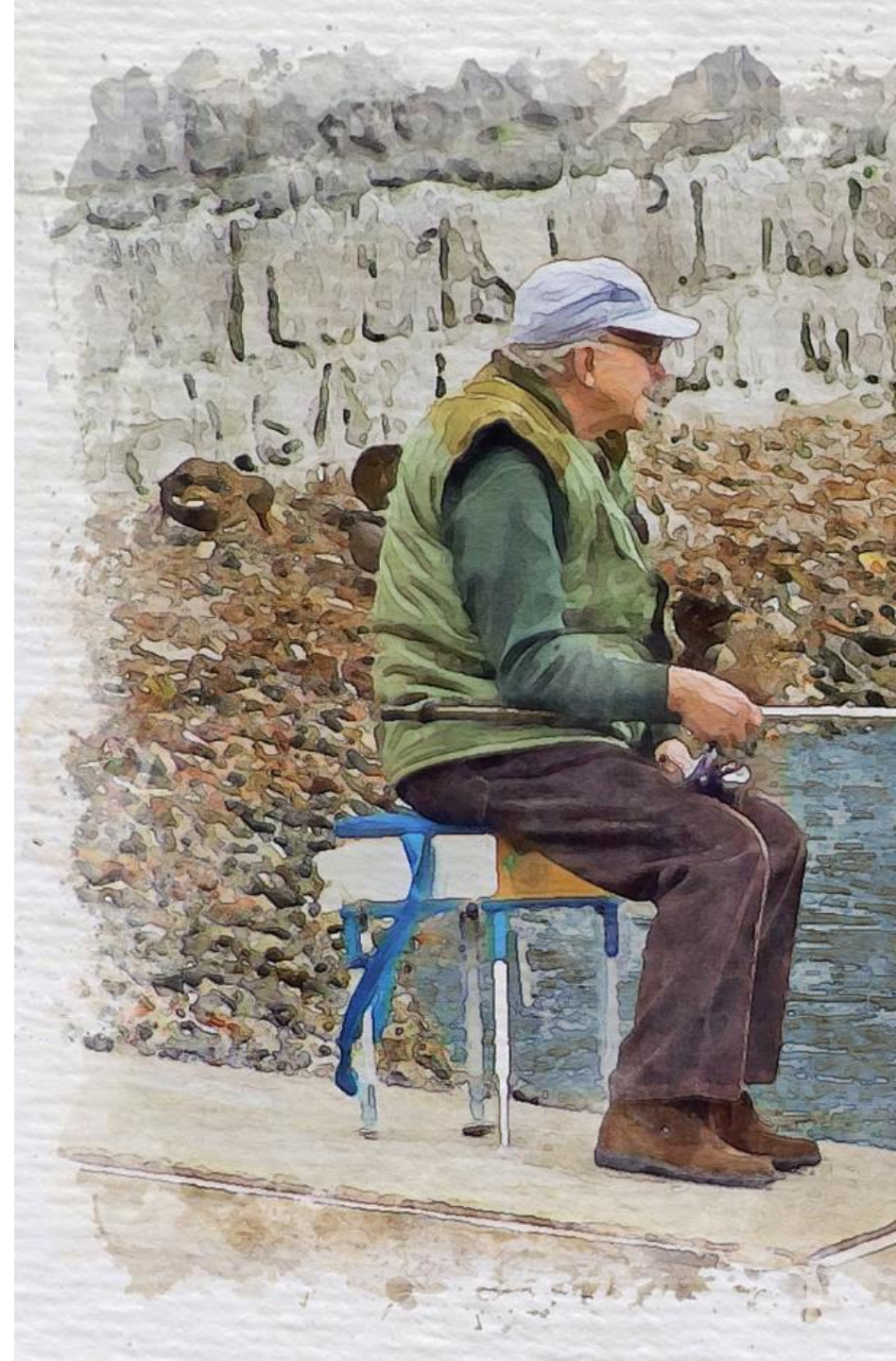


Life Expectancy and Gross Domestic Product (GDP) Relationship

ALFIKRI RAMADHAN



What is Life Expectancy and GDP?

LIFE EXPECTANCY

Life Expectancy refers to the number of years a person can expect to live, based on an estimate of the average age that members of a particular population group will be when they die. Life expectancy is a measure that is often used to gauge overall health of a country.

GROSS DOMESTIC PRODUCT (GDP)

Gross Domestic Product (GDP) is the monetary value of all finished goods and service made within a country during a specific period. GDP provides an economic snapshot of a country and used to estimate the size of an economy and growth rate.

