

Covid19 Report

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1 The *CRISTINA* project

This report is part of a research project “**CoRona vIrus SpaTial aNAlysis**” (*CRISTINA*) which examines the time series progress of COVID-19 events in 177 countries of the world.

2 Greece

A series of visualizations for the progress of COVID-19 for **Greece**. We use absolute numbering scale and logarithmic scale to visualize the progress of “*confirmed cases*”, “*deaths*” and “*recovered cases*”. We also indicate the goverment interventions as dots on top of each line.

2.1 Confirmed Cases

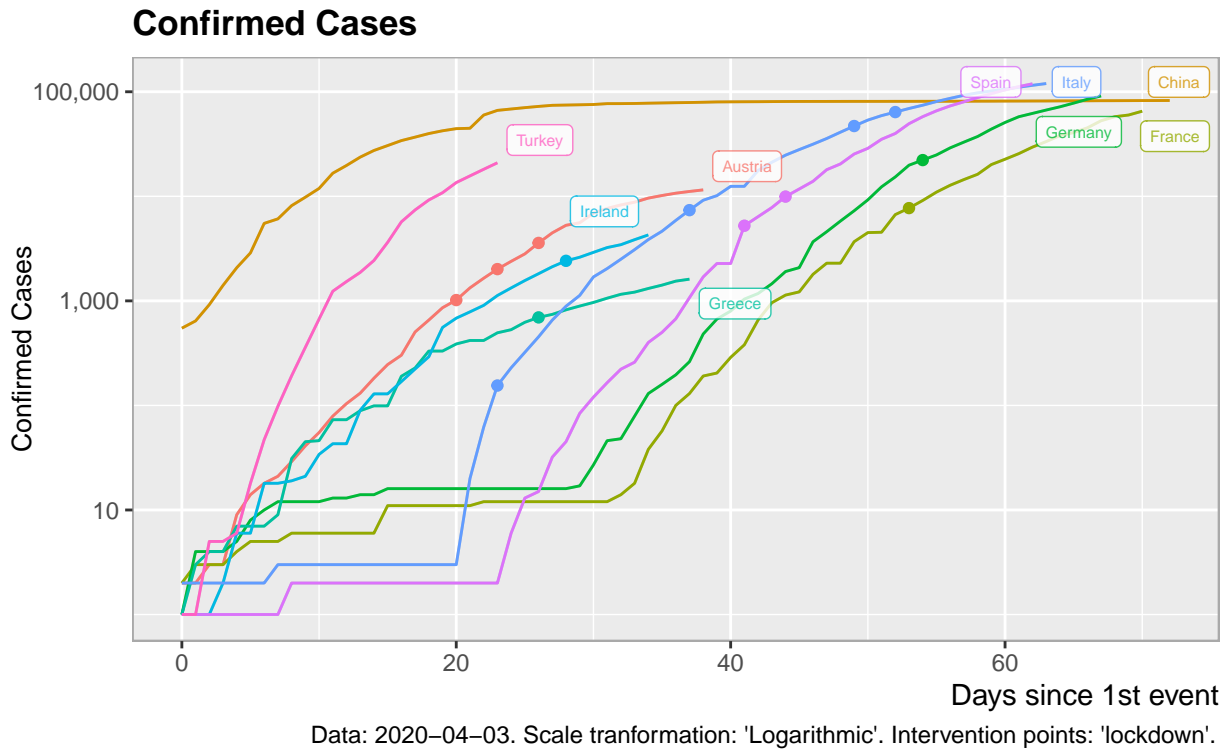


Figure 1: Confirmed Cases

