HODGES CAPITAL

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The Good, the Bad, & the Necessity of Risk

"The fishermen know that the sea is dangerous and the storm terrible, but they have never found these dangers sufficient reason for remaining ashore." -Vincent van Gogh

In the world of investing, "risk" is predominantly viewed as a dirty word. Although it seems natural for investors to think of risk in negative terms, as something to be avoided, we contend it is more appropriate to view risk as a normal function of capitalism that is inseparable from the performance of investment returns. As a result, risk should not be avoided, but instead thoughtfully managed to maximize desired investment returns within the context of a portfolio's overall objective. In this paper we will discuss multiple perspectives on indentifying, measuring, appropriating, and monitoring various types of investment risk.

The Role of Risk

Risk is part of just about every worthwhile human endeavor. Although many risks in our everyday activities such as driving to work may seem trivial, engaging in and managing the realities of risk is a natural human behavior. Furthermore, history has demonstrated that most major advancements in civilization involved someone taking a calculated risk. Whether it was ancient explorers sailing the seas to discover new lands or the Apollo Space Program, most achievements are attained by calculating and managing risks.

In finance, the basic definition of risk is simply the probability that an investment's return will be less than an investor's expected or desired return. Of course, investment risks can take many different forms, which may include broad systematic risks such as geopolitical, economic, foreign currency, and interest rate risks. An investment's sensitivity to these market risks are commonly indentified and measured using beta. Investment risks also include those that are unique to an individual investment such as credit, operating, competitive, and liquidity risks. Some of these risks are more difficult to indentify and manage than others. In active portfolio management, risks that can be managed to optimize relative returns and add alpha (excess returns) to a portfolio are primarily unique risks, which are also known as nonsystematic risks. Sizing up these unique or company specific risks among publicly traded companies requires time-intensive research that involves the detailed analysis of a company's business model, profit outlook, capital availability, competitive landscape, and balance sheet. After undergoing such due diligence, a company's relative upside potential to the market's overall return should be weighed against downside risks.

Investors should always consider both the positive and negative outcomes of taking any investment risk. This distinction is illustrated in the Chinese symbol for risk:

危險

The Chinese symbol for risk is made up of a combination of characters that represent both danger and opportunity. If an investment strategy sets out to completely eliminate or hedge all investment risks from a portfolio, it will likely diminish upside opportunities. Therefore, a prudent investment strategy should find an appropriate balance between the risk of loss and the potential for upside returns.

Indentifying & Measuring Risk

The traditional framework of modern portfolio theory is largely based on the premise that risk

can be indentified and measured in an investment portfolio through various methods of regression analysis. One of the most common methods for assessing risk is standard deviation, which uses the volatility of the rate of return over a period of time as an ultimate measure of total risk. Standard deviation is also known as historical volatility and is used to gauge the amount of expected risk based on the volatility of past returns. Standard deviation is commonly used as a basis for many types of ratios that are used to measure risk-adjusted returns. The obvious advantages to using standard deviation as the measure of risk is that it is easy to quantify and contrast across various portfolios. However, we contend that historical volatility may not be the best way to evaluate overall risk on a forward basis.

One inherent problem with using historical standard deviation as an ultimate measure of a portfolio's total risk is that it may confuse short-term volatility with the true long-term risk underlying a portfolio's value. Take for instance the famous Warren Buffett quote, "In the short run, the stock market is a voting machine, but in the long run, it's a weighing machine." As recent market conditions have demonstrated, stock prices are not always efficient over the short term, nor are markets rational 100% of the time. Sometimes, stock prices experience daily, weekly, or even monthly volatility that is not consistent with changes in intrinsic long-term valuations. Using standard deviation as an absolute risk measurement might suggest that an investment is more risky after it has experienced a major price decline. However, the conventional wisdom of value investing would suggest just the opposite. After an investment experiences a major decline in value it may inherently hold a lesser degree of risk.

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If markets were always efficient, it would be unlikely for active portfolio managers to out-perform the broader market indices over long periods of time (5-10 years). Moreover, conditions such as the market bubble for technology stocks in 1999-2000 and the market crash during the "financial crisis" of 2008-2009 would not occur. Aside from the natural problems with using a backward-looking measure to evaluate a portfolio's future risk, the use of standard deviation to measure overall risk may have limited utility given the degree of "trading noise" or unwarranted short-term volatility that can exist in today's market. Much of this trading noise may be amplified by the recent increase in the use of computer-automated trading, which is known as "high frequency trading'. High frequency trading systems use algorithms to indentify and profit from short-term moves in stocks. The use of high frequency trading systems has exploded over the past two to three years and is estimated to account for 60-70% of trading on US exchanges according to various reports from Nasdaq and the TABB Group.

Given the shortcomings of using standard deviation, we suggest the alternative of using upside/downside capture as a straightforward quantitative measure to evaluating a portfolio's risk/reward. This measure indentifies risk by dividing performance into periods where the benchmark is negative or positive and showing the percentage of the negative or positive returns that are captured in each period. For example, if a stock portfolio has an upside capture ratio of 120%, a 12% return would be expected if the underlying benchmark increased by 10%. Furthermore, a downside capture of 120% would suggest an expected negative return of 12% in the event that the benchmark declined by 10%. Although this is a backward measure, comparing the upside/downside capture ratios can be useful in evaluating the relationship between overall risk and reward of a portfolio. If the upside capture ratio outweighs the potential downside ratio, risk is being adequately rewarded. On the other hand, a greater downside capture compared to upside capture can signal that risk is not being adequately rewarded, despite a portfolio outperforming its respective benchmark on an absolute basis.

