

Economic change analysis for countries

Introduction

Economic situations of the countries changes over the years according to different cinditions such as wars, diseases etc. In this report, economic situations by GDP and some effects and causes on these will be analyzed for some countries.

GDP is a measure of the total value of all the goods and services produced in a country during a certain time period. It can be used to see how well a country is doing economically and can be a good way to compare different countries.

Comparision

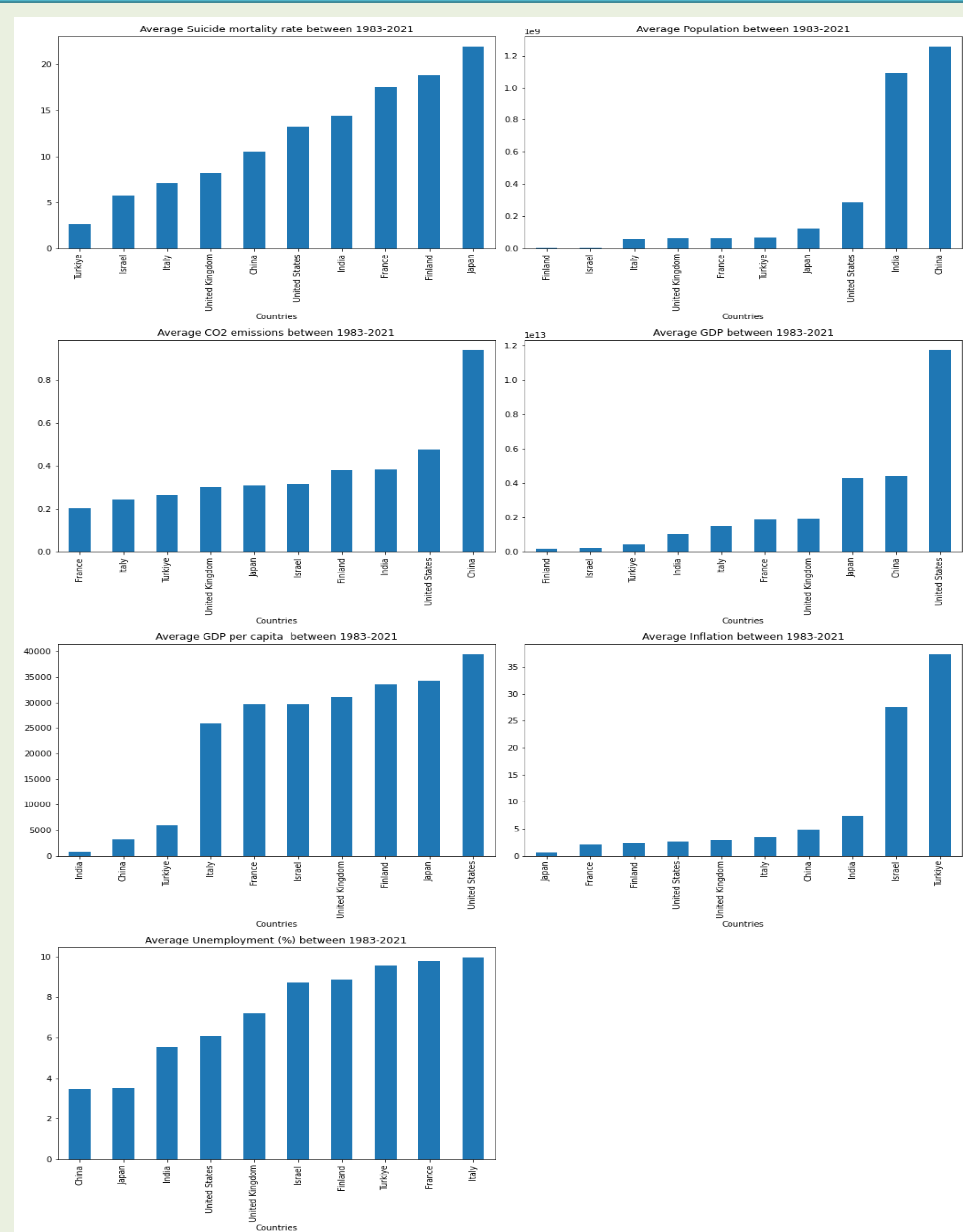


Figure 1

Average GDP over the last 40 years in United States is almost doubled the total of other 9 countries' averages. However, GDP per person in USA is almost the same as other countries.



