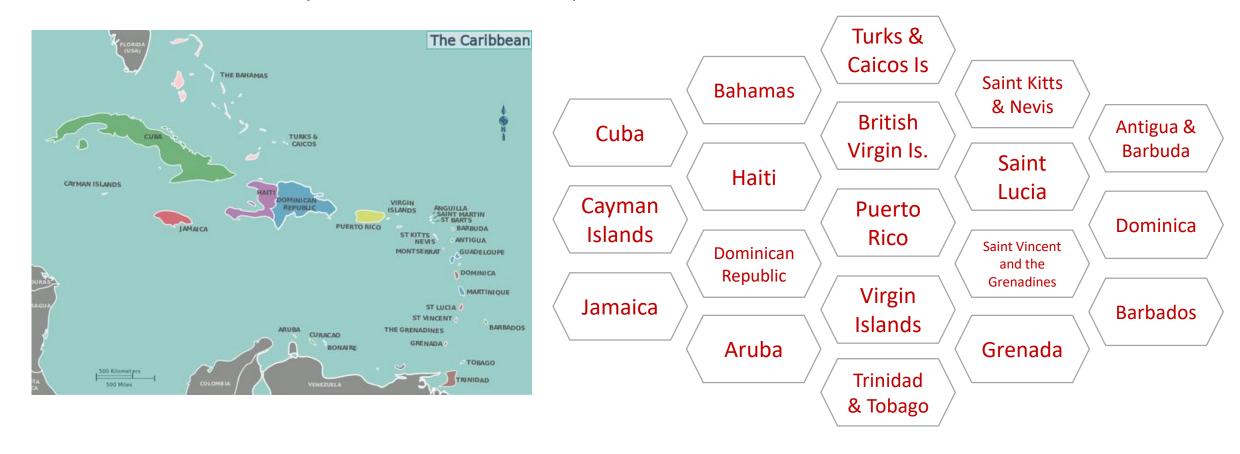


WORLD DATA

Caribbean Islands & Parts of Latin America

The Caribbean & Part of Latin America is a region of the Americas that consists of the Caribbean Sea, its islands and the surrounding coasts. This region is southeast of the Gulf of Mexico and the North American mainland, east of Central America, and north of South America.



Exploratory Data Analysis



- 1) Importing of Data using Pandas
- 2) Filtering Data for the assigned region i.e. "Caribbean Islands and Part of Latin America"
- 3) Preparing summary of missing data
- 4) Flagging missing data
- 5) Structuring strategy to handle missing data
 - Removing data
 - Imputing data found from external sources
 - Imputing data with the median
- 6) Identifying outliers
- 7) Computing correlation on the dataset

Missing Value Strategy

We computed the descriptive statistics of all variables, plotted histograms and performed research on external sources to conclude our strategy on the missing values

Removing Data

- Identified 28 variables with missing data for 11 – 19 countries out of a total of 19 countries
- Noted that for 22 variables such data was not available for 75% other countries as well
- For 2 variables 'Armed forces' and 'Military Expenses' it was noted that for 13 countries with missing data, military is the responsibility of the UK, the US or the RSS.
- It is unrealistic to impute missing data if only 30% countries have reported data

Imputing with data found on external sources

- In the category "Population" we found that the same five countries had missing data consistently.
- These five countries turned out to be the countries with the smallest populations in our region.
- We found data on these five countries on the World Factbook, and decided that the data was usable.
- We flagged that it was initially missing before imputing with the values found.

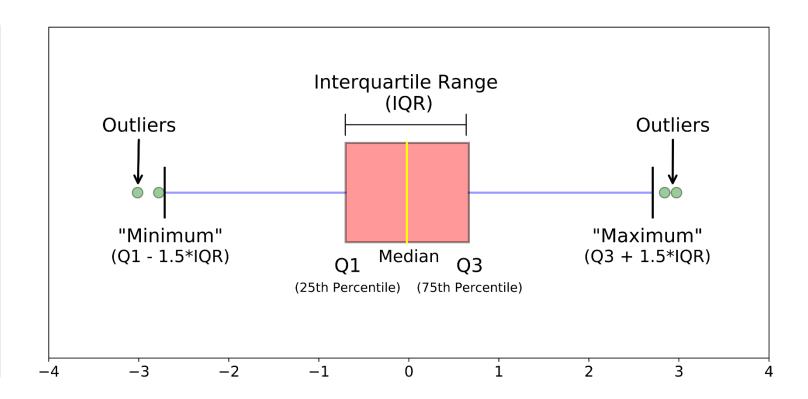
Imputing with Median

For 13
 variables it
 was
 concluded
 that missing
 data should
 be imputed
 with
 median

