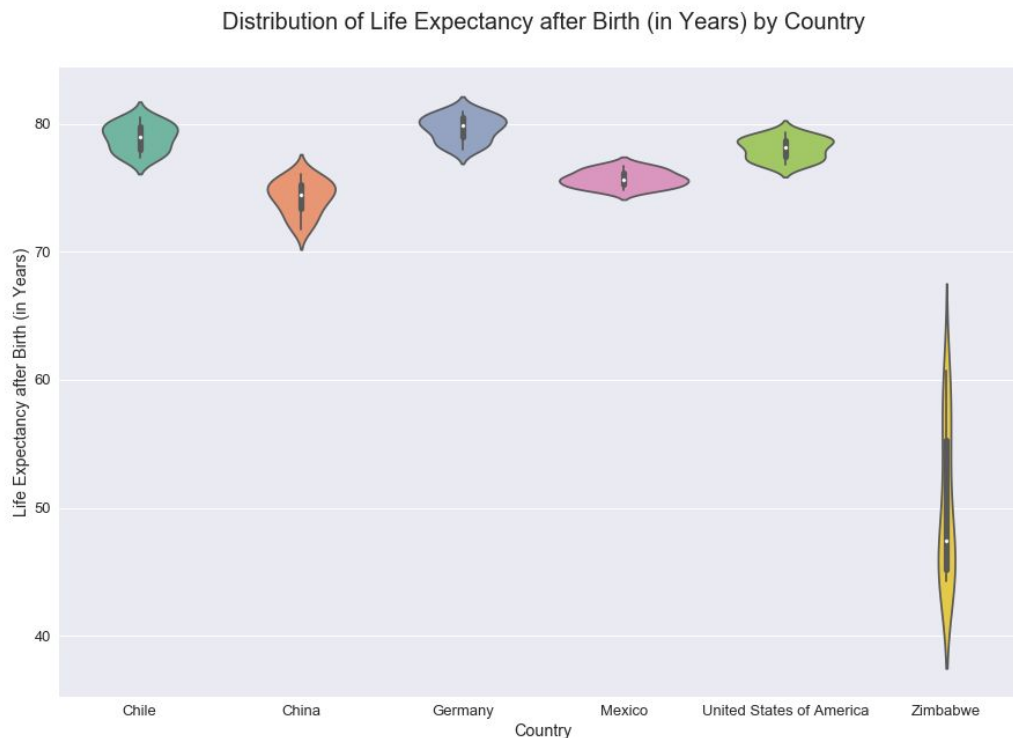


A Visual Reflection on GDP and Life Expectancy in Six Countries

Using a dataset from the World Health Organization and the World Bank, I built some data visualizations to explore the relationship between GDP and life expectancy in six countries: Chile, China, the United States, Germany, Mexico and Zimbabwe.

