World Bank Data Analysis Presentation

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```python
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np
df = pd.read_csv("wdi.csv")
```

Introduction

World Bank Data Analysis

- Analyzing key economic indicators
- Understanding trends across different countries
- Data sourced from World Bank Indicators dataset (Smith 2020)

GDP per Capita Distribution

Key Insights

- Figure shows the variation in GDP per capita.
- Significant disparities exist among different nations.

```python
import matplotlib.pyplot as plt
plt.hist(df["gdp_per_capita"].dropna(), bins=30, color="blue", alpha=0.7)
plt.title("GDP per Capita Distribution")
plt.xlabel("GDP per Capita")
plt.ylabel("Count")
plt.show()
```
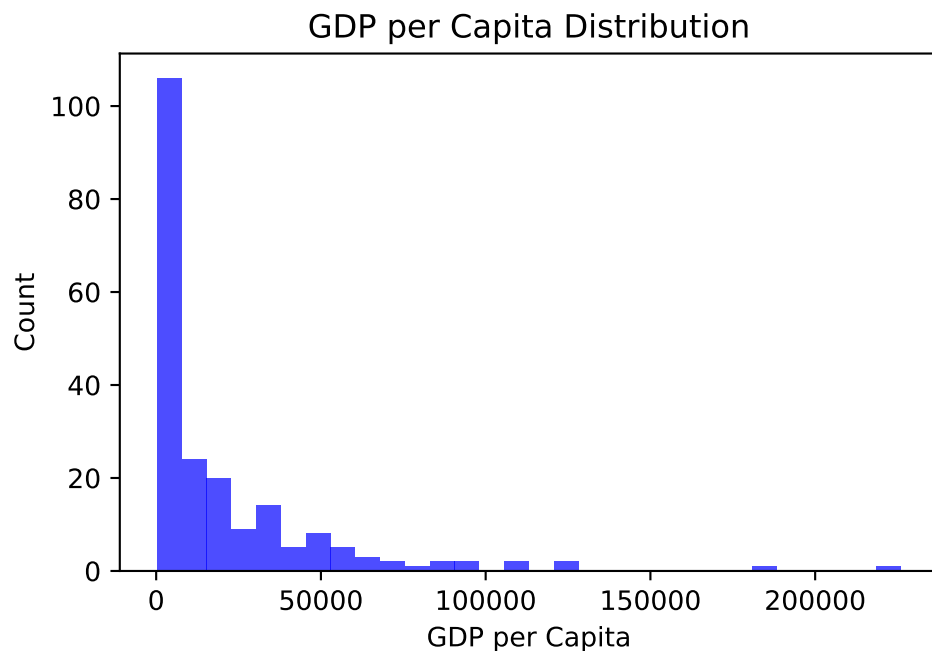
GDP per Capita Distribution

Figure 1: A histogram showing the distribution of GDP per capita across countries.

Inflation vs GDP Growth

Key Insights

- Figure displays the relationship between inflation rates and GDP growth rates.
- No clear trend across all countries.

```
plt.scatter(df["inflation_rate"], df["gdp_growth_rate"], color="red", alpha=0.6)
plt.title("Inflation Rate vs GDP Growth Rate")
plt.xlabel("Inflation Rate (%)")
plt.ylabel("GDP Growth Rate (%)")
plt.show()
```
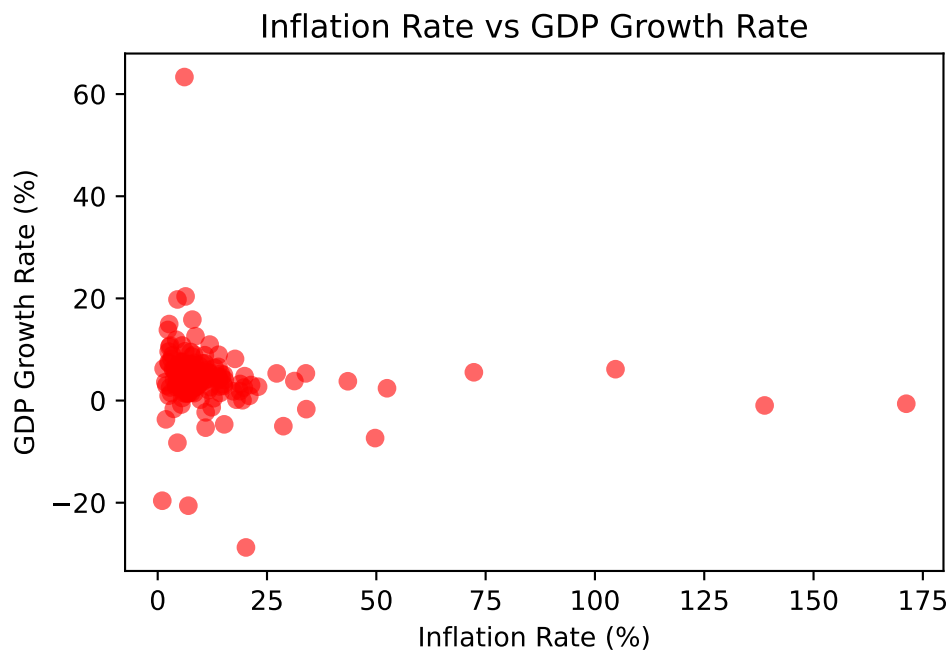
Figure 2: A scatter plot showing inflation rates vs GDP growth rates.

Health Expenditure & Life Expectancy

Key Insights

- Figure illustrates the correlation between health spending and life expectancy.
- Countries spending more on healthcare tend to have higher life expectancies.

```python
plt.scatter(df["health_expenditure_gdp_share"], df["life_expectancy"], color="green", alpha=
plt.title("Health Expenditure vs Life Expectancy")
plt.xlabel("Health Expenditure (% of GDP)")
plt.ylabel("Life Expectancy (Years)")
plt.show()
```
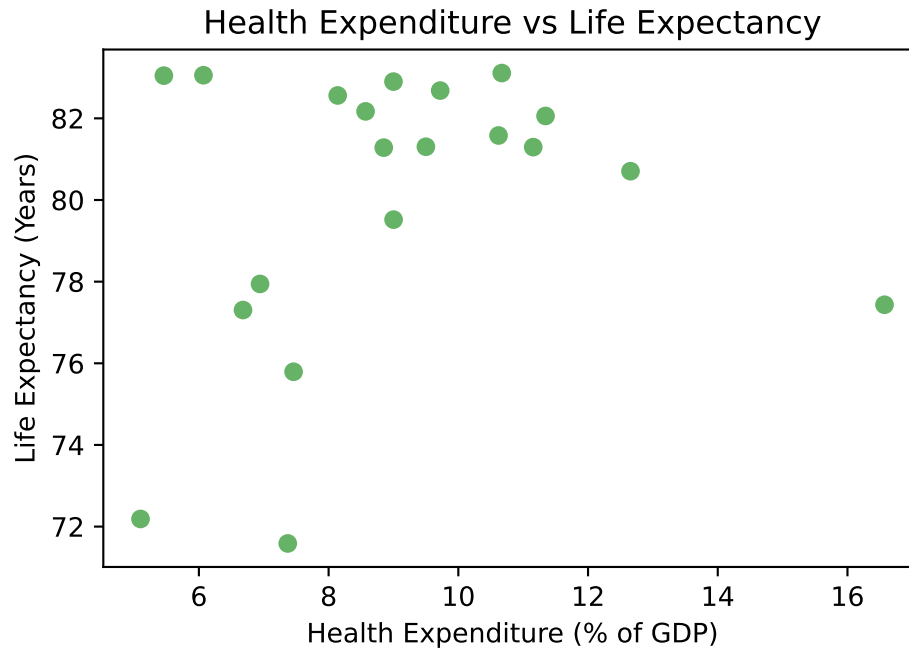
Figure 3: Scatter plot of health expenditure vs life expectancy.

Unemployment & GDP Per Capita

Key Insights

- Figure Figure 4 examines the relationship between unemployment and GDP per capita.
- Countries with lower unemployment often have higher GDP per capita.

```
plt.figure(figsize=(10, 6))
plt.scatter(df["unemployment_rate"], df["gdp_per_capita"], color="purple", alpha=0.6)
plt.title("Unemployment Rate vs GDP per Capita")
plt.xlabel("Unemployment Rate (%)")
plt.ylabel("GDP per Capita")
plt.grid(True)
plt.show()
```
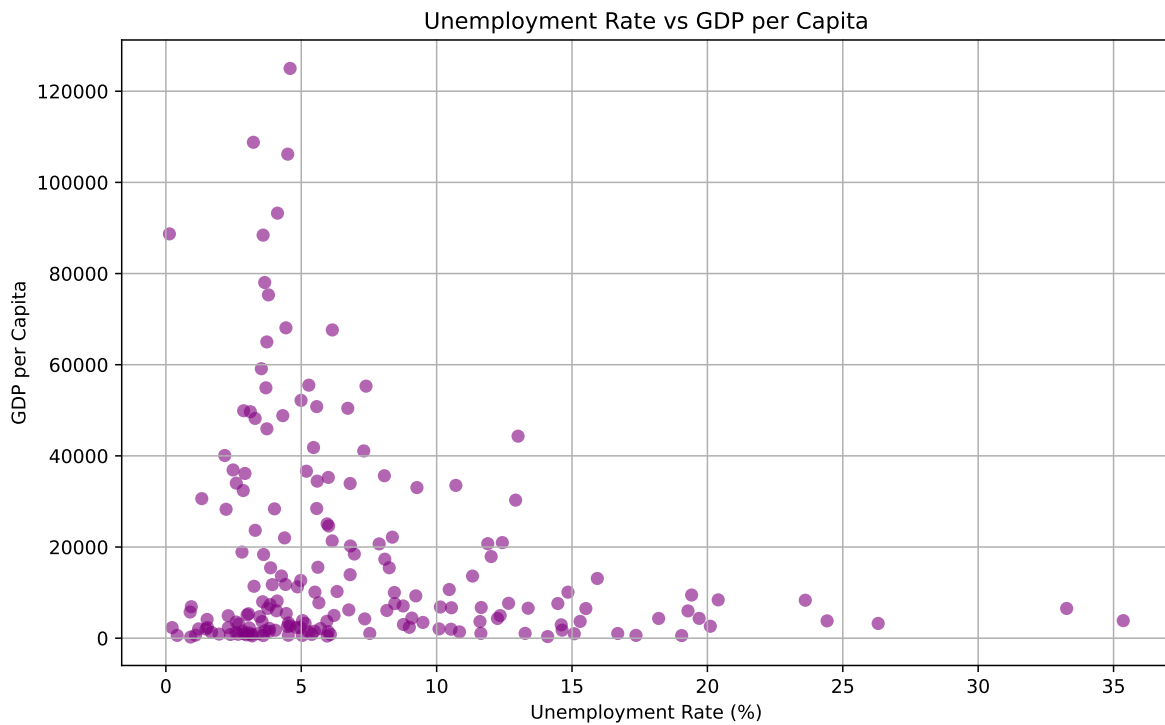
Figure 4: Scatter plot of unemployment rate vs GDP per capita.

Key Statistics

Summary Table

Table (**table-key-stats?**) provides a statistical summary of the dataset.

```
stats_table = df[["gdp_per_capita", "inflation_rate", "gdp_growth_rate", "unemployment_rate"
stats_table
```

	gdp__per__capita	inflation__rate	gdp__growth__rate	unemployment__rate	health__expenditure__gd
count	207.000000	173.000000	206.000000	186.000000	20.000000
mean	20520.336828	12.404067	4.393817	7.227344	9.044045
std	30640.741594	19.467053	6.706923	5.844462	2.703549
min	250.634225	-6.687321	-28.758584	0.130000	5.100000
25%	2599.752468	5.518129	2.545226	3.478000	7.263266

	gdp_per_capita	inflation_rate	gdp_growth_rate	unemployment_rate	health_expenditure_gdp
50%	7606.237525	7.930929	4.213483	5.334000	8.925000
75%	27542.145523	11.665567	6.200000	9.261750	10.632500
max	226052.001905	171.205491	63.334587	35.359000	16.571152

Summary statistics of key economic indicators.

Conclusion

- Economic indicators vary significantly across countries.
- Health expenditure has a positive correlation with life expectancy.
- Inflation and GDP growth exhibit mixed relationships.
- Further research is needed to analyze causation.

Thank you!

Source: Data retrieved from the World Bank Indicators dataset (Bank 2025).

Bank, World. 2025. *World Development Indicators.* The World Bank. https://databank.worldbank.org/source/world-development-indicators.

Smith, John. 2020. "The Impact of Inflation on Economic Growth." *Journal of Economic Studies* 45 (3): 123–45. https://doi.org/10.1000/jec.2020.0045.