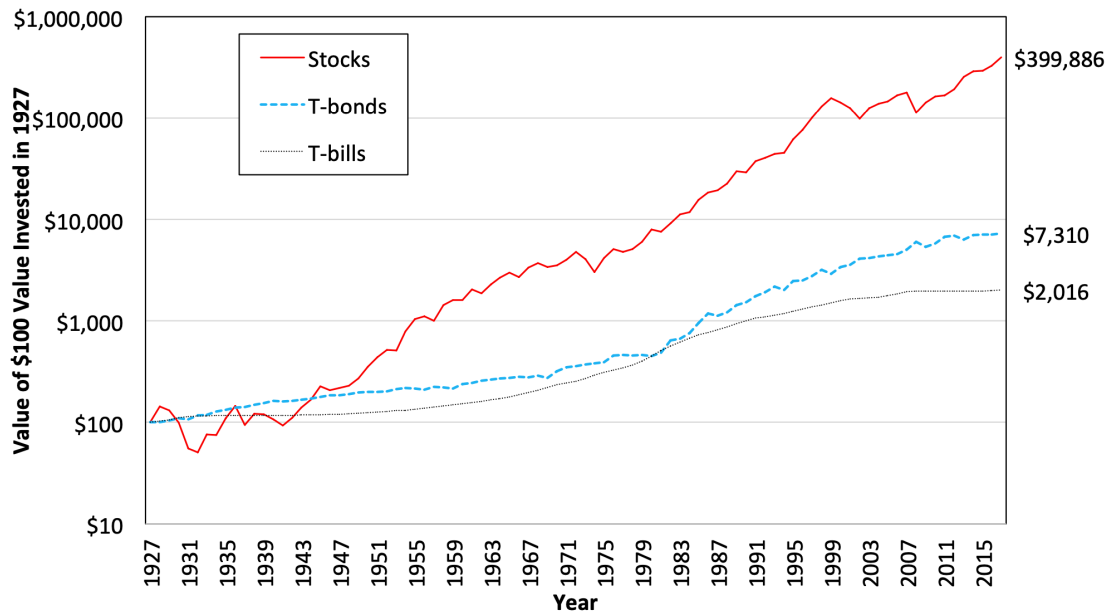


# The Story of Investment Horizon



## Stock is a good investment if you have long investment horizon

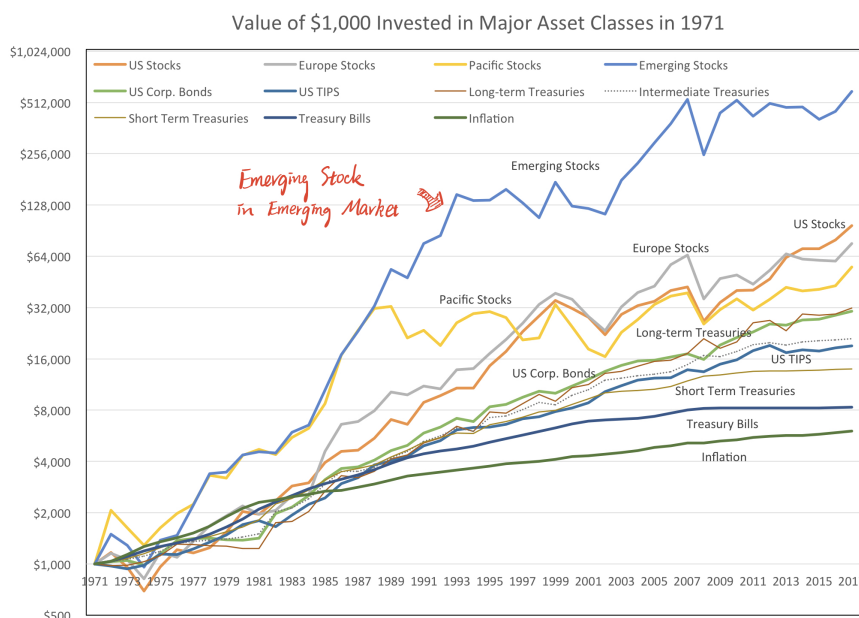
- As we can tell from the graph, stock have significantly greater return compared to bonds and bills.
- But bear in mind that this is true when you have a long investment horizon
- Put stock market at a micro-scope level, we will experience great fluctuation everyday

