# 1.5: Stocks vs. Bonds

The two primary sources of financing for corporations are stocks (equity) and bonds (debt). These are essential financial instruments that we will discuss in depth throughout the semester. Let us introduce the basic characteristics of these securities (a "security" is just a generic name for a financial instrument) now.

## Stocks

Stocks are a form of ownership (equity) in a corporation. When you own a share of stock, you are actually a part-owner of the corporation. Large corporations have several million (or in some cases billion) shares outstanding, so when an individual owns 100 shares they own a very small fraction of the firm. For example, Exxon Mobil had 4.23 billion shares outstanding in January 2021, while Amazon had 501 million and Winnebago had 33.6 million at that time. As an owner, you are entitled to a piece of the company's profits (on a pro-rated basis equivalent to the percentage of ownership). The firm can choose to distribute those profits back to shareholders in the form of dividends or reinvest them back into the company. Sometimes firms will engage in buying back shares of their own stock as a substitute (or in addition to) dividends as a way to return profits to shareholders. We need to be careful because there are other reasons why firms may engage in buybacks, but while the COVID pandemic of 2020 saw companies cut dividends and buybacks, they were still quite strong. When firms reinvest the profits back into the company instead of paying them out as dividends, the value of the firm should increase (assuming the profits are reinvested wisely) which will result in capital gains. Thus, your return from owning stock can come from two sources — dividends and/or capital gains. Because the dividends and capital gains essentially represent your portion of the company's profit, they can fluctuate dramatically over time. Dividends represent the portion of the profit that is CURRENTLY being paid out while capital gains are dependent on investors' expectations of FUTURE profits.


Some companies expand rapidly and are extremely successful leading to high returns. Others struggle (or even go bankrupt) and lead to negative returns. As such, the returns associated with stock ownership are highly volatile and risky. Because investors are risk-averse (a concept we will introduce shortly), stocks must generate higher expected returns than safer investments (like bonds) in order to attract investor interest. Note that this does not mean that any individual stock (or stocks in general) WILL generate a higher return, only that its EXPECTED return will be higher.

A final issue associated with stocks is that there is no maturity date to stock ownership. When you buy a stock, you own it until you decide to sell or the company goes bankrupt. Theoretically, the timeline for this type of security is potentially infinite. However, in practice, we find that publicly traded companies have a much more finite lifespan of approximately 15 years. In the article, Where Do Firms Go When They Die the author discusses this relatively short lifespan. Note that this refers to the stock itself, not the investor's holding period which may be as short as a few seconds or as long as several decades.

**Stock Summary**

- Ownership (equity)
- Variable cash flow (return) stream — dividends and capital gains
- Higher risk and (on average) higher returns
- Potentially infinite time horizon

## Bonds

Bonds are a form of debt. When you buy a bond, you are lending the issuer money (in addition to corporations, governments – federal, state local and international – also are large issuers of bonds). The loan is structured so that the bondholder (typically) receives a fixed interest payment (referred to as a coupon payment) every six-months until the bond matures. At maturity, the bondholder receives the last coupon payment and the par (or maturity) value. Unlike dividends (which firms can increase, decrease, or discontinue at their discretion), promised coupon payments on bonds must be made to bondholders on time or the company can be forced into bankruptcy. Bondholders are first in the priority of payments and must receive their promised payments before the stockholders get anything. Due to this priority of claims, the fixed cash flow stream (coupon payments and maturity payment), and the fixed time horizon, bonds are considered lower risk than stocks. Given this lower risk, bonds will typically have lower expected returns (note – there can be exceptions where the bond of a firm that is exhibiting financial stress may be riskier and have a higher expected return than the stock of a large, stable company). Again, a lower EXPECTED return does not mean a lower return for any particular bond or for bonds in general in a particular year. In any given year, bonds can earn higher returns than stocks, but typically, over longer periods of times, stocks usually earn higher returns than bonds.

Interested students can compare historical returns for the S&P 500, 3-month Treasury bills and 10-year Treasury bonds on a data page by Aswath Damodaran. Since 1928, stocks (as measured by the S&P 500) have had annual returns that are about double that of 10-year Treasury bond (bonds issued by the US Federal Government). Alternatively, the volatility of annual returns over this same time-period has been almost three times as high for the S&P 500. Note that the higher return of stocks, significantly understates the benefit over this time period if one is not aware of the power of compounding. Specifically, $100 invested in stocks at the start of 1928 grew to $502,417 by the end of 2019. The same $100 invested in 10-year Treasury bonds over the same time grew to $8,013. In other words, while the average return was about twice as high for stocks (9.71% vs. 4.88%), the total wealth accumulation was over 62 times as high during this time frame.

## Bond Summary

- Debt (loan)
- Fixed cash flow stream — coupon and maturity payments
- Lower risk and (on average) lower returns
- Fixed time horizon