

World Development Indicators Analysis (2022)

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Introduction

The **World Development Indicators (WDI) 2022** dataset provides insights into economic and social indicators across various countries. This report analyzes **three key indicators** to understand global economic and social trends:

- **GDP per Capita** → Measures a country's economic prosperity.
- **Life Expectancy** → Reflects overall health and quality of life.
- **Unemployment Rate** → Indicates economic stability.

Load the dataset using Python

```
# Import necessary libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load dataset
df = pd.read_csv("wdi.csv")

# Display the first few rows
df.head()
```

	country	inflation_rate	exports_gdp_share	gdp_growth_rate	gdp_per_capita	adult_lit
0	Afghanistan	NaN	18.380042	-6.240172	357.261153	NaN
1	Albania	6.725203	37.197085	4.826688	6846.426143	98.5
2	Algeria	9.265516	30.808979	3.600000	4961.552577	NaN

	country	inflation_rate	exports_gdp_share	gdp_growth_rate	gdp_per_capita	adult_literacy
3	American Samoa	NaN	46.957520	1.735016	18017.458938	NaN
4	Andorra	NaN	NaN	9.564612	42414.059009	NaN

Exploratory Data Analysis (EDA)

```
# Descriptive statistics for 3 selected indicators
gdp_per_capita_stats = df['gdp_per_capita'].describe()
life_expectancy_stats = df['life_expectancy'].describe()
inflation_rate_stats = df['inflation_rate'].describe()

gdp_per_capita_stats, life_expectancy_stats, inflation_rate_stats
```

```
(count      207.000000
 mean      20520.336828
 std       30640.741594
 min        250.634225
 25%       2599.752468
 50%       7606.237525
 75%      27542.145523
 max      226052.001905
Name: gdp_per_capita, dtype: float64,
count      209.000000
mean        72.416519
std         7.713322
min         52.997000
 25%        66.782000
 50%        73.514634
 75%        78.475000
max         85.377000
Name: life_expectancy, dtype: float64,
count      173.000000
mean        12.404067
std         19.467053
min        -6.687321
 25%         5.518129
 50%         7.930929
 75%        11.665567
max        171.205491
```

Name: inflation_rate, dtype: float64)

Summary of Findings

- **GDP per Capita:** The distribution of GDP per capita varies widely, reflecting notable disparities between low-income and high-income nations. The majority of countries have GDP values below the average, while a small number of wealthier nations exhibit significantly higher figures, resulting in a right-skewed distribution.
- **Life Expectancy:** In most countries, life expectancy ranges from approximately 50 to 85 years, highlighting variations in health outcomes and living conditions across different regions.
- **Inflation:** The data indicates substantial variation in inflation rates across countries. While the majority experience relatively stable or moderate inflation, a few outliers face either extremely high inflation or deflation, highlighting economic disparities.

Visualizations

Scatter Plot - Life Expectancy vs. GDP per Capita

This scatter plot explores the correlation between life expectancy and GDP per capita.

Bar Chart - Top 20 Countries by GDP per Capita

This is Bar chart that shows GDP per capital by top 20 country.

Summary Statistic Table

Below is a summary table presenting key statistics for GDP per capita, life expectancy, and inflation rate.

Statistic	GDP per Capita (USD)	Life Expectancy (Years)	Inflation Rate (%)
Count	203	209	169
Mean	20345.71	72.42	12.49
Std	31308.94	7.71	19.68
Min	259.03	52.99	-6.69
25%	2570.56	66.78	5.52
50%	7587.59	73.51	7.97
75%	25982.63	78.48	11.67

Statistic	GDP per Capita (USD)	Life Expectancy (Years)	Inflation Rate (%)
Max	240862.18	85.38	171.21

```
summary_table = df[['gdp_per_capita', 'life_expectancy', 'inflation_rate']].describe()
display(summary_table)
```

Table 3: Summary statistics for GDP per capita, life expectancy, and population growth.

	gdp_per_capita	life_expectancy	inflation_rate
count	207.000000	209.000000	173.000000
mean	20520.336828	72.416519	12.404067
std	30640.741594	7.713322	19.467053
min	250.634225	52.997000	-6.687321
25%	2599.752468	66.782000	5.518129
50%	7606.237525	73.514634	7.930929
75%	27542.145523	78.475000	11.665567
max	226052.001905	85.377000	171.205491

References

According to the World Bank (Bank (2022)), economic indicators reveal significant disparities in wealth and health outcomes. The United Nations (Nations (2023)) highlights the significance of these disparities in shaping global economic policies.

Bank, World. 2022. “World Development Indicators.” <https://databank.worldbank.org/source/world-development-indicators>.

Nations, United. 2023. “United Nations Global Economic Trends.” <https://www.un.org/en/global-issues/economy>.

