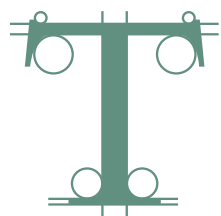


Understanding Alpha, Beta and Correlation in a multi-strategy context

July 2010



This article takes an in-depth look at three key financial terms: alpha, beta and correlation, aiming to give investors an insight into what they really mean and their importance when managing funds. It also looks at the terms in the context of Insight's Multi-Strategy Group and how we aim to use our knowledge of them to generate performance and smooth the returns profile for our clients.

Alpha

Alpha can be defined as the difference between the performance of particular strategy and the performance of the strategy's benchmark. Positive alpha is generated when the strategy outperforms its benchmark and negative alpha is when the strategy underperforms its benchmark. Another way of looking at alpha is that it is the part of the return which is explained by fund manager skill, with a talented manager being able to generate positive alpha through strong stock, bond, sector or asset class selection.

Alpha = the part of investment return in excess of broad market moves, generated by manager skill

Assuming all dividends were reinvested and zero management and dealing costs, an investment in the FTSE 100 over the past decade would have returned just under 9%. Yet a fund which outperformed the market by just 3% a year would have seen gains of nearly 50% over the same period. While 3% outperformance per annum might not sound like much, this example highlights that alpha of this nature, when compounded over the long run,

can have a substantial impact on investment performance. Indeed, in a decade when UK markets have returned materially less than inflation, funds have been entirely reliant on alpha to general positive real returns for investors. Chart 1 gives a clear representation of the impact of positive alpha on investment returns.

Beta

From a technical point of view, beta can be defined as a measure of the sensitivity of a security or portfolio relative to the general market, with securities which have moved up or down in line with the market having a beta of one. A beta of less than one means that the security has historically been less volatile than the market and

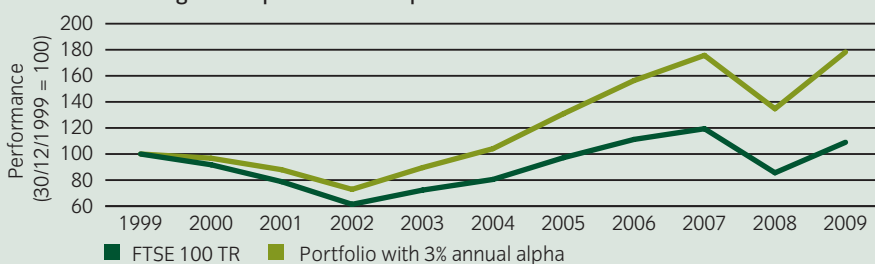
a beta of more than one indicates that the security has historically been more volatile than the market.

Beta (in technical terms) = a historical measure of investment volatility / market volatility

In more general usage beta is often the term employed to refer to any return which is generated purely from broad market movements. In other words an investor who holds an index tracker is looking to generate returns from beta alone. In this case there is no possibility to perform better than the market, as no part of the return can come from alpha.

Beta (in general terms) = the part of investment return generated by broad market moves

Chart 1: The long-run importance of alpha



Source: Lipper and Insight Investment.

It is important to note that all calculations of beta are made on a historical basis, and as such do not guarantee that the security will continue to act similarly relative to the market in the future. Indeed, as investment managers often point out, past performance is not a guide to future performance, and this is certainly the case when it comes to dealing with beta. Within our multi-strategy portfolios we aim to provide clients with a smoother path to returns, with less volatility compared to the market, meaning our portfolios aim to demonstrate low beta.

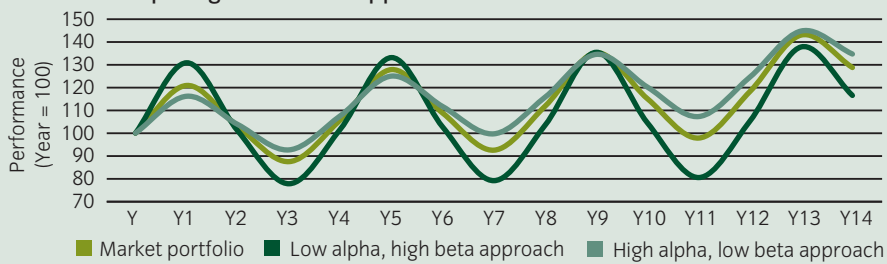
Alpha and beta in multi-strategy funds

Given our belief that equity markets are currently fully valued in a long-term context, our multi-strategy funds have a bias towards total return strategies. Such strategies aim to generate the vast majority of their performance from alpha. One way of doing this is by making relative trades between stocks and sectors, for example by buying large-cap stocks and shorting small caps. If the fund manager has a view on market direction, the weighting of longs and shorts in the portfolio can be adjusted accordingly, providing exposure to beta.

Whilst the benefits of long-run alpha are clear, it should be noted that it comes at a price, namely the management fees charged by fund managers. As such, when choosing alpha opportunities in our multi-strategy portfolios, we only pay for alpha when we believe market conditions within specific asset classes present high levels of opportunity for skilled managers. Beta, in contrast, is cheap, with index trackers offering market-matching returns at very low cost.

