Stocks Vs. Bonds

In the world of finance and investing, the terms "equity", "debt", "stocks", and "bonds" are essential terms. Thus, it is critical to understand what they mean and how they relate to each other. This white paper is intended to be an introduction to important concepts relating to stock and bond investing, this white paper is intended to provide a high level overview and introduction to important concepts relating to stock and bond investing.

As household consumers, most individuals are familiar with the definition of debt. Like individuals, corporations use debt as a means to finance their operations and business growth. Unlike most individuals, corporations use debt to raise cash for investment in what is intended to be a profitable operation or initiative; for individuals, debt tends to be predominantly used to fund consumption.[1]

[1]A future white paper will address this dichotomy and will provide a paradigm supporting the idea of individuals using debt financing for investment purposes instead of consumption.

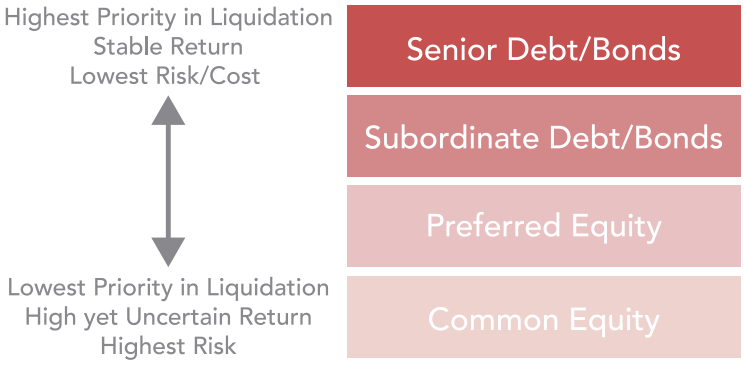
What is a Stock? What is a Bond?

Large companies and other entities use bonds as a form of debt borrowing or financing. Unlike loans, bonds are more transferrable and divisible by the lenders, allowing for multiple investors, which is appropriate when financing needs are very substantial. Bearing similarities to the concept of a first mortgage and a second mortgage, there are senior bonds and subordinated bonds; the senior bonds take precedence over the subordinated bonds in terms of payment priority, and therefore are safer for the lender or investor.

Equity, on the other hand, represents a share of ownership in a for-profit corporation. It is what is "left over" from revenue brought in after all expenses (operating expenses, taxes, interest) have been paid. Because equity holders are entitled to what is "left over," this means they are the investor class exposed to the greatest risk, but are also entitled to the greatest reward.

A corporation's capital structure is typically comprised of one or more forms of debt and one or more forms of equity. According to the chart below, there is an order of precedence governing how money flows in an entity from one class of investors to another.

Because debt or bond holders have a senior claim relative to equity holders, business profits first go towards senior debt payments, then to any subordinate class of debt, and then to any preferred class of equity. From there, all remaining profits flow to common equity as a return on investment to be distributed to the owners of common equity. Pending the direction and approval of the company's board of directors, this distribution can come in the form of a dividend (or stock buyback), reinvested into the company, or most likely a combination of both.



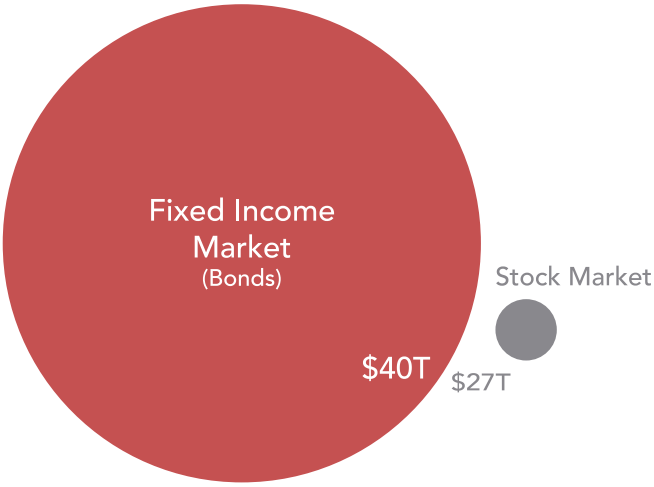
If business prospects are extremely good, a common equity shareholder may receive a theoretically uncapped return on their investment. Over the long run, the return on equity of successful and stable corporations exceeds the cost of debt sufficiently enough to compensate investors for the additional risk they are taking. The source of the additional risk is the priority of payments when business conditions are weaker.

