

## GDP vs Life Expectancy Correlation

# Life Expectancy vs GDP Correlation

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A great deal of studies and analysis have been done to understand if there is any correlation between Life Expectancy and GDP. In this blog we will try to answer some of the lingering questions by generating multiple visualizations.

GDP Source: World Bank national accounts data, and OECD National Accounts data files.

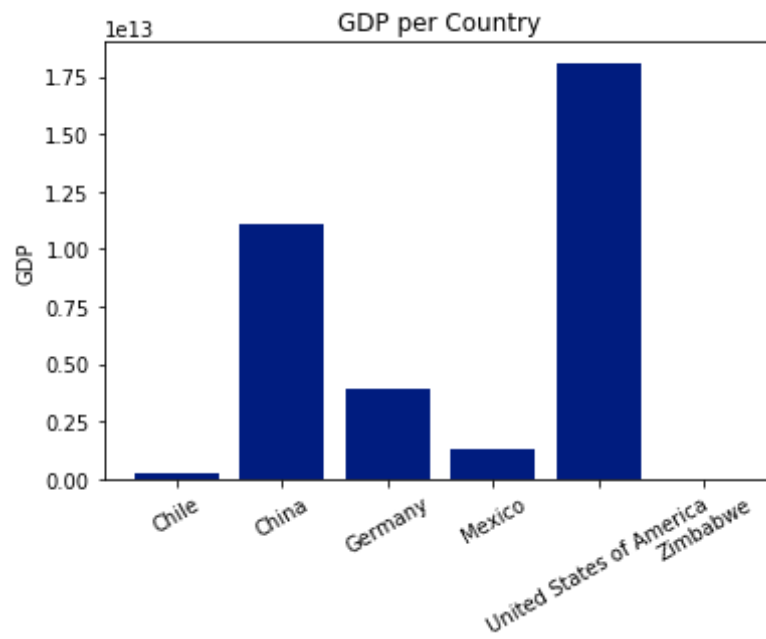
Life expectancy Data Source: World Health Organization

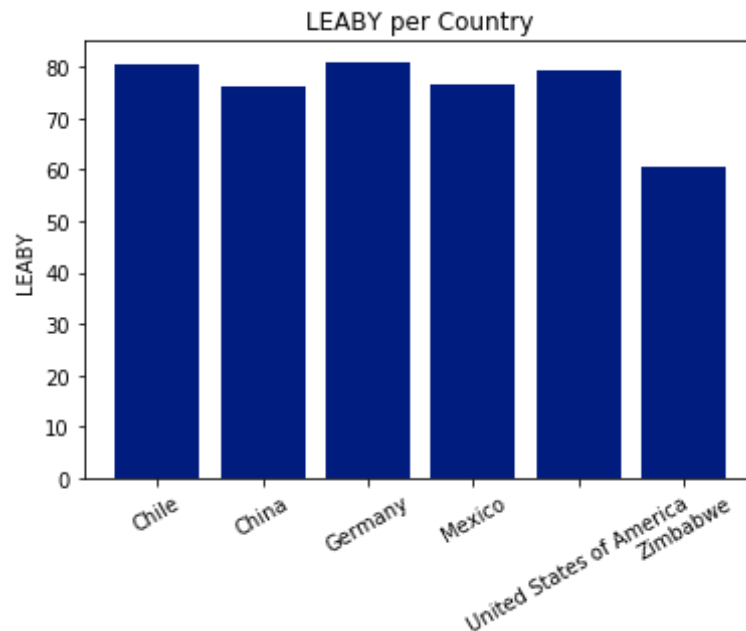
Acronyms that will be frequently used –

GDP – **Gross domestic product (GDP)** is a monetary measure of the market value of all the final goods and services produced in a specific time period, often annually

LEABY – Life expectancy at birth (years)