## You can do better than stock, as long as you can take that risk

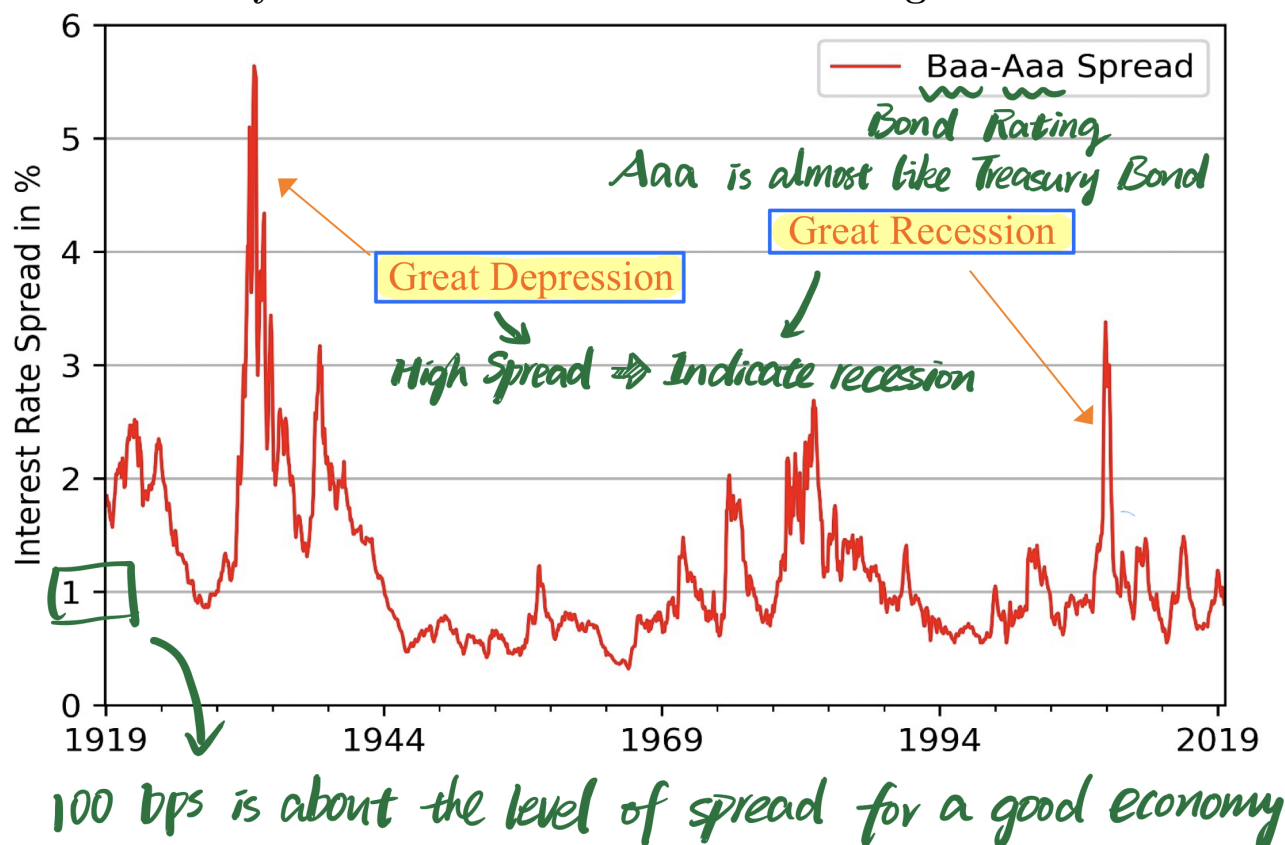
- For instance, derivatives, are also a high risk asset, but the potential return is higher
- During the 2008 Crisis, there is a man who lend Goldman Sachs millions of money to help the firm.
- In exchange he asked for options on the stock with a low strike price
- Eventually Goldman Sachs survived the crisis and the man gain billions of money
- However, if we look at stock price, firms like Deutsche Bank never get out of the trouble. This trade is risky.

## Implication from my point of view

- Take a long-term investment horizon and invest in things with high potential value
- We need to identify firms that is with good condition that worth invest in, E.g: Goldman Sachs v.s. Deutshce Bank
- This require us to know the business, how much company is involved in, the probability of it strive again.



## Why investment with machine learning is so hard



### Interest rate spread is a good indicator for economic recession

- The higher the spread, meaning that people is asking for a higher payoff for the risk
- usually a good and healthy economic keeps a spread around 100 basis points

### Interest rate spread as a good tool for adjusting economic behavior

- If the spread is low, the investor will have no choice but to go for high risk investment
- By controlling the spread, we can stimulate the economy or make the economic slow down

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### Implication

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## US Market in the recent years, related to DDM

### The corona virus makes the market to drop

- it essentially drop the g, some guess is 0%, some guess is 4%
- some will say that the market has been crazy and the corona virus just bring it down
- before the crisis, the P/E is about 22, usually it is 17
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### The central banks / fed make adjustment to lower interest rate

- it essentially drop the k, from the CAPM model
- central bank wants to show support for the stock market
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### When the stock market goes in crazy, people's risk aversion goes up the ceiling

- $U_p = E(r_p) - \frac{1}{2}A\sigma_p^2$
- central bank wants to show support for the stock market
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