If there is an economic cycle of weaker revenues, a business might find itself barely able to service its debt financing. In this case, it is unlikely any residual profits will be available to common shareholders for distribution; these circumstances may last for years and many require the business to resort to costly compromises to ensure its debt payments are met. Meanwhile, the senior debt holders can take comfort in the fact the return on their investment is of highest priority and will only be compromised as a last resort. This creates what can be referred to as a more open system of outcomes for stocks and a more closed system of outcomes for bonds; this feature will be expanded upon in greater detail later.

These nuances in the capital structure may seem like semantics to some, but as was stated in the introduction, it is an essential component of developing a true understanding of investment options and has great implications on risk and return characteristics.

Stock and Bond Investment Opportunities

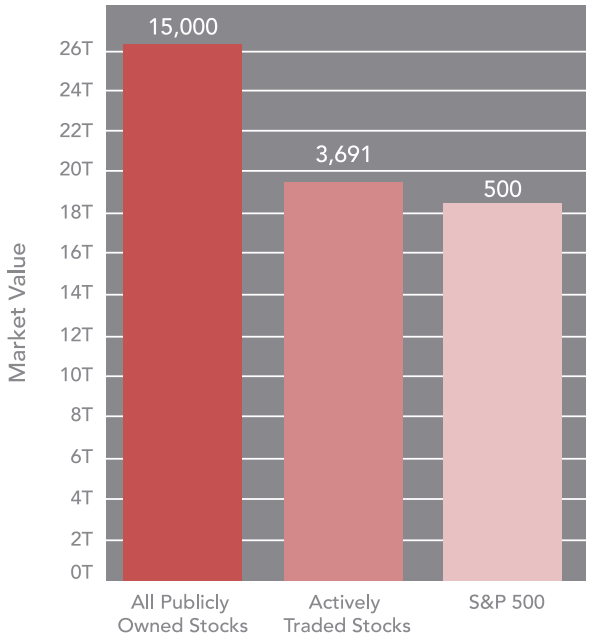
In terms of the number of different investments investors are able to choose from, there are overwhelmingly more bond opportunities than stock opportunities. This may come as a surprise to some as market media attention is overwhelmingly slanted towards stock investing instead of bond investing.



Number of Issuers

In fact, there are 68 times more bond issuances than there are publicly owned stocks. If a person only includes the stocks actively traded on an exchange, there would be 277 times more bond issuances. Yet in terms of the amount of capital invested in each market, there is only 54% more invested in bonds than there is invested in equities.

Similar to how the vast amount of market media attention is fixated on the relatively few amount of actively traded stocks, the amount of investment dollars chasing those actively traded stocks is disproportionately large compared to the amount of capital invested in the vast universe of bonds.



Within the overemphasis on stocks, there is yet more of a disproportionate emphasis placed on the largest companies; of the aggregate investment in all of the 15,000 publicly traded corporations, 70% of that capital is concentrated in the 500 largest corporations. Put another way, 70% of the money is invested in 3% of the companies; these are the companies receiving the lion's share of market media attention!

In investing, when all of the attention and capital is placed in one area, it is unlikely there are undiscovered opportunities in that area. In fact, numerous studies have shown there is no outperformance potential when investing in the largest U.S. corporations. However, studies have consistently indicated outperformance potential is available investing in small U.S. corporations, various bond sectors, and in certain international investments.

