

WDI Analysis

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Introduction

This report analyzes the World Development Indicators dataset.

Task 2 ## Load the dataset

	country	inflation_rate	exports_gdp_share	gdp_growth_rate	gdp_per_capita	adult_literacy_rate
0	Afghanistan	13.712102	18.380042	-6.240172	357.261153	NaN
1	Albania	6.725203	37.197076	4.826801	7756.961887	NaN
2	Algeria	9.265516	30.791556	3.600000	4960.303343	NaN
3	American Samoa	NaN	46.957520	1.735016	18017.458938	NaN
4	Andorra	NaN	NaN	9.564612	42414.047986	NaN

Task 3 # Exploratory Data Analysis

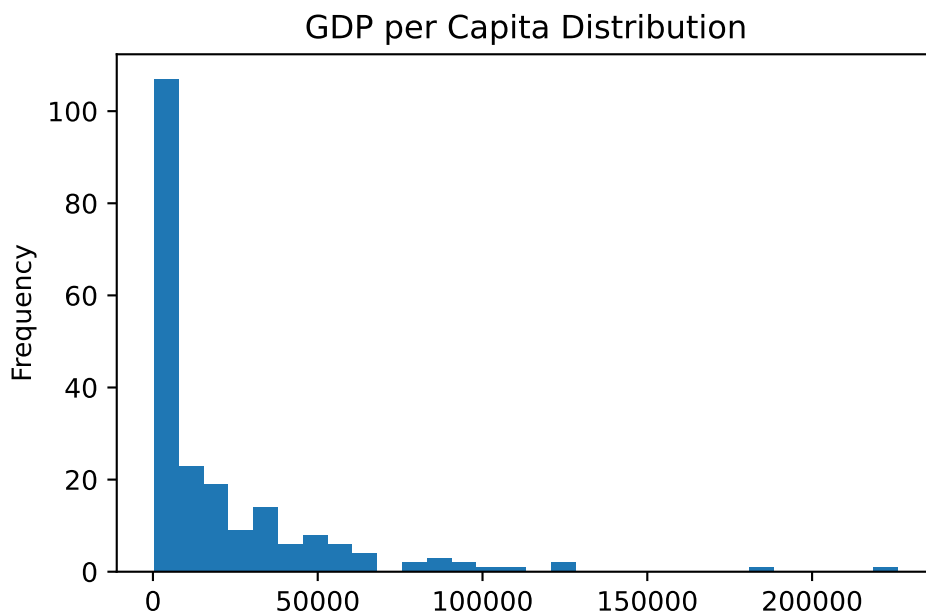
In this section, I explore three indicators from the WDI dataset: - GDP per capita - Life expectancy - Inflation rate

```
((217, 14),
 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'))
```

Indicator 1: GDP per Capita

GDP per capita measures economic output per person and is a common proxy for living standards.

```
count      209.000000
mean       21142.747417
std        31040.300784
min         302.992505
25%        2899.160475
50%        7655.594210
75%       28360.304147
max       226052.001905
Name: gdp_per_capita, dtype: float64
```



Findings - The spread of the histogram is very narrow, with many countries close to 0 - Right skew, as there are a few countries with very high GDP per Capital Distribution - There are 2 noticable outliers

