

Government strategies in containing the pandemic outbreak

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Background

Many countries are having trouble to deal with the current pandemic situation due to The COVID-19. Governments have been using a wide range of measures in response, however, is not totally clear what measurement or set of measurement are the more successful in combating the spread of the disease.

The government of Wuarilandia is currently having an uncontrolled outbreak of the disease, with an outstanding number of tolls plus catastrophic consequences in the economy. Like many other countries, they are desperate and lack the experience in dealing with a pandemic.

The president of Warilandia, Nikivan Maduque has recently hired the most talented data scientist to address the situation and find out potential solutions. They wanted to check if developed countries are dealing properly to contain the disease and if that is the case, what kind of measures are they taking to success. They were required to address the following questions:

1. Are the more developed countries doing well in containing the disease?
2. If that is the case, which strategy to restrain the outbreak is working the best

Methods

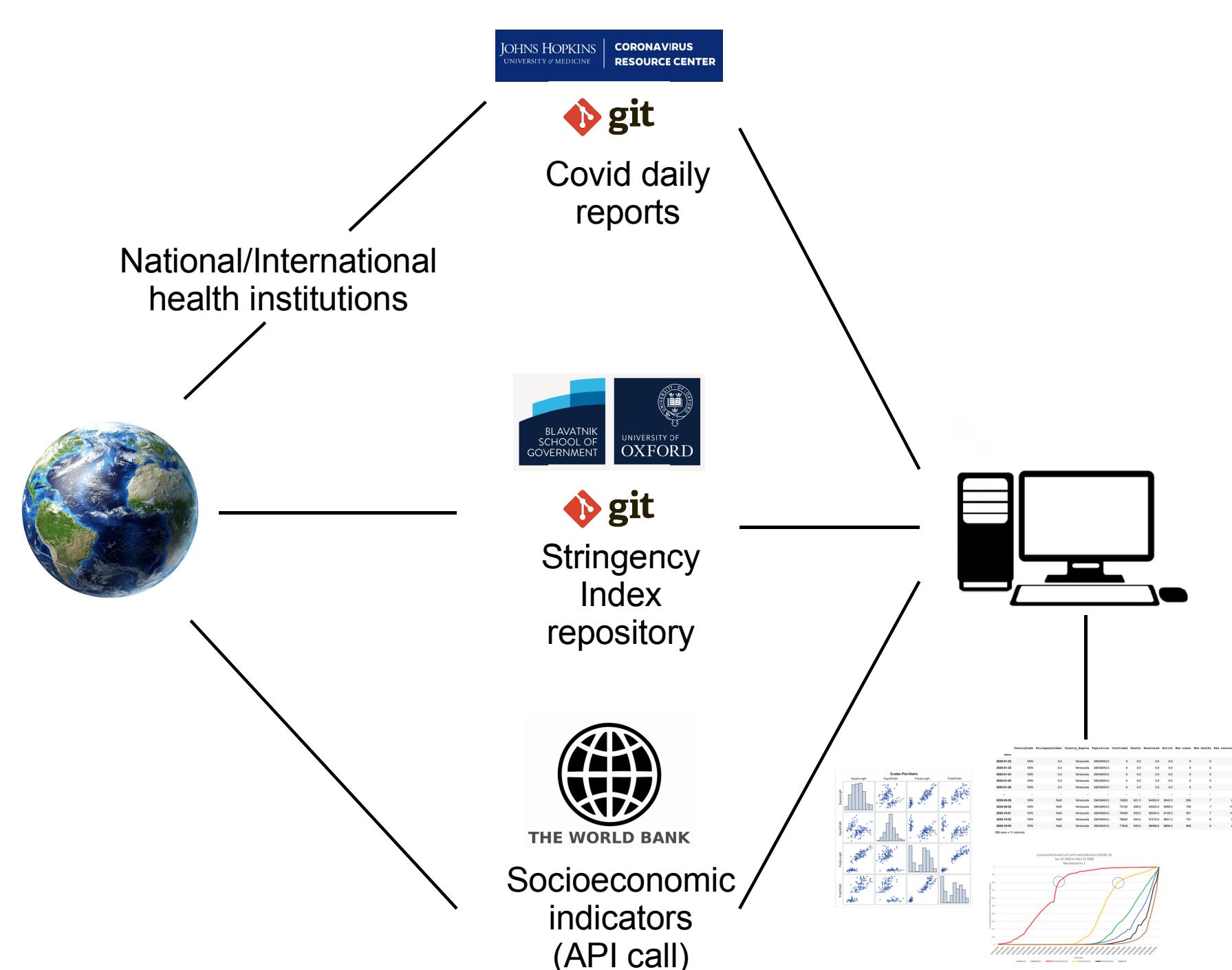


Figure 1. Data acquisition and processing workflow. We create a new relational dataset by combining the databases from COVID infections, stringency index and socioeconomic indicators from trustful and recognized online sources. The new database is an enriched dataframe with relevant information that facilitates our further analysis and help to answer the questions.

