

APPLIED DATA SCIENCE 1

ASSIGNMENT 2: **STATISTICS AND TRENDS**

WORLD BANK DATA RECORDS

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ABSTRACT:

As per this analysis, there are World Bank Records from various countries in the world. From given indicators as forest area, GDP growth, unemployment, water productivity, total population, net migration, current health expenditure, and domestic general government expenditure, showed their impact on the development of the world. Using the Python libraries for data manipulation and visualisation, including Pandas, NumPy, SciPy, Matplotlib, and Seaborn.

GitHub Repository: https://github.com/kduvvari/ADS_Assignment2.git

Dataset Link: <https://data.worldbank.org/topic/climate-change>

World Bank Data records

The following analysis shows the records of World Bank data from different countries, according to given indicators, and their impact on various countries' economic development and various developments in the world based on these indicators.

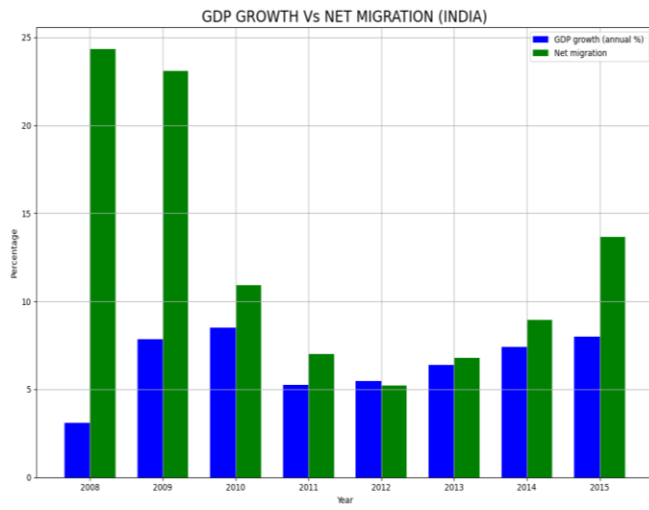


Fig.1 GDP growth vs Net migration

Visual Analysis 1:

The above analysis of the bar graph implies the net GDP growth vs net migration of India. Here it shows that the net migration percentage in India is greater than the GDP growth. But in 2012, GDP growth was higher than net migration.

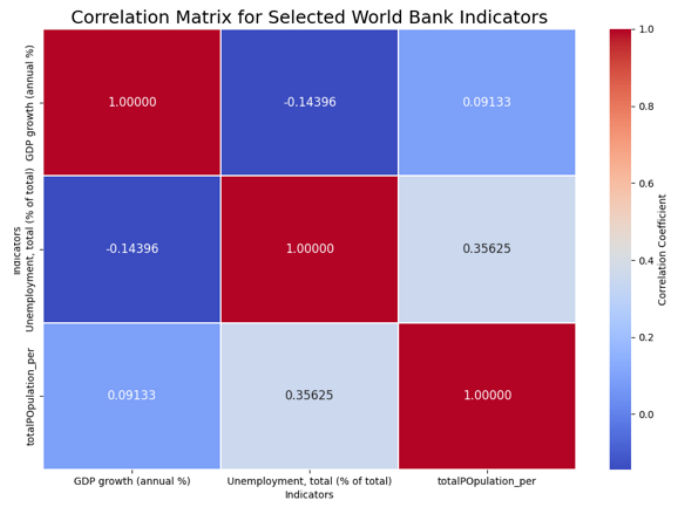


Fig.2 Correlation between GDP growth, unemployment, and total population

Visual Analysis 2:

Above, we used a correlation matrix to analyze the relationship between these three indicators. Here it says that when the population increases, GDP also increases, as it has a positive correlation. It shows that when GDP increases, then there is a good economy in the country. Also, it shows unemployment and GDP are inversely proportional; there is a negative correlation.

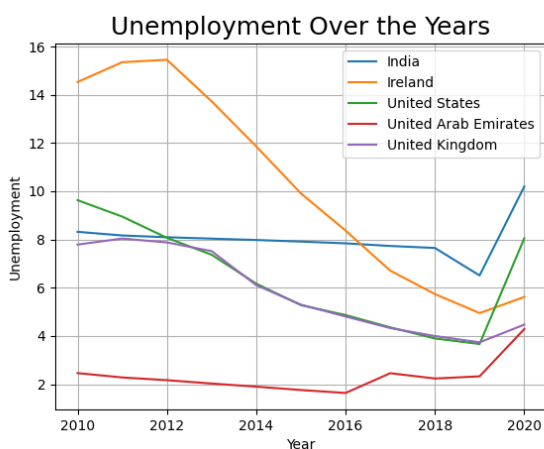


Fig.3 Unemployment from 2010-2020

Visual Analysis 3:

The above graph shows unemployment in India, Ireland, the United States, the United Arab Emirates, and the United Kingdom from 2010 to 2020. For India, unemployment ranges from around 8 to around 7%, then increases to 10%. For Ireland, it was high till 2012 and then decreased to around 7% in 2020. For the United States, the percentage decreased gradually until 2018 and then increased in 2020. The United Arab Emirates has the lowest unemployment rate compared to other countries, and it increased in 2020 by 4-5%. For the United Kingdom, it decreased from 8% to around 4-5% in the years 2010 to 2020.