Dataset Overview

GDP Data Source

GDP data is obtained from
World Bank

↔ [SOURCE](#)

Life expectancy Data Source

Life expectancy data is
obtained from World Health
Organization (WHO)

↔ [SOURCE](#)

6 Countries

- Chile
- China
- Germany
- Mexico
- United States of America
- Zimbabwe

16 Years

The data observation cover
16 years, from 2000 to 2015

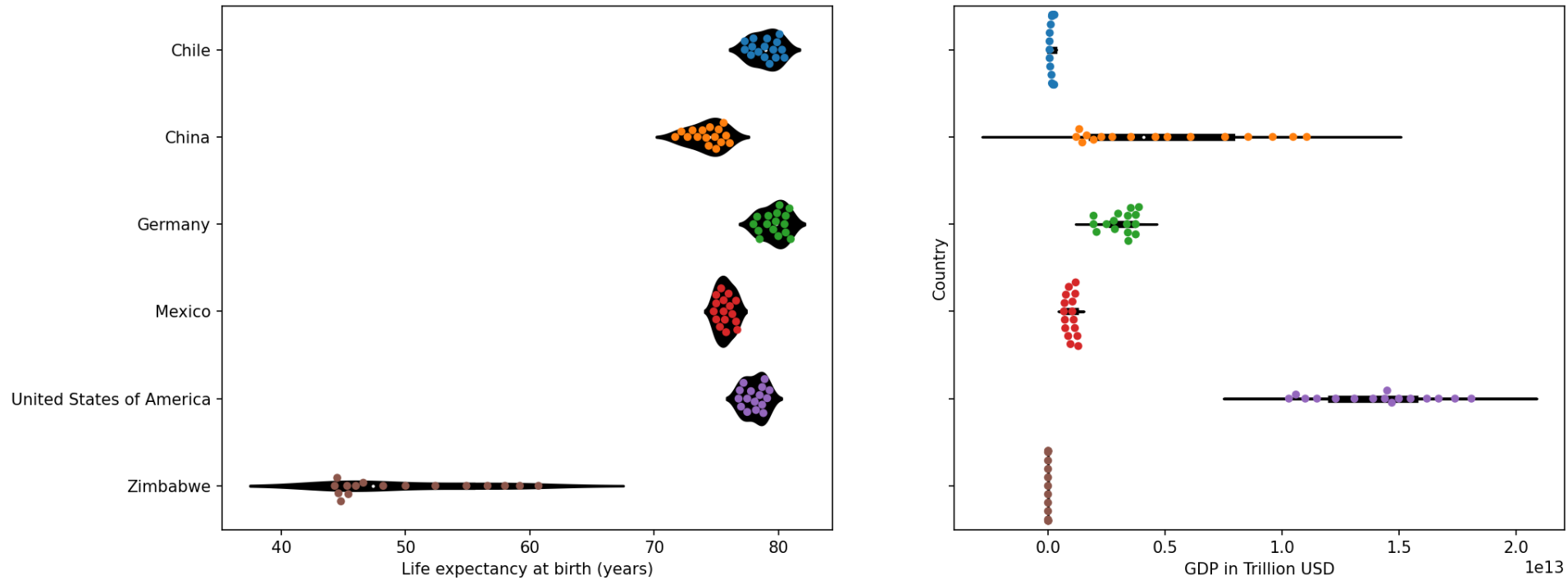
Project Goals

The goal of this project is to explore the data and answer following questions:

- Has life expectancy increased over time in the six nations?
- Has GDP increased over time in the six nations?
- What is the average life expectancy of these nations?
- Is there a correlation between GDP and life expectancy of a country?



