

Seeking “ALPHA”-

Superior Risk Adjusted Return

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Overview

In the world of institutional investment management, investors seek to achieve an optimal return on their investment commensurate with the level of risk that the investment bears. These “professional” investors do not exclusively focus on investment return; but also give equal, if not greater, consideration to the risk(s) they incur to achieve their expected return. Risk and return constitute the two main components of all investment, portfolio, and capital market theory; and the relationship between risk and return receives a great deal of attention in both the academic and real investment communities.

Institutional investors are basically risk averse. They attempt to characterize and quantify the correlation between risk and return in an effort to mitigate risk and rationalize their investment behavior while pursuing the ideal goal of achieving optimal risk adjusted return. Furthermore, the generation of superior risk adjusted return, particularly over a longer time horizon, is the crowning success of all investment management and of any investor who is fortunate enough to have achieved it.

This white paper will provide an overview of risk and return and the key concepts and principles that correlate their relationship and drive capital market theory and investment behavior. We will look at return and risk; their correlation; and the concepts of “beta” and “alpha” in an attempt to provide insight into risk adjusted return and how it might be achieved and sustained.

Return

Return is a relatively straightforward investment concept. For the most part, it can be quantified or measured by simple mathematical calculation.

The return on an investment, whether it be a single stock or a stock portfolio, can be determined by subtracting the market value of the security(ies) at the start of the measurement period from the market value at the end of the same period; and then dividing the result by the starting market value. If there happens to be any cash distributions during the period (dividends, interest, or distributions), those also need to be added to the difference

between the starting and ending market values before dividing by the starting market value. This calculation will result in a return on investment expressed in terms of a percentage gain or loss. The measurement period can be for any period of time, but is usually normalized to be monthly, quarterly, or yearly. (2)

There are several assumptions that serve to simplify this calculation for investment return. These include:

- 1) Any interest or dividends received during the measurement period, but not distributed to the investor, are assumed to be reinvested.
- 2) All distributions during the period are assumed to occur at the end of the period.
- 3) No new capital is invested during the period, or if so, it is invested at the end.

There are some problems with this return calculation because actual practice in the real world does not fully accommodate inclusion for these, as well as, other assumptions that have relevance. For example, this basic return does not result in calculation of a true “cash” return unless the value at the end of the period is sold and converted to cash. However, with understanding of the limitations, there is still widespread consensus that the basic return calculation is useful and acceptable.

Risk

Risk centers around the concept that you might not receive what you think you will receive. Risk is the chance that actual return will not equal the expected return.

In contrast to the calculation of return, the calculation of risk does not receive such straightforward consensus. There is widespread agreement on the statistical approach to measuring risk. However, there is constant debate on any and all ways to accurately quantify risk to its fullest extent and come up with a definitive approach.

Real world investment experience in the capital markets coupled with common sense causes me to question whether risk can really be accurately and consistently quantified at all. Nevertheless, professionals skilled in statistics, both academics and investors, continue the effort to improve on and perfect the quantification of risk. While most of these quantitative efforts are sincere and well intentioned, personal experience with them has demonstrated limited practical value when making real investment decisions. Further, it reinforces just how difficult it is to generate returns that in retrospect, are properly adjusted for the risk taken.

Investment wisdom dictates all investment involves risk and that expected return must be considered within the context of expected risk. Prudence demands that this truth must be

applied even if the risk cannot be perfectly quantified. Regardless of the inadequacies of existing theories and attempts to characterize and quantify risk, it is still important, to account for risk that the best that we can. How else can one expect to achieve return that is even close to being reasonable relative to the risk that is taken?

Intuitively, we know that certain types of investments are, on average, more or less risky than others. At a minimum, this qualitative approach is what most people use to assess risk in the absence of reliable, more specific methods.

Accepted Attributes

While not everyone can agree on how to measure risk and correlate it with return, risk has many attributes that have critical acceptance. These include the following:

- 1) Investors are averse to risk. In general, they do not like it and they do not believe it is a good thing. The more risk one bears, the more compensation or return one deserves.
- 2) The United States Treasury bill is the standard for the “risk free” return. This is because when you purchase a T Bill you know in advance you will receive exactly what you expect at maturity.
- 3) A sound statistical approach to quantifying risk involves measuring the variability of expected returns around their average. Two statistical measures, variance and standard deviation, are employed to perform this calculation.
- 4) Diversification is an investor’s best friend for reducing overall risk. As we will see shortly, there are two components of risk that comprise total risk: market risk and the individual risk that is unique to each security. With proper diversification into a portfolio of at least ten (10), and preferably closer to 20 stocks, 40% of the risk of holding any one of the individual stocks in the portfolio by itself can be eliminated. This represents a material reduction in both individual and total risk.
- 5) A diversified portfolio of stocks follows the market’s overall movement in general. The correlation between the movement of the overall market and a well diversified portfolio is about 90%.
- 6) Total Risk= Market Risk + Individual Security Risk. As noted above, a material portion of a security’s individual risk can be eliminated with proper diversification. This principle does not hold true for market or “systematic” risk. It cannot be mitigated. Essentially, one has to live with market risk because it always there. If you are invested in the stock market in any way, stocks, mutual funds, or index funds, you bear the market risk.
- 7) Beta is the standard for measuring market risk. Beta is the measure of a particular stock’s movement in relation to the movement of the overall market (typically the S&P 500). Beta measures co-movement between the market (all stocks) and the individual