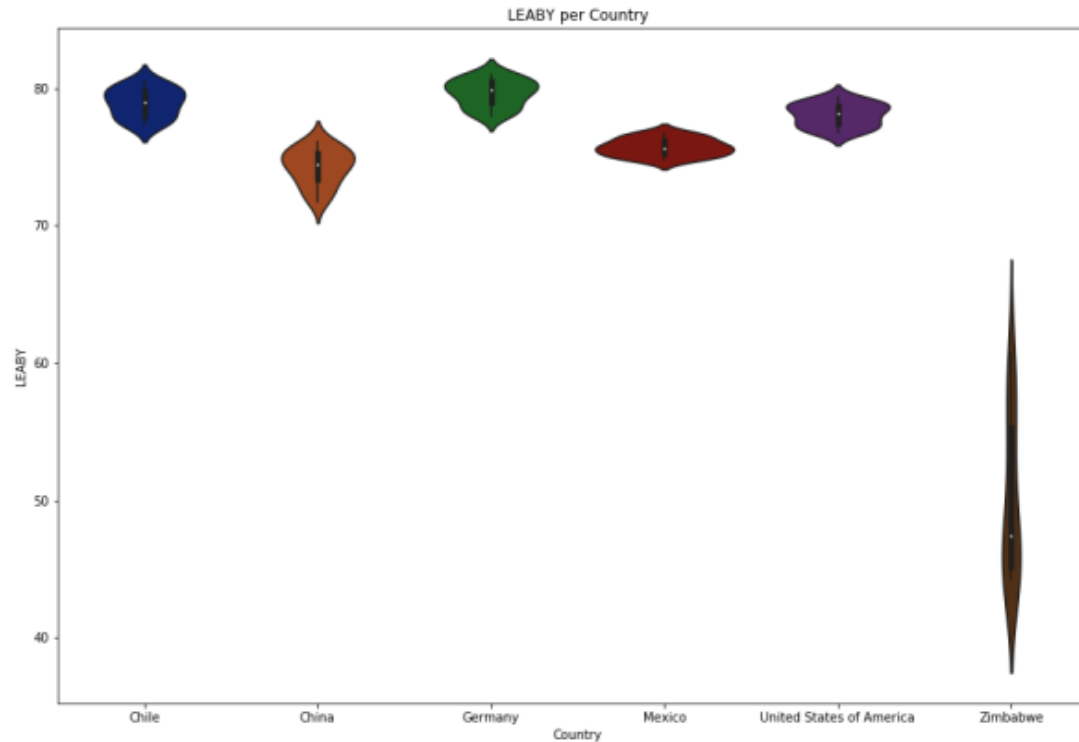
GDP & LEABY by Country ( Bar Graph ) –





- We have taken countries that are developed, underdeveloped, and developing for the analysis.
- Initial analysis from bar graphs doesn't provide show correlation between GDP and LEABY

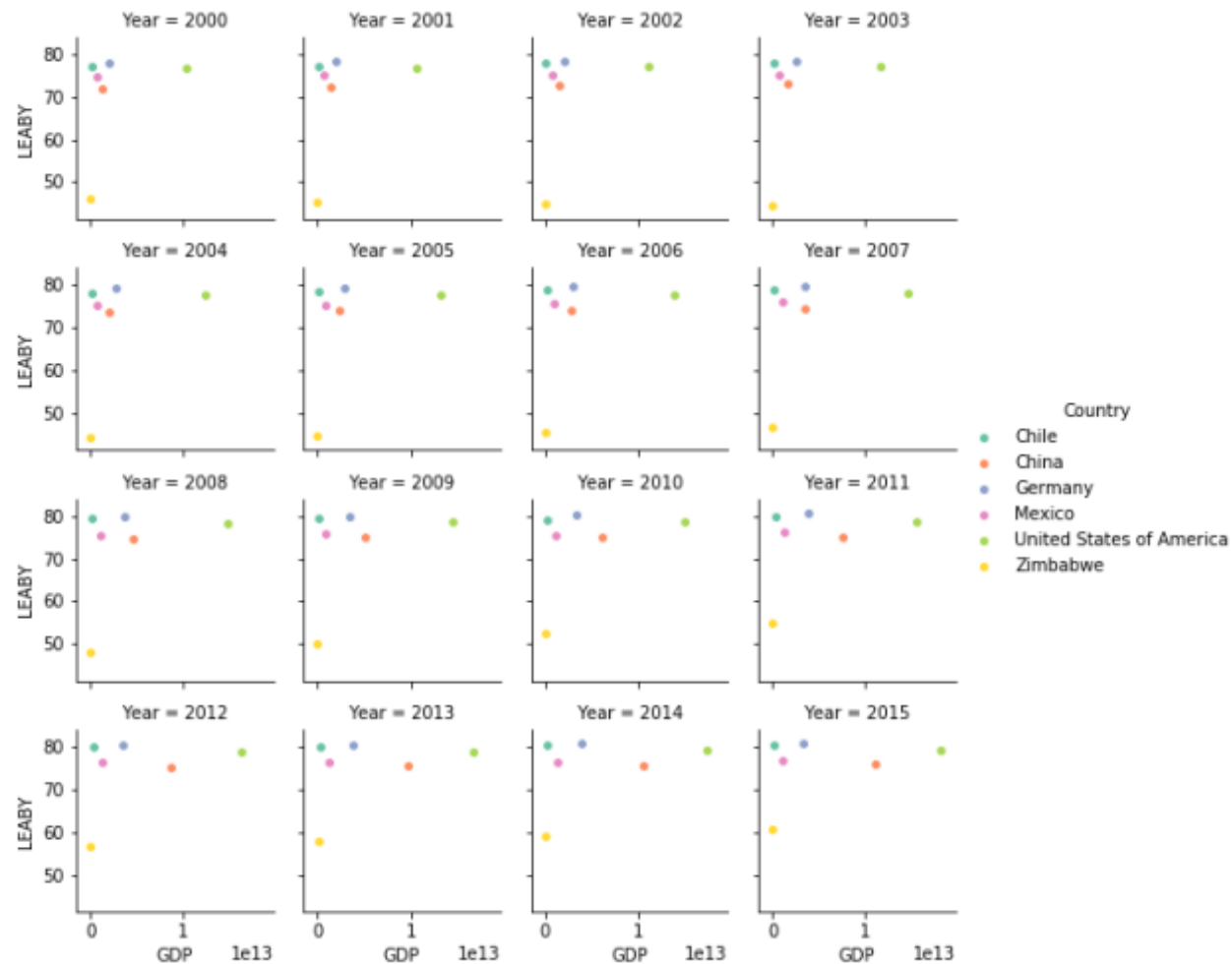
Life expectancy distribution by country ( Violin ) –