Life Expectancy and GDP Distribution

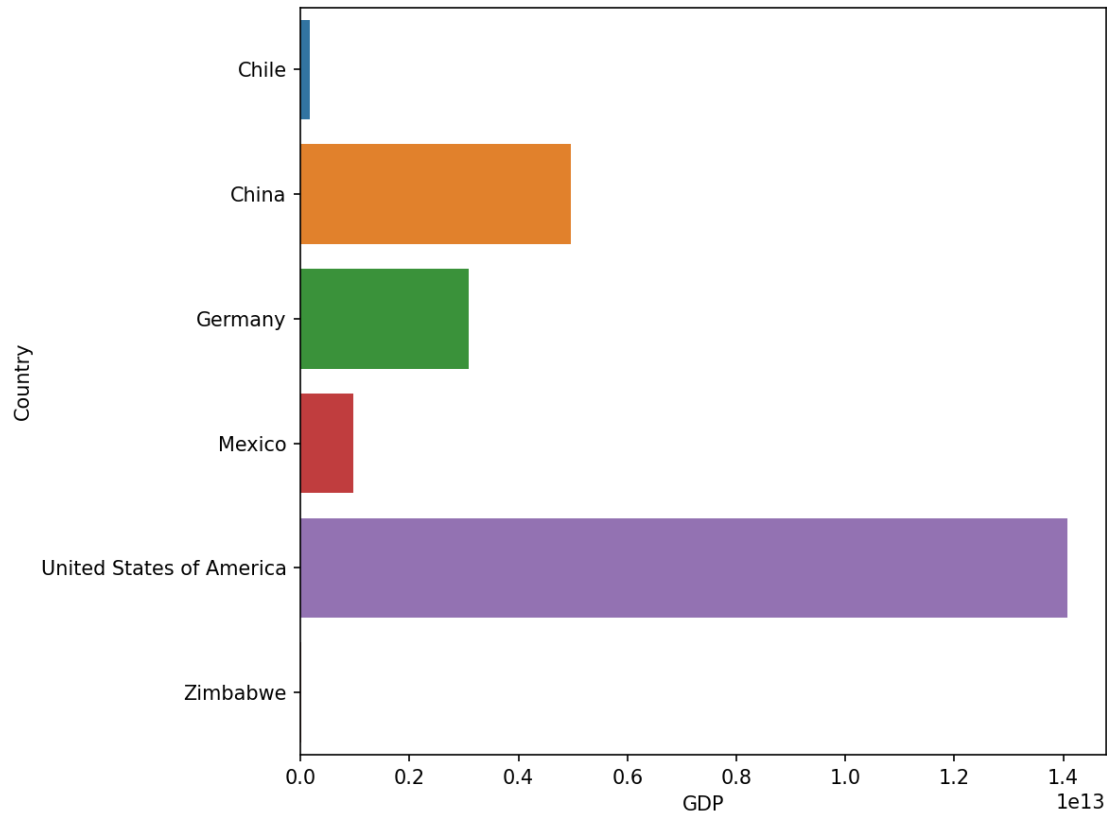


Zimbabwe, having lowest GDP also shows the lowest life expectancy. For other country its varied.

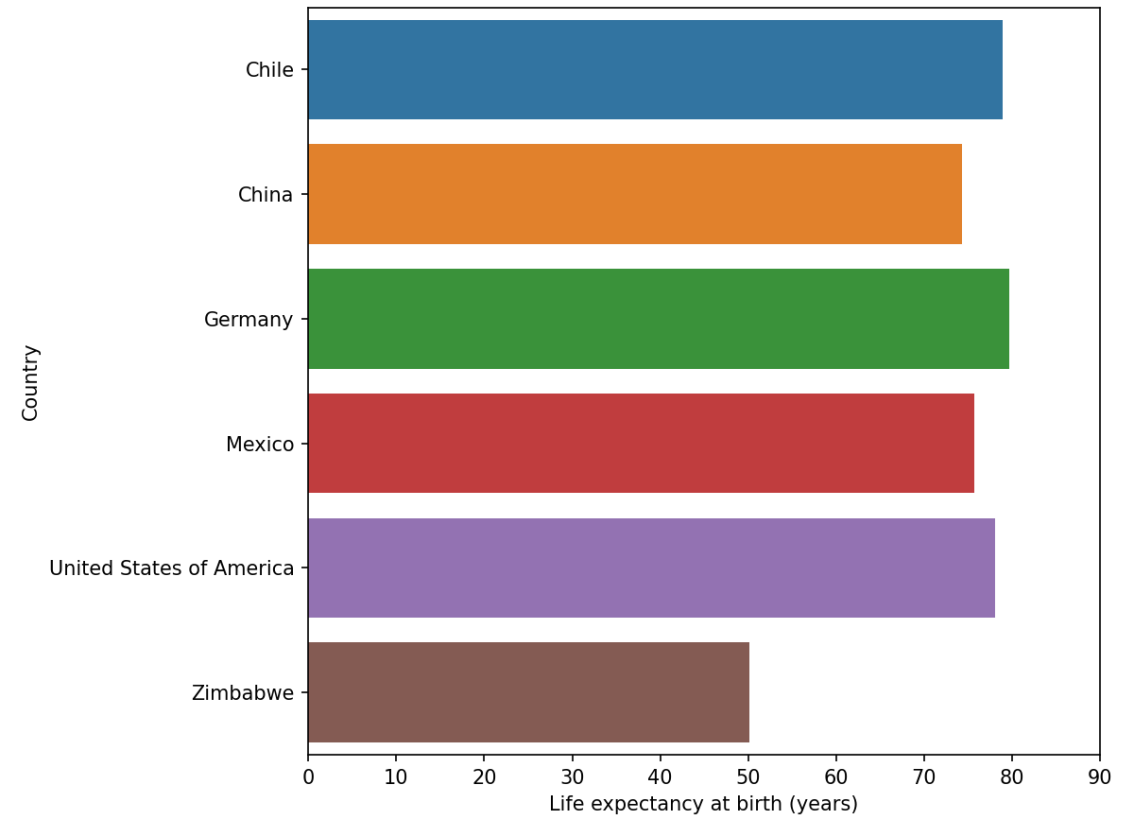
Life expectancy in Zimbabwe is more distributed in each year, compared to other countries where the dot swarmed together. The opposite happens in GDP, where Zimbabwe shows a vertical line in its value indicating that Zimbabwe's GDP growth is not as high as other country.