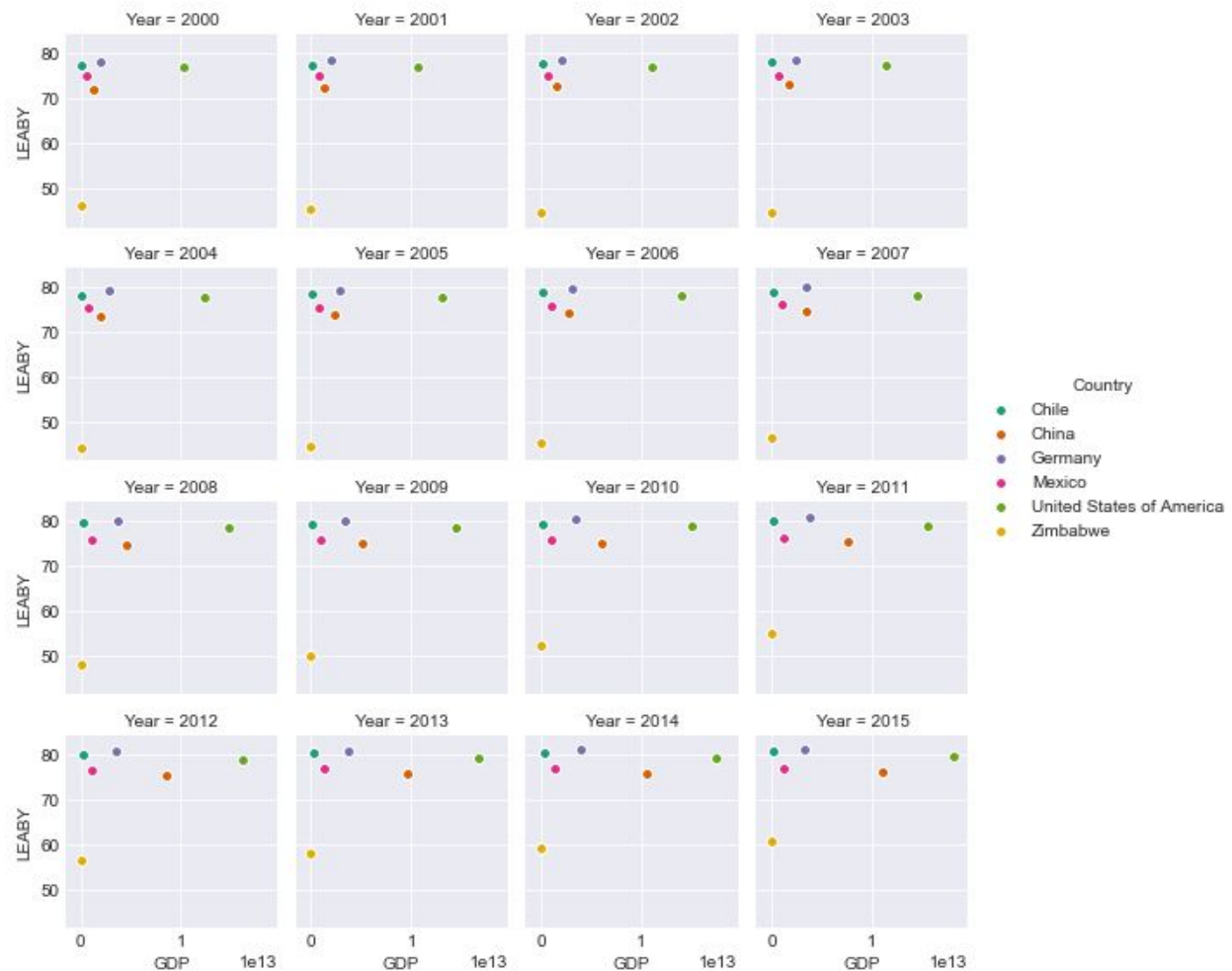
According to Wikipedia, GDP, or Gross Domestic Product, is defined as “a monetary measure of the market value of all final goods and services produced in a period (quarterly or yearly) of time. Nominal GDP estimates are commonly used to determine the economic performance of a whole country or region, and to make international comparisons.” GDP is generally regarded as reflection of the relative wealth of a country.

These six countries have a wide range in their GDP which allows the relationship between GDP and life expectancy to be examined.