- Life expectancy for all countries haven't changed / distributed much for all countries except for the Zimbabwe.
- For Zimbabwe, the life expectancy have widely swunged from between 40 yrs to 65 yrs in the 15 years we are using for the analysis. Upon further analysis, it seems Zimbabwe was on a downward spiral from 1990, due to

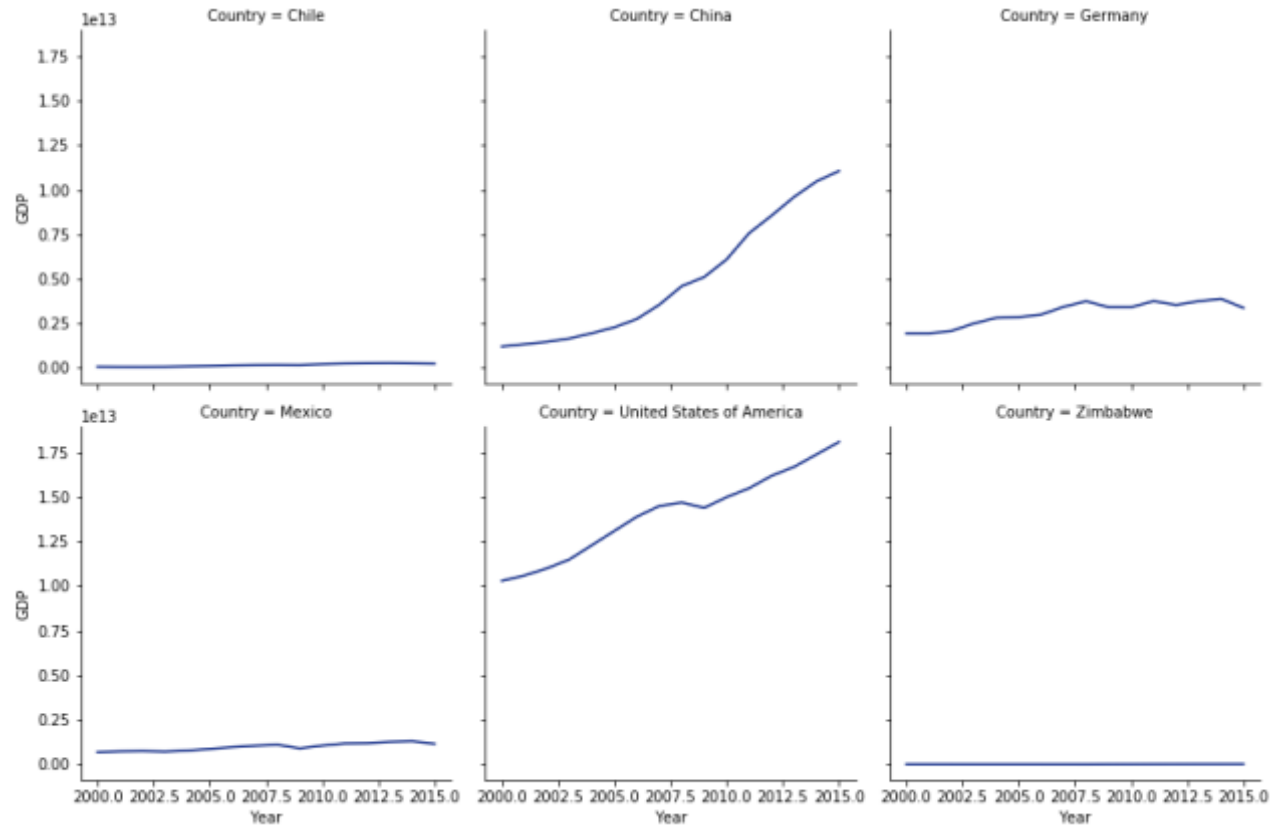
bad economy, HIV, AIDS and other other deadly diseases. Only from 2005, it started getting to the normal life expectancy.