China's GDP growth is interesting, while the lowest value is lower than Germany's lowest GDP point, its highest point is far exceeding Germany's highest GDP point.

Average GDP and Life Expectancy for Each Country

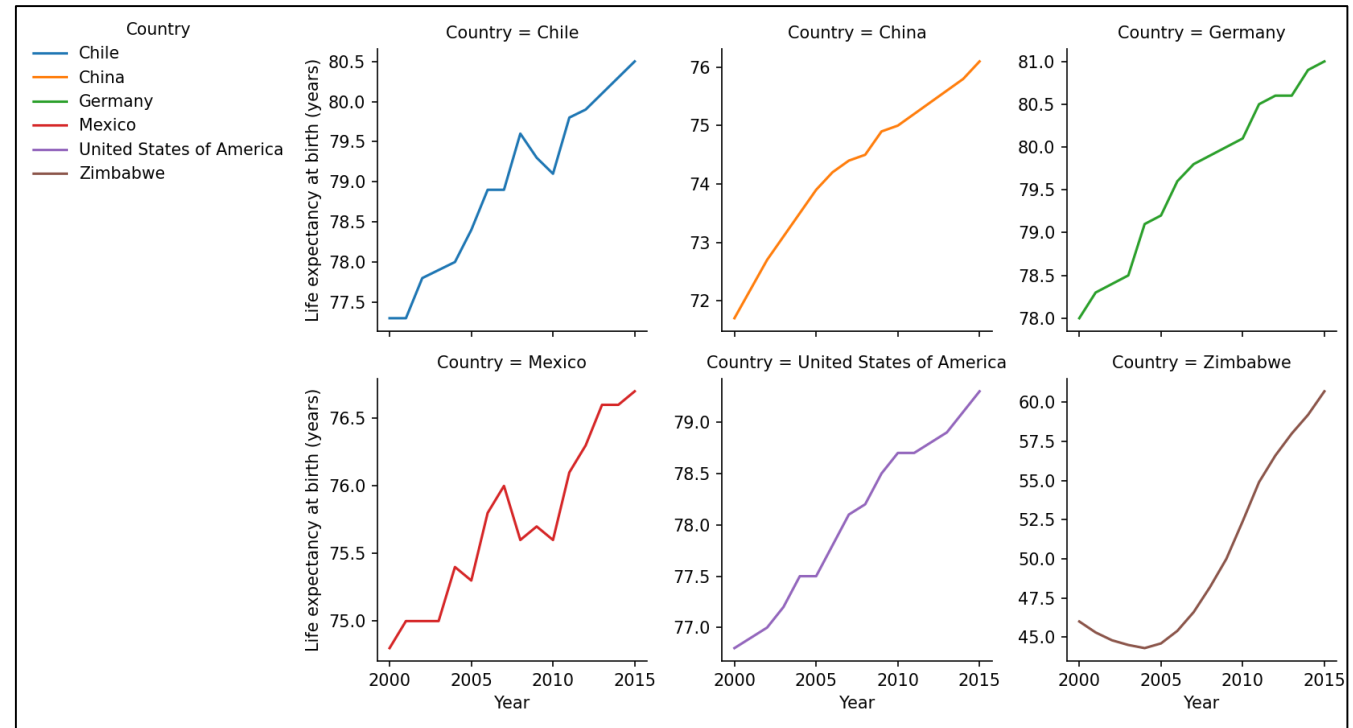
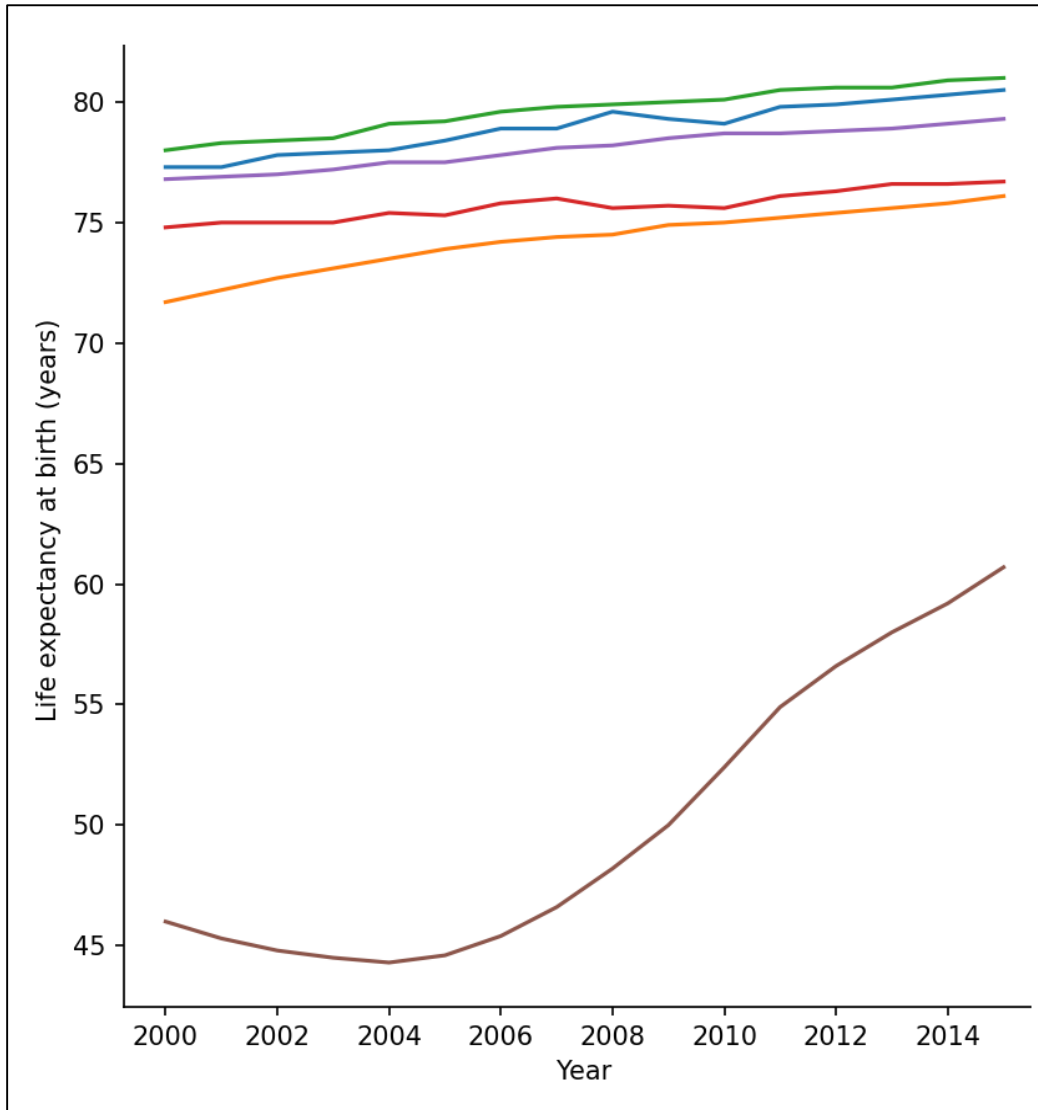