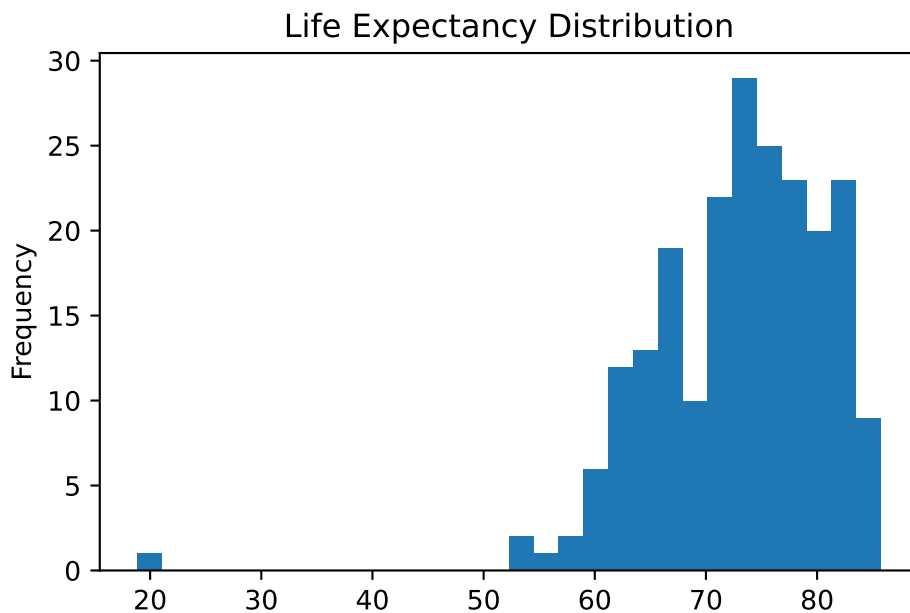
Indicator 2: Life Expectancy

Life expectancy reflects overall health outcomes and quality of life.

```

count    217.000000
mean      73.108020
std       7.942539
min       18.818000
25%      67.788000
50%      74.160976
75%      78.531000
max       85.746000
Name: life_expectancy, dtype: float64

```



Findings - The range seems to be very clustered around 70-80 years - More variability compared to GDP per capita - One clear outlier at 20 years

Indicator 3: Inflation Rate

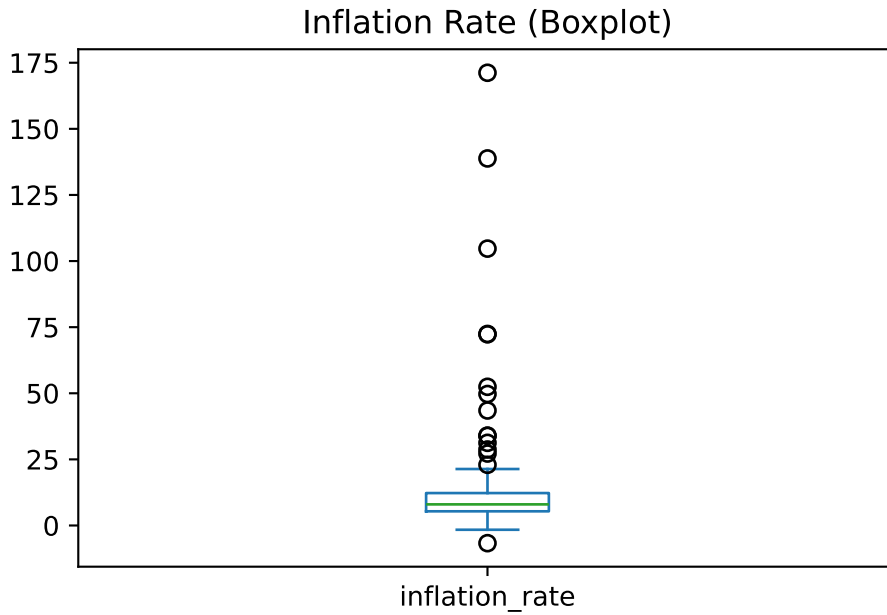
Inflation rate measures changes in price levels and can reflect macroeconomic stability.

```

count    178.000000
mean      12.645329
std       19.752353
min       -6.687321
25%       5.361652
50%       7.985187

```

```
75%      12.259876
max       171.205491
Name: inflation_rate, dtype: float64
```



Findings - Inflation rates have extreme outliers from high-inflation countries - Most observations seem to be high at the 25-50% range - This shows that most countries are not economically stable