Potential Outliers

 For variables with IQR as 0, we used a more visual (histograms and boxplots) method for finding outliers.

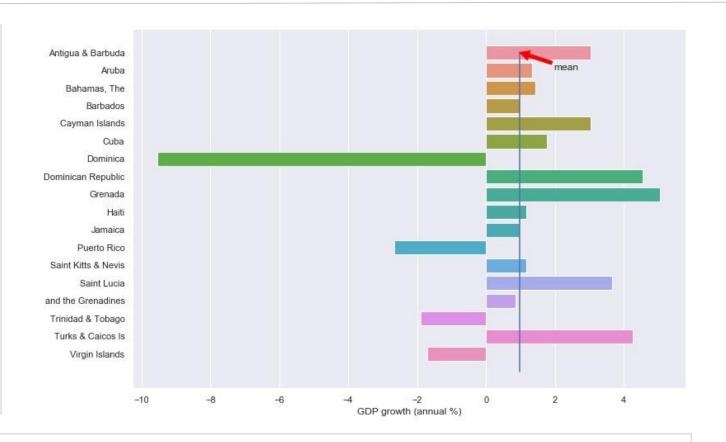
 Outliers were noted in 31 out of the 36 variables we are looking at



Strategy used for identifying outliers in python

GDP Growth %

- Dominica, Puerto Rico, Trinidad & Tobago and Virgin Islands reflected negative GDP in 2017
- The primary reason for the fall of GDP growth rate in these countries was Hurricane Maria which destroyed the country's agricultural sector, transportation and infrastructure in September 2017.



On computing the GDP per capita, we noted that **Haiti** reflects GDP per capita as low as \$ 765 per person. It is the lowest in the whole of America. Haiti's economy suffered severe setback by the impact of 2010 earthquake.

Haiti: Lowest GDP per capita

- High rate reflecting higher young & dependent population
- Haiti is an outlier for prevalence of undernourish ment globally

Age Dependency Ratio (young): 54.64% of working age

Population ages 0 - 14:

33.62% of total population

Prevalence of undernourishment: 49.3% of population

Life expectancy at birth: 63.29

- High rate leading to increase in population
- Highest in the region for birth rate and fertility rate

Birth Rate: 24.75 per 1000 people

Fertility Rate: 2.99 per woman

Adolescent Fertility Rate: 51.68 per 1000 women

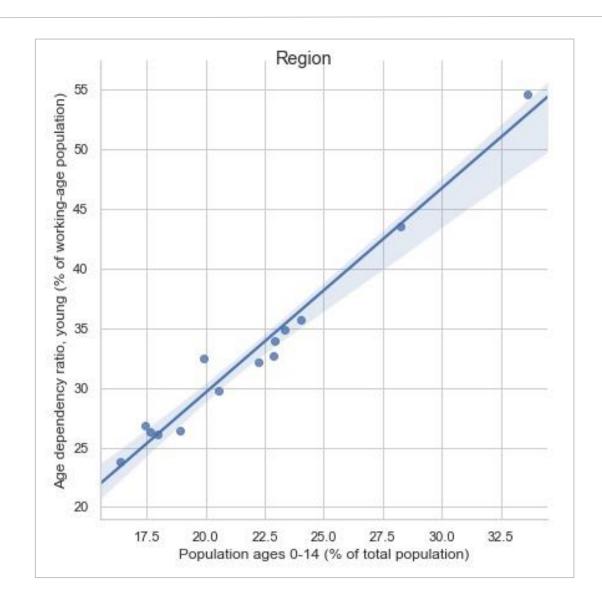
Employment in Agriculture: 49.79% of total employment