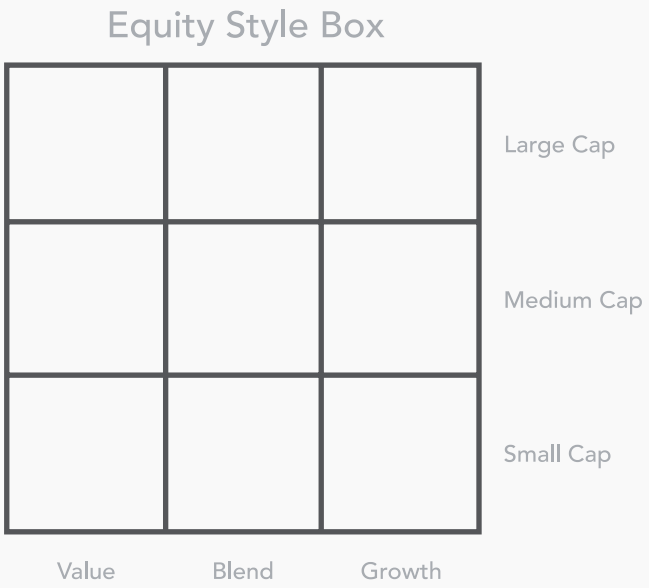
Different Types of Stocks

Stock market opportunities are often segmented different ways. The three most prominent forms of categorization are market capitalization size, value or growth, and industry classification.

The capitalization size of a company is measured by the market value of all outstanding shares of a company's equity. Companies' market capitalization is categorized between large cap, medium cap, and small cap. Companies are considered to be large cap when their market capitalization exceeds $10 billion. Companies between $2 billion and $10 billion market cap are considered mid cap companies. Those companies with less than $2 billion market cap are considered small cap companies.

The next series of categorization is between value and growth and is often determined by the price of a company's equity in relation to its earnings, its future earnings prospects, and the amount of profits the corporations retain versus what is returned to shareholders. All else unchanged, the lower the company's price relative to earnings (measured by the Price to Earnings (P/E) ratio, or other relative value measurements) the more likely it is to be classified as a value company instead of a growth company;

value companies tend to have a low stock price due to unfavorable growth or future earnings prospects. Growth companies tend to have very favorable earnings growth forecasts causing their equity prices to be much higher relative to the company's current earnings.



When categorizing equity mutual funds or ETFs, the Equity Style Box is a conventional way to categorize the predominant types of companies a fund is primarily invested in. The Equity Style a fund pursues may not provide an investor the capability to predict future returns, but it helps to understand the types of companies a fund is invested in and to compare the actual investment activities to the fund's mandated objectives.

The final categorization of stocks is the industry classifications; these are subsections of the equity investment market and are often referred to as equity subsectors. The predominant subsectors are: energy, materials, industrials, consumer goods (basic staples), consumer discretionary, health care, utilities, financials, and technology. This series of classifications is especially useful because an industry's trends, opportunities, and risks bear a heavy influence on the future prospects of the earnings and stock price of companies within that industry.

In fact, a key focal point in corporate investment analysis is to perform an industry analysis. As an industry is beneficially or negatively exposed to an economic cycle, the corresponding beneficial or negative implications are likely to be shared across the vast majority of companies in the industry. By categorizing between equity subsectors, an investor may be better able to develop informed expectations of how their equity portfolio will perform in a given economic cycle.

Different Types of Bonds

Three general categorizations of bonds are issuer type, maturity length, and credit strength. When discussing stocks, the discussion always pertained to shares of corporations. For-profit corporations are only one of many kinds of bond issuers.

The overarching categorizations of **bond issuers** are: U.S. Treasury and other federal agencies, mortgage-related bonds, corporate bonds, asset-backed bonds, and municipal bonds. Within mortgage-related, asset-backed, and municipal bonds, there is a multitude of meaningfully different issuer types. For example: in municipal bonds, there are: cities, states, counties, toll roads, school districts, business and residential real estate developments, event centers, hospitals, prisons, sewer systems, tobacco bonds, etc. The type of issuer and its repayment source carry strong implications on a bond's credit strength, its perceived risk, and ultimately the return opportunities for investors.

The **maturity length** of a bond and whether it can be prepaid in advance of the maturity date has important implications on the long term returns on bond investing. All else unchanged, a bond with a longer maturity typically has a higher return and is considered to be a higher risk.[2]

> ***Basic Bond Valuation and Maturity Trade-offs***
> *If a person owns a $100 bond that earns 5% return each year for 5 years in a world where the market expects 5% return, the market value on the bond would be $100. However, if the market instead expected a 4% return, what would the*

[2]However, in the context of a portfolio of stocks and bonds, having longer maturity bonds while having greater individual risk can actually lower portfolio risk due to their historic negative correlation to stocks.

market value be? In that case, the bond owner would benefit by an extra 1% per year over 5 years equating to a 5% aggregate benefit; ignoring compounding and preciseness, the market value on that bond would be 5% higher, or $105. For a 10 year bond instead of a 5 year bond, the differences in interest rates would have twice the magnitude of impact.

