

## COVID-19 NIGERIA

### CAPTIONS AND INTERPRETATION

From the Nigeria COVID-19 plot, we have the COVID-19 data at the top panel; we superimpose the modeling of the data and see good agreement in the infected, active, recovered, and dead cases. As a result, the fully vaccinations are also well modeled except the data of the total vaccinations.

From the modeling, we derive  $R_0$  for Nigeria as shown in the bottom panel of the plot. The initial  $R_0$  is zero and increases significantly to eight after a week because of the negligence from the public on the measures. Around day 35, the  $R_0$  dropped below one mainly because of the quick reaction from the government. Another increase in  $R_0$  to a point above two was observed around day 40. Around day 65, it also dropped below one. The  $R_0$  later increase around day 75 above one and later rose to a point above three around day 150 due to ineffectiveness of the measures in some parts of the country.

Around day 165, the  $R_0$  dropped to zero and increased above two around day 205. Another drop occurred around day 230 to point zero after some restrictions from the government. We see that around day 250, there was an increase in  $R_0$  above one and was about two around day 280. It dropped in the subsequent months below one around day 458 and after day 470,  $R_0$  was above one. However, we see another reduction in  $R_0$  to point zero around day 570. After day 605,  $R_0$  was about two and after several measures from the government,  $R_0$  dropped below one around day 664. And we see that increase in  $R_0$  was about one even after 700 days.