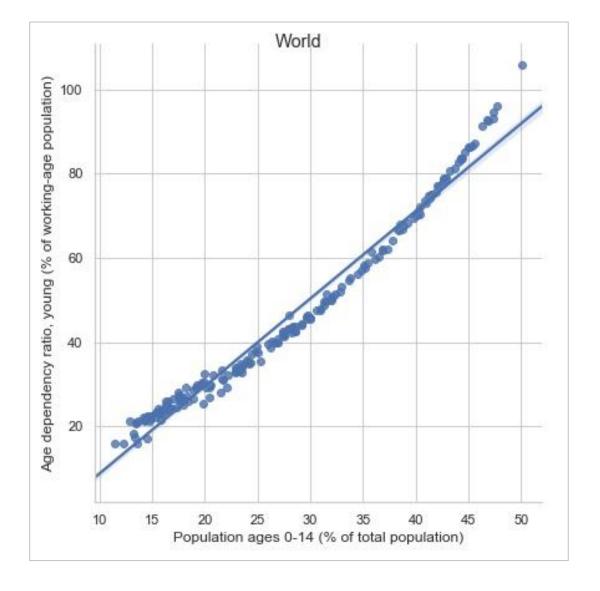
However, contributes to only one quarter of the GDP

Access to Electricity: 43.75% of population

Outlier for the region as well as other regions

Correlation

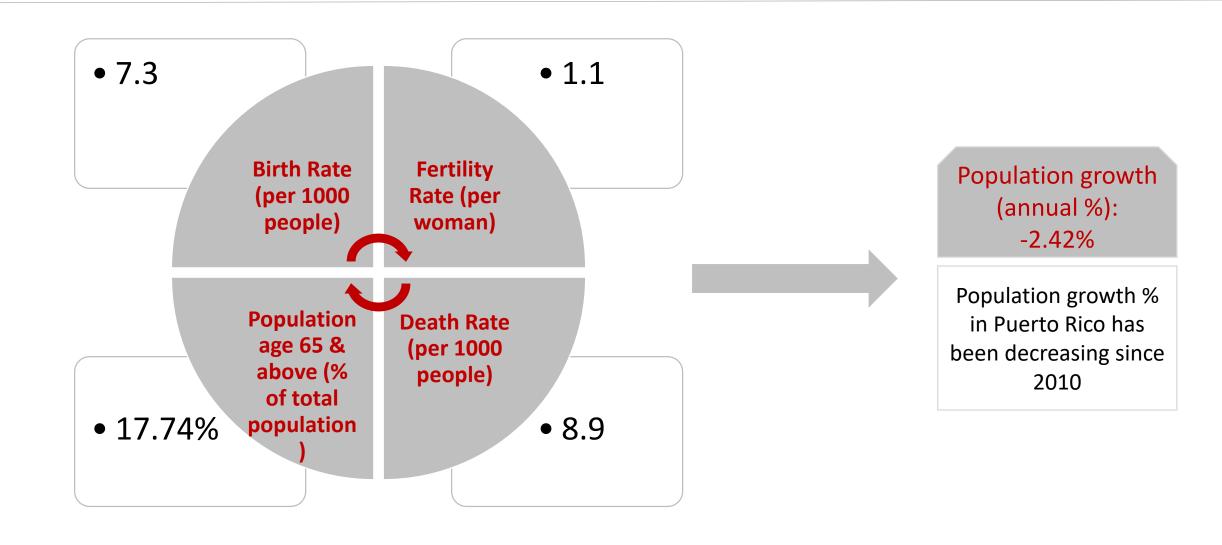




Population Density

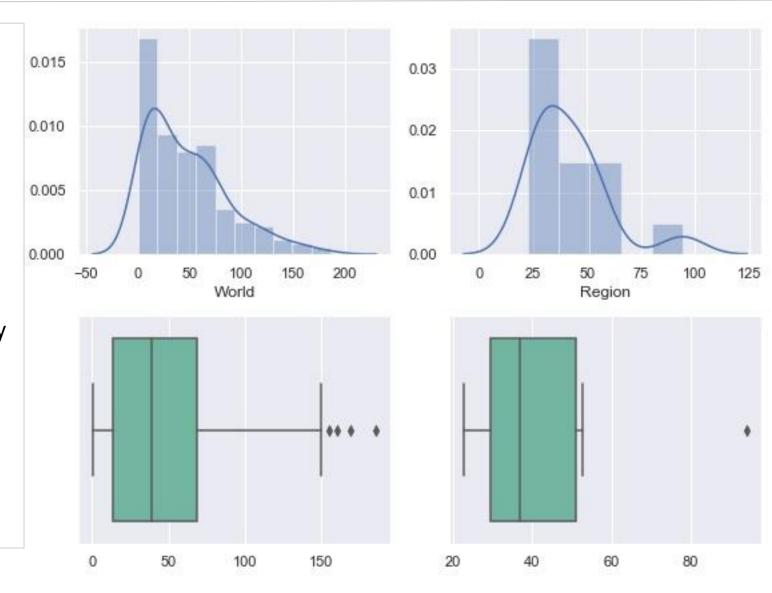
- Cuba, Dominican Republic and Haiti have the highest population in the region. However, Barbados and Aruba
 are outliers with very high population density.
- Barbados has an estimated population of 286,233 across 430 square kilometer with a density of 665 people per square kilometer.
- Aruba has an estimated population of 105,366 across 180 square kilometer with a density of 685 people per square kilometer.
- It is interesting to note that Barbados and Aruba are 2nd and 3rd (respectively) most densely populated country in America while they rank as 15th and 18th (respectively) most densely populated country globally.
- The birth rate (per 1000 women) for Barbados and Aruba was higher in the 1950s and has been gradually decreasing.
