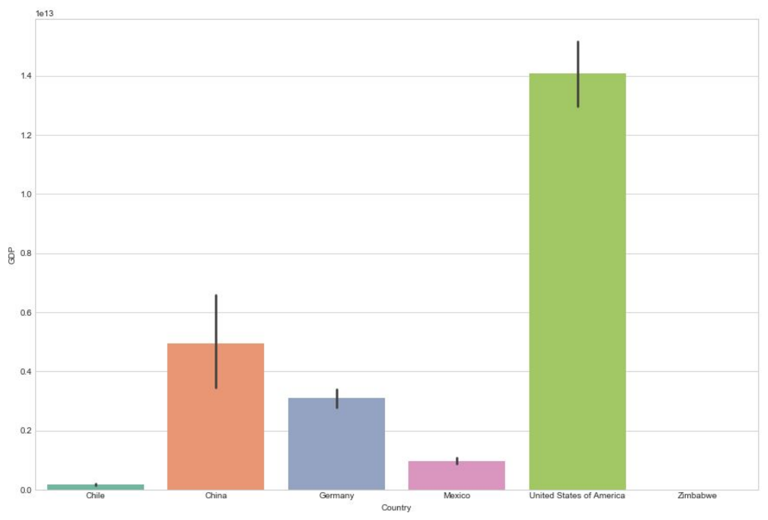
Economic Condition and Life Expectancy – Do Wealthier people Live Longer?

Many people believe a higher economic condition ensures a higher living standards. Do wealthier people live longer? The economic condition of a country is commonly measured by GDP. Then what is the relationship between GDP and life expectancy in a country?

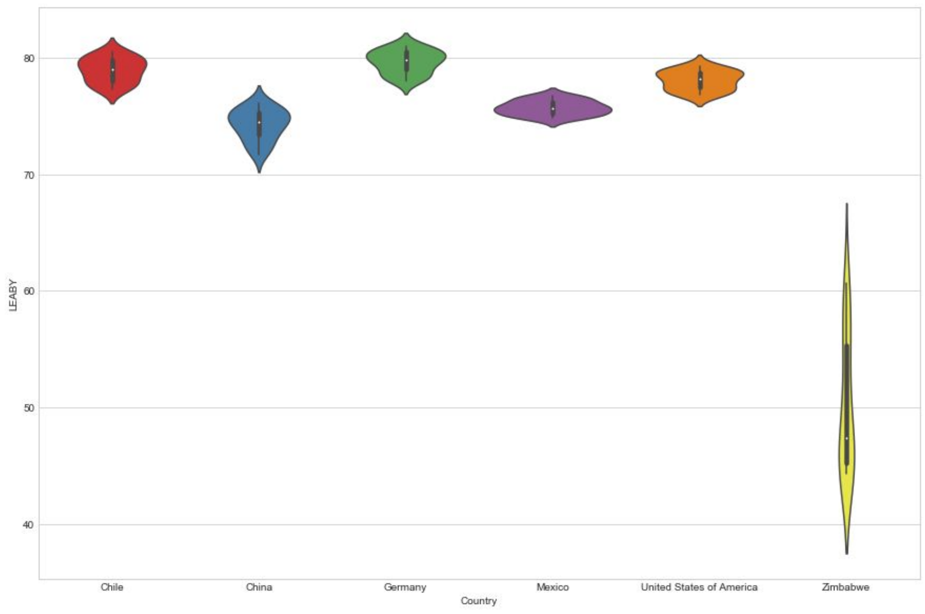
Gross domestic product (**GDP**) is a monetary measure of the market value of all the final goods and services produced in a period of time.
Life expectancy is a statistical measure of the average time an organism is expected to live, based on the year of its birth, its current age and other demographic factors including gender.

GDP levels in different countries



From the bar plot, United States had the highest GDP level while Zimbabwe had the lowest GDP level among the six countries .

