Life Expectancy & GDP Data

Introduction

Analyze data on GDP and life expectancy from the World Health Organization and the World Bank to try and identify the relationship between the GDP and life expectancy of six countries.

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, often annually or quarterly. Nominal GDP estimates are commonly used to determine the economic performance of a whole country or region, and to make international comparisons.

World Health Organization (WHO)
http://www.who.int/about-us

The World Bank Group is one of the world's largest sources of funding and knowledge for developing countries. Its five institutions share a commitment to reducing poverty, increasing shared prosperity, and promoting sustainable development. More about The World Bank **http://www.worldbank.org/en/who-we-are**

China has greater GDP dynamic in 2000-2015 years

Some reason:
Low taxes, cheap labor, Attracting foreign investment (iPhone, Samsung phones and same etc). Priority of state interests over ideological.

GPD and LEABY in China
LEABY and GDP not correlated in China and other countries.

The top 10 countries by a measure of GDP are:

1. United States
2. China
3. Japan
4. Germany
5. France
6. Brazil
7. United Kingdom
8. Italy
9. Russia
10. Canada

The Problems With GDP

When it comes to measuring the economic standing of a country, GDP has several problems and opponents. The primary problem is that GDP is a measure of generality. The Dow Jones Industrial Average presents a similar problem: It is the average of 30 companies, which is a pittance in comparison to the total amount of companies trading on the stock exchange. Even the S&P 500 is only an average of 500 companies. Using an average figure omits many other factors that may tell a different story, and it likely excludes pertinent information that should be included.

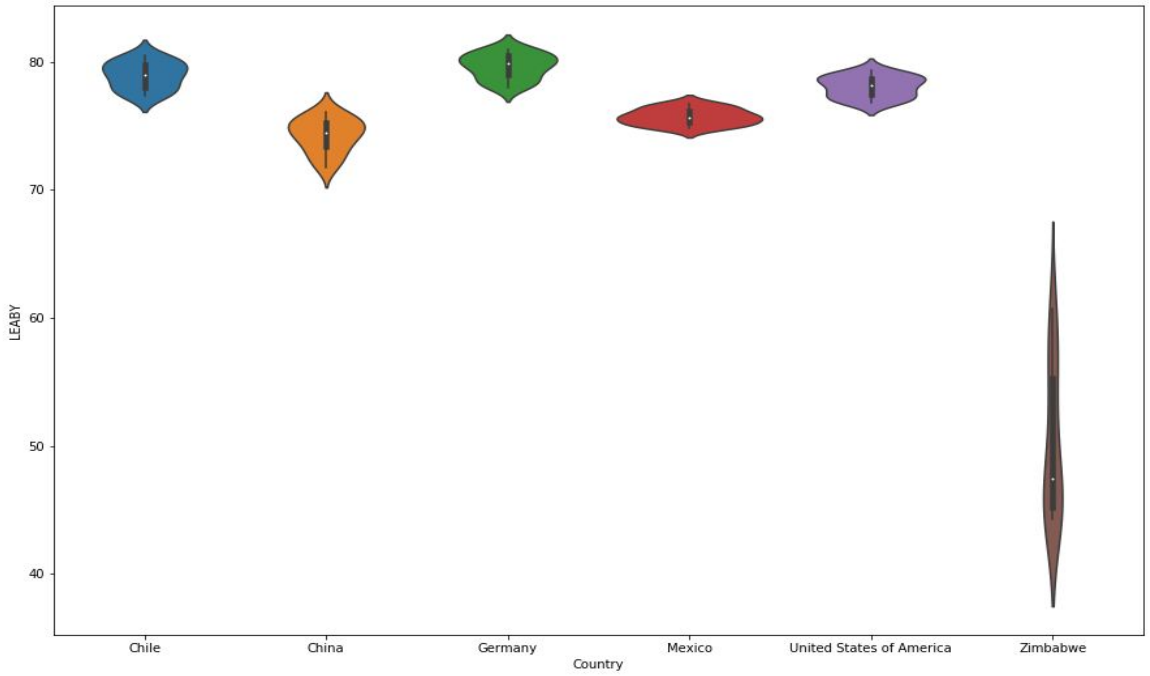
Economists label items that fit this description "externalities," and they fall into the following categories:

