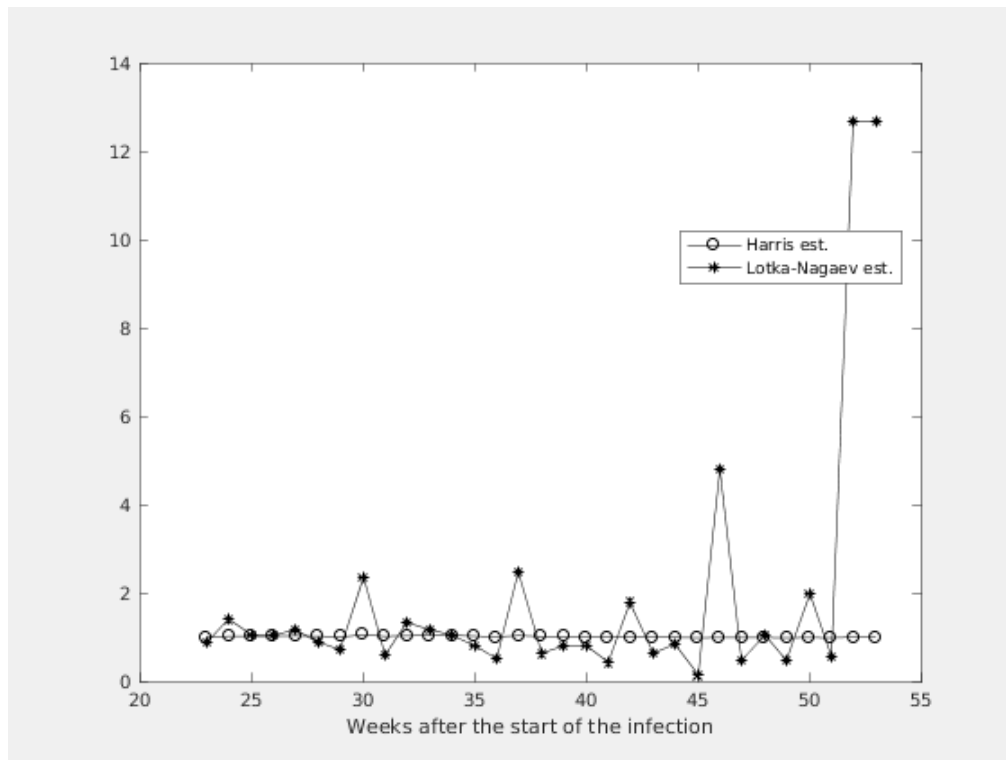
**Figure 1.2. Number of the total registered cases**



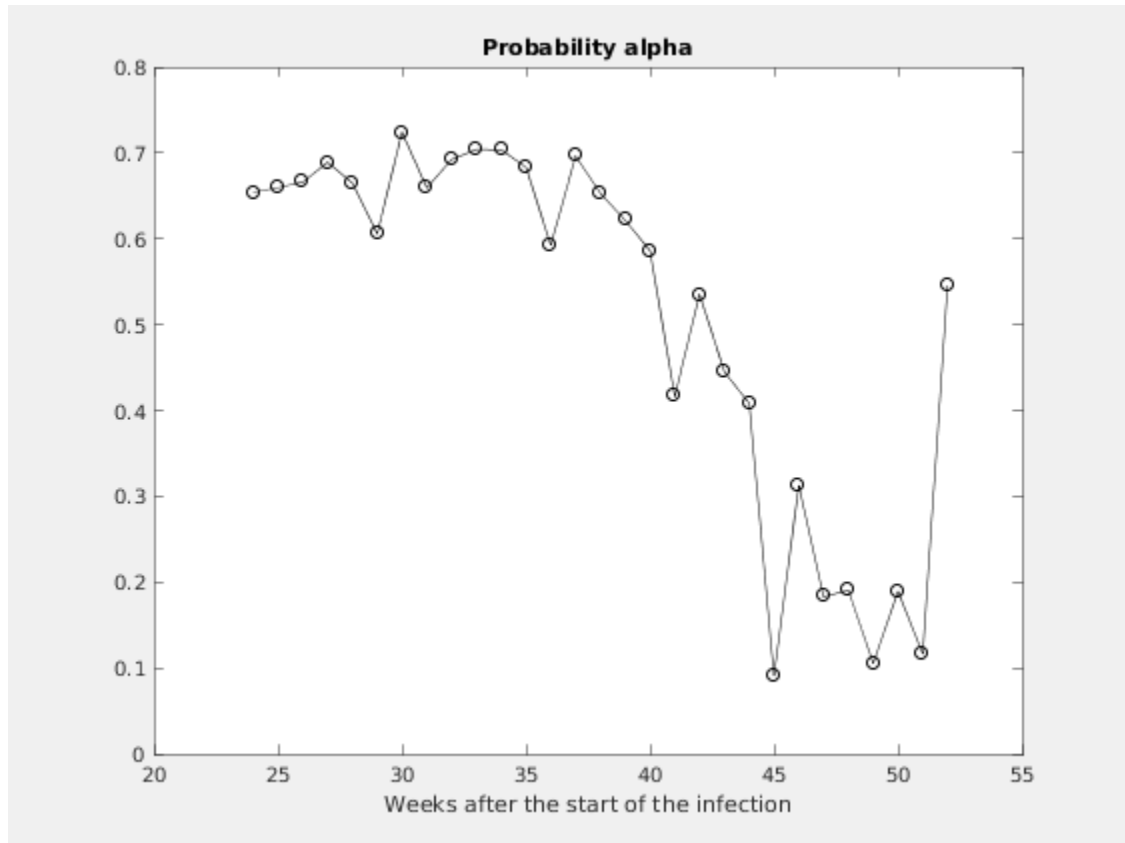
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# Chapter 2. Estimating of the main parameter and some predictions

