Statistical Analysis of Covid-19 Lockdown Measures

It is the last crowning achievement of your data science training at SkilloVilla. It helps to evaluate what you learned and how successfully you use it to solve real-world problems in a novel manner. Capstone project at SkilloVilla is the fusion of multiple issues to address a significant real-world issue.

Covid-19 and Lockdown Measures

SARS-CoV-2, a tiny virus, severely affects our planet's social, economic, and environmental sustainability, causing infections and deaths (6,029,851 deaths, as of 11 March 2022); relationship breakdowns, depression, economic downturn, riots, and much more. The lessons that have been learned from good practices by various countries include containing the virus rapidly; enforcing containment measures; growing COVID-19 testing capability; discovering cures; providing stimulus packages to the affected; easing monetary policies; developing new pandemic-related industries; supporting plans for controlling unemployment; and overcoming inequalities. Coordination and multi-term plannings are the keys among the successful national and global endeavors to fight the pandemic. The current research and practice have mainly focused on specific aspects of COVID-19 response. There is a need to automate the learning process such that we can learn from good and bad practices during pandemics times. Lockdown is one of the widely used measures for controlling the pandemic.

Problem

Lockdown measures are used as a primary tool, assuming that they will help to decrease the infections. However, with time, more and more

scientific evidence appears that most of the lockdown measures do not play any role in increasing or decreasing the number of daily cases. It is important to understand the effect of lockdown measures on daily cases as they severely affect socio-economic parameters. For example, it is well proven by many pieces of research that the closing down of schools has no relation to infections in children. Therefore, it is very critical to understand the relationships between daily cases and lockdown measures. This will help us in two ways: (1) to mitigate socio-economic effects, and (2) to use the best possible set of lockdown measures only, which impacts daily cases.

Dataset

World bank dataset of India has been given to you which has date-wise daily cases. A comprehensive explanation of each column and its scale has been given at:

https://covid19datahub.io/articles/docs.html#policy-measures

Performance Evaluation

You need to find multiple critical types of relationships between daily cases and lockdown measures. It is preferred that you should use various statistical techniques to find hidden insights from the data. You must do a comprehensive EDA of the given data, and rectify any type deficiencies in the data.

Requirements or Deliverables

- Submit .ipynb file where all your code and outputs will be residing.
- Each line must have comments
- EDA should be done comprehensively
- You must interpret your result with the support of proper reasoning based on your findings.

- In-depth analysis of results will be expected