stocks that comprise the market. For example, a stock with a Beta of 2 will move on average, at two (2) times the rate that the market moves. Beta adjusts for market risk by adjusting an individual stock's return relative to the overall return of the market. An example should help to further clarify:

Suppose a stock with a "Beta" of 2 has a return of 25% over a certain period and the risk free return during that same period is 5%. Therefore, we can say with surety that the excess return of that particular stock's return over the risk free return is 20% (25%-5%). Also, the market generated a market return of 14% during the same period. Therefore, the market's excess return was 9% (14%-5%) for the period. The expected return for a security with a Beta of 2 during this period is 2 times the market's return (excess return) because it has 2 times the market's risk. This translates into 18% (2 X 9%). Therefore, the stock's Beta return or its return adjusted for its risk relative to the market's return is 18%. This constitutes 90% of the security's total excess return during the period (18%/20%). It helps to keep in mind that all we are doing in this example is adjusting the stock's return relative to the market return and we do that by taking into account its Beta. (2)

The predominant component of investment returns is attributable to Beta- the return of the market. If you invest in a broad market index or index fund, there will be a highly significant correlation between your return and the overall return of the market as in the above example. When you invest in such a diversified portfolio, you essentially assume the same risk as the market; and, since you did, you will typically receive no more than the market's return. In order to get more than the market's return, you have to look elsewhere and alpha is that place to look.

The Definitive Measure

"Alpha" receives broad acceptance as the measure for characterizing risk and return that is not attributable to the market. Generating alpha (return) is the only way to get a risk adjusted return in addition to the market. It is the risk adjusted return over and above the return that the market generates, i.e. total return= beta or market return + alpha or manager return. The corollary, of course, also holds true for the risk equation.

Alpha deserves its own special section, because understanding alpha is fundamental to sound decision making and achieving superior investment performance.

Alpha is a measure of the risk adjusted return that a manager (in the case of an investment fund) or management (in the case of a company or stock) is able to generate based on their skill and value add. Alpha is what the manager brings or takes away from the return of an

investment. From a risk perspective, alpha is the risk associated with his/her effort to achieve this return.

The example we used above for illustrating Beta also works for explaining Alpha. In the example, the security's total return adjusted for the risk free rate was 20%. The security's market or Beta return was 18%. The difference between these two numbers (2%) is the security's alpha return.

Many investors believe alpha is the definitive measure of risk and return because it is the only one that matters when you realize that the other component of return is the generic contribution of the market. If this is true, and it is hard to argue otherwise, then alpha becomes the standard by which to judge all investment performance and the results of all investment managers, including one's own efforts.

As we will see, it is one thing to know what alpha is. It is quite another thing to achieve and sustain it in either a single period or over a longer timeframe.

Review

So far we have identified and defined the key terms and concepts that institutional investors use to explain, characterize, and correlate the relationship between risk and return. We have done so to provide insight into how professional investors think and make investment decisions. Before we proceed to how these concepts can be used to better our own investment decisions, it might be helpful to first summarize our observations so far.

- 1) While difficult to quantify, all investment decisions must be made in the context of the risks (both qualitative and quantitative) involved.
- 2) T bills are the standard for risk free investing and serve as the absolute for adjusting return to the risk free rate.
- 3) Diversification (a portfolio of between 10 to 20 stocks) eliminates most of the risk of any individual stock.
- 4) Diversification does not eliminate market risk and generates nothing more than a market return.
- 5) Beta is the return and risk of the market. It is a relatively good measure for adjusting a stock's return to the overall return of the market.
- 6) Alpha is the return and risk of the one investing or managing. It is the only way to generate return that exceeds the market's return.

The Problem with Alpha

To generate anything other than a market return, one must create alpha. Most of the thousands of investment managers are well aware of this fundamental investment truth- in order to “beat the market”, you must generate value added return in excess of the market. In reality, few investment managers ever do. This becomes obvious when their investment performance is compared to the performance of the stock market as a whole, i.e., the S & P 500, Wilshire 5000, or Russell 2000. When the fees and commissions that managers charge are included with their track record, the cruel reality of just how difficult it is to “beat the market” becomes even more compelling. Few investment managers ever achieve performance that compares with the simple strategy of just investing in the broad market as a whole over a sustained period of time.