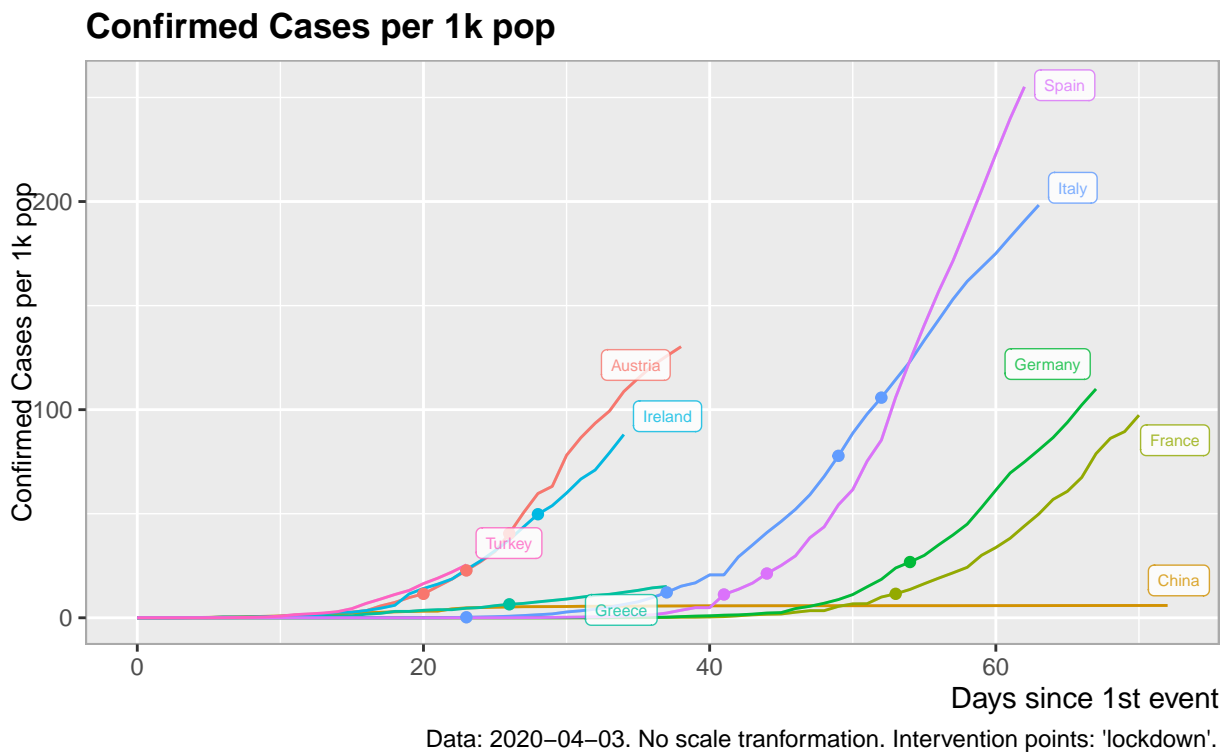


Figure 2: Confirmed Cases by 1000 population

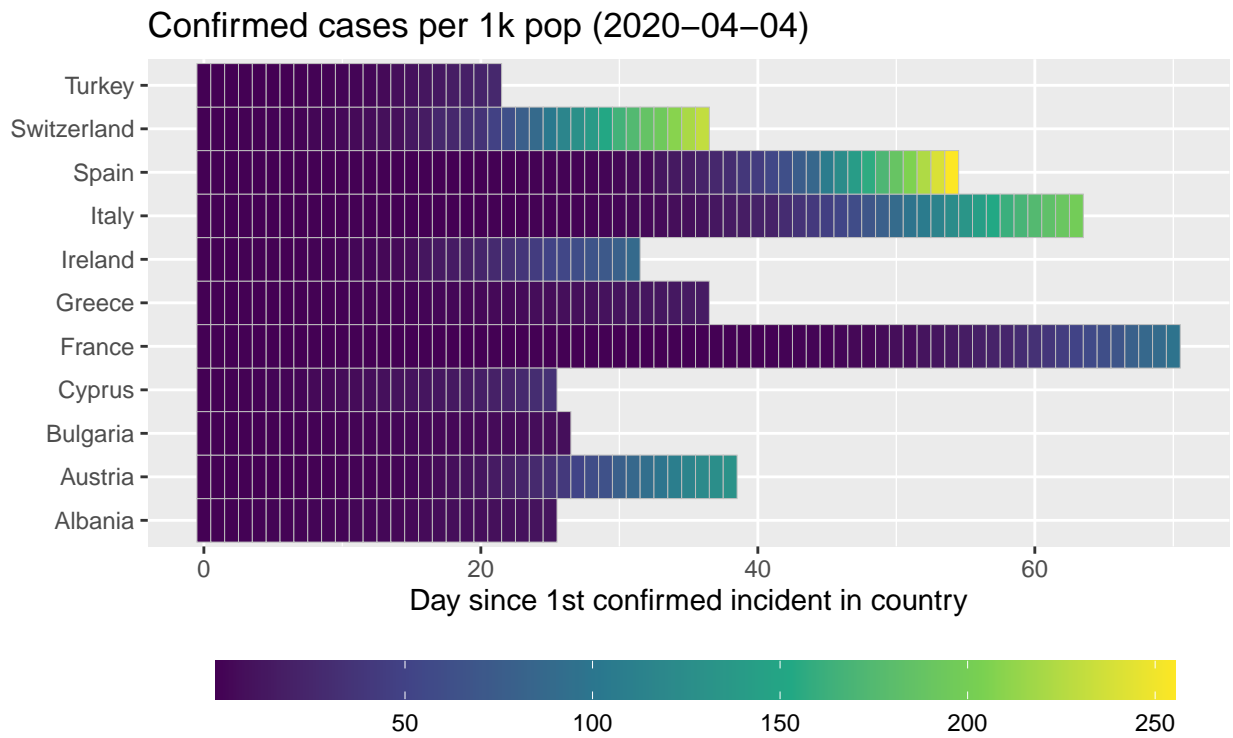


Figure 3: Confirmed Cases by 1000 population

2.2 Deaths

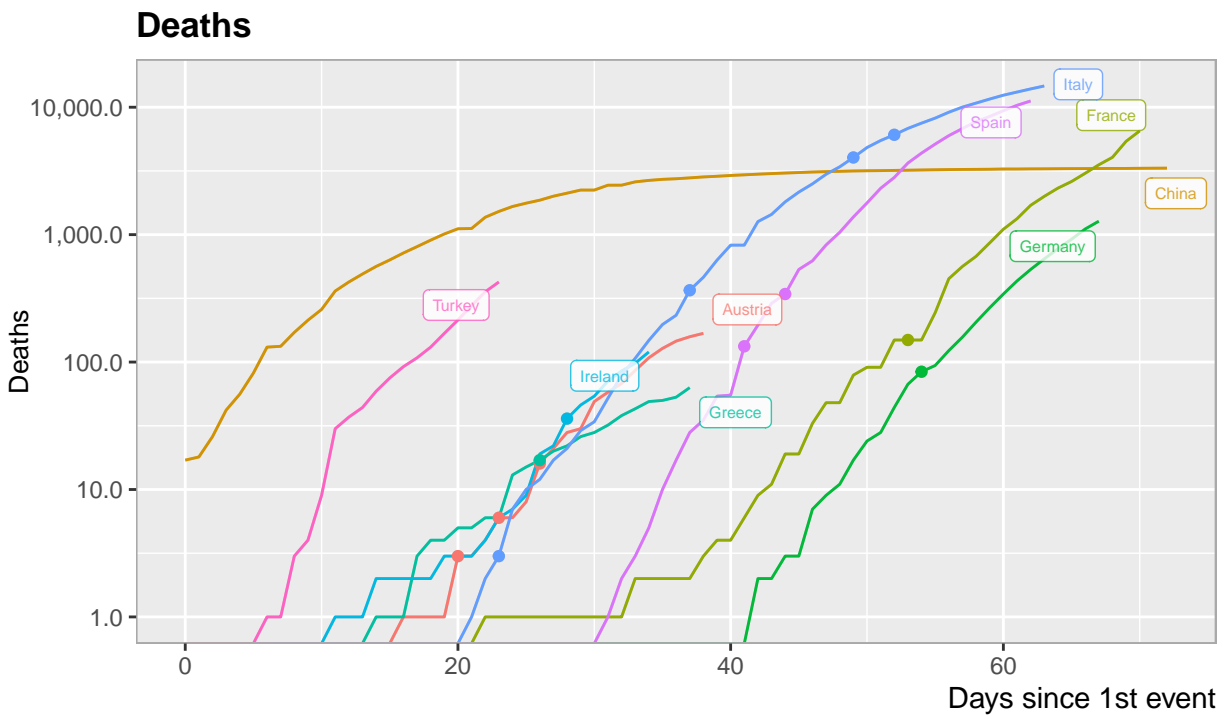


Figure 4: Number of deaths by country

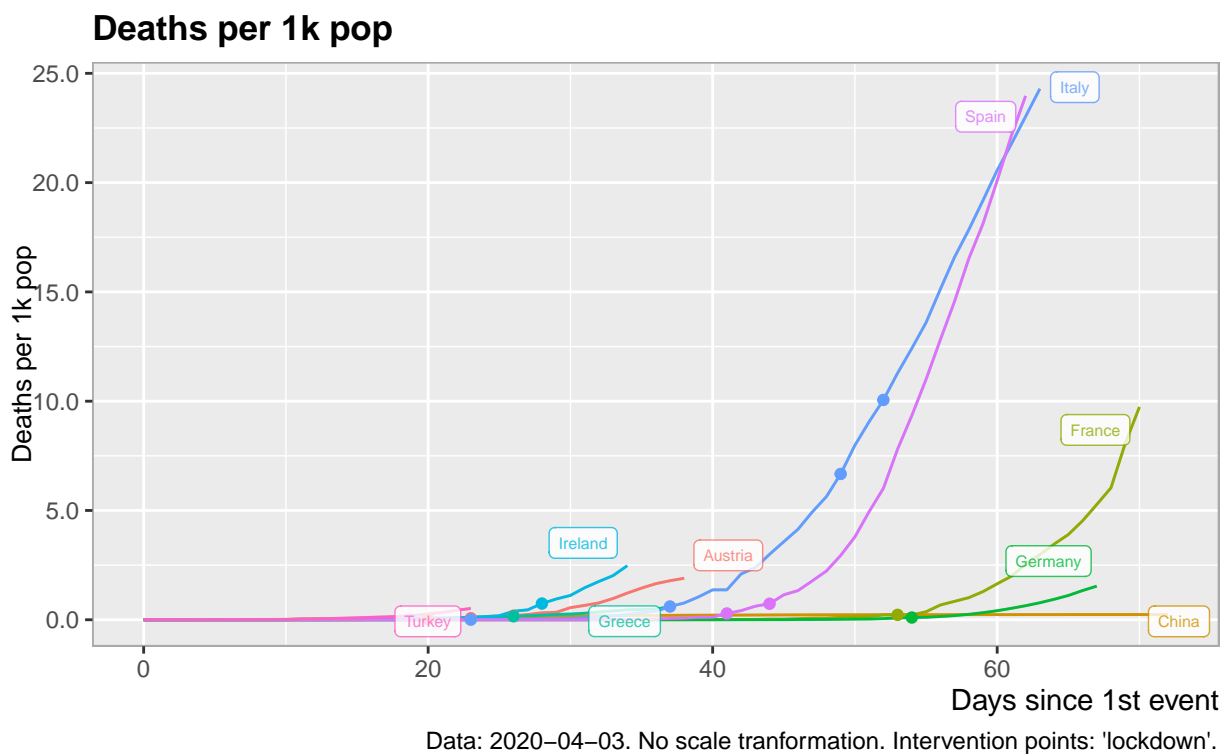


