Life Expectancy vs GDP report

a correlation between the economic output of a country and the life expectancy of its citizens

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By @array1439717550 for Codecademy course "Visualize Data with Python"

INTRODUCTION

This report will use visualizations, created with Python libraries such as matplotlib, panda and seaborn. The sources of data used are: World Bank national accounts data and OECD National Accounts data files for GDP Source, and World Health Organization for life expectancy. Only six nations have been selected: Chile,China,Germany,Mexico,USA,Zimbabwe. The time frame is 2000-2015. Abbreviation of "LEABY" will be used for the "Life expectancy at birth (years)" string and GDP is measured in trillions of U.S. Dollars.

The focusing Questions:

Has life expectancy increased over time in the six nations?

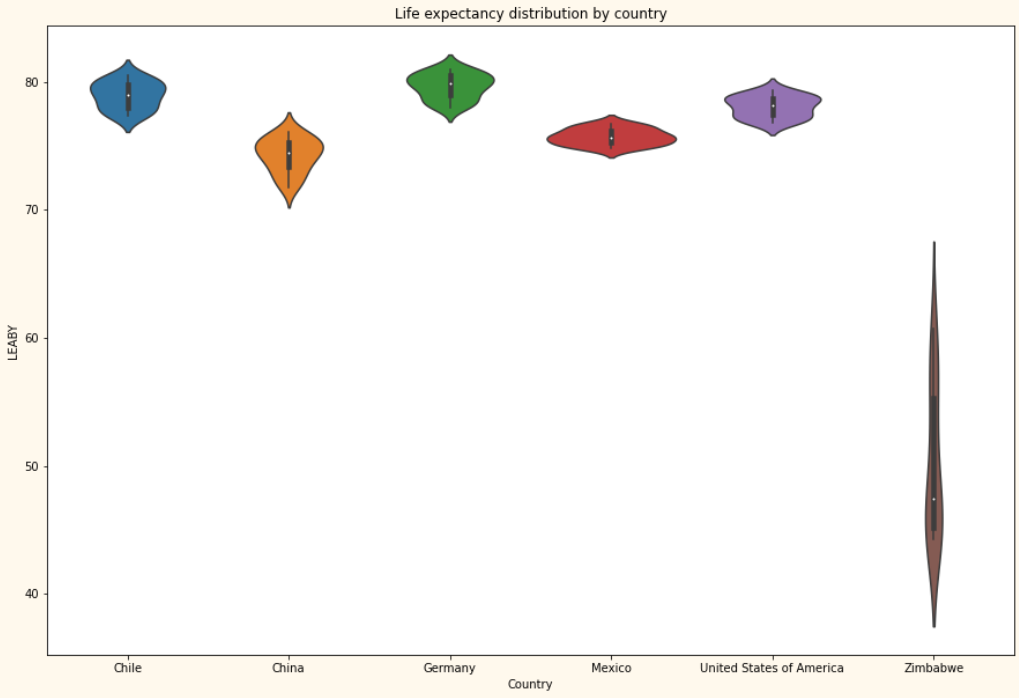
Has GDP increased over time in the six nations?

Is there a correlation between GDP and life expectancy of a country?

What is the average life expectancy in these nations?

What is the distribution of that life expectancy?