My personal investment experience over the past 30 years bears witness to this. The best I could ever do was invest with a highly respected and renowned investment manager whose performance beat the market over a 10 plus year period. But, that was before giving effect to the manager’s fee. After giving effect to the fee, I would have done better to just invest in the market via an index fund.

The problem with alpha is that there are too many chasing it and too little of it to go around. It is finite in nature and just not enough is available for any more than a select few to capture it at any point in time. This is because the capital markets, for the most part, are “efficient”.

The Stock Market is Efficient

The stock market(s) is frequently referred to as being “efficient”. This simply means that the number of investors, the amount of investable capital, and the opportunities for investment are in equilibrium, making it is difficult for any one investor to gain competitive advantage over another with respect to any available opportunity. It is most unusual for anyone to get anything other than a market return in an efficient market. There has to be inefficiency for return in excess of the market or alpha to be created.

Hypothetical Example

Recently, I started teaching a senior level finance class in the capital markets to a small group of students at a nearby university. I used the following example to illustrate the concept of market efficiency and the circumstances that are conducive to the creation of alpha.

Assume that an island exists with several different harbors that range in size from small to large. In these harbors are various quantities of shrimp available for harvesting. Also assume that there are a large almost unlimited number of shrimp boats with experienced captains

available to harvest the shrimp in the harbors. Finally, assume that the island remains undiscovered- the shrimp boat captains have not yet discovered the treasure of shrimp in the fertile harbors of the island. They remain focused on the harbors of another island where they have been shrimping for quite some time.

At first, one or two captains, who are sick and tired of getting anything other than the same haul that they have been getting for a long time, decide to venture from the crowded harbors of the island they have been shrimping to the virgin harbors of the new island that we hypothetically created in the paragraph above. And as hoped for, these captains find “low hanging fruit”. They harvest as much as they want from the new harbor with less effort than what they spent at the old harbor. Their efforts result in excess return above and beyond what they were accustomed to producing at the old harbor.

Over time, word gets out that the new island provides superior opportunity to generate a harvest of shrimp comparable to or in excess of what the old island and its efficiently shrimped harbors are able to produce. New captains, attracted to the promise of superior return, continue gravitating to the new island until the harbors of the new island are filled with a sufficient number of shrimp boats and experienced captains that drive the market dynamics at the new island to equilibrium just as they did at the old island. Ultimately, the harbors of the new island also become efficient.

In summary, the efficient harbor at the old island drove a couple of the more enterprising captains to look for an inefficient one. The Alpha return at the new island occurred early in the development process. And, any excess return lasts only until the new island became efficient.

John Mauldin’s Article

My favorite article on Alpha is from John Mauldin’s Newsletter dated 5/7/2004 entitled “...A MASS OF ALPHA, THE BIRDS AND THE BEES, INVESTMENT STYLE, IS THERE A LIMIT TO ALPHA?...” I encourage you to obtain a copy of this article for your files, even if you have to subscribe to Mauldin’s newsletter (John@FrontLineThoughts.com). All quotes listed below are from John’s newsletter published on his website.

Mauldin provides sage wisdom on investing in his newsletters. Many of his observations confirm the experiences I have had and the lessons I have learned while making a living investing over the past 30 years. I will close with a few of the conclusions about Alpha that Mauldin draws in his 5/7/2004 newsletter that will hopefully serve to remind us of its importance and role in making future investment decisions.

- the best place to find alpha is in an inefficient market.
- the best time to find alpha is at the beginning of a new market.

- “the majors or the large investment funds and banks have trouble finding alpha because they are not interested in some of the back-water markets that smaller, more entrepreneurial managers and funds might find of interest.”
- “there is always alpha somewhere, but as markets get larger and more liquid and efficient, it is harder to find. The ‘new pockets’ (of alpha) mean it will take smaller and more nimble funds to exploit them.”
- “Indeed this may signal a major and structural change over the next few years to the very nature of investing in alternative markets.”
- “Further, as you look to make your investments, you need to think about the potential alpha in the particular area of the market in which you invest.”

I believe we will be well advised if we follow John’s advice. I sincerely wish you the best in your future investment endeavors.

Sources

All Quotes (1)

<http://www.frontlinethoughts.com> “The Yield Curve, Briefly Revisited; A Mass of Alpha; The Birds and the Bees, Investment Style; Is There a Limit to Alpha?; ‘Neither Bull nor Bear but Realist’; Anniversaries, Las Vegas, Vancouver, and Tahoe” by John Mauldin. Newsletter dated May 7, 2004

Financial Text (2)

Foundations of Financial Markets and Institutions by Frank J. Fabozzi, Franco Modigliani, Frank J. Jones, and Michael G. Ferri; 3rd Edition; Prentice Hall 2001. Copyright by Pearson Education, Inc., Upper Saddle River, New Jersey 07458