Figure 5: Deaths by 1000 population

3 Rate of change over time

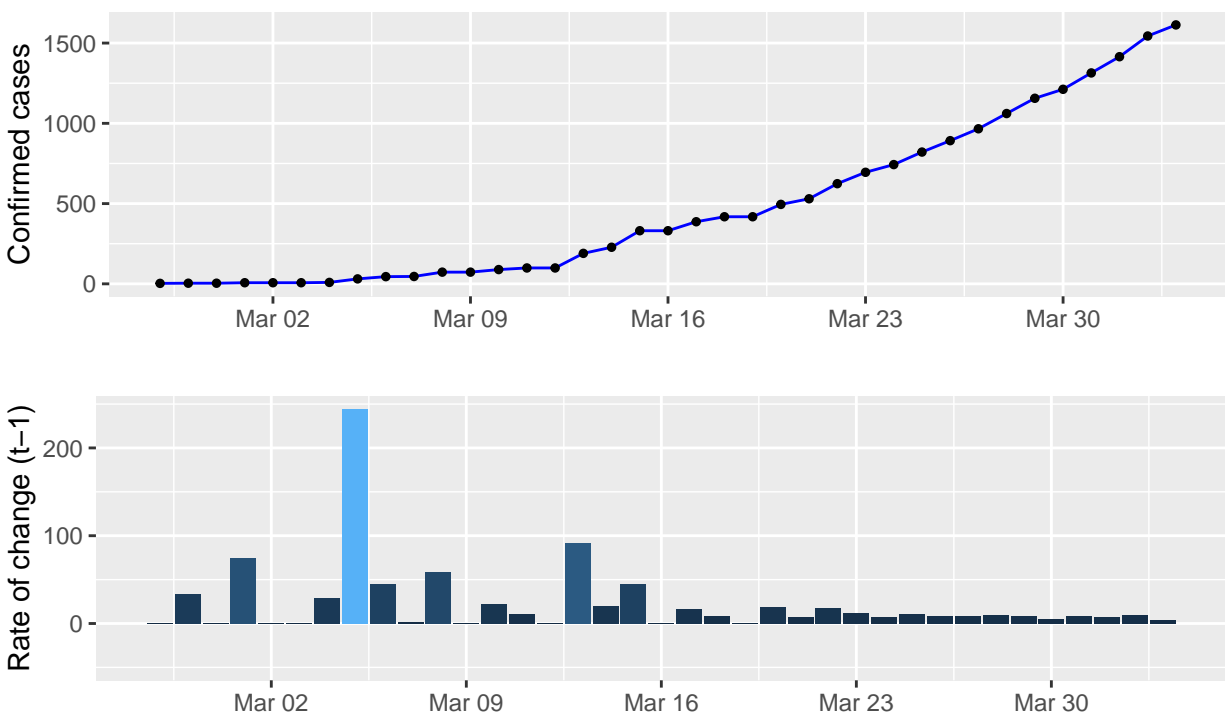


Figure 6: Rate of change of confirmed cases

4 Estimations

We estimate the future projection of *confirmed cases* for the next 5 days in Greece with two methods.

4.1 ARIMA projection

Projection of 'confirmed' cases for 5 ahead