USA has far higher GDP than other country. Chile is barely seen and Zimbabwe is not even visible.



All country show average life expectancy at 70 - 80 years except Zimbabwe, which showing only average life expectancy at 50 years.

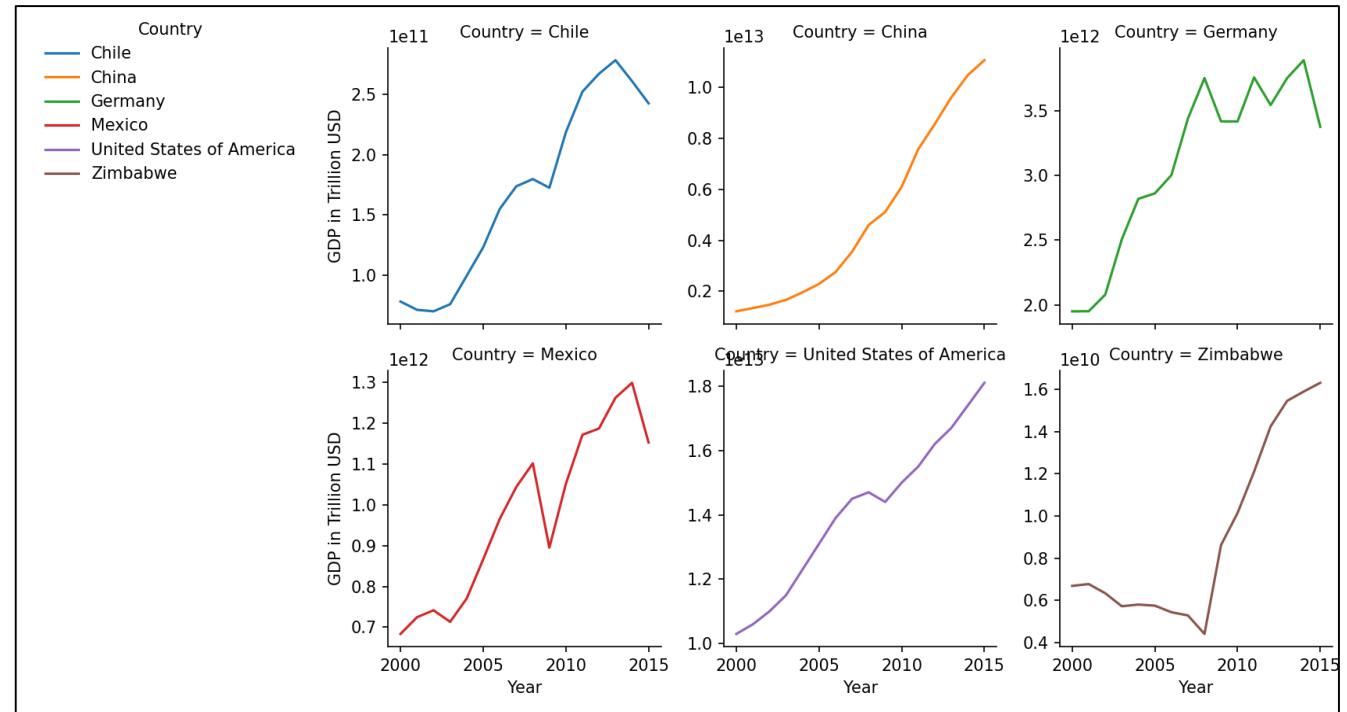