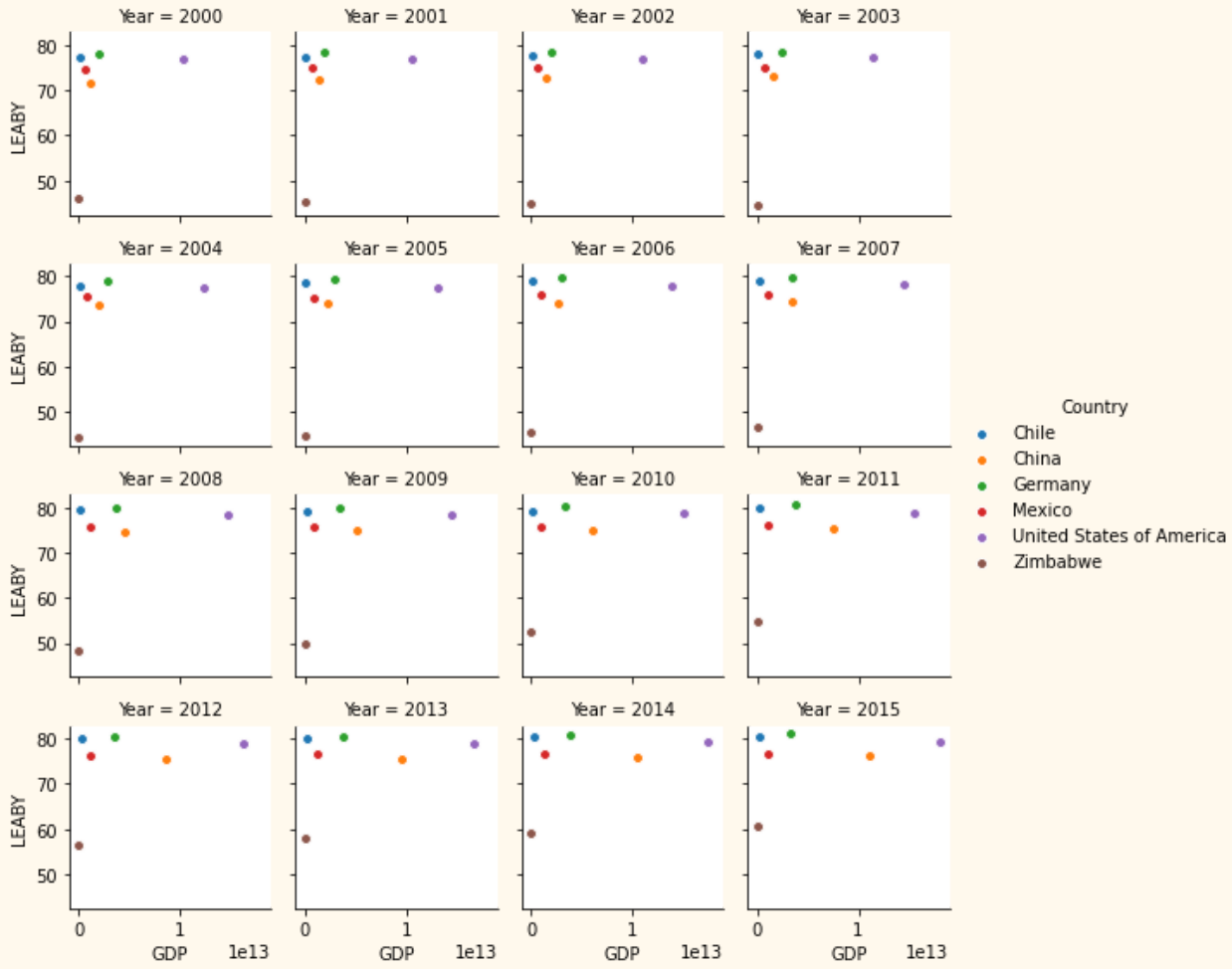
1. Life expectancy distribution by country



How to read this chart:

The form of violin-shaped figures reflect life expectancy in the time span of 15 years in this way: the vertical size of figures corresponds to change of life expectancy seen on y-axis, and horizontal size reflects “kernel density estimation of the underlying distribution of the dataset”, which means that the larger the shape is the less life expectancy are changed in the span of 15 years.

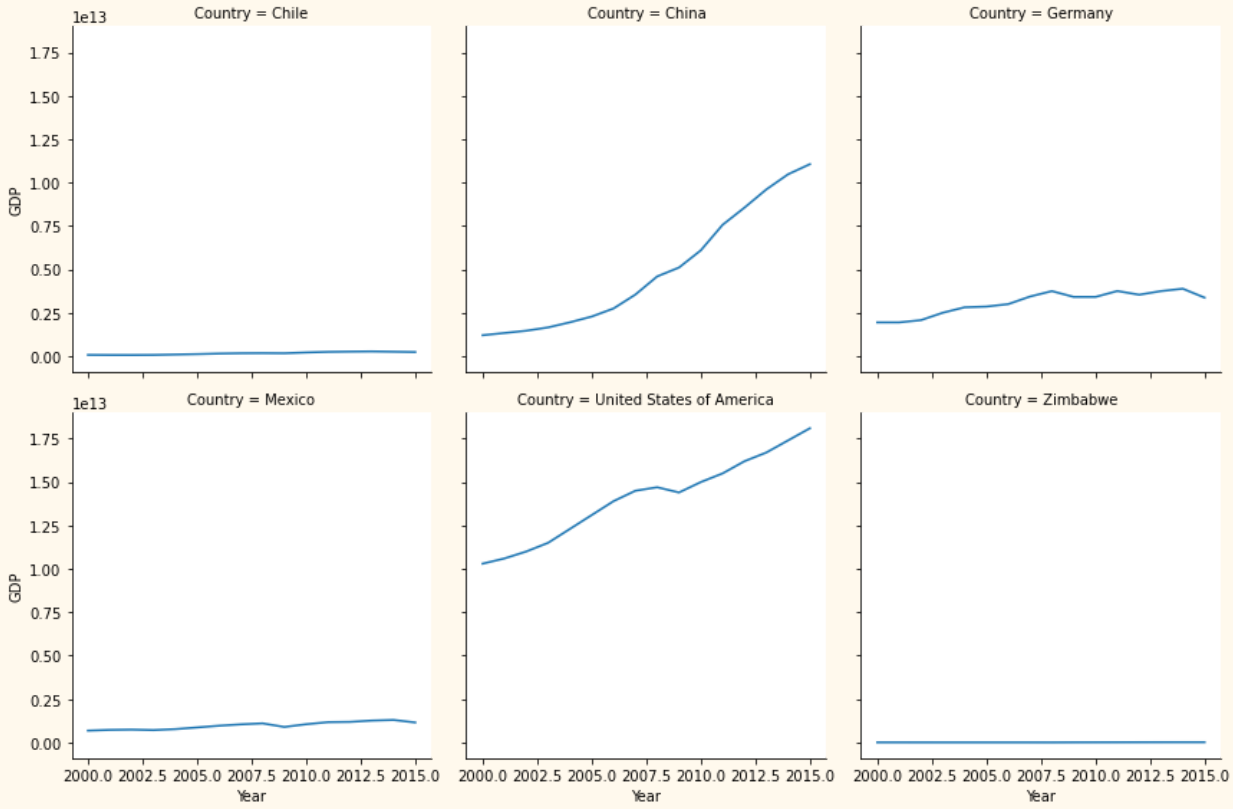
2. Correlation between GDP and life expectancy