Absolute return strategies generally rely on alpha alone to generate

Chart 2: Comparing investment approaches



Source: Insight Investment, example for illustrative purposes only.

performance, whereas long-only equity strategies are mainly reliant on beta, but look to improve performance with alpha. Where our multi-strategy funds invest in active long only strategies, we often choose to 'isolate' the alpha from them by hedging out directionality. In practice, this means that we might add a UK equity fund to the portfolio, but hedge out the beta by selling FTSE futures. This creates a position which can produce positive returns if the manager outperforms, even if the underlying holdings fall in absolute terms. We believe a low-beta approach, with a focus on alpha, is the key to generating a smoother path to long-run returns. Chart 2 compares a potential returns trajectory for a pure market portfolio compared to ones with a high beta low alpha and low beta, high alpha approach respectively.

Our multi-strategy funds have the flexibility to move to the most attractive assets classes at any given time to take advantage of beta. When deciding which asset classes to allocate capital to and whether there is value in pure beta, we think of several factors including absolute value, relative value and the phase of the cycle. The team employs a range of models when assessing the value in directional investments, which led the team to reduce its equity exposure successfully in early 2008 and increase it again in mid 2009. We also look at shorter-run indicators, such as risk appetite and market sentiment.

The majority of our beta exposure is structured, in line with the Target Return Fund's objective of outperforming cash. Taking a structured approach to market beta using options can also be way to improve the risk/return payoff profile for taking market beta risk. In practice, this means fixing exposure such that the investment participates in any upside from the asset class, but that any losses from market falls are limited. We currently favour a structured approach to market beta meaning investors should be relatively insulated from a market crash in the event of a double-dip recession, but at the same time participate in gains should markets enter a secular bull phase.

Correlation

Correlation can be defined as a statistical measure of how two securities, sectors or asset classes move in relation to each other. Correlation is shown as a number (or coefficient) ranging between minus one and one. A perfect positive correlation – shown by a coefficient of one – implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move by an equal amount in the opposite direction. If the correlation is zero, the movements of the securities are said to have no correlation; they are completely random.

Correlation = a historic measure of how investments move relative to each other

In reality, most asset classes neither move in lockstep, nor do the exact opposite of each other, and as such, correlations tend to be less than one but greater than minus one. Chart 3 gives an approximate idea of the long-run correlations between UK equities and various other asset classes. A quick glance shows that while international equities and property have historically had strong positive correlation, the correlation has been weaker with corporate bonds and commodities, limited with cash and negative with government bonds and currency movements.

Modern portfolio theory suggests that investors can reduce portfolio risk without sacrificing returns through diversification, taking advantage of the differing correlations between asset classes. If employed successfully, therefore, an understanding of correlations can be used to help smooth the long-run profile of investment returns, with losses from some asset class holdings being offset by gains in other asset classes with low or negative correlations. Our multi-asset funds are well placed to benefit from this improved risk/return profile.

It is important to remember, however, that correlations can change over time. So while one should be aware of historic measures when constructing and managing a portfolio, current allocations should be primarily guided by the investor's evaluation of current market dynamics. In our portfolios we look to build in diversification based on common sense and absolute portfolio weights, trying not to be overly seduced by models which assume that historical observations of risk and correlations will continue into the future. This also includes measures such as value-at-risk (VAR), which tend to break down in times of severe market stress as correlations rise and many asset classes tend to fall in tandem. The events of 2008 were a prime example of this, and highlight the benefits of total return strategies and relative trades, which tend to remain uncorrelated with other risk assets, even in times of crisis.

An in-depth understanding of each of alpha, beta and correlation is crucial when constructing multi-asset portfolios, and helps us to provide our clients with a smoother path towards their investment goals, a theme which is central to the philosophy of Insight Investment. We believe in a smoother returns path for investments, as it

reduces the maximum drawdown of client assets at the bottom of the market cycle, meaning that those which need to take their pension when asset prices are low should not be as adversely affected as they would be with a more volatile investment portfolio. With this very much in mind, our multi-asset portfolios have a focus on generating positive real returns in all market conditions, which is reflected in the 'cash plus' benchmarks of the fund range.

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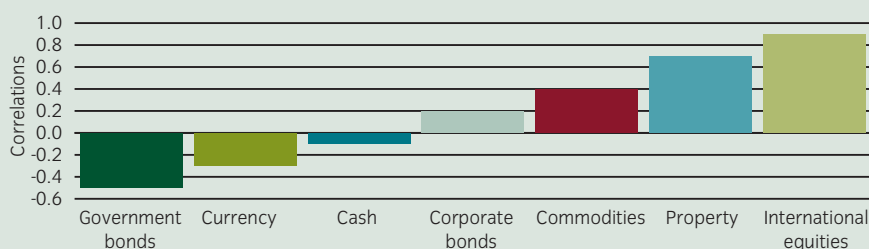
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Chart 3: Correlations between UK Equities and other asset classes



Source: Insight Investment, example for illustrative purposes only

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