Figure 2

Even though economic growth in some countries, suicide mortality and unemployment rates also increased over the years.

CO2 emissions per person shows downward trend in all countries for the last 15 years.

Distribution

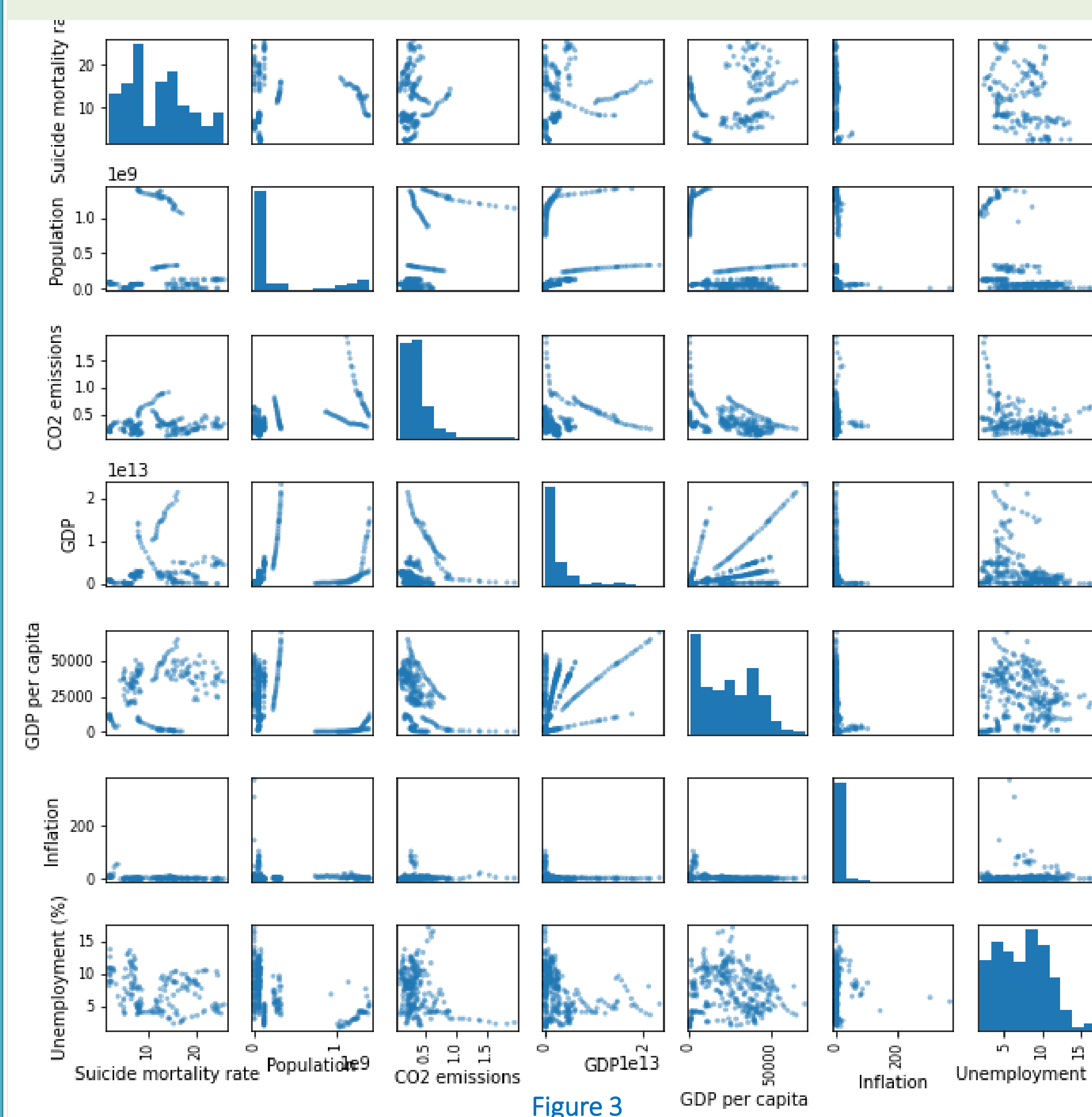


Figure 3

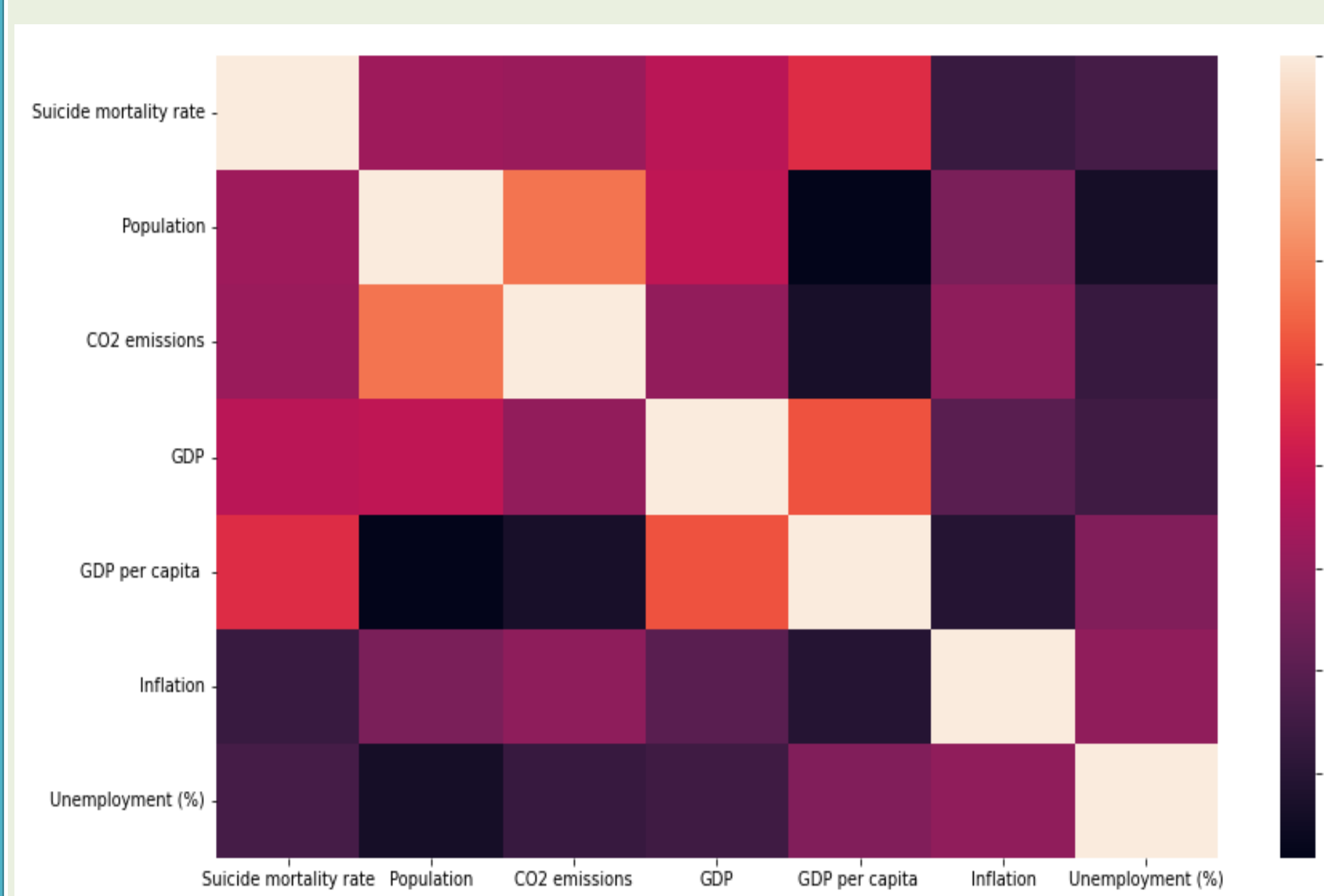


Figure 4

From Figure 3 and 4, we can see that correlation between total population and CO2 emissions per person is the strongest.