Task 4 ## Figure: GDP per capita vs Life expectancy

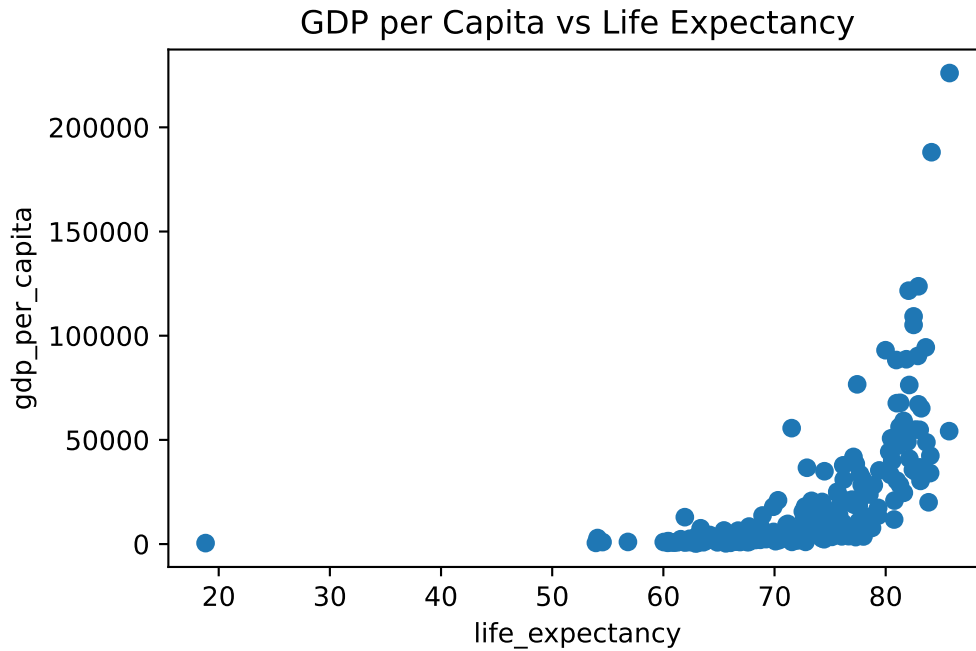
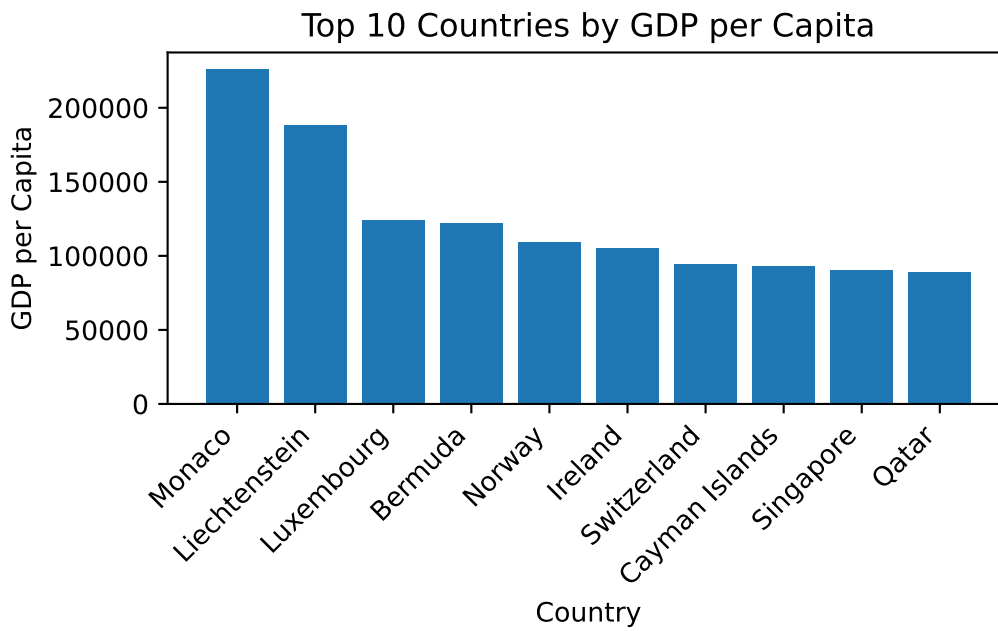


Figure: Top 10 countries by GDP per capita



Task 5 ## Table: Key statistics for selected indicators

	gdp_per_capita	life_expectancy	inflation_rate
count	209.00	217.00	178.00
mean	21142.75	73.11	12.65
std	31040.30	7.94	19.75
min	302.99	18.82	-6.69
median	7655.59	74.16	7.99
max	226052.00	85.75	171.21

Task 6 As shown in **?@fig-gdp-life**, countries with higher GDP per capita tend to have higher life expectancy.

?@fig-top10-gdp highlights how GDP per capita is concentrated among a small set of countries.

Summary statistics are reported in **?@tbl-key-stats**.