Although there are many quantitative and qualitative ways to size up risk, we contend that the best way to actually measure risk is to

carefully consider the fundamental intrinsic valuations of each security in a well diversified portfolio. In addition, relative valuation in such a portfolio may be measured by comparing the weighted average PEG ratio (Price earnings multiple to growth rate) of the portfolio against an appropriate benchmark. This ratio compares the PE multiple of a portfolio against the expected growth rate of earnings in a portfolio. For example, if the weighted average PE multiple of a portfolio is 15X and the average growth rate of earnings is 10% the portfolio's PEG ratio would equate to 1.5. In a portfolio weighed heavily in value stocks, it may be also worthwhile to size up the tangible book value or replacement costs of the entire portfolio. While *there* are many ways to evaluate the underlying intrinsic value of a portfolio, we contend that relative valuations are a key ingredient to measuring the overall risk of any portfolio.

Appropriating Risk in a Portfolio

The appropriation of risk in a portfolio can be segregated into two components, which includes both an investor's ability to take risk and their willingness to take risk. Although willingness to take risks is highly subjective, ability to assume risk can be based on the following considerations.

1. Time Horizon- As the investment horizon increases the greater the ability to assume risk.
2. Liquidity Requirements- The need for a portfolio to generate income or distribute capital, either on an ongoing basis or at certain milestones, will typically constrain the ability to take risk.
3. Financial Circumstances- These may consist of a variety of factors such as an investor's sensitivity to future inflation, economic status, investable net worth, sources of future income, as well as long-term and short-term spending requirements.

In the event that an investor's ability and willingness to take risk are not in agreement, investors may need to be further educated on the utility of risk to gain perspective. Indecision can sometimes be a symptom that such a conflict exists.

Post financial crisis, many investors are extremely concerned about losing money and thus become too risk adverse in their long-term investment strategies. As a result, willingness may fall short of the ability to assume investment risk. In this event, risk aversion can drain wealth as inflation erodes the purchasing power of capital and reduces future standard of living.

Monitoring and Managing Risk

"Don't put all your eggs in one basket" is a well-known adage that demonstrates the benefits of diversification. Simply put, if you have your eggs in multiple baskets you eliminate the chances of dropping one basket and losing all your eggs. Diversification is the most important tool in managing investment risk, as it allows investors to achieve the highest expected return for a given level of risk.

While most people understand the dangers of being concentrated in only a handful of stocks, it is also very important to be well diversified across various industries and sectors of the market. Although correlations across sectors and asset classes may change over time, the combination of assets that have negative or low correlations can reduce a portfolio's overall risk. For an example, the overall risk in a portfolio that has several airline stocks may be reduced by also holding energy companies. As the cost of jet fuel plays an important role in the profitability of most airlines, a sudden rise in oil prices would negatively affect the profits of most airlines, but likely benefit the profitability of most energy companies. Moreover, the risk associated with holding a combination of airlines and energy stocks will likely be less than the sum of the individual risk of each stock.

Beyond sector and security diversification, we believe the management of nonsystematic risk can be enhanced by continuously reviewing the investment thesis of each position in a portfolio. This routine review often involves stress testing an investment thesis through an informal scenario analysis. This process typically considers prevailing business conditions, company specific developments, current market trends, earnings estimate revisions, and changes to investor psychology. After evaluating the potential for various outcomes, the upside

prospects can be weighed against a stock's downside risks. If the original thesis for holding a stock has been proven wrong or conditions change, it is usually best to sell a position. We would also suggest taking profits and scaling out of a position when the potential for further upside appears less than the downside risk.

Conclusion

In summary, prudent investors should not avoid taking risk, but instead carefully evaluate and manage risk. We would further argue that the best way to accumulate wealth is not by taking a single large risk, but by continuously taking many smaller or medium-sized risks over long periods of time in proportion to an individual's investment objectives and ability to assume risk. After appropriating risk and incorporating a portfolio's investment objectives into an investment strategy, risk must then be managed through diversification and monitored through a scrutinizing review process. Furthermore, we believe a solid understanding of risk and a sound management approach is the best way for long-term investors to achieve an optimal tradeoff between risk and investment returns. ▪

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Endnotes

Chapman, Peter, "Defending the Turf," Traders Magazine, Web. May 12, 2011 issue. <http://www.tradersmagazine.com/news/sellside-defends-buyside-hft-107526-1.html>.

Damodaran, Aswath. *Equity Risk Premiums*. Working paper. Print.

Daniel, Wayne W., and James Terrell. *Business Statistics For Management and Economics*. 6th ed. Houghton Mifflin College Div, 1992. Print.

Dove, Justin, "Is High-frequency Trading Causing Higher Volatility?". Investment U/ Seeking Alpha, August 9, 2011. <http://seekingalpha.com/article/288775-is-high-frequency-causing-higher-volatility.>

Milevsky, Moshe A., and Huaxiong Huang. "Spending Retirement on Planet Vulcan: The Impact of Longevity Risk Aversion on Optimal Withdrawal Rates." *Financial Analysts Journal* 67.2 (March/April 2011): 45-58. Print.

Zhang, X. Frank. *The Effect of High-Frequency Trading on Stock Volatility and Price Discovery*. Working paper. (November 2010). Print.