Mentioned in the categorization of bonds by issuers was **credit strength**. The most actively traded bonds pay credit rating agencies (such as Moody's, S&P, or Fitch) to analyze their business and financial strength and to issue credit ratings indicating their credit strength. The three main subcomponents of credit ratings are investment grade ratings, non-investment grade ratings, and non-rated bonds. Investment grade ratings suggest the bonds have a very low risk of credit default and of bondholders losing a portion of their principal investment. A non-investment grade rating suggests a higher probability bondholders will lose a portion of their principal investment. Non-rated bonds simply were not rated by a credit rating agency; these are typically smaller bonds where the costs associated with attaining a rating are not worth the costs to receive one.

Determinants of Investment Return

Stocks

Stock investors receive their investment returns through dividends paid from the corporations to common equity shareholders or by appreciation of the market value of the per share stock price. Companies tend to have well-defined policies and track records pertaining to dividend payments. Over the long history of the stock market, depending on the time period, dividend income and dividend reinvestment returns contribute 30-50% of the total return of investing in a basket of large cap companies.

In regards to factors influencing an individual company's price appreciation, the three overarching factors are: overall stock market risk and return, industry risk and return, and the individual company's risk and return. In other words, an industry's return is influenced by the overall stock market return adjusted for the industry's performance. An individual company's return is influenced by the industry's return adjusted for the company's specific performance. There are always select companies defying numerous industry and overall market influences, but they are the exception to the rule.

Overall, stocks have theoretically unlimited upside price appreciation potential and can also lose 100% of their value. As many have observed, stocks have a high enough variability of returns it is virtually impossible to predict future returns with any degree of precision or accuracy.

Bonds

The largest determinants of returns for bonds are credit risk (real and perceived) and maturity risk. Without going into too great of detail, the repayment sources of bonds and the credit structuring can become very complex and nuanced; this structuring creates a relatively high degree of predictability for those who navigate the details, for others the structuring can obscure the credit characteristics presenting the potential for a separation between perceived and real credit risk. When the perceived credit risk is higher than the real risk, the return on these bonds is higher than what is warranted by the risks. This situation occurs frequently enough it is worth mentioning.

All else unchanged, the higher the real or perceived credit risk at time of purchase, the higher the return paid to the investor, yet also the higher likelihood they might lose a portion of their principal investment. When an issuer cannot repay their debt and subsequently defaults, the historical recovery rate to investors ranges between 50-70%, depending on the type of bond. The default rate on most municipal and government sponsored bonds is under 0.5%. Over the last 30 years, across the 99% of municipal bonds carrying an investment grade rating, the default rate on these bonds has been 0.0005%.[3] Compared to the volatility of individual companies' stocks, the risk presented by bond defaults is exceptionally low and can be managed lower by appropriate diversification.

[3]According to Moody's US Municipal Bond Rating Scale.

The other main determinant of bond returns was highlighted in the basic bond valuation example where bond market values rise (and fall) as bond market interest rates fall (and rise). All else unchanged, longer maturity bonds have more market value sensitivity due to changing rates than shorter bonds; however in a portfolio context, this may be beneficial. In addition, while the market value may deviate due to changes in interest rates, the investor still receives their full principal investment and interest repayments over the life of the bonds. Only the interim market value is affected, so if an investor wants to sell the bond before its maturity date, it may be at a premium or discount to the price paid. Overall, given a specific degree of bond market interest rate change, an investor can calculate the expected bond price change with a relatively high degree of accuracy.

As was summarized in the above section, bonds have narrower and more predictable fluctuations in returns compared to stocks. It can be said that bonds provide relatively closed systems of outcomes while stocks entail more open systems of outcomes. Taking into account investor psychology, all else unchanged, the preference would be for relatively consistent and predictable outcomes; this helps to reduce the poor investment decisions made out of greed or fear. Additionally, if an investor has a relatively short time horizon, consistent and predictable outcomes may be essential. Look for a future white paper on this topic and more coming soon!

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