- **Recessionary Hangovers**. There are times when a country is out of a recession, according to GDP, but in actuality is still in a recession. For instance, according to economists using GDP as a measure, the recession in the United States ended in 2009. However, as of 2012, the unemployment rate has remained above 8% for 30 straight months, reaching as high as 10% in 2009. That is a functional recession. If the goal is to measure economic health, then you cannot count 8% unemployment as healthy, particularly when drops in the unemployment rate for two quarters straight are because of people dropping out of the job search.
- **Credit-Based Spending**. Another problem is that spending on goods and services does not always come from income generated. Both the American public and the government routinely spend money on credit, and the effects of chronic debt are not factored into GDP. During the run up to the mortgage crisis, millions of Americans got home equity loans. These monies were used for everything from renovations, college tuition, new cars, vacations, and more. All those expenditures

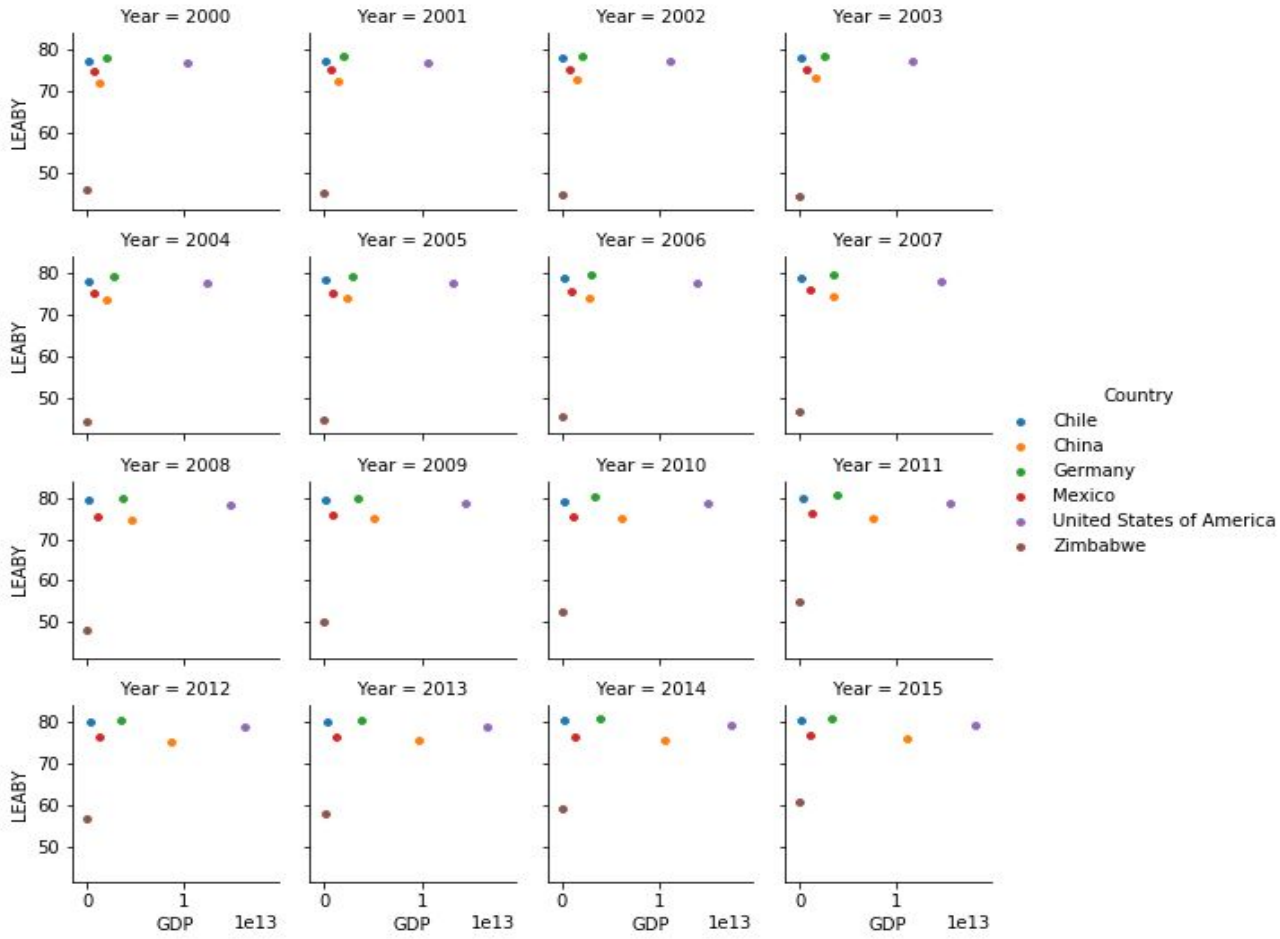
counted toward positive GDP growth, but the country was not in a healthy state. When the housing bubble burst, the effects of that debt spending hit the nation hard – and the GDP numbers did not reflect that hidden time-bomb. This can be seen on a national level if you consider that Italy is in the top 10 list of worldwide GDP, but is currently embroiled in a nationwide debt crisis.