Findings

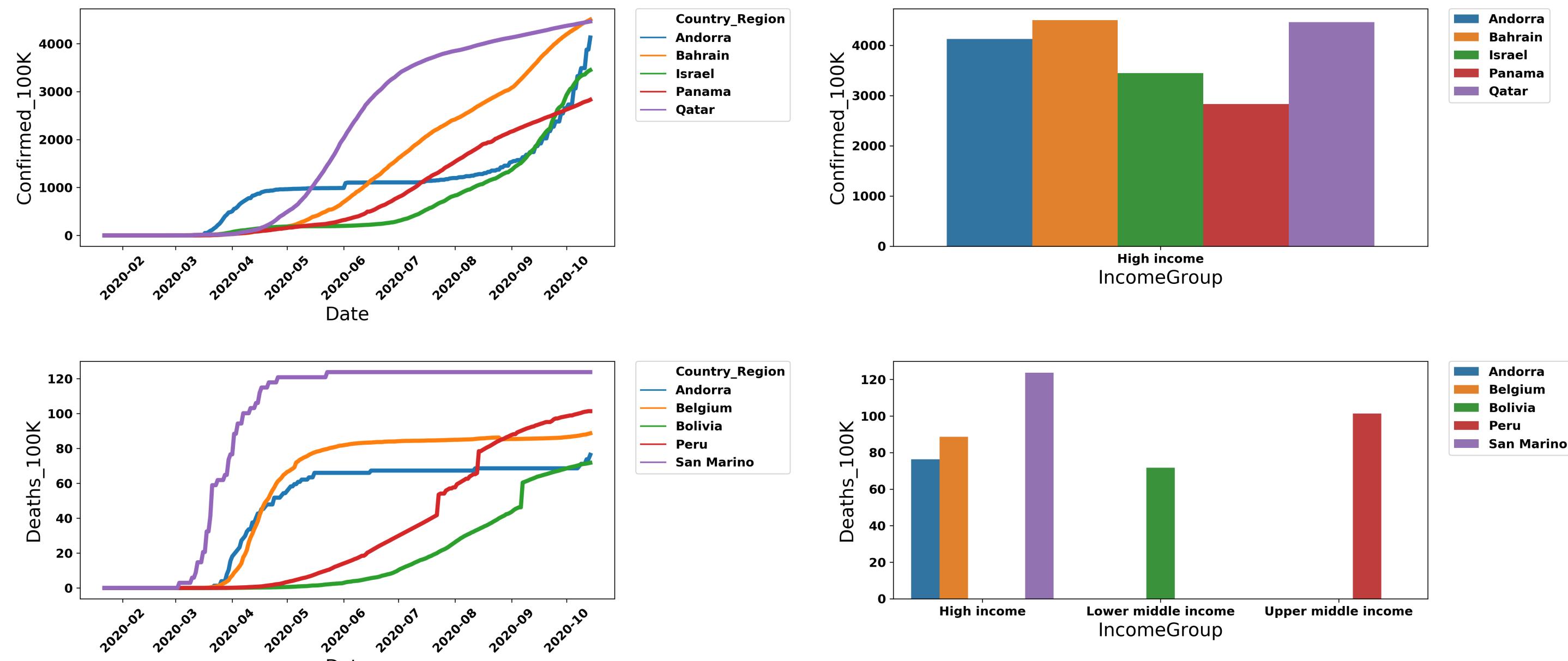


Figure 2. Most affected countries with Covid and their income level

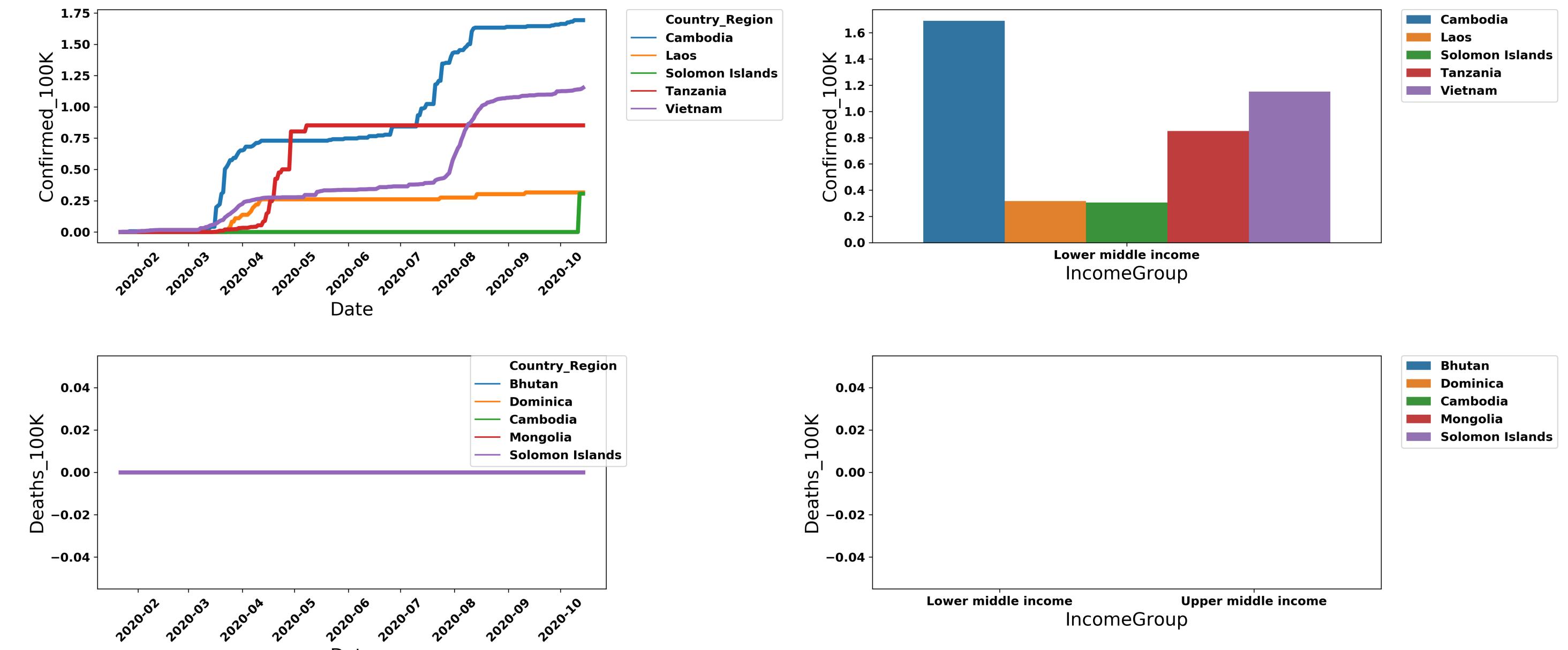


Figure 3. Less affected countries with Covid and their income level

The top 10 most affected countries by number of coronavirus cases per 100K (Figure 2) belong to high income countries. With the exception of Bolivia, the same pattern was observed on the top 10 most affected countries by number of deaths cases per 100K (Figure 2). This does not support our expectation that most developed countries are dealing more efficiently with the virus. On the contrary, the least affected countries by number of cases per 100K belong in general to low income countries (Figure 3). One