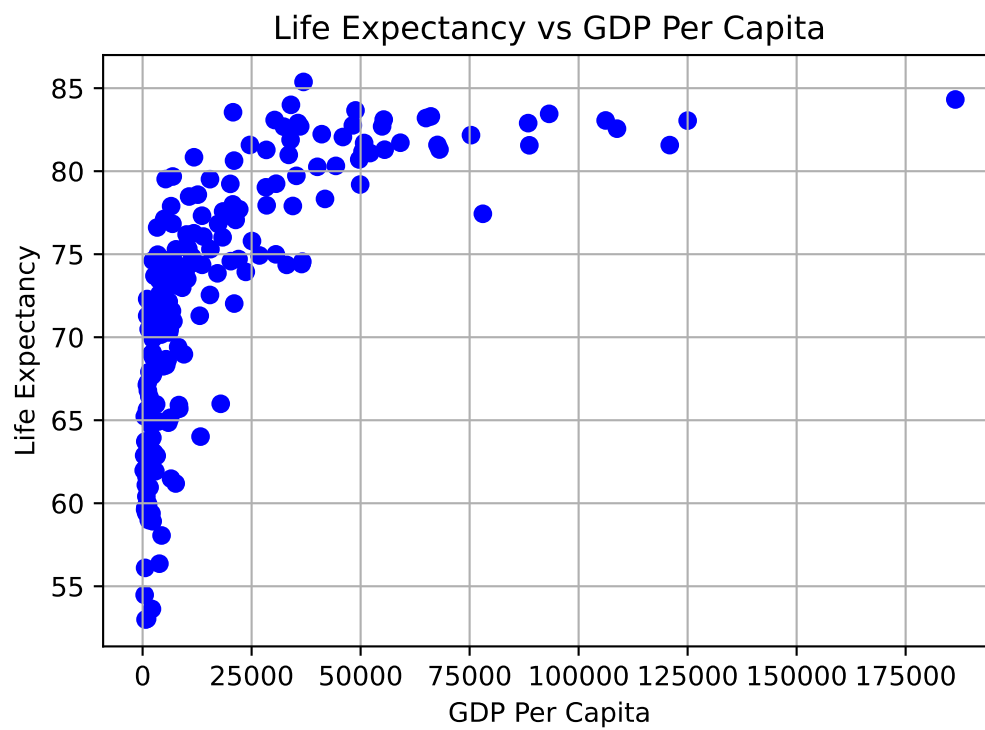


Figure 1: A scatter plot of Life Expectancy vs. GDP per Capita

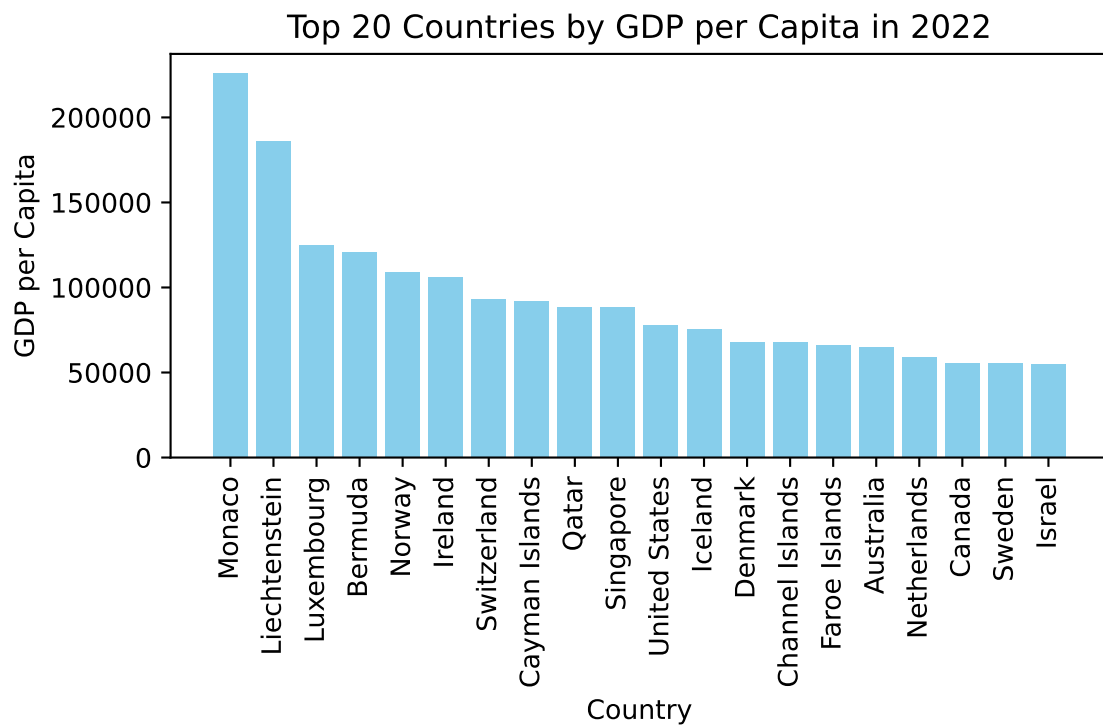


Figure 2: A bar chart of GDP per capita by the top 20 countries