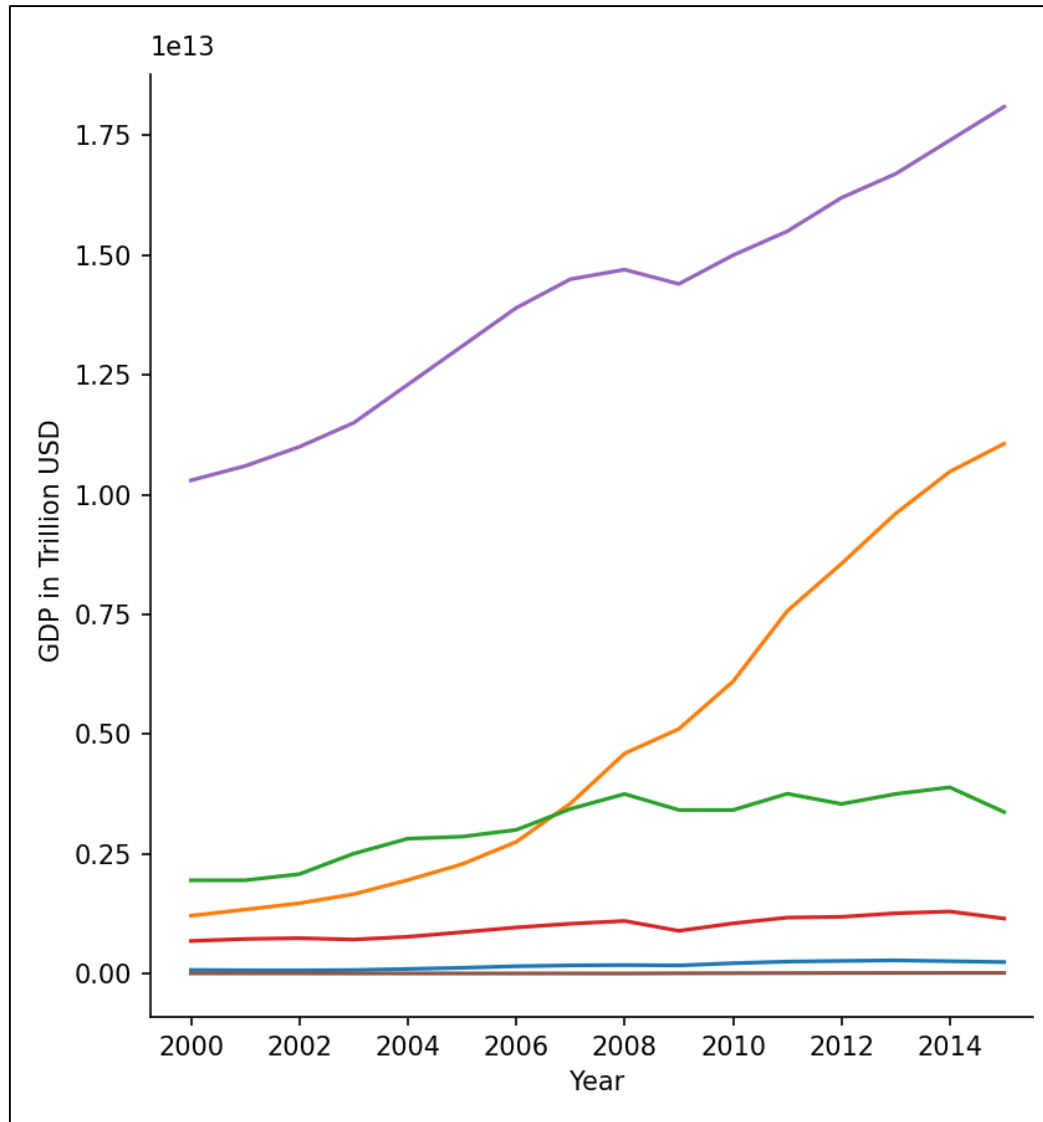
Life Expectancy Increased Over Time



All 6 country has their life expectancy increased over year.

Zimbabwe, while having low life expectancy at 45 years in 2000, shows the greatest growth compared to other country after a bit declining in 2004.