explanation is the testing capacity by high income countries is higher and this results on more reported number cases.

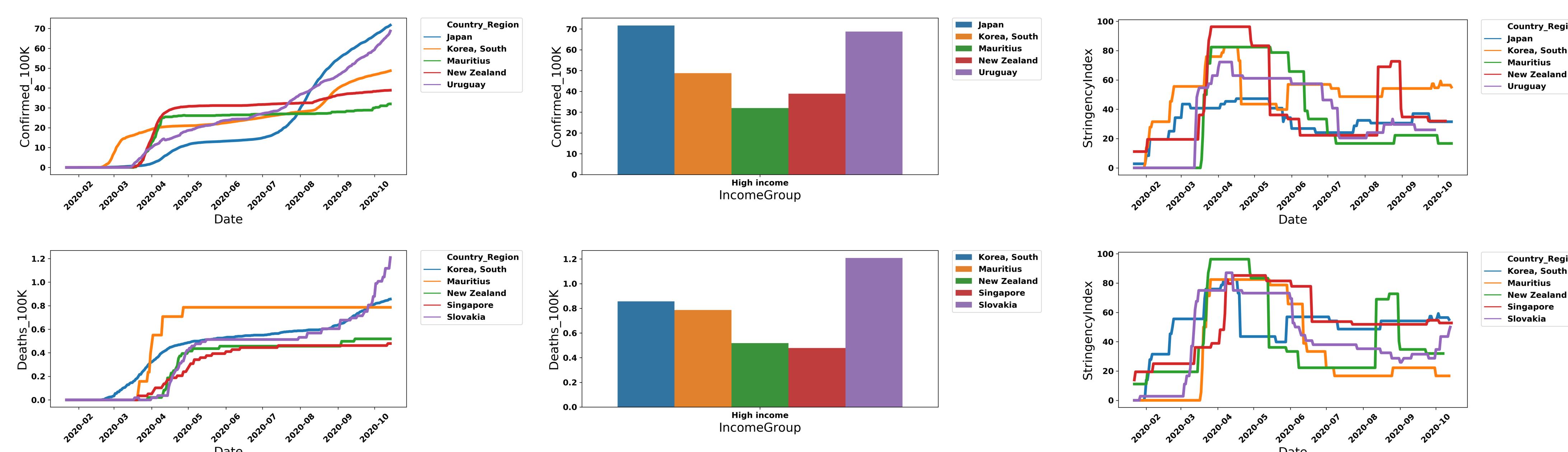


Figure 4. High income and less affected countries (reported) with Covid and their stringency index.

After selecting countries by high income, the top five countries that have deal most properly with coronavirus (less number of cases and deaths relative to 100K) vary in many factors, but in general their measurements against the virus were early enough to avoid transmission (Figure 4).

Conclusions

In this project, we used recognized data sources for COVID-19 and government strategies. However, these datasets rely on the official sources for each country. This brings challenges for the analysis and the interpretation of the results that should be taken cautiously. There are a large number of factors that could drive the actual crisis. The data showed that the most developed countries are not particularly dealing more efficiently with the virus. On the contrary, the top 10 most affected countries (by number of cases) belong to high income countries, which could be explained by their testing capacity. This hypothesis seems to stand as the least affected countries (by number of cases) belong in general to low income countries. High income countries that have deal most properly the crisis vary in a large number of factors, but in general their measurements against the virus were early enough to avoid transmission.