



Low Volatility Equity Strategies – Why & Why Now?

Product Review

The Modern Portfolio Theory Myth

A cornerstone tenet of Modern Portfolio Theory (MPT) is that risk and return are positively correlated. MPT posits that a capitalization-weighted benchmark is the neutral portfolio and that portfolio risk should be measured as tracking error against the cap-weighted benchmark. However, a large body of overlooked academic research reveals that risk and return within the U.S. equity market are not correlated, or if they are, it is in the wrong direction. The assumption that all stocks have the same return seems to be a better assumption than that return and risk are positively related. In this world, a portfolio with the lowest volatility becomes the efficient portfolio, known as the minimum variance portfolio.

This surprising contradiction of a widely held belief holds true for all the commonly used measures of risk such as beta, total volatility or stock specific volatility. This appears to be true not only in the U.S. market but also for most, if not all, of the major international markets.

The risk alpha revealed – How to get alpha from beta

We believe that low volatility stocks may offer a source of alpha that is distinct from other sources of alpha, but exploiting this alpha requires a different approach. Stock *returns* are very difficult to predict. On the other hand, a stock's *risk* appears to be quite predictable. A stock that has exhibited high volatility in the past is likely to exhibit high volatility in the future, while a stock that has exhibited low volatility in the past is likely to exhibit low volatility in the future. There are also market-based measures such as implied volatility that may enhance the ability to forecast future risk beyond the information contained in historical data.

Theoretically, if individual stocks returns are highly unpredictable and unrelated to risk, then the optimum portfolio would be one that is diversified to minimize its total volatility, also known as the minimum variance portfolio. In an optimization context, this is equivalent to using the same expected return for all stocks. In this world, the minimum variance portfolio becomes the efficient portfolio.

Armed with this knowledge, we discovered it is possible to build actual, liquid portfolios that exhibit market-like returns, perhaps even a bit higher, that have a beta and standard deviation that is 20-30% *lower* than the cap-weighted index. We also uncovered other surprises. Low beta portfolios tend to capture more of the upside than expected, and less of the downside than expected.

We have posited several behavioral explanations for this phenomenon. One is that investors may underestimate the variance drain – the reduction in the compound average return due to volatility. The variance drain is much greater for a high volatility portfolio than for low volatility portfolio. A second explanation is the optimistic bias embedded in high volatility stocks; a third is investors' fixation on tracking error.

A new perspective on tracking error

For too long, investors have focused on tracking error, or the extent which a portfolio differs from its benchmark, instead of the *risk of loss*. Yes, it is true that a low volatility portfolio has high tracking error versus a cap-weighted index, commonