Assignment5

Lucy Liu

October 7, 2025

Load Dataset

```python
import pandas as pd
import matplotlib.pyplot as plt
wdi = pd.read_csv("wdi.csv")
print(wdi.columns)
```

```
Index(['country', 'inflation_rate', 'exports_gdp_share', 'gdp_growth_rate',
       'gdp_per_capita', 'adult_literacy_rate',
       'primary_school_enrolment_rate', 'education_expenditure_gdp_share',
       'measles_immunisation_rate', 'health_expenditure_gdp_share',
       'income_inequality', 'unemployment_rate', 'life_expectancy',
       'total_population'],
      dtype='object')
```

Exploratory data analysis

```python
# Calculate average inflation rate
avg_inflation = wdi['inflation_rate'].mean()
print("The average inflation rate is:", avg_inflation)

# Calculate average GDP growth
avg_gdp_growth = wdi['gdp_growth_rate'].mean()
print("The average GDP growth rate is:", avg_gdp_growth)

# Measure the highest unemployment rate
```

```
max_unemployment = wdi['unemployment_rate'].max()
print("The highest unemployment rate is:", max_unemployment)
```

```
The average inflation rate is: 12.296172419354885
The average GDP growth rate is: 4.4714610524165765
The highest unemployment rate is: 35.359
```

Visualizations

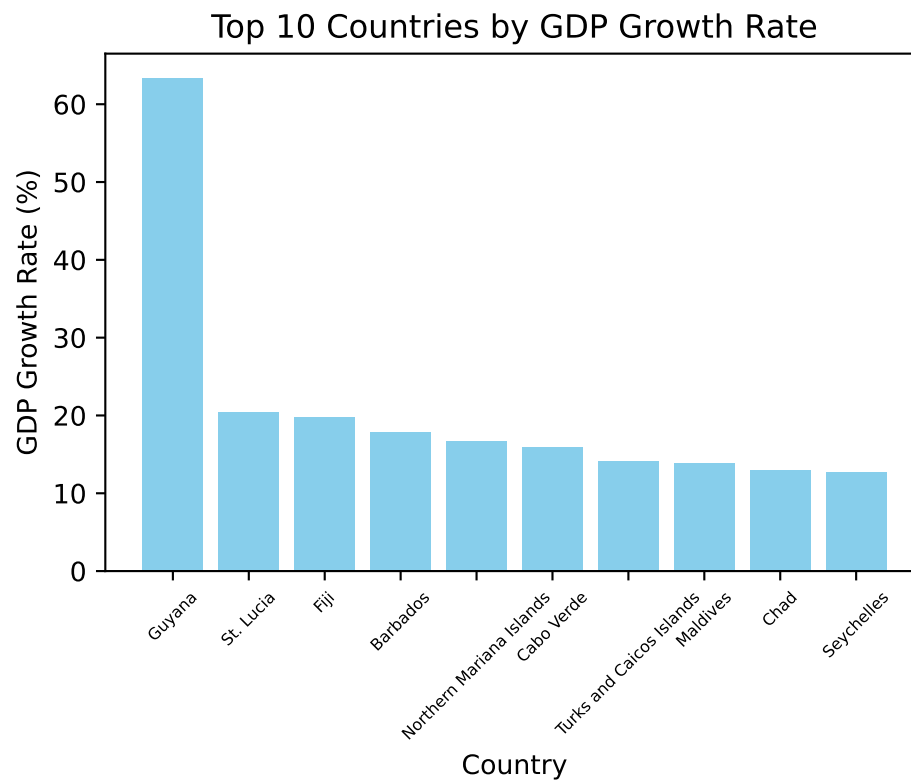
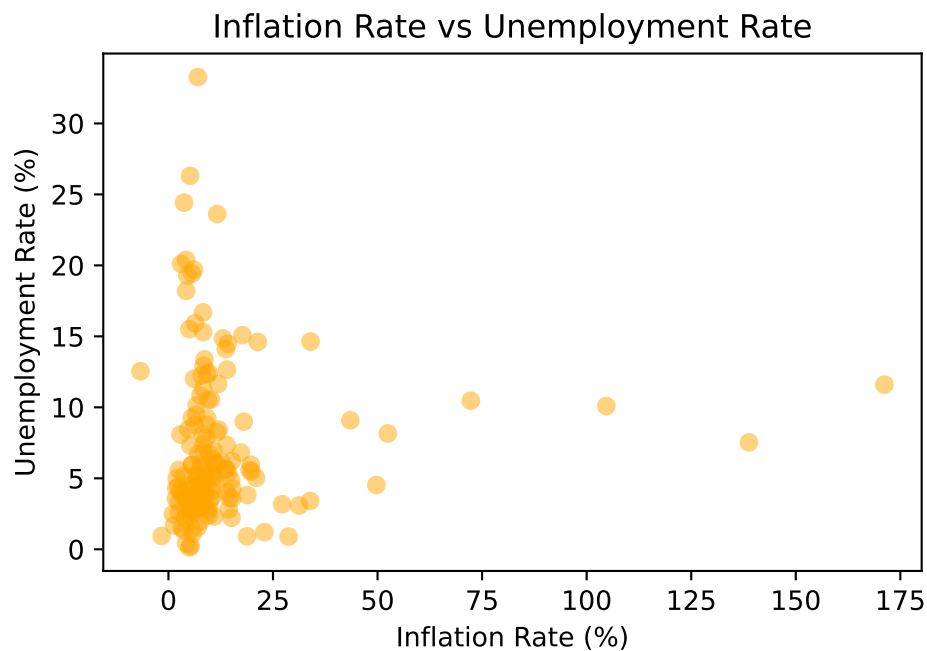Figure 1: Top 10 Countries by GDP Growth Rate Source: (World Bank 2025)

Figure 2: Inflation Rate vs Unemployment Rate: (World Bank 2025)

Key Statistics Table

Country	GDP Growth Rate	Inflation Rate	Unemployment Rate
Guyana	63.33	6.16	12.01
St.Lucia	20.39	6.38	15.93
Fiji	19.79	4.32	4.45

Cross-refernces

As shown in Figure Figure 1, the countries has the highest GDP Growth rate is Guyana. Additionally, Figure Figure 2 illustrates the relationship between inflation rate and unemployment rate. It doesn't show a clear trend between the two indicators.

Bibliography

From Friedman ([1977](#)) and Tobin ([1995](#)), we learned the relationship between inflation rate and the unemployment rate.

Friedman, Milton. 1977. "Nobel Lecture: Inflation and Unemployment." *Journal of Political Economy* 85 (3): 451–72.

Tobin, James. 1995. "Inflation and Unemployment." In *Essential Readings in Economics*, 232–54. Springer.

World Bank. 2025. "World Development Indicators." https://data.worldbank.org/indicator/NY.GDP.PCAP.CD.