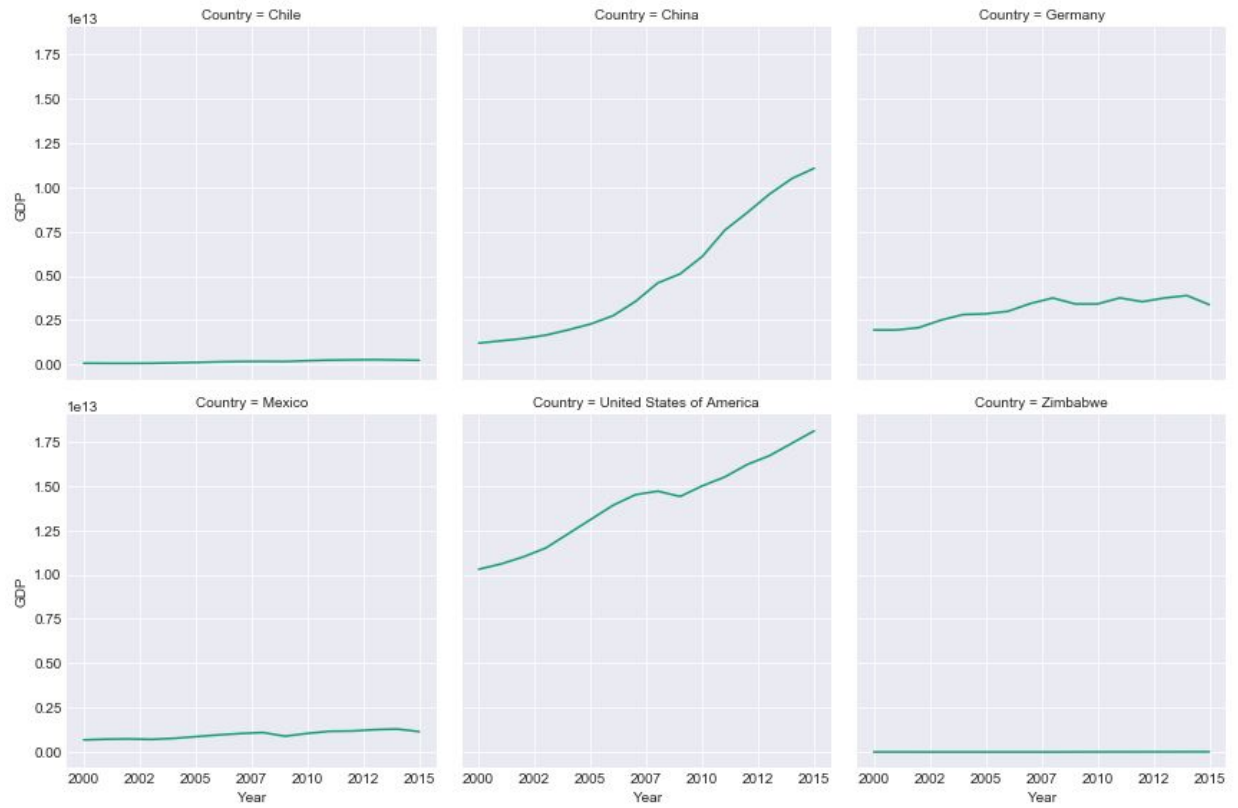
This first visualization shows the relative distribution of life expectancy in the six countries. Zimbabwe has the biggest range from the 30s to 60s, yet a narrow, fairly even distribution. As we shall see in future graphs, Zimbabwe showed the greatest gains in life expectancy which could account for the wide range seen here. This is difficult to see in this graph because it doesn't show information over time. Mexico has the smallest range, but widest distribution with the majority of people living until their mid 70s. Zimbabwe is clearly way behind the other countries.