Clustering

By using K-means clustering method for population and GDP, the best 2 class numbers are founded as 3 and 4 clusters with both 0.77 scores. Clusters and center of each class are shown in Figure 5 and 6.

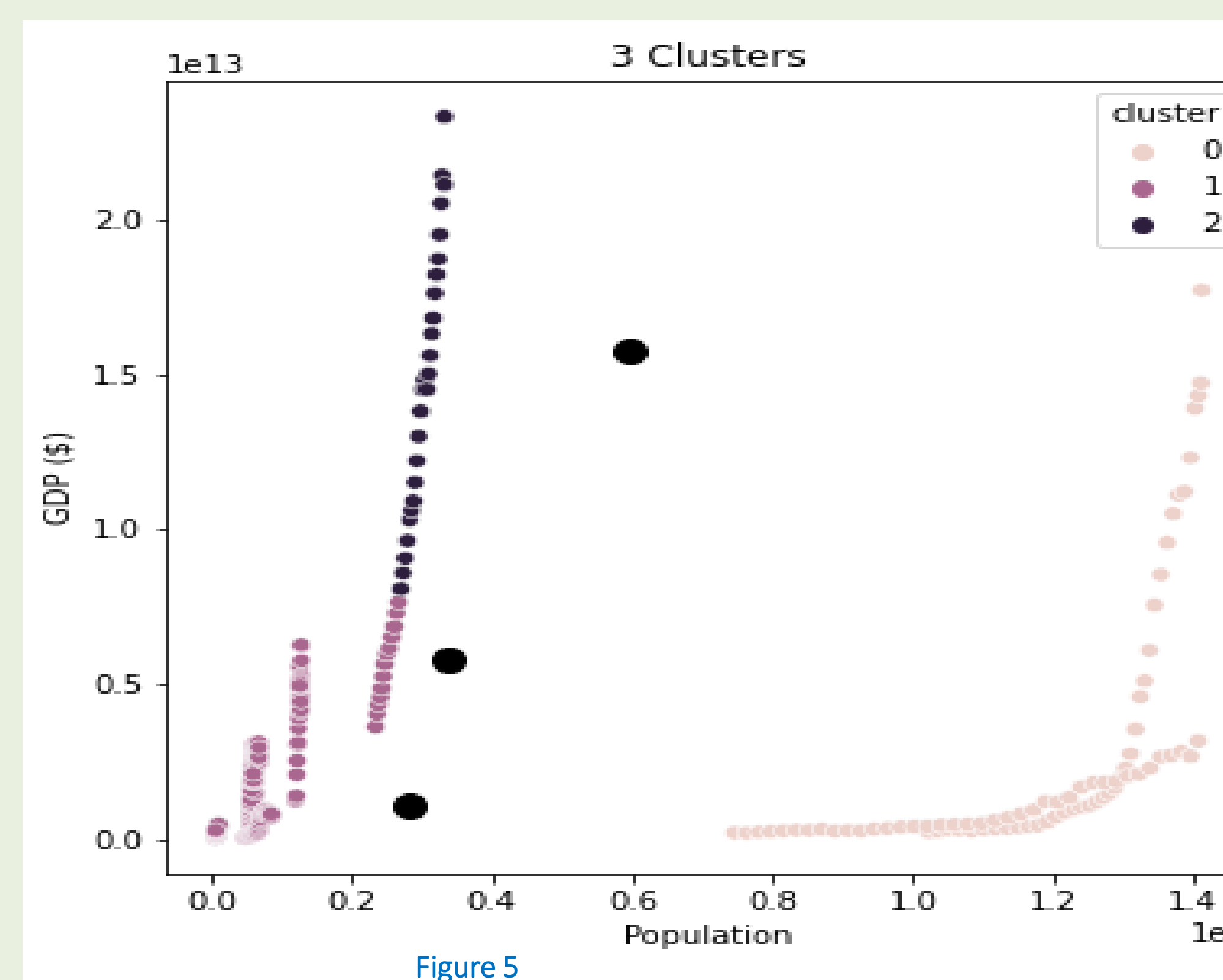


Figure 5

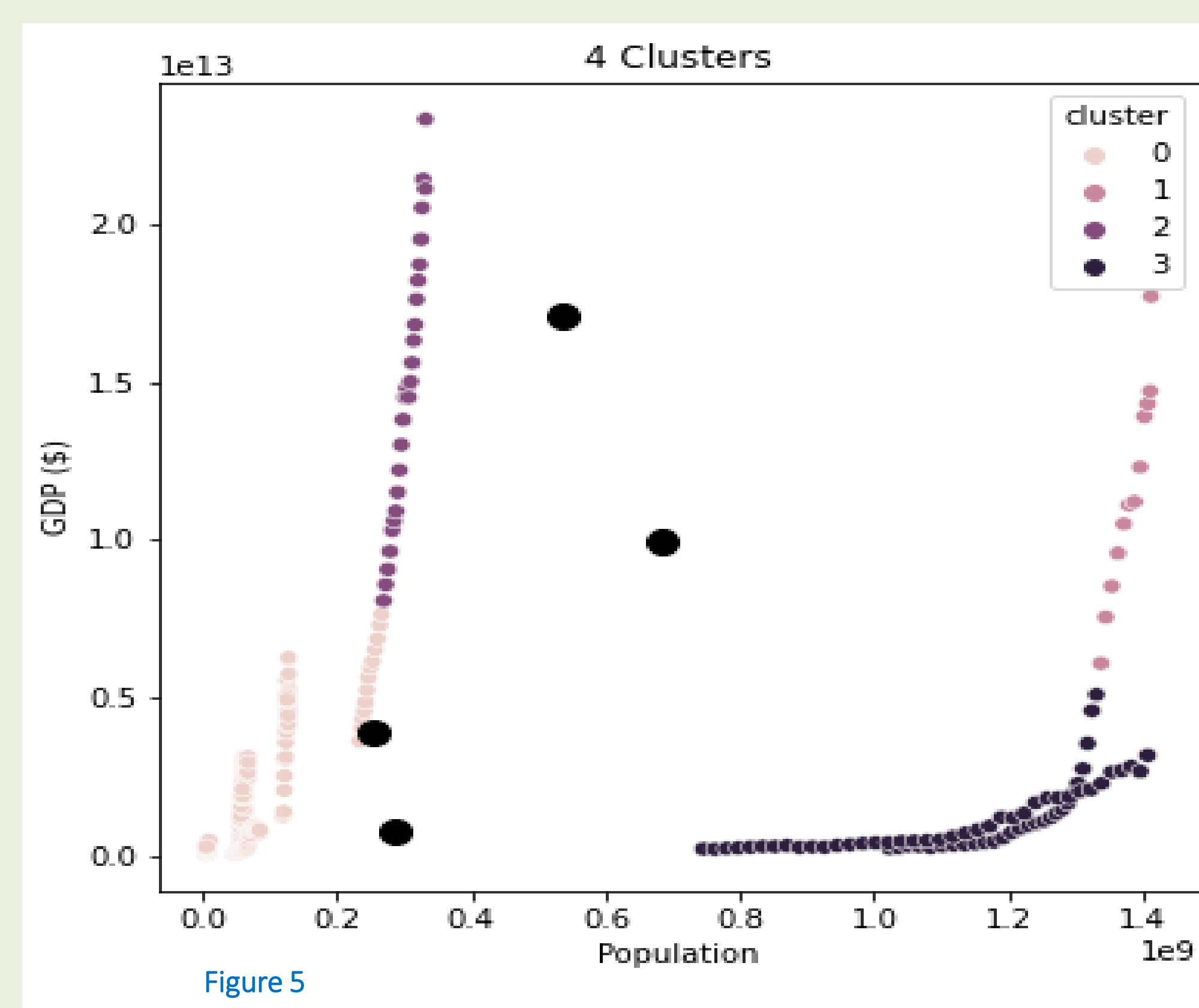


Figure 5

Fitting

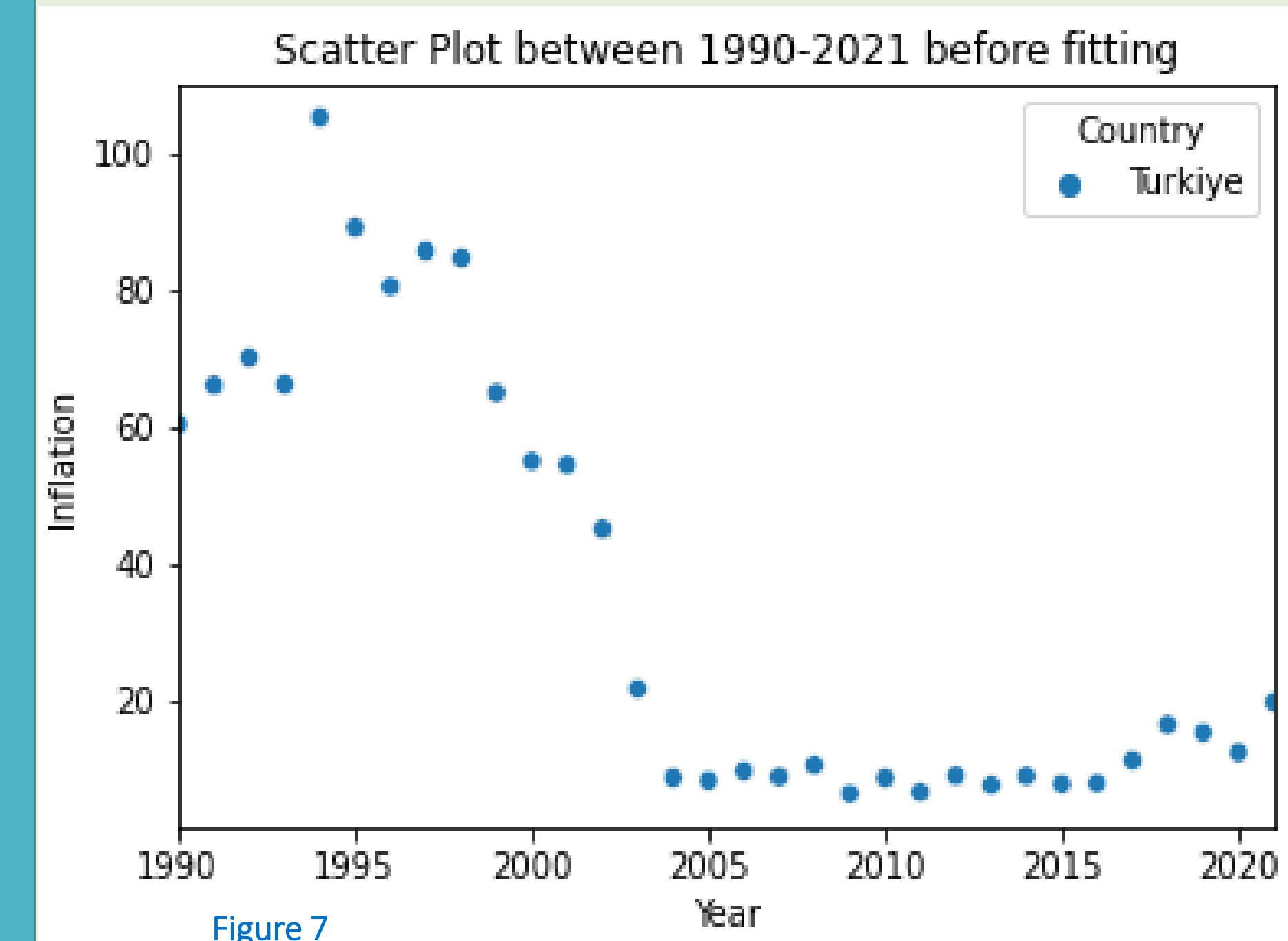


Figure 7

Scatter above shows the inflation rates between 1990-2021. Exponential fitting method applied to this data to predict next years' values.

Data after fitting is shown in Figure 8. Inflation rates in Turkiye calculated in 2030 and 2040 are between 7.5%,20.2 %and 4.6%,15.3% respectively.

