

Visualizing Life Expectancy

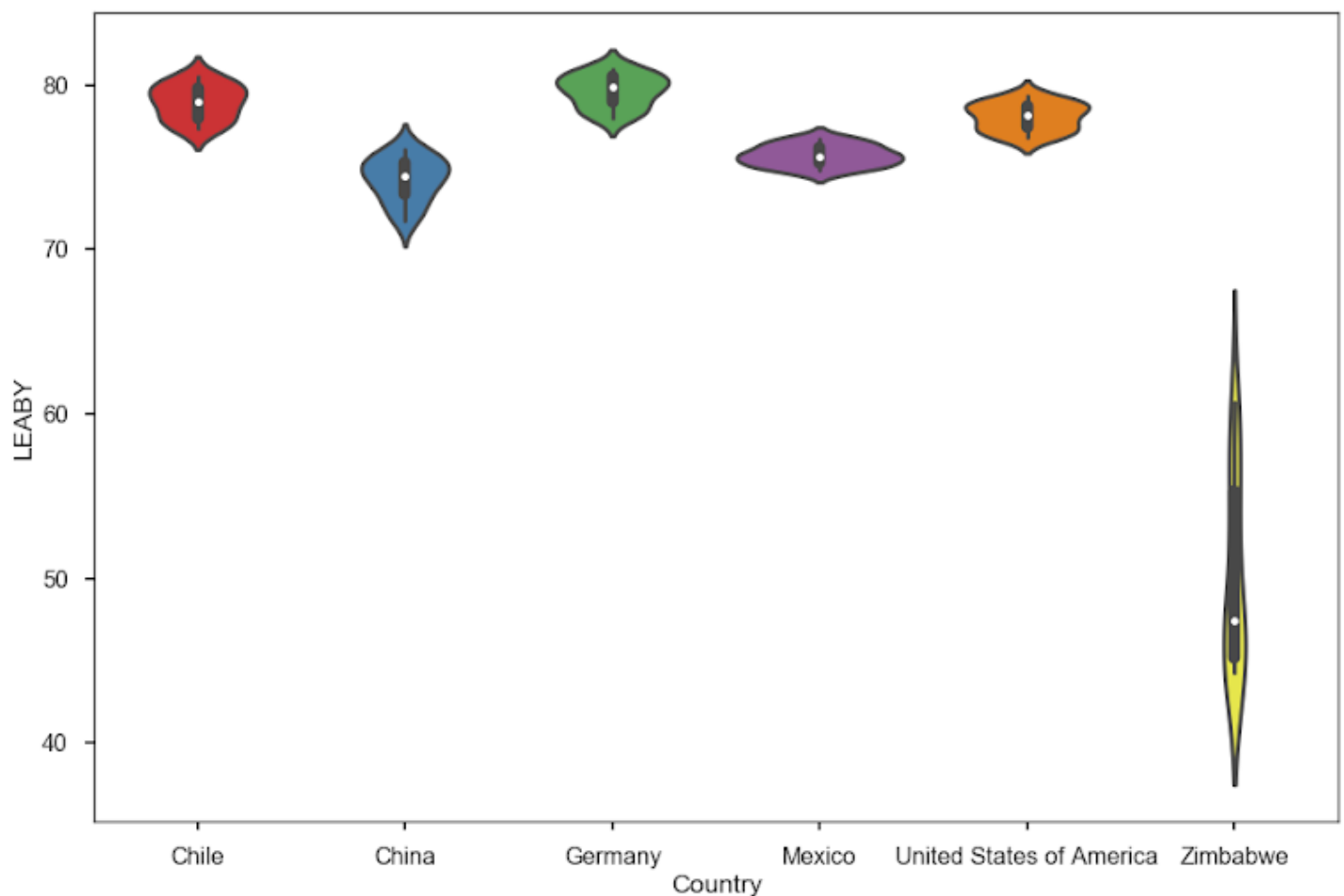


Figure 1. Life Expectancy after Birth in Years by Country.

Here is a figure showing Violin plots of the Life Expectancy after Birth in Years (LEABY) of the 6 countries presented in the study. The first 5 nations are more developed show similar trends. Their Mean is all in the 70-80 year range, with a narrow deviation of < 5 years. By contrast, Zimbabwe's LEABY shows much greater variation, over a decade. The mean is much lower too. This is probably a combination of high rate of young age/childbirth deaths and death from preventable/treatable causes due to lack of medical infrastructure.