Life Expectancy vs. GDP by Year



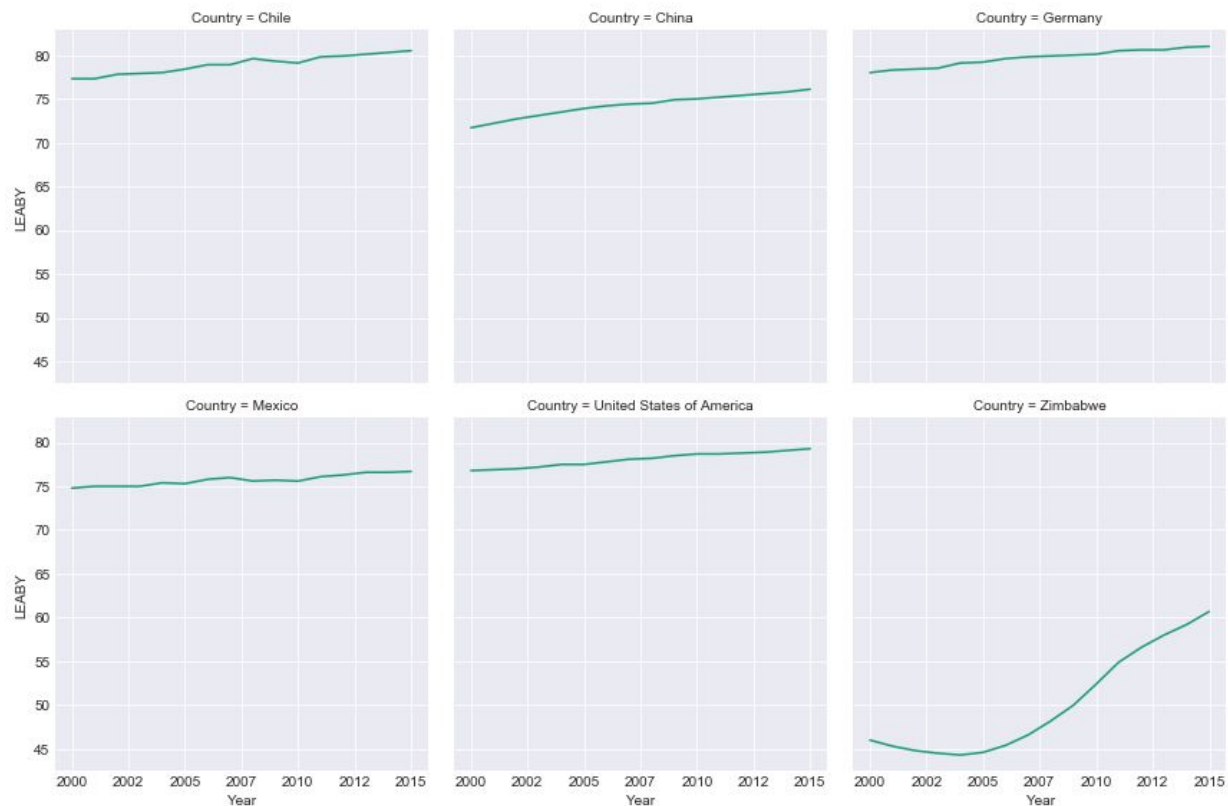
These scatter plots show the relationship of life expectancy to GDP by year. The United States and China show the greatest growth in their GDP, but their life expectancies don't change that much. Zimbabwe's life expectancy shows the greatest growth, but its GDP doesn't become noticeably larger. Since this is much information packed into small graphs, it is hard to note detail and parse out meaningful information.

GDP Growth by Country



This line chart visualization of GDP by country is easy to read at a glance. Clearly, the U.S. and China had the greatest growth while Zimbabwe had almost none.