- **Underground Economy**. From economic calamities like the housing bubble, we get high unemployment and an increase in what is called the "underground economy." If you pay cash "under the table" for a good or service to someone who does not have a formal business or does not report the income, this contributes to the underground economy. This economic activity is not included in the GDP.
- **Non-monetary Economy**. GDP numbers omit production and services where no money comes into play. Bartering is no longer a large part of the American economic model, but does increase in severe recessions. Exchanges of goods for services and vice-versa are not recorded, resulting in skewed GDP figures.
- **Sustainability of Growth**. The effect that production – particularly industrial production – has on the environment has become a concern, as maximizing short-term output may be unsustainable and can cause long-term damage. For instance, a logging company could make a huge output in the harvesting of trees, but if they over-harvest, replenishing the forest's supply of quality lumber could become problematic or impossible, affecting future GDP. Other examples include over-fishing a body of water, or over-farming a tract of land. A country may achieve a temporarily high GDP from abusive usage of natural resources or by improper allocations of investments.

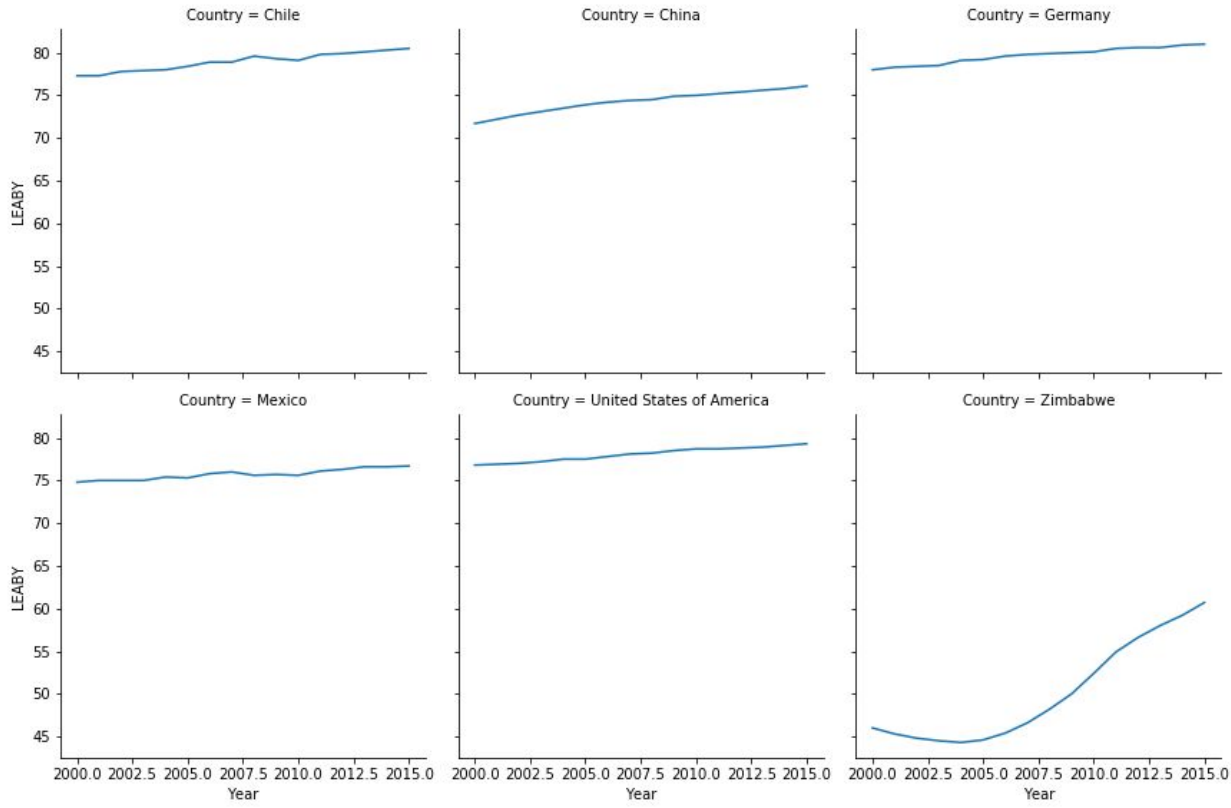
The violin plot of the life expectancy distribution by country