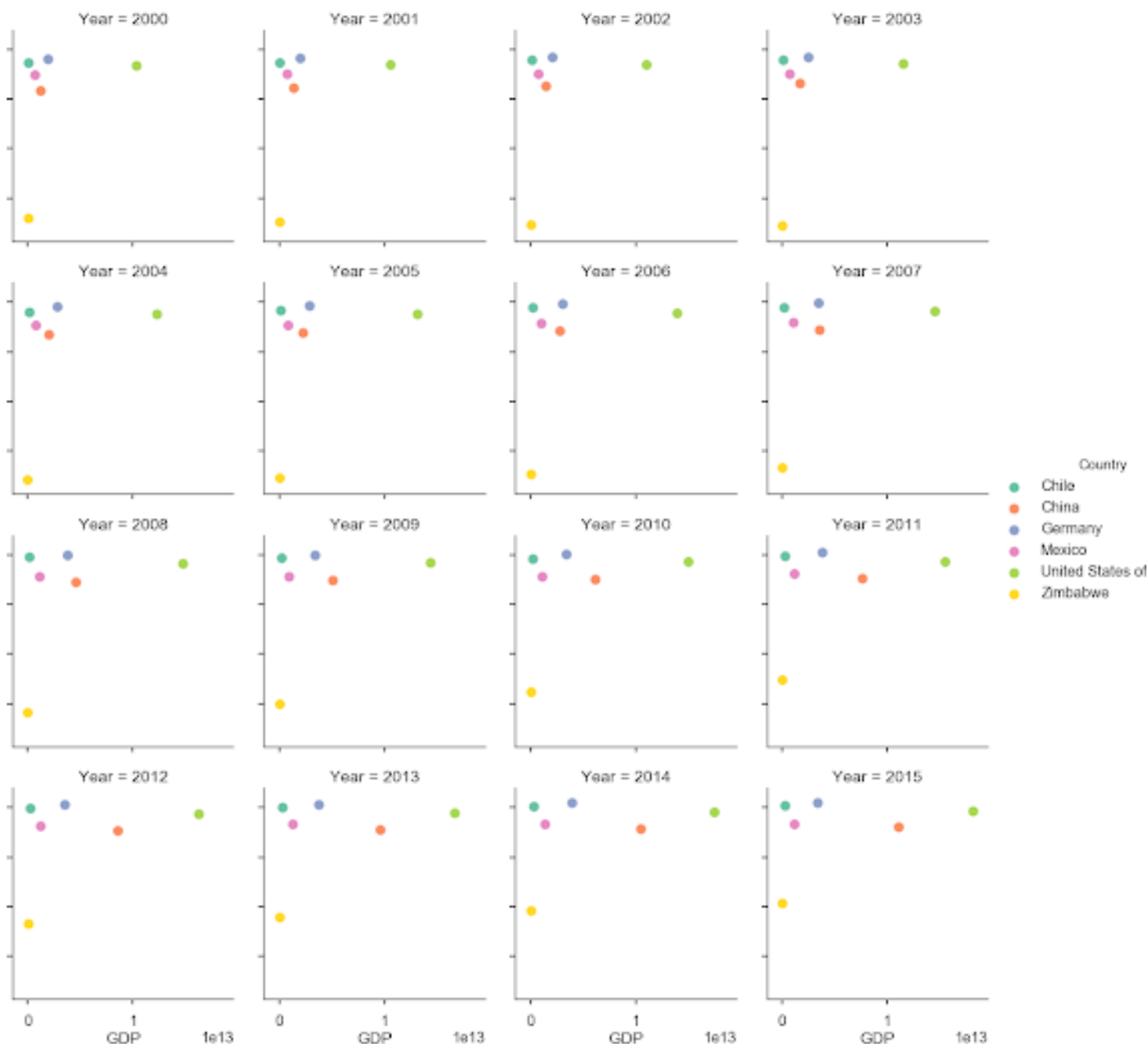
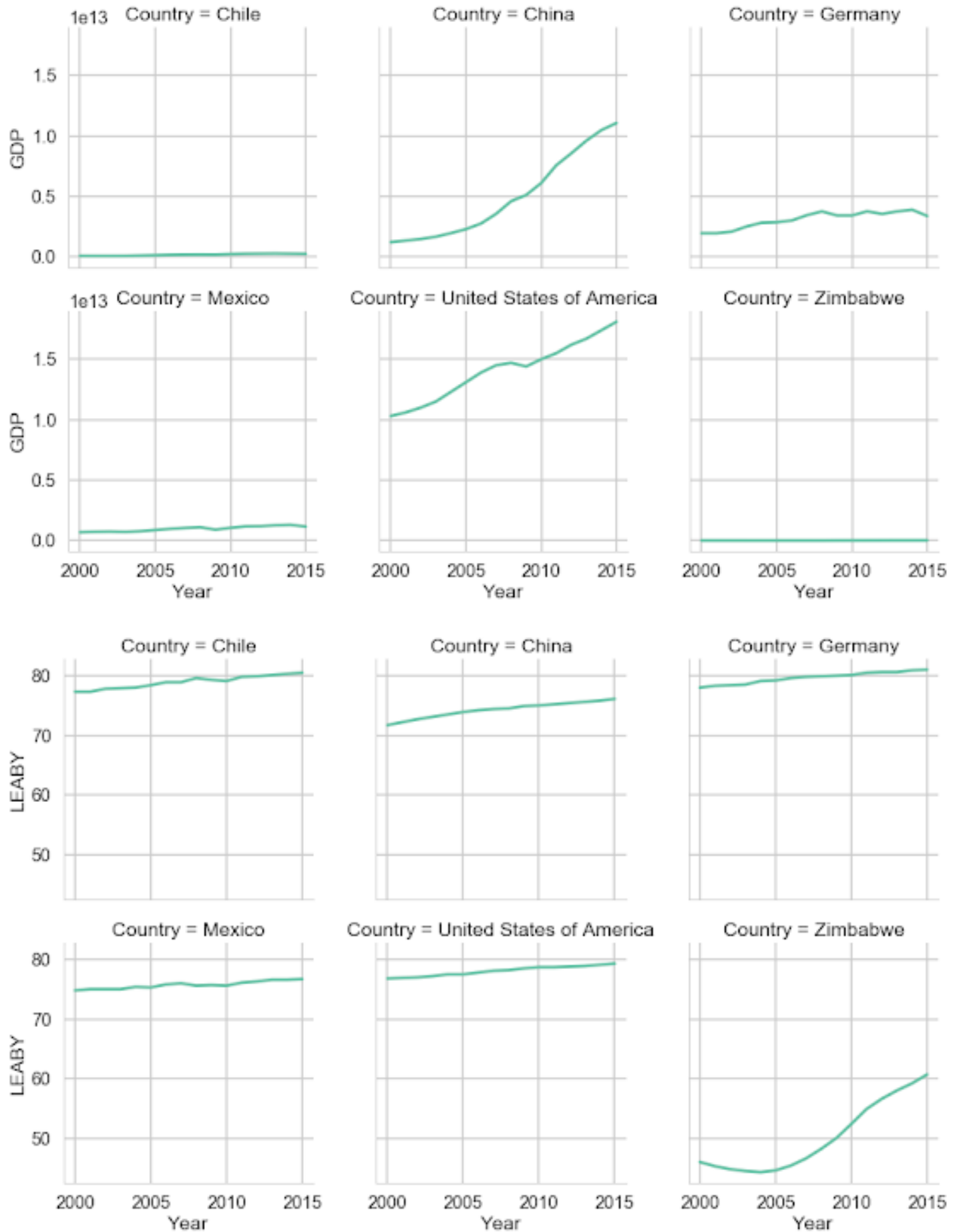