Life Expectancy Growth by Country



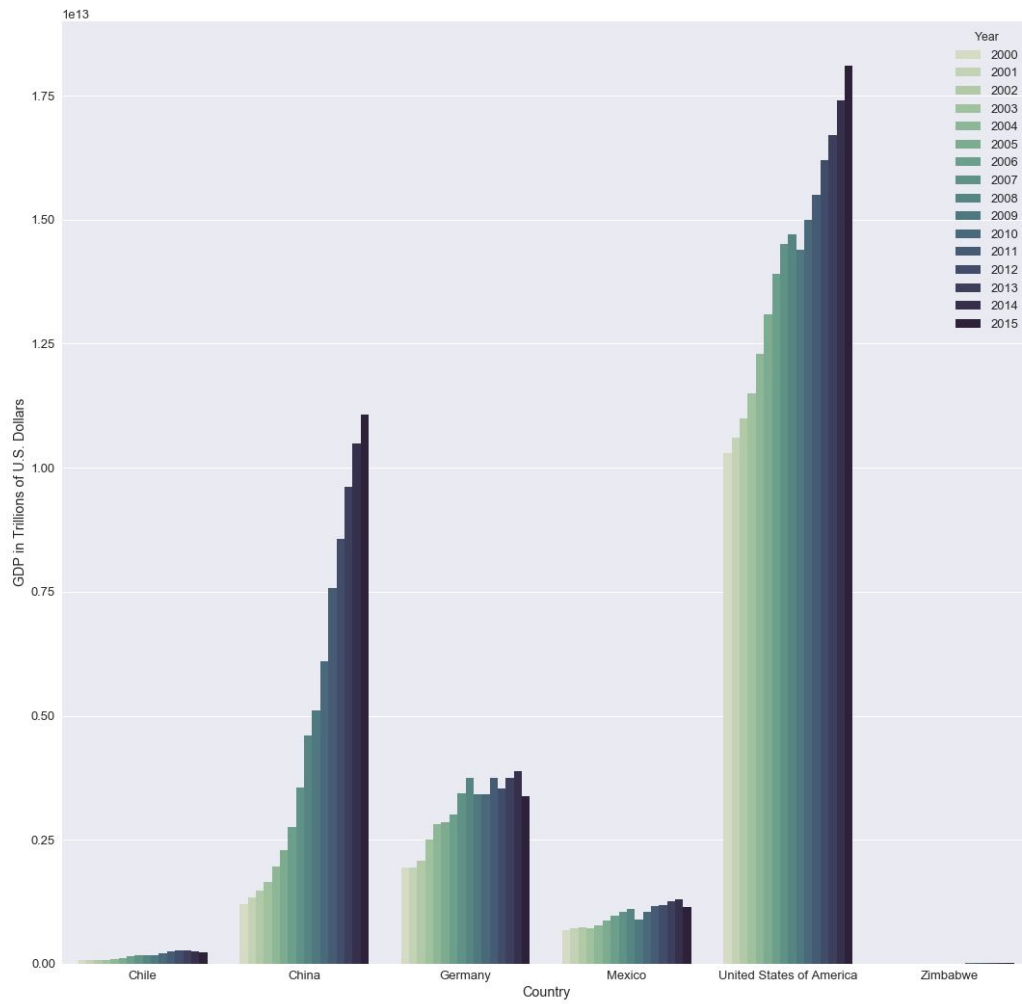
This visualization of life expectancy by country shows us that while all countries showed some gains, Zimbabwe's gains were the greatest. It is interesting to note that the gains seen above in GDP—in the U.S. and China, for example—did not significantly affect gains in life expectancy.

Zimbabwe shows the opposite relationship: while its GDP did not grow, its life expectancy rose significantly.