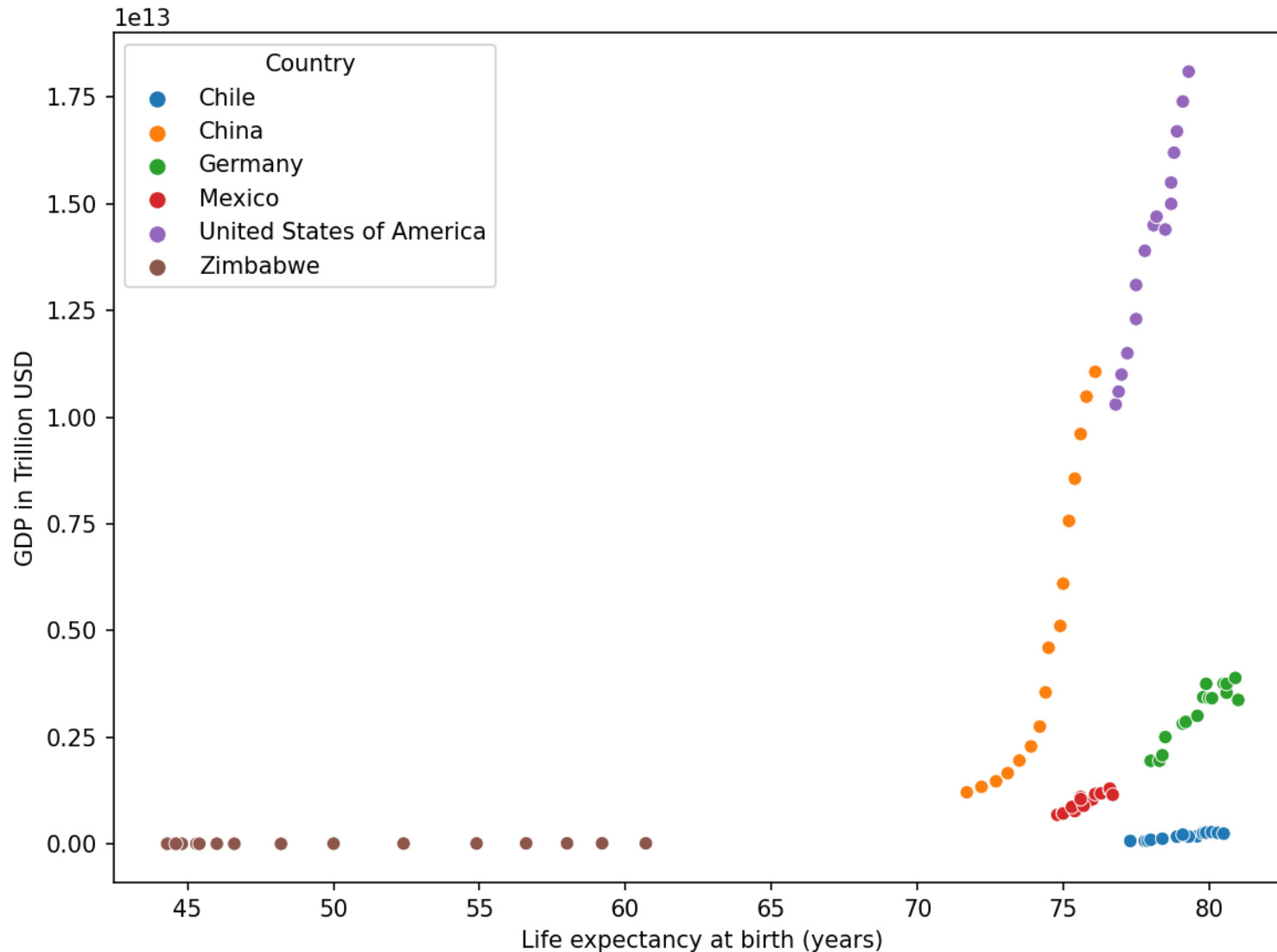
GDP Increased Over Time



All country has increased GDP from 2000. China and USA having the most significant growth, while other country are quite modest. Zimbabwe also experience increased GDP after a bit of decrease in 2008.

China' growth is most remarkable. In 2000, China's GDP was lower than Germany but by 2015 China's GDP is 3 times higher than Germany!