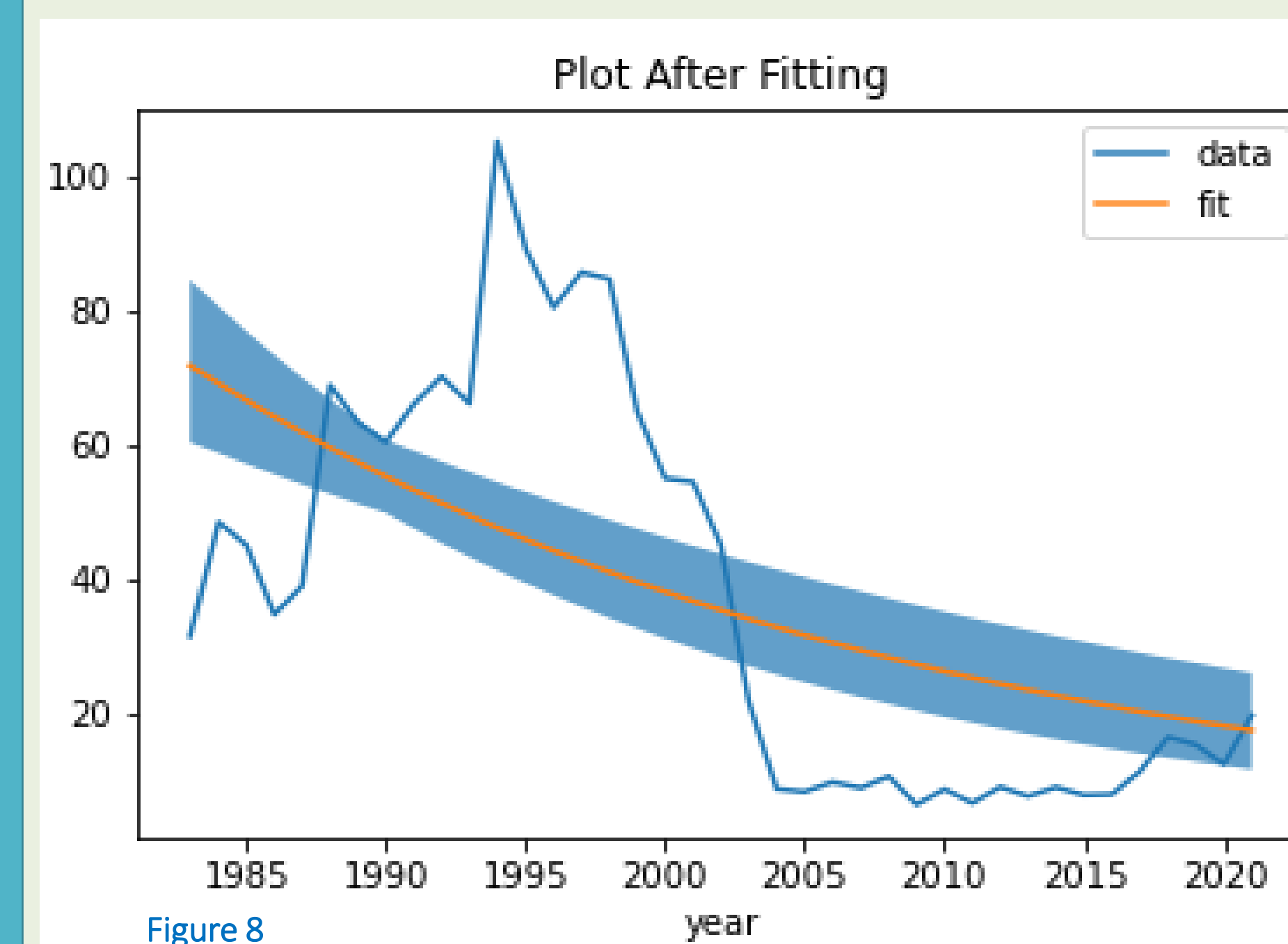


Figure 8

Conclusion

- ❖ GDP is not related with suicide mortality and unemployment.
- ❖ Increase in population also cause of increase in CO2 emission per head.
- ❖ Inflation does not causes unemployment.
- ❖ For the last 40 years, Average Inflation rate is the highest in Turkiye and lowest in Japan.
- ❖ In the last few years, Turkiye has the highest unemployment rate.

Source and Code

Data is taken from [World Data Bank](#) .

Repository link for this report is [here](#) .