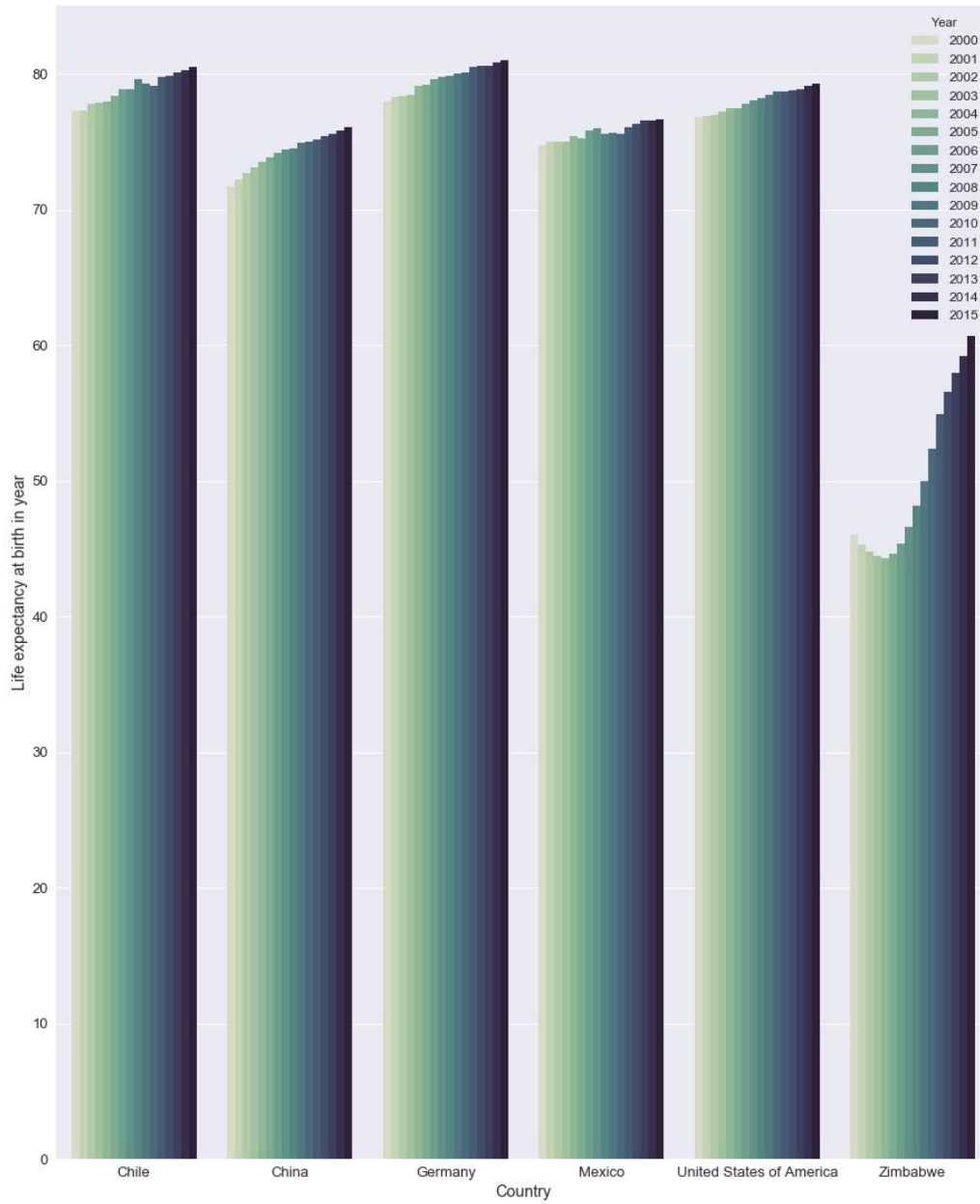
Further research on the life expectancy gains in Zimbabwe revealed that, [according to the Sunday Mail](#), the gains are largely due to increased health insurance coverage and thus, more people having access to affordable care. This is due to a growing middle class and to the recognition by employers of the importance of contributing to health insurance premiums. Another big factor was better treatment of HIV which included more access to anti-retrovirals and educating people about behavioral changes. Also noted was the progress made in fighting malaria.

The charts below allow side by side comparison of the six countries so as to see more easily their relationship to each other though they do not delineate the relationship of GDP to life expectancy as clearly as the facet grids.

GDP Growth Each Year by Country



Life Expectancy Growth Each Year by Country



Overall, it is interesting to note the lack of correlation between GDP and life expectancy. A greater GDP does not result in a higher life expectancy. A GDP that grows significantly does not result in increased life expectancy. In further research, it would be instructive to look more

specifically at the relationship between access to healthcare and life expectancy or perhaps, between the distribution of wealth and life expectancy. The U.S., for example, while a wealthy nation, still has many people without affordable access to care. It would also be interesting to look at how Zimbabwe's increase in life expectancy in the last ten years affects its GDP in coming years to see if having more people who are living longer leads to greater productivity.