

QTM350 Assinment5: World Development Indicators Dataset(2020) Analysis

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Question 3: Conduct exploratory data analysis on at least three indicators:

	gdp_per_capita	inflation_rate	unemployment_rate
count	203.000000	169.000000	186.000000
mean	20345.707649	12.493936	7.268661
std	31308.942225	19.682433	5.827726
min	259.025031	-6.687321	0.130000
25%	2570.563284	5.518129	3.500750
50%	7587.588173	7.967574	5.537500
75%	25982.630050	11.665567	9.455250
max	240862.182448	171.205491	37.852000

From the output above, we can see that for all countries, the mean GDP is 20345, with a minimum value 259.02. The median GDP for all countries is 7587.58, while the largest GDP is 240862.18.

For inflation rate, the mean inflation is 12.49, with a standard deviation of 19.682. Among all countries, the lowest inflation is -6.68, the median inflation is 5.51, and the largest inflation is 171.205.

For the unemployment rate, the average unemployment rate is 7.26%, with a 5.82 standard deviation. The lowest unemployment rate among all is 0.13%, the average unemployment rate is 5.53%, and the largest unemployment rate is 37.8%.

Calculate the Correlation between life expectancy and GDP per capita

Pearson correlation coefficient: 0.64

It turns out that the correlation coefficient is 0.64, which is quite strong, we will look this further through the graphs.

Question 4: Create at least two different types of plots to represent the analysis.

Top 10 Countries by GDP per Capita

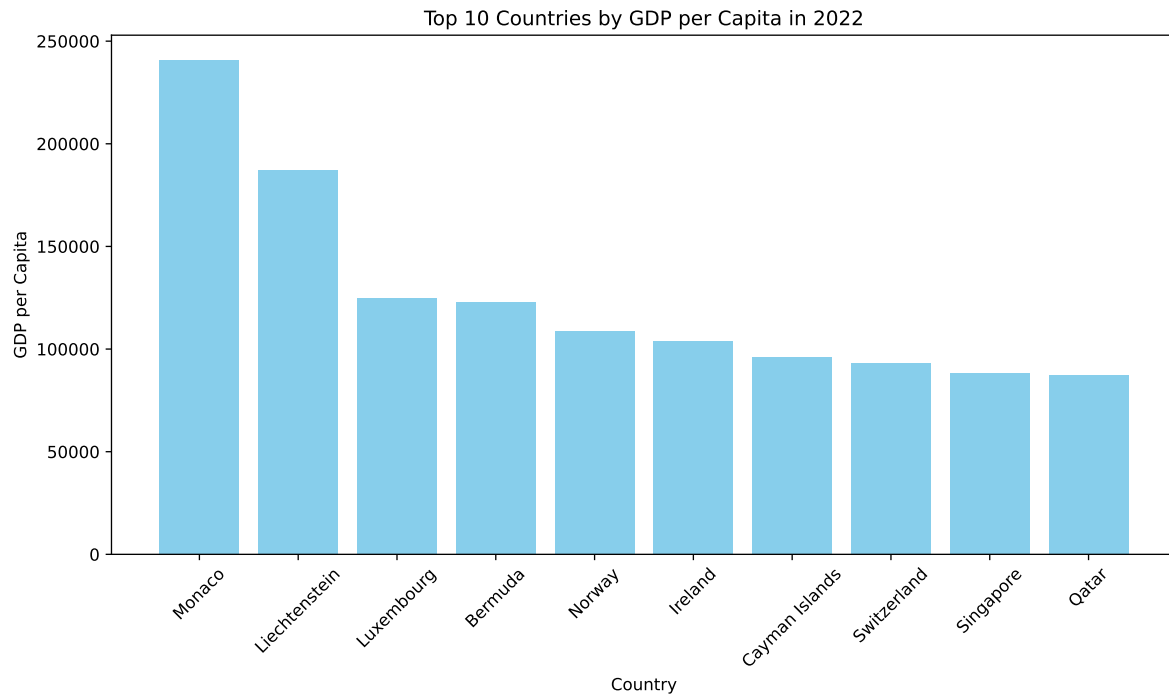


Figure 1: Top 10 Countries by GDP per Capita in 2022

Life Expectancy vs. GDP per Capita

Question 5: Key Statistics Table

Table 2: Key Statistics of Selected Indicators

	gdp_per_capita	life_expectancy	unemployment_rate
mean	20345.71	72.42	7.27
median	7587.59	73.51	5.54
std	31308.94	7.71	5.83

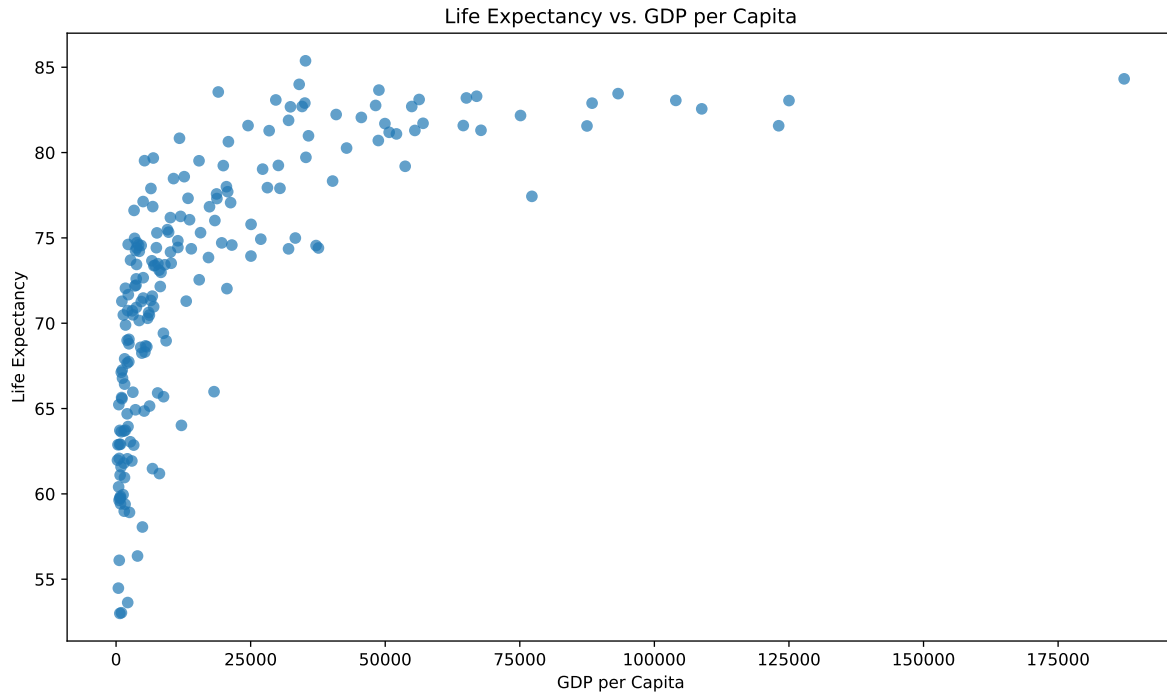


Figure 2: Life Expectancy vs. GDP per Capita

As shown in **Figure @fig-gdp-bar**, the country with the highest GDP per capita is
Refer to **Table @tbl-key-stats** for a summary of key statistics.

Conclusion:

For contries, there is a quite strong positive correlatio between life expectancy and GDP per Capita.

This theory is also supported by the paper referenced. (Goran Miladinov)