Relationship of Life Expectancy and GDP



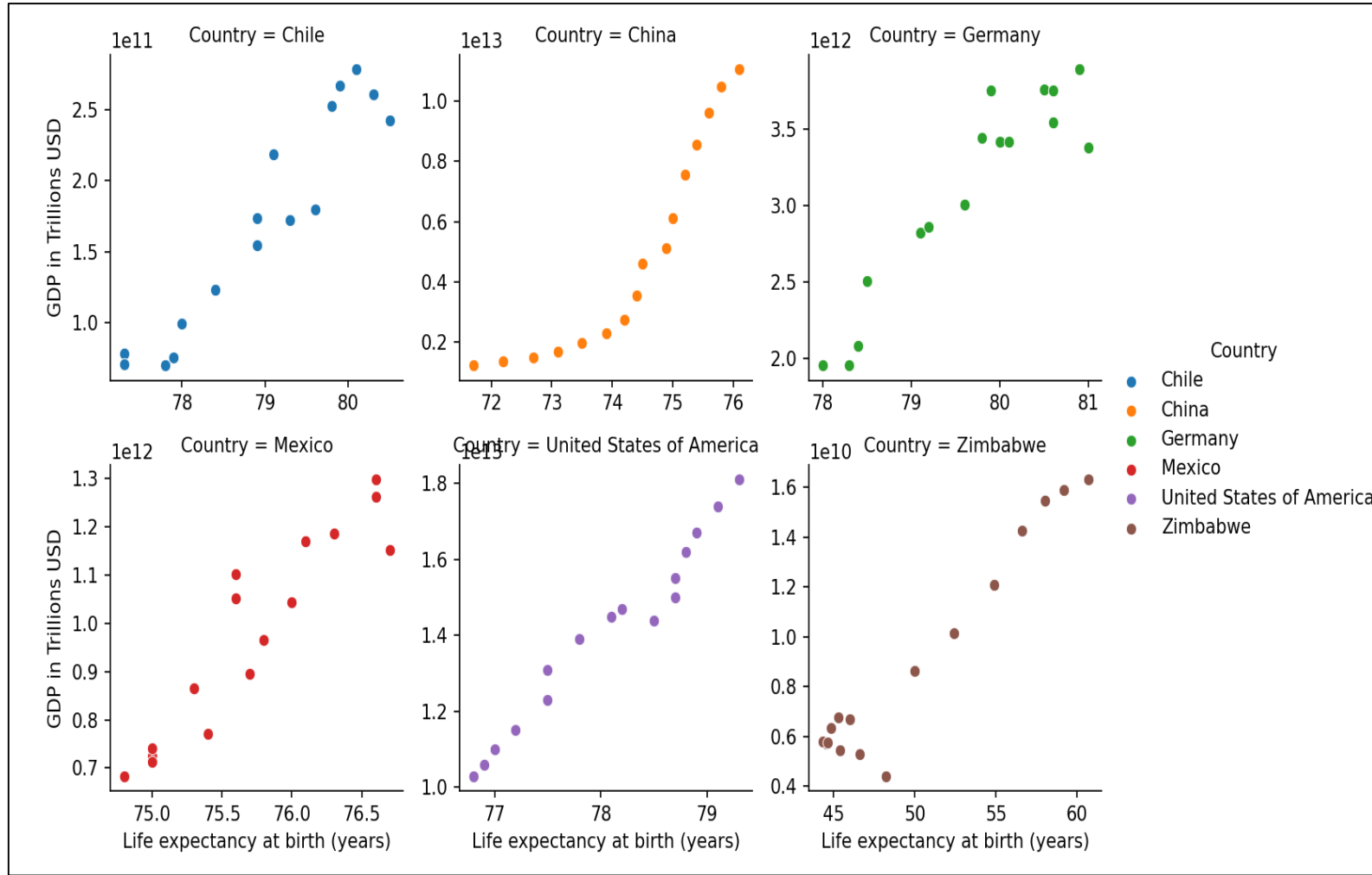
In this scatter plot, Zimbabwe seems to have increased life expectancy while its GDP is staying flat.

Chile, Germany and Mexico have increased life expectancy as GDP increase.

China and USA have increased GDP drastically and their life expectancy is increased as well.

There seem to be a linear relationship between life expectancy and GDP, where life expectancy increased as GDP of a country increase.

Life Expectancy and GDP Shows Strong Positive Correlation



Country	GDP vs. Life Expectancy Correlation
Chile	0.949877
China	0.908526
Germany	0.932699
Mexico	0.932238
USA	0.981709
Zimbabwe	0.966200

Dividing the scatter plot by different scale gives us better observation of the relationship.

The GDP vs. life expectancy correlation coefficient for every country is very high; more than 0.9.

Conclusion and Further Research

Conclusion

Through working with the data set, we've found some interesting conclusions:

1. Life expectancy at birth increased over time in all 6 countries, with Zimbabwe having the largest increase.
2. GDP has increased over time as well, especially for China.
3. Average life expectancy is between mid to high 70s, except for Zimbabwe which is 50 years.
4. There is a strong positive relationship between GDP and life expectancy, with all countries has coefficient > 0.9 .

Further Research

What caused China's GDP to increase so drastically?


An article from Forbes explains China's rise to peerless GDP growth is caused by its large population, skyrockets of its capital investment and more efficient manufacturing process. Our findings in data matched the real world scenario for GDP growth in China.

THANKS!


Check the complete project on my Github!!

[SOURCE](#)

Do you have any question? Feel free to reach me!!

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