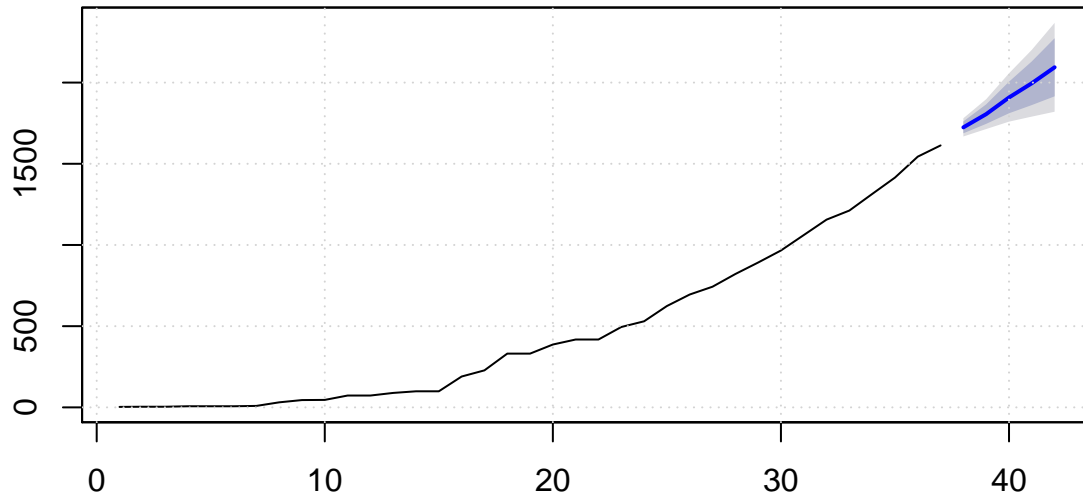


Figure 7: ARIMA projection

Table 1: ARIMA of 'confirmed cases' for 5 days ahead

	Estimation	Confidence 95% (Low)	Confidence 95% (High)
t+1 (2020-04-04)	1724	1668	1780
t+2 (2020-04-05)	1806	1714	1898
t+3 (2020-04-06)	1908	1760	2057
t+4 (2020-04-07)	1996	1790	2201
t+5 (2020-04-08)	2094	1821	2367