GDP as a function of Life Expectancy by country ( scatter graphs )-



- Zimbabwe has moved the most along with Y axis ( LEABY )
- China has moved the most along the X axis ( GDP )

## GDP by country ( Line Graph ) –

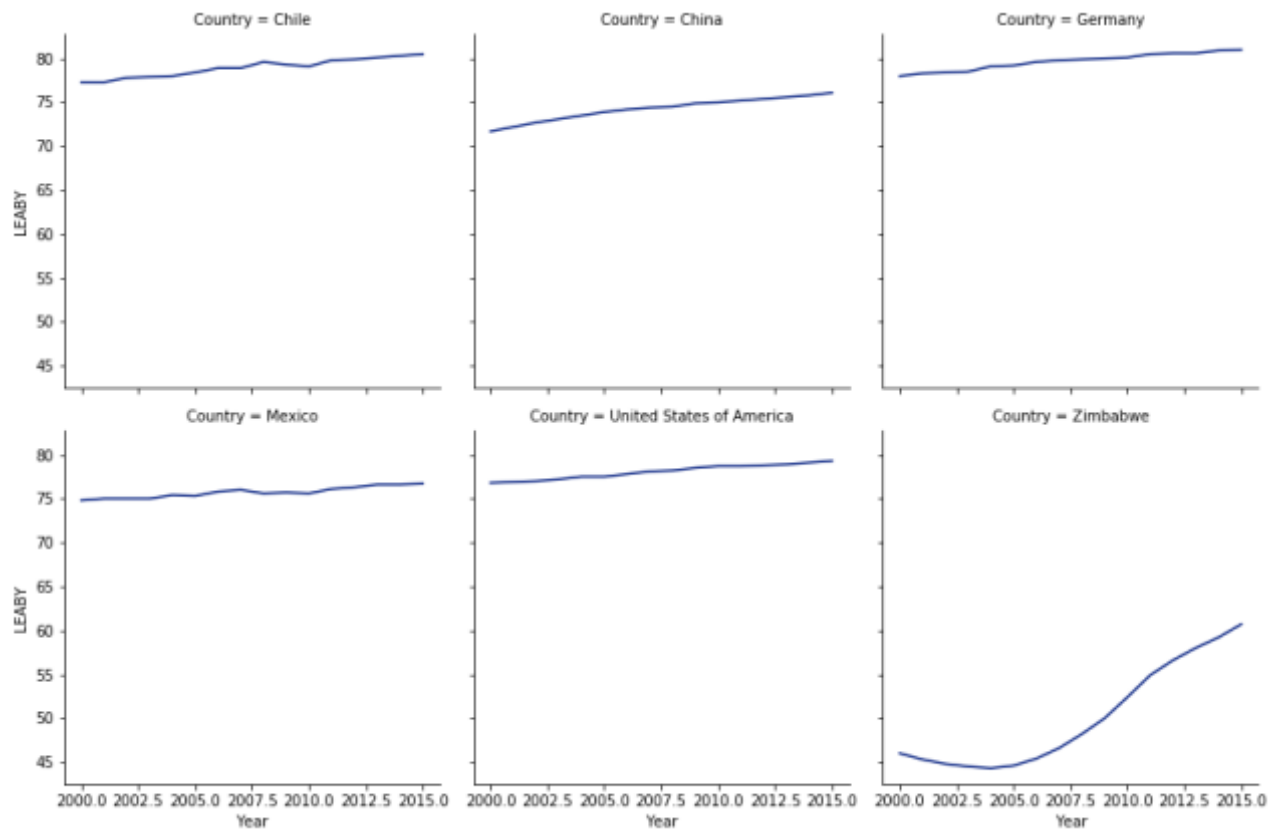


- China has significant growth in GDP and this is due to economic reforms implemented during the 70 's and 80's



- USA also have recognizable positive growth except for the dip during 2009, due to the sub prime lending crisis.
- Except for the above 2, all others have flat growth during those years.

### Life Expectancy by country ( Line Graph )-



- Zimbabwe has the wide swing in the life expectancy, between 40 years and 60 years.
- All other countries have some improvement but not much and it looks like its kind of peaking between 75 to 80 years.

### Conclusion –

- The analysis doesn't find any correlation between GDP and Life expectancy for the following reasons.
  - China and so some extent USA have significant growth in GDP but that doesn't seem to translate to the gains in Life Expectancy.
  - Zimbabwe GDP growth is flat during those years, but there is huge swing downward to start and upward later on.
  - Life Expectancy seems to be peaking at 80 years and any country in that range will not see any improvements with GDP growth.
  - There are some other factors like cultures, histories etc that are at play besides GDP, that has an impact on Life Expectancy so further

analysis to be done.



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