

My Quarto Document

A simple example

Bao Truong

2024-10-09

```
import pandas as pd
import wbgapi as wb
import matplotlib.pyplot as plt
# Define the indicators to download
indicators = {
    'gdp_per_capita': 'NY.GDP.PCAP.CD',
    'gdp_growth_rate': 'NY.GDP.MKTP.KD.ZG',
    'inflation_rate': 'FP.CPI.TOTL.ZG',
    'unemployment_rate': 'SL.UEM.TOTL.ZS',
    'total_population': 'SP.POP.TOTL',
    'life_expectancy': 'SP.DYN.LE00.IN',
    'adult_literacy_rate': 'SE.ADT.LITR.ZS',
    'income_inequality': 'SI.POV.GINI',
    'health_expenditure_gdp_share': 'SH.XPD.CHEX.GD.ZS',
    'measles_immunisation_rate': 'SH.IMM.MEAS',
    'education_expenditure_gdp_share': 'SE.XPD.TOTL.GD.ZS',
    'primary_school_enrolment_rate': 'SE.PRM.ENRR',
    'exports_gdp_share': 'NE.EXP.GNFS.ZS'
}

# Get the list of country codes for the "World" region
country_codes = wb.region.members('WLD')

# Download data for countries only in 2022
df = wb.data.DataFrame(indicators.values(), economy=country_codes, time=2022, skipBlanks=True)

# Delete the 'economy' column
df = df.drop(columns=['economy'], errors='ignore')

# Create a reversed dictionary mapping indicator codes to names
```

```

# Rename the columns and convert all names to lowercase
df.rename(columns=lambda x: {v: k for k, v in indicators.items()}.get(x, x).lower(), inplace=True)

# Sort 'country' in ascending order
df = df.sort_values('country', ascending=True)

# Reset the index after sorting
df = df.reset_index(drop=True)

# Display the number of rows and columns
print(df.shape)

# Display the first few rows of the data
print(df.head(3))

# Save the data to a CSV file
df.to_csv('wdi.csv', index=False)

```

(217, 14)

	country	inflation_rate	exports_gdp_share	gdp_growth_rate	\
0	Afghanistan	NaN	18.380042	-6.240172	
1	Albania	6.725203	37.395422	4.856402	
2	Algeria	9.265516	31.446856	3.600000	

	gdp_per_capita	adult_literacy_rate	primary_school_enrolment_rate	\
0	352.603733	NaN	NaN	
1	6810.114041	98.5	95.606712	
2	5023.252932	NaN	108.343933	

	education_expenditure_gdp_share	measles_immunisation_rate	\
0	NaN	68.0	
1	2.74931	86.0	
2	NaN	79.0	

	health_expenditure_gdp_share	income_inequality	unemployment_rate	\
0	NaN	NaN	14.100	
1	NaN	NaN	11.588	
2	NaN	NaN	12.437	

	life_expectancy	total_population
0	62.879	41128771.0
1	76.833	2777689.0

2 77.129 44903225.0

```
print(df["gdp_growth_rate"].describe())
print(df["inflation_rate"].describe())
print(df["gdp_per_capita"].describe())
```

```
count      202.000000
mean        4.368901
std         6.626811
min        -28.758591
25%         2.438593
50%         4.204431
75%         6.200000
max         63.439864
Name: gdp_growth_rate, dtype: float64
count      169.000000
mean       12.493936
std        19.682433
min        -6.687321
25%         5.518129
50%         7.967574
75%        11.665567
max        171.205491
Name: inflation_rate, dtype: float64
count      203.000000
mean       20345.707649
std       31308.942225
min        259.025031
25%       2570.563284
50%       7587.588173
75%      25982.630050
max      240862.182448
Name: gdp_per_capita, dtype: float64
```

Summary

The table above summarizes the key of the statistics of 3 variables: “GDP growth rate”, “Inflation rate”, and “GDP per capita”. The table shows the mean, standard deviation, the min, the median, the upper quartile, the lower quartile and the max.

From the graphs of Figure 1, we can see the frequency of inflation rate and the correlation between GDP growth and GDP per capita.

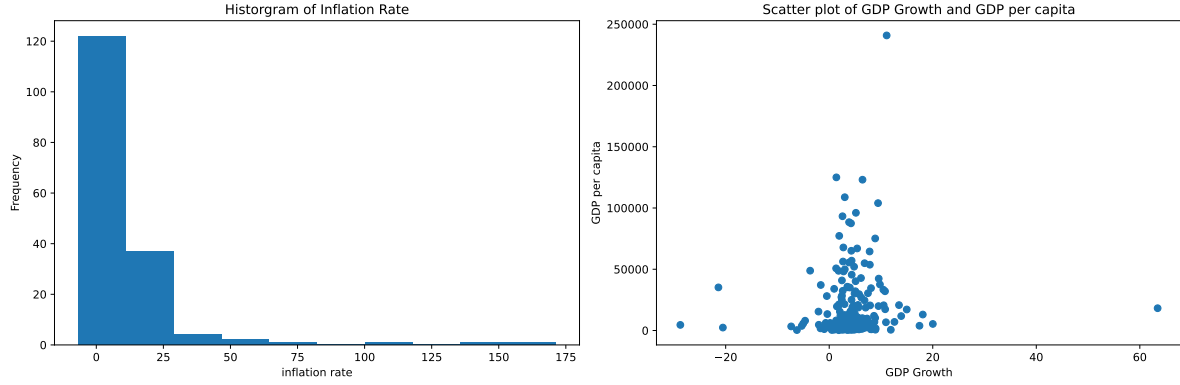


Figure 1: Histogram and Scatter plot (Source: [WDI 2022](#))

Table 1: My Caption

Variable	Mean	Std	Min	Max
Inflation	12.49	19.68	-6.69	171.21
Growth	4.37	6.63	-28.76	63.44
GDP	20345.7	31308.94	259.03	240862.2

See Table 1 for the summary of the key statistics. As discussed by (Guth 2000) in his paper, the results were significant. This is further supported by (Marattin and Salotti 2011) in his comprehensive guide.

Guth, Alan H. 2000. “Inflation and Eternal Inflation.” *Physics Reports* 333: 555–74.
Marattin, Luigi, and Simone Salotti. 2011. “Productivity and Per Capita GDP Growth: The Role of the Forgotten Factors.” *Economic Modelling* 28 (3): 1219–25.