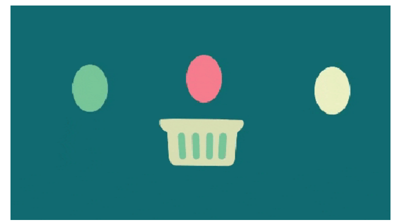
7.5: Diversifiable and Non-Diversifiable Risk

Remember earlier we discussed the possibility of lowering our firm-specific risk by holding a number of stocks from a wide range of industries? This concept of diversification allows us to greatly reduce our risk by holding a portfolio. Diversifiable risk refers to risk factors that are isolated towards one particular firm or industry.

For example, if a drug manufacturer gets hit with a lawsuit related to one of the drugs it produces, that is likely to have an isolated impact. It will not have any effect on the stock prices of auto manufacturers, grocery retailers, banks, etc. Once we have enough stocks in our portfolio, bad news for any one of them will have a small impact on our overall portfolio as long as that bad news is contained to that one firm (in other words, as long as it comes from a diversifiable risk factor). By holding approximately 25-50 stocks, we can eliminate a large portion of our diversifiable risk. (Statman, 1987) While a portfolio of 10 stocks has much less risk than a portfolio of 5 stocks, a portfolio of 100 stocks offers very little risk reduction compared to a much smaller 50-stock portfolio (assuming our stocks are from a variety of different industries and have other differing characteristics).



Does this mean that we have eliminated all of our risk when we hold a 50-stock (or even 500-stock) portfolio? No, we are still subject to general economic risk that affects all securities. This leftover risk is referred to as Non-diversifiable risk (or market/systematic risk). Examples of non-diversifiable risks include political events (such as wars), energy price shocks, changes in interest rates, recessions, etc. Any risk factor that impacts virtually all stocks is referred to as a non-diversifiable risk factor because it will impact our portfolio regardless of how well we have diversified our investments. Another name for non-diversifiable risk is "market risk" because these sources of risk tend to affect the entire market as opposed to an individual security or industry. Note: Market risk does not refer to risk impacting a specific industry. Instead it refers to risk impacting the broad economy (most stocks). If a risk factor only impacts one or two industries without carrying over to the broader market it is classified as firm-specific.

The following graph does a good job of illustrating the concept of diversification and firm-specific vs. market risk.

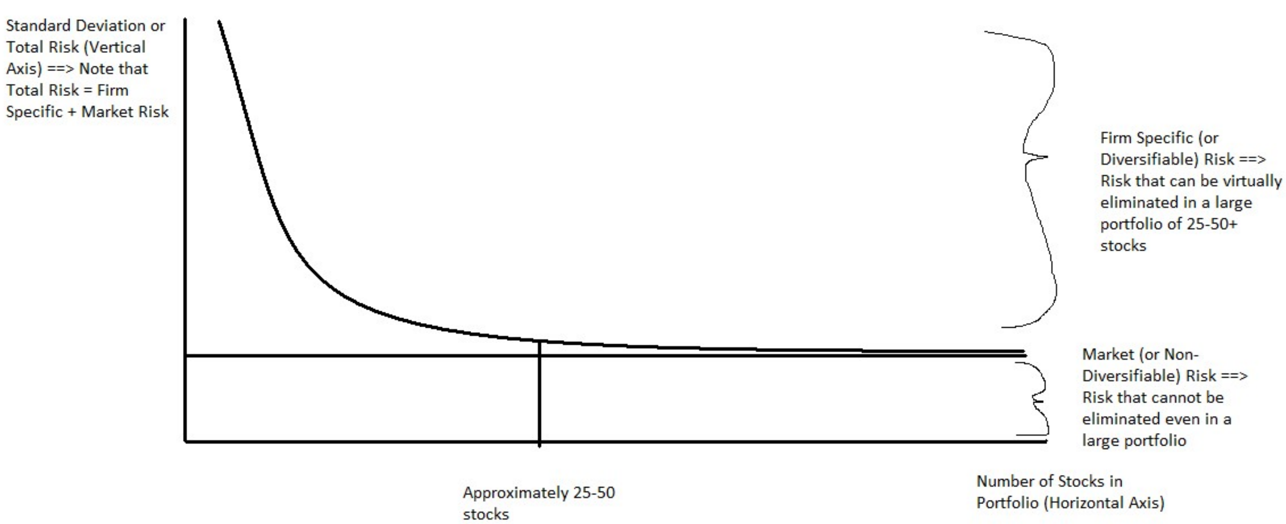


Figure 7.5.1: Firm-specific Risk vs. Market Risk

Given the relative ease with which investors can virtually eliminate their firm-specific (diversifiable) risk, for most investors the level of non-diversifiable (market) risk associated with an investment becomes more important. It is important to note that while market risk impacts all stocks, it does not impact all stocks equally. Therefore, we need to a tool to measure how sensitive a stock is to the overall market. This tool is known as BETA. Standard deviation measures total risk (diversifiable risk + market risk) for a security, while beta measures the degree of market (non-diversifiable) risk. We won’t introduce a risk measurement for diversifiable risk.

Video **Diversification**