Figure 2.1. The Lotka-Nagaev and the Harris type estimator of the growth rate

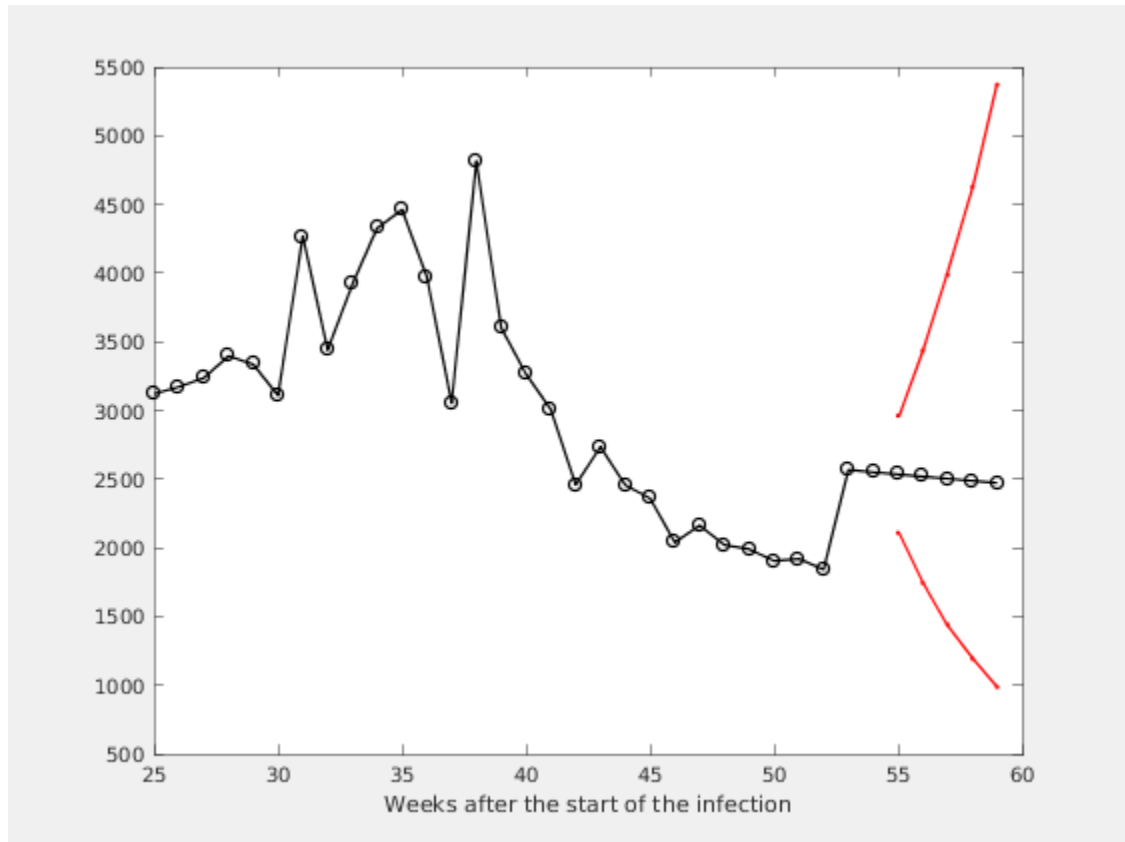


**Figure 2.2. Figure**

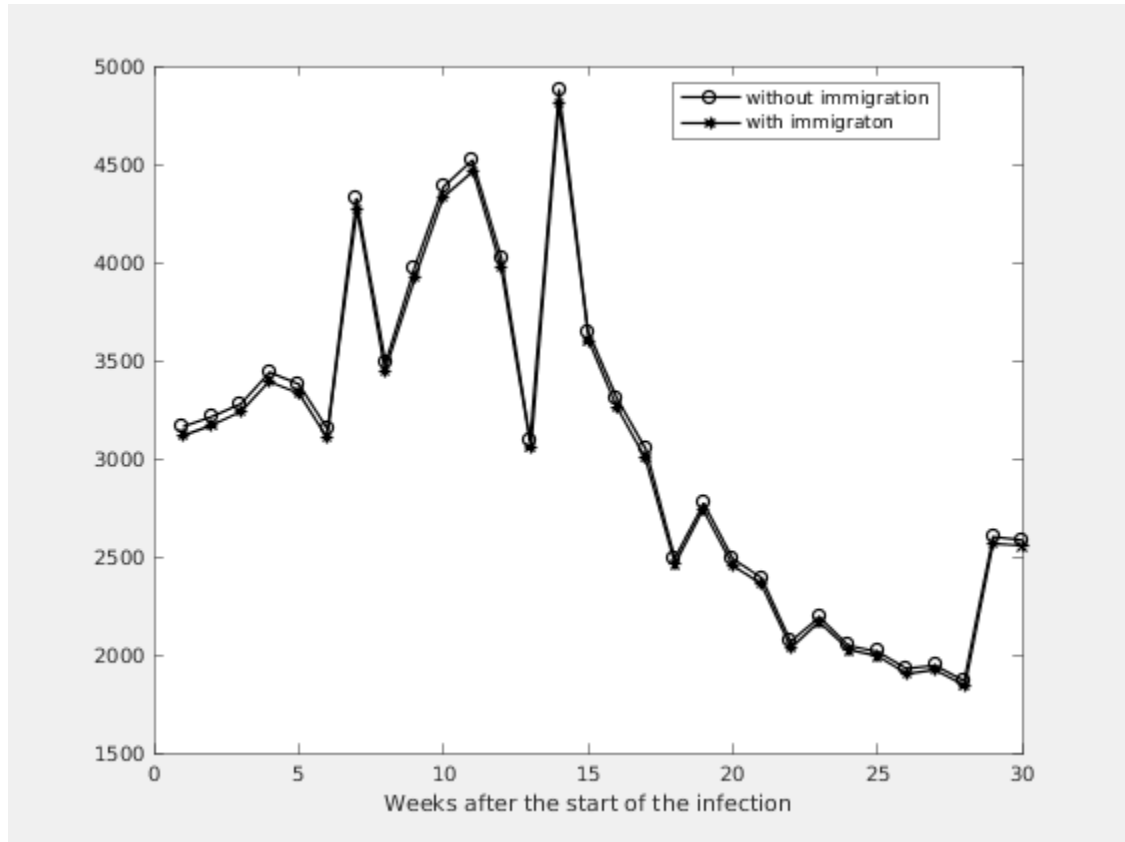




**Figure 2.3. Expected number of the nonregistered infected individuals without immigration**



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



**Estimation of the model parameters.**

k	m	ci	alpha	A1	M1
4	0.9817	0.8437 - 1.1197	0.1831	2020	2047
3	0.9826	0.8463 - 1.1190	0.1904	1990	2016
2	0.9818	0.8469 - 1.1167	0.1056	1905	1930
1	0.9937	0.8600 - 1.1275	0.1892	1920	1945
0	0.9937	0.8614 - 1.1261	0.1165	1843	1867