

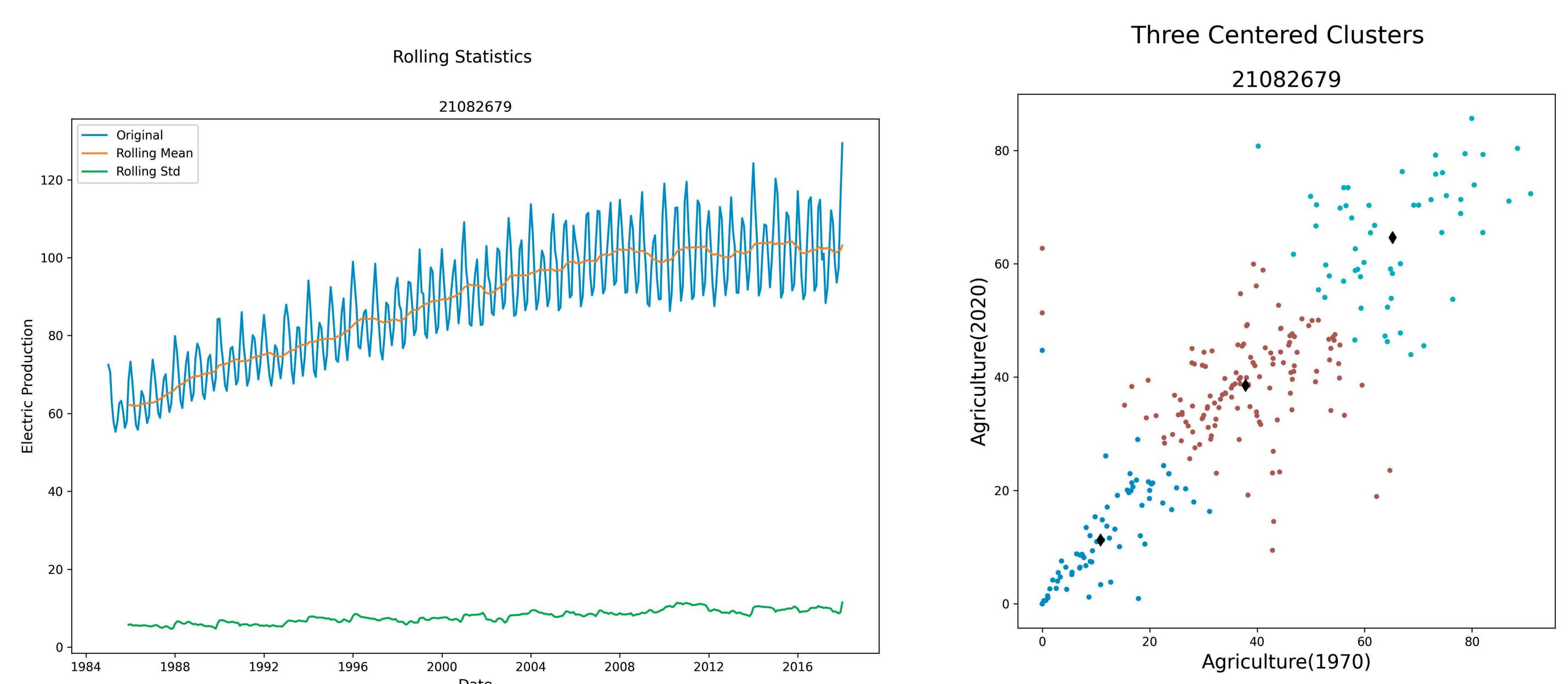
Clustering And Fitting

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Abstract : In this project i have choose a dataset of Electric Production and Agriculture to calculated useful insights using Sk-Learn and Seasonal Decomposition method to calculate Clusters and Trends.

INTRODUCTION

Electric production is the process of transforming different energy sources into electrical energy for usage in residences, commercial buildings, and industrial settings. Globally, the most prevalent method of producing electricity is still thermal power from fossil fuels, but due to environmental effects, demand for renewable energy sources like hydropower, wind, solar, and geothermal has increased. To address the rising demand for clean energy, governments and energy corporations throughout the world are investing in research and development for new and inventive ways to provide inexpensive and sustainable electricity.



Objective

Find out the Clusters and Calculate the trend line of a time series dataset.