Figure 2. Mean LEAPY (Y-axis) versus GDP(x-axis) by year

Next looking for trends in GDP versus LEAPY, scatterplots for the years 2000-2015 are shown. The takeaway is that the 5 developed countries show relatively stable relationships between LEAPY and GDP, with China and the USA's GDP increasing with time. Zimbabwe's LEAPY increases in time, but GDP remains relatively constant. These trends need to be plotted more easily per country, seperately.



In these images, we plot the GDP and LEAPY separately by year. The previously mentioned trends are clearer. GDP rises for China and the US, while remaining fixed for Mexico, Chile and Zimbabwe. LEAPY remains fixed, slightly rising 70-80 yr for the 5 developed countries, while low, but rising rapidly for Zimbabwe. In fact, a dip is evident around 2005, indicating a large mortality event, perhaps famine or disease.

In conclusion, there are 3 categories of relation between GDP and LEAPY from this data. Some countries like Chile, Germany and Mexico have near slightly rising GDP and LEAPY, indicating stable economic growth and low occurrence of infant mortality and treatable disease deaths. Some like the US and China have slightly rising LEAPY but increasing GDP, showing stable populations with increasing economic output. Zimbabwe shows large LEAPY growth but no change in GDP. One result might be that deaths due to preventable diseases and improvements in infant mortality are occurring in Zimbabwe, but economic progress is still flat.

More data on disease rates and economic indicators might be useful for more analysis.