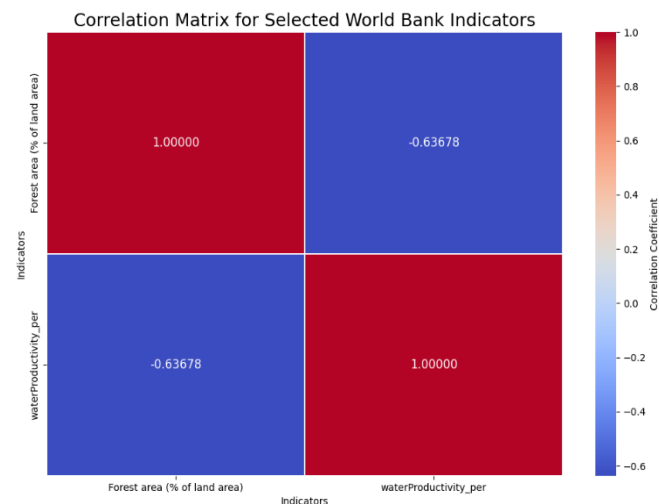


Fig.4 Correlation between Forest Area and Water Productivity.

Visual Analysis 4:

The above heat map shows the correlation between the indicators of forest area and water productivity in the countries across the various countries given. Here we can see a negative correlation and observe that forest area is inversely proportional to water productivity.

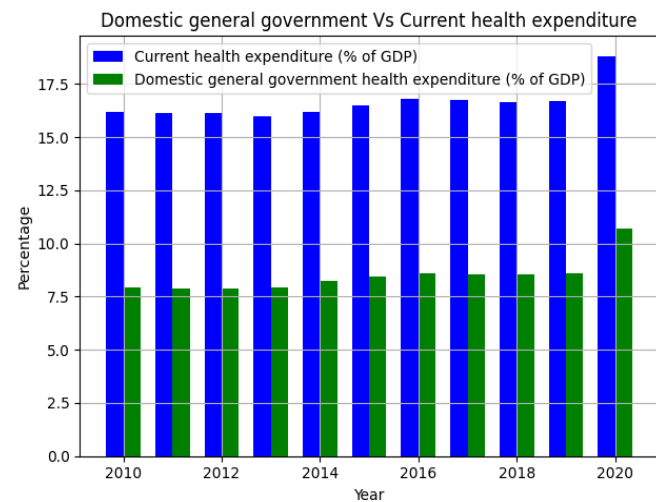


Fig.5 Current Health Expenditure and Domestic General Government Health Expenditure.

Visual Analysis 5:

The above analysis of the bar graph shows the relation between current health expenditure and domestic general government health expenditure percentages from 2010 to 2020 across the world. It shows that the current health expenditure is always higher than the domestic general government health expenditure percentage.

Domestic general government health expenditure (% of GDP)

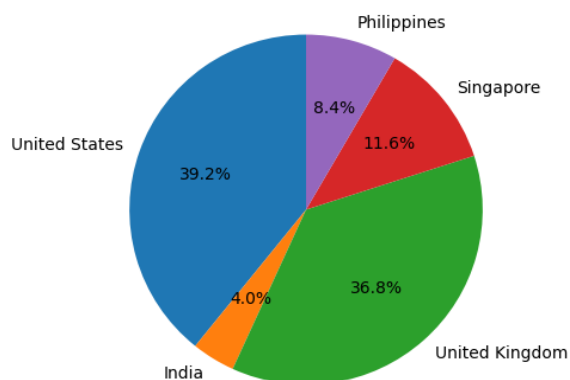


Fig.6 Domestic General Government Health Expenditure.

Visual Analysis 6:

The above analysis of the pie chart shows the domestic general government health expenditures of the United States, India, the Philippines, Singapore, and the United Kingdom. India has the lowest percentage compared to other countries and the United States has the highest percentage.

Conclusion:

Here we conclude that effects of indicators such as domestic general government health expenditure, current health expenditure and domestic general government health expenditure, relation between forest area and water productivity, unemployment, GDP growth vs net migration and relation between GDP growth, world population and unemployment on world bank data and representing their development.