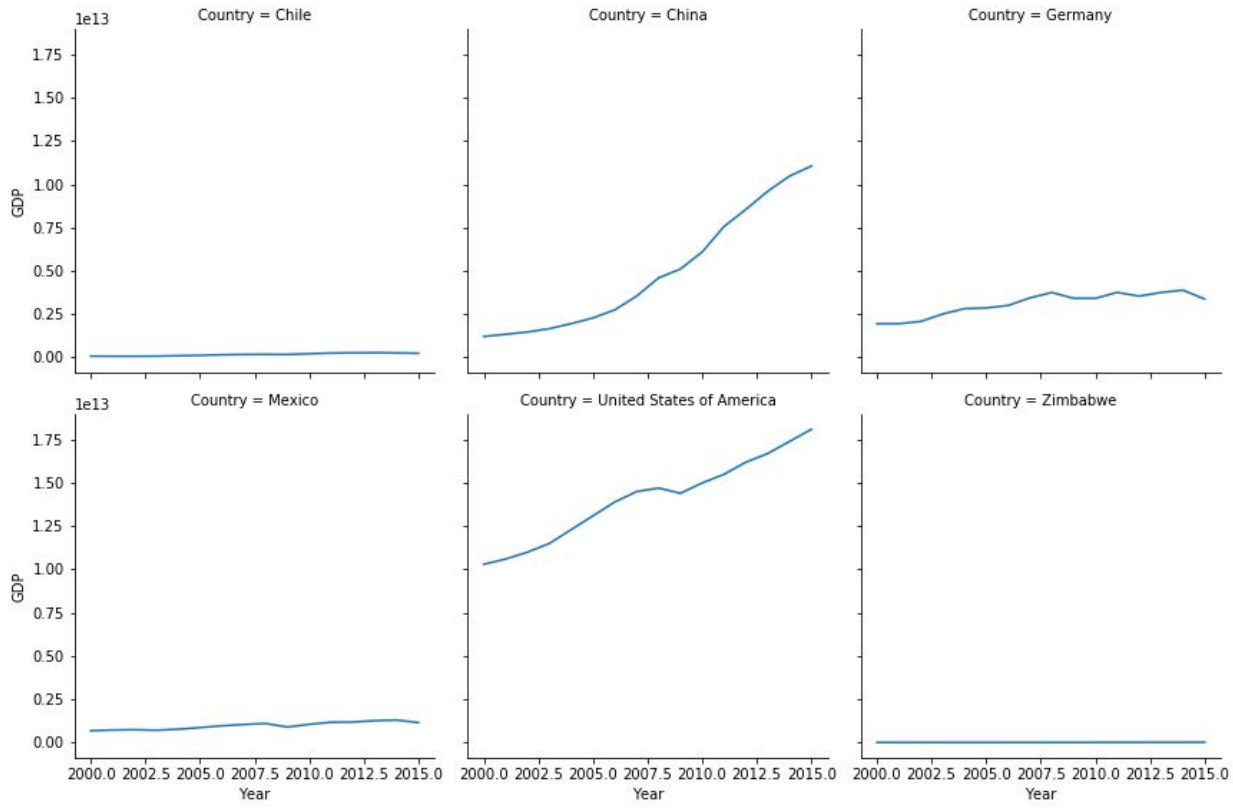
The facet grid of scatter graphs mapping GDP as a function of Life Expectancy by country



The facet grid of line graphs mapping GDP by country



The facet grid of line graphs mapping Life Expectancy by country



Consult

GDP and utilize it as a simple read of a country’s economic health.