Methodology

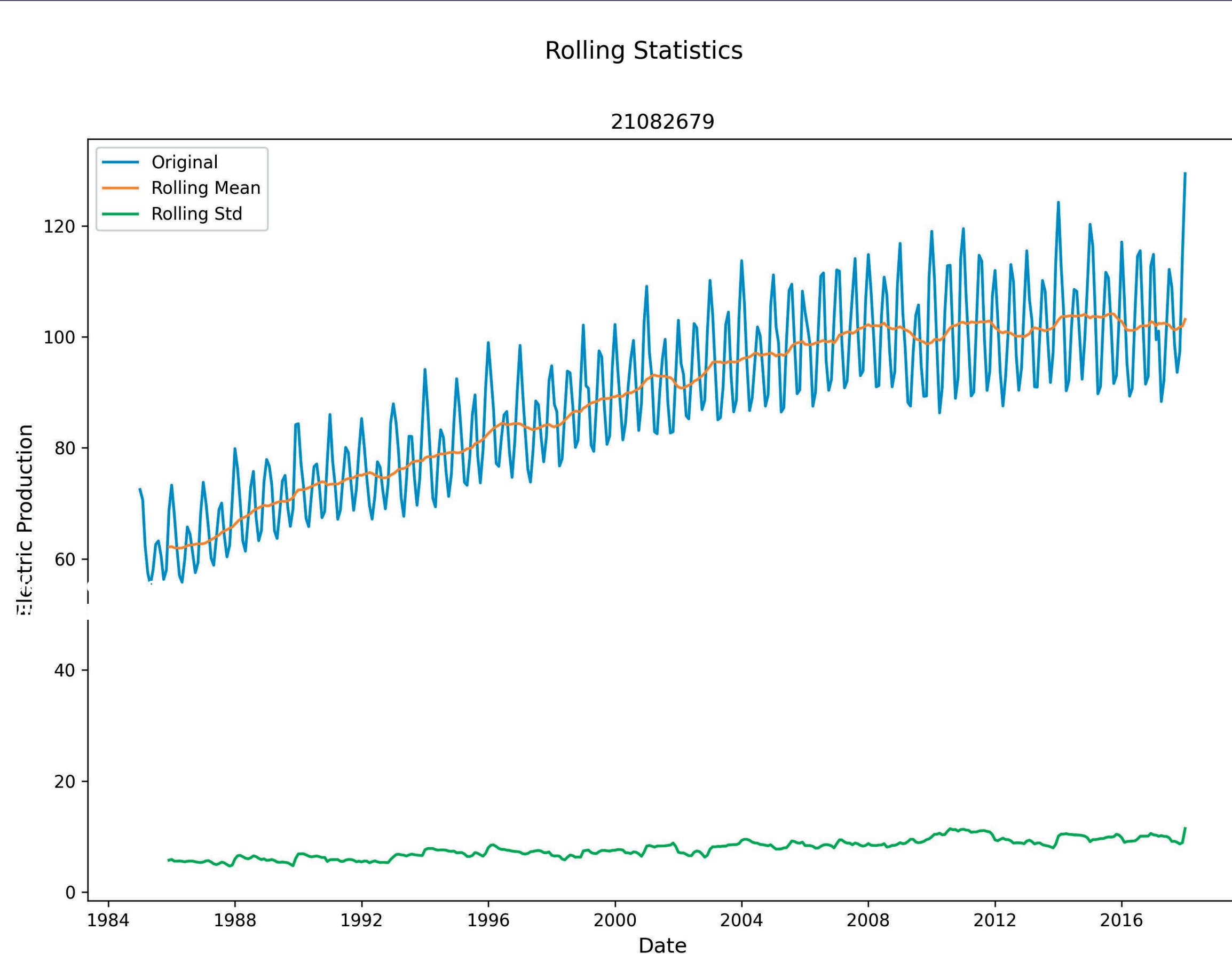
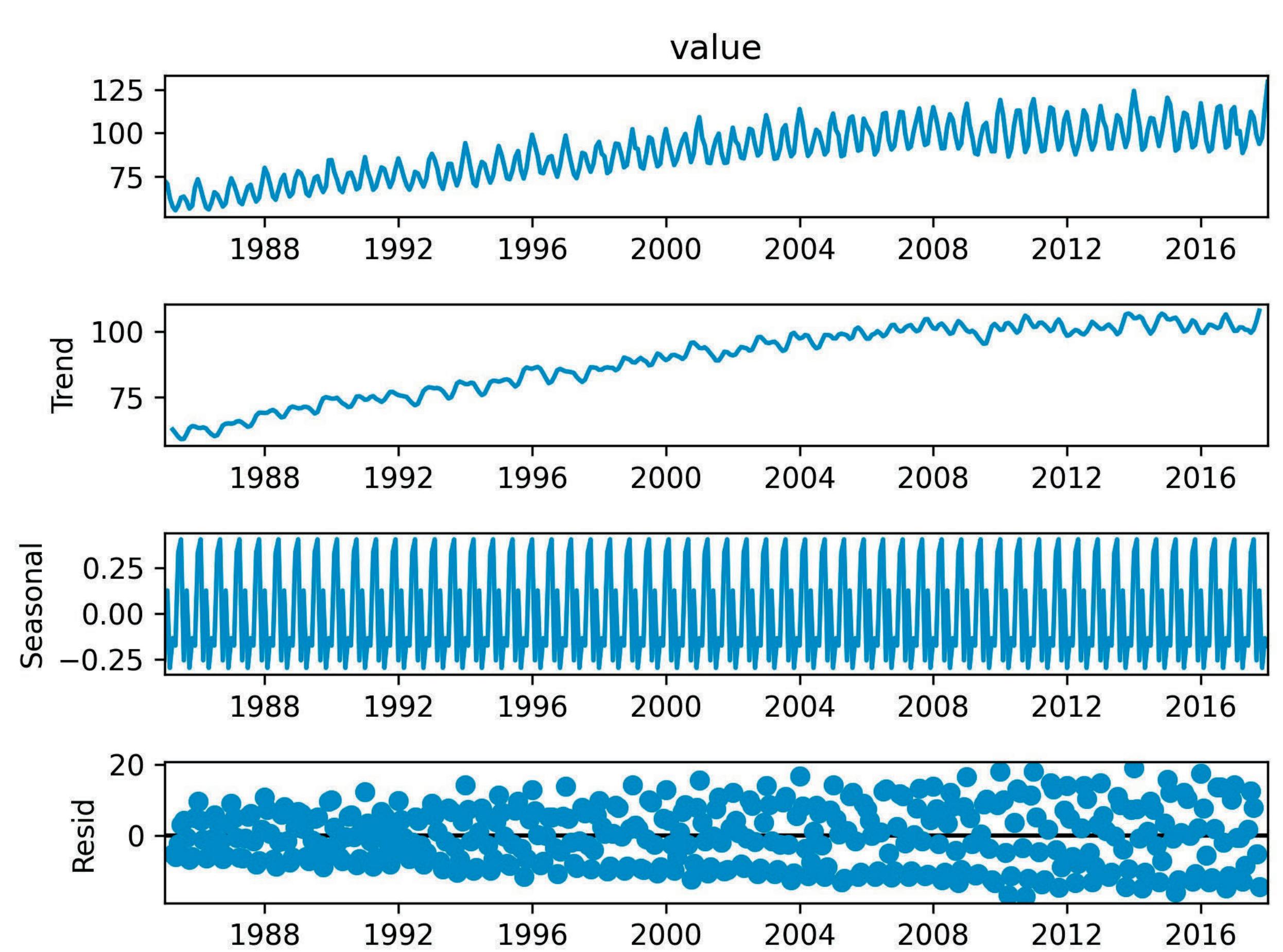
To calculate the clusters we use the Cluster tools file and some SK-Learn functions. To Calculate the trend we use the Seasonal decomposition Method.

Results

We find out that the countries are more likely to produce the electricity on there on and then sell the excess amount to increase money stream.

Analysis

In the starting, I have imported all the libraries to be used in the analysis and then clean the dataset. Then i find out the trend using the Seasonal Decomposition method and find that the trend of producing the electricity is going up with a good increase in the slope as the years are passing by. Then to calculate the clusters, we use the K-mean Clustering method of SK-Learn library to calculate useful insights and find that the good number of clusters are 3.



Conclusion

After the analysis, we found that the trend of producing the electricity is going up because they the countries wants to collect money by selling to those which are not able to produce electricity on there on. And in the clusters finding we can see that the best number of clusters are Three.