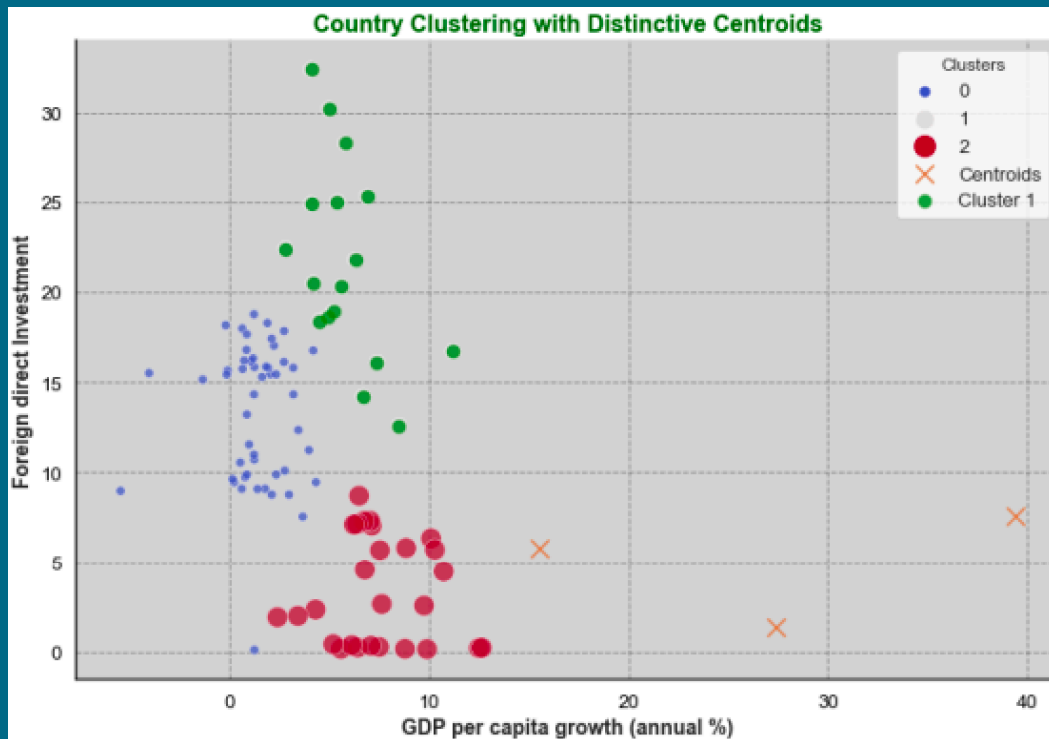# Foreign Direct Investment & GDP: Unraveling Trends, Comparisons, and Future

Introduction

Foreign direct investment (FDI) plays a pivotal role in shaping a nation's economic landscape, influencing GDP growth . This study employs a comprehensive methodology, utilizing KMeans clustering, to categorize countries based on economic and environmental indicators. The ensuing scatter plot offers a visual representation of the clusters, unraveling the intricate relationship between GDP per capita growth and FDI. Through curve fitting and predictive modeling, we delve into future FDI trends globally and focus on specific countries–China, Pakistan, Canada, and Australia. This exploration aims to provide a nuanced understanding of the dynamic interplay between economic development and environmental impact, offering valuable insights for informed policy decisions and sustainable development strategies.

Scatter Plot to Show Clustring

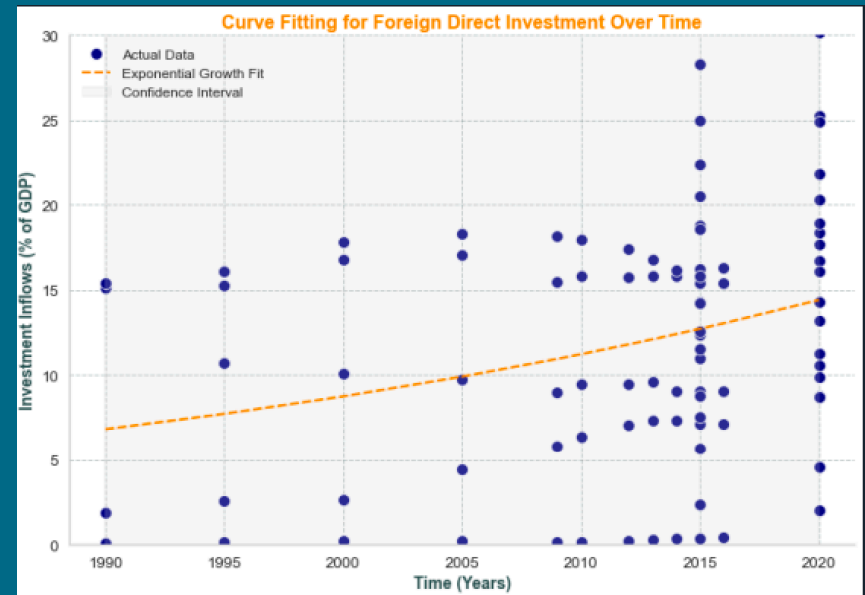Country Clustering with Distinctive Centroids

Our analysis used KMeans clustering to categorize countries based on GDP per capita growth and foreign direct investment. The resulting scatter plot visually captures the nuanced relationship between economic development and foreign investment, offering valuable insights into global economic dynamics
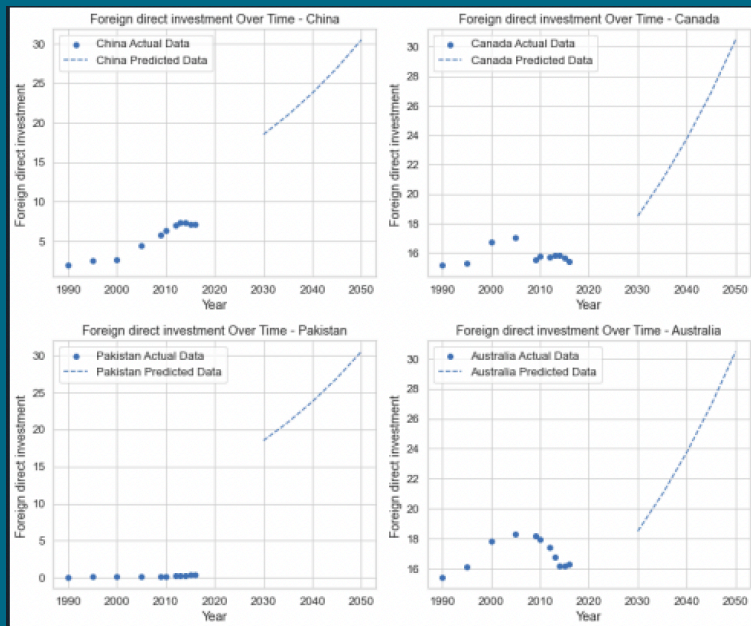
We analyzed FDI trends using an exponential growth model from 1990 to 2020, revealing insightful patterns. The confidence interval enhances the reliability of our predictions, providing a valuable tool for policymakers and analysts.

Scatter Plot to show Fitting

Curve Fitting for Foreign Direct Investment Over Time

Sub Plot with Foreign Domestic Investment of four

Analyzing China, Pakistan, Canada, and Australia, our study compares past and predicted future FDI using scatter plots. This visual approach aids stakeholder decision-making by presenting real-time and projected