- Historically, Aruba saw a lot of immigration in the 1990s. The government of Aruba has passed a legislation to stop immigration at a certain level.

Puerto Rico: Negative Population Growth

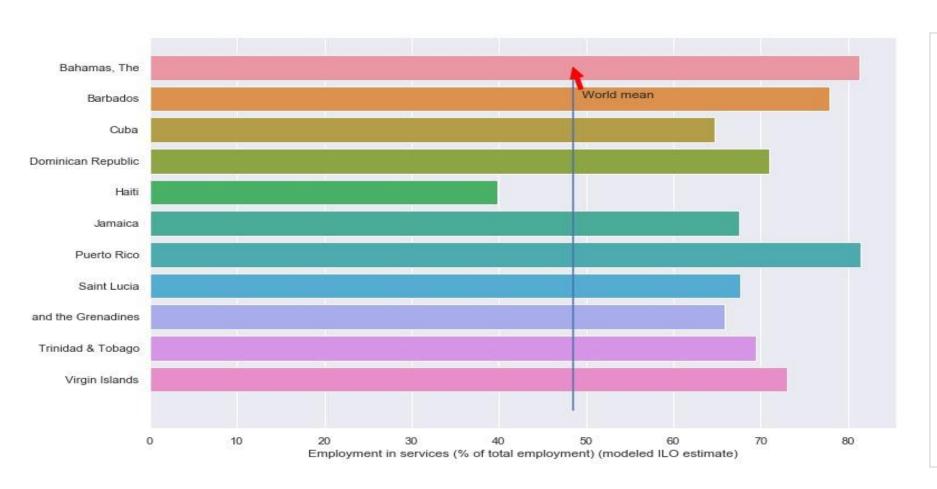


Adolescent Fertility Rate (births per 1,000 women ages 15-19)

- Dominican Republic is an outlier for the region of Caribbean Island & Part of Latin America with adolescent fertility rate as high as 94.26 births per 1000 women.
- It also has the highest adolescent fertility rate in the whole of America
- The reason for such high adolescent fertility rate is the median age of marriage in the country which is 18.8 and median age of first birth which is 20.6



Employment in Services



- 13 out of 19 countries in the region are tax haven countries
- 10 countries are members of "Common Wealth"

Did You Know?





THANK YOU



Reference List

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