Life expectancy distribution among the countries

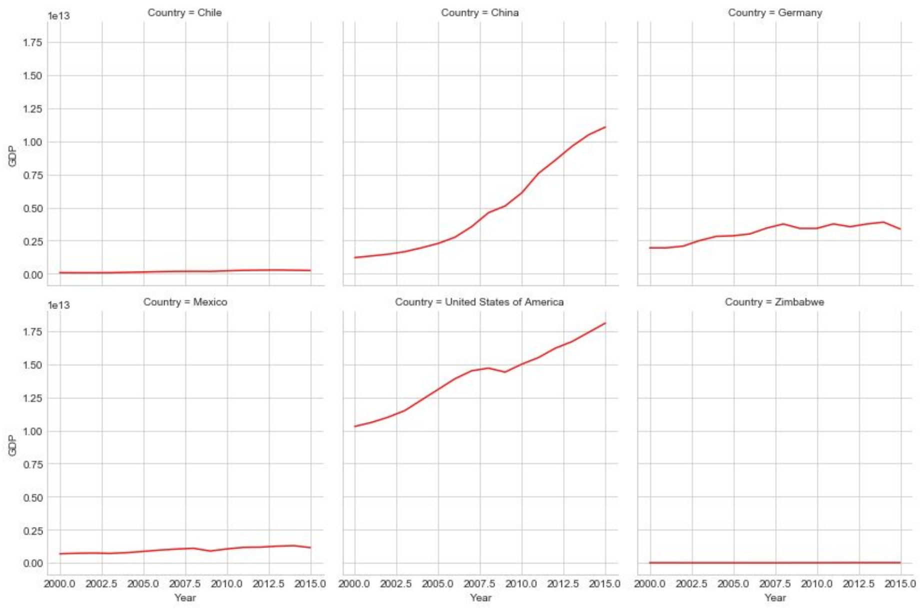


The distribution of life expectancy at birth (years) (LEABY) does not vary much except that of Zimbabwe which had the lowest life expectancy.

Does GDP affect life expectancy?

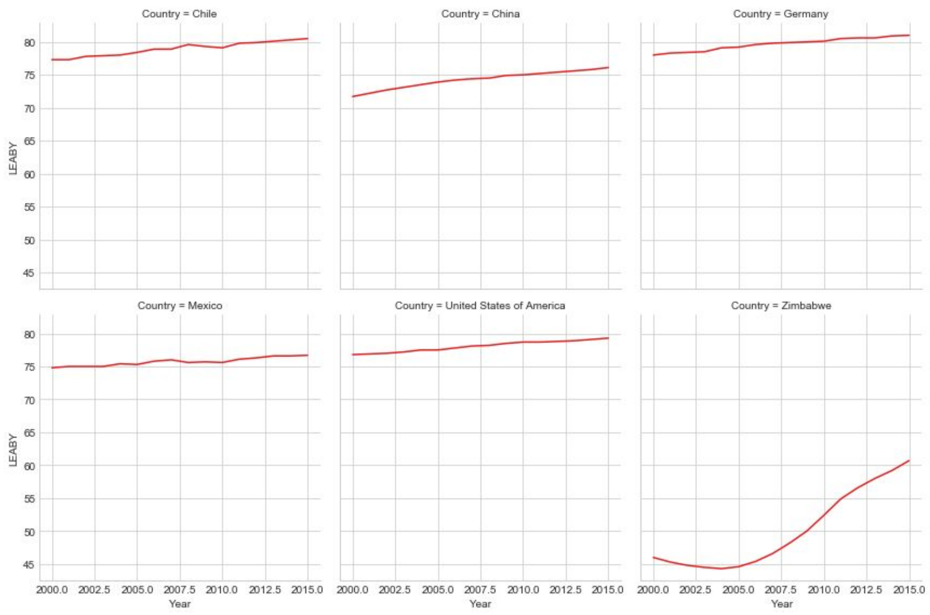
From the scatter plots, it is not easy to read the relationship between LEABY and GDP, but it shows that Zimbabwe's life expectancy changed the most, United States and China had increased the GDP levels the most.

The changes of GDP levels in the countries over the years



From the above line plots, United States and China were the two most rapidly changed countries in GDP levels over the years. For comparison, these line plots show a better view of the relationship than scatter plots.

The changes of life expectancy over the years



From the above line plots, Zimbabwe was the country that had the most rapidly changed life expectancy, though all the other countries had increased their life expectancy over the years, too. For comparison, these line plots show a better view of the relationship than scatter plots.

It is widely accepted that there is a correlation between the economic output of a country and the life expectancy of its citizens. From the data with six countries for 16 years from the World Health Organization, it reveals that GDP levels of a country is not as strongly correlated with its life expectancy once a country reduces its poverty. For the poor country Zimbabwe, there is a strong correlation between GDP and life expectancy, but for the countries without poverty, this relationship is flattened out, the life expectancy increment as GDP increases has been reduced. This relationship is also known as the Preston Curve.

A number of reason may explain this phenomenon. Increased income of poor countries make their people have more access to all the food and health supplies, which dramatically improves their living standards, thus life expectancy. While in the countries without poverty, increased income may led to other luxurious expenses instead of improving their essential living standards, therefore this effect is not so dramatic as it is seen in poor countries.

However, the GDP level of a country does not reflect personal economic condition in the country, therefore it'll be very helpful if future studies could use GDP averaged by population. Also there could be other contributing factors to life expectancy, such as life style, occupation, race and gender etc., future studies on these factors would give a more inclusive conclusion.