How to read this chart:

The cells show how life expectancy on the y-axis relates to a country's GDP on x-axis, year after year. Note how China and the USA are moving horizontally and Zimbabwe vertically.

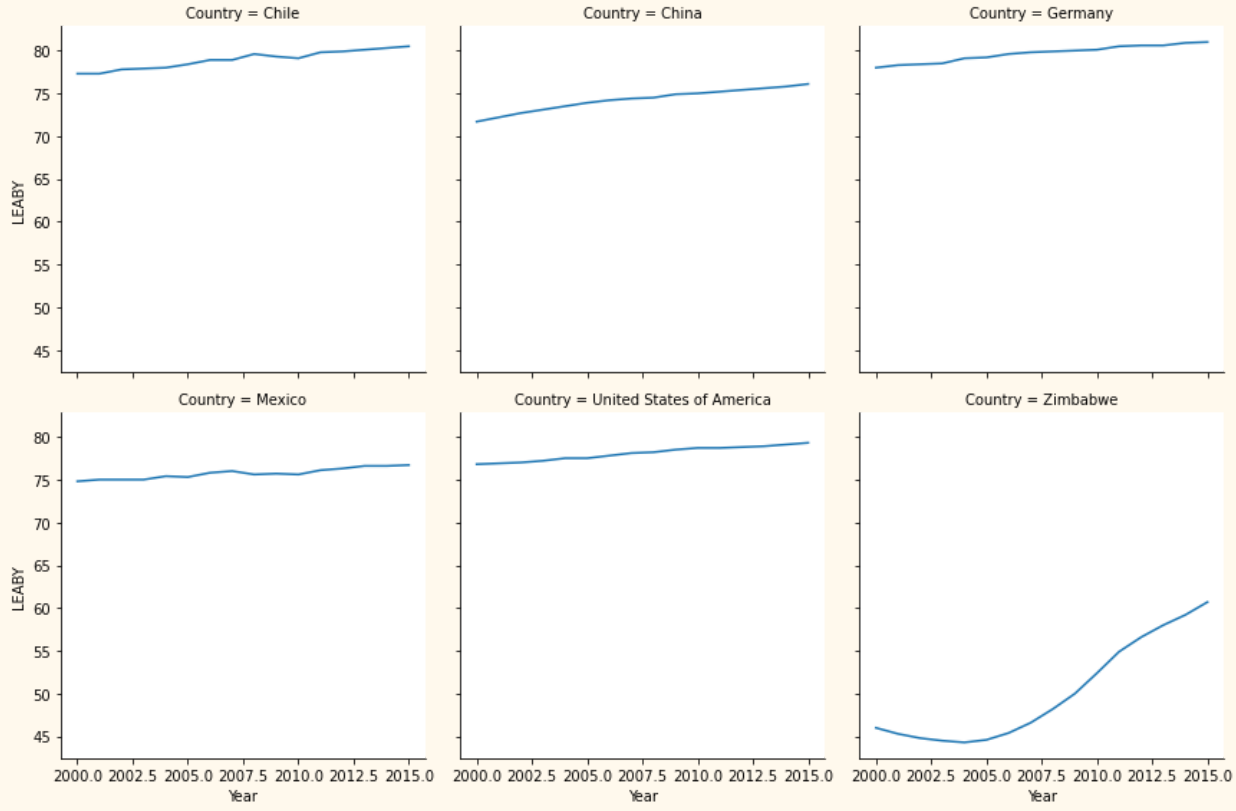
3. GDP by country



How to read this chart:

The cells show how a country's GDP on the y-axis is changing in years on the x-axis. Note how steep the line is for China and the USA.

4. Life Expectancy by country



How to read this chart:

The cells show how a country's life expectancy on the y-axis is changing in years on the x-axis. Note how steep the line is for Zimbabwe.

Conclusion

This somehow superficial report has shown that the correlation between GDP and life expectancy is almost non-existing. It was shown in examples of China and USa, when increasing GDP didn’t follow by increasing life expectancy. Rather life expectancy loosely increases by time. It can be a case of better health, hygiene and education, which didn't reflect much on GDP.

To make a project's dataset more reliable, a large dataset would help. More data less bias.