- The estimated proportion of cases detected is 16.97%.
- With data up to 2020-04-03 in Greece we have 1613 confirmed cases and 63 deaths.
- Estimated doubling time (based on 5 days time window) is approximately 9.5 days

4.2 PROPHET projection

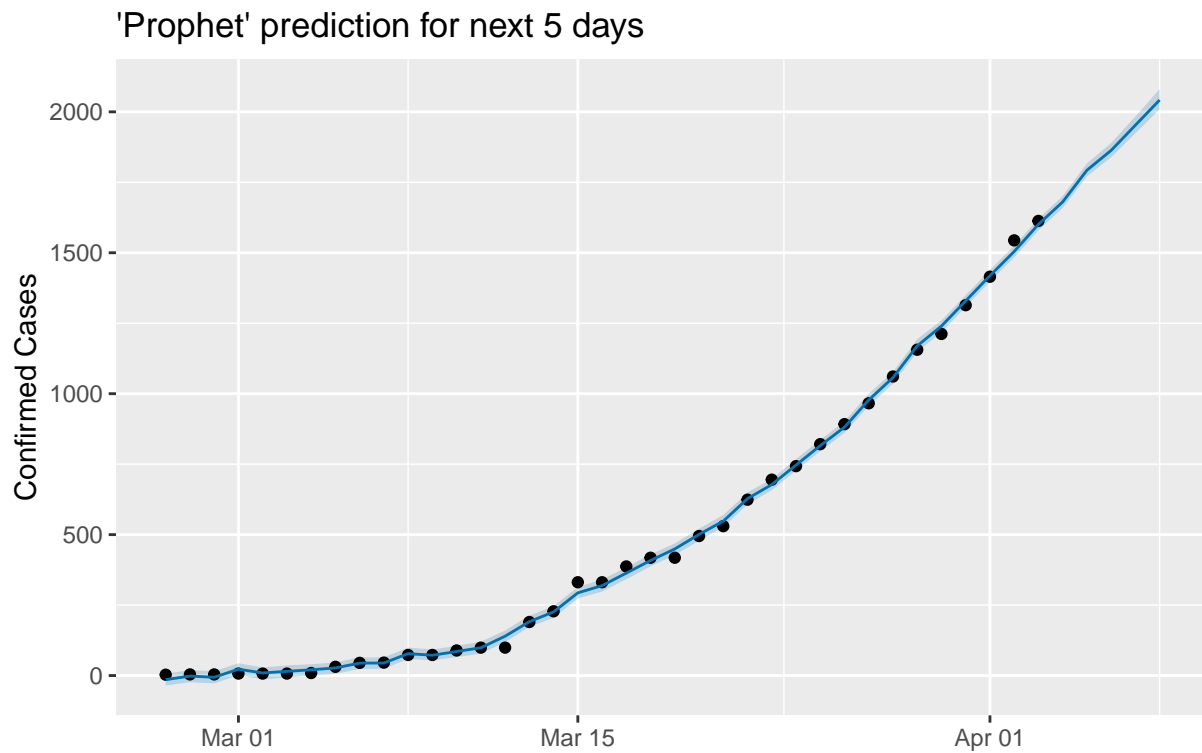


Figure 8: PROPHET Projection of confirmed cases over the next 5 days for Greece

Table 2: PROPHET of 'confirmed cases' for 5 days ahead for Greece

	Future_Date	Estimation	Confidence 95% (Low)	Confidence 95% (High)
t+1	2020-04-04	1680	1659	1701
t+2	2020-04-05	1793	1771	1817
t+3	2020-04-06	1863	1839	1890
t+4	2020-04-07	1953	1924	1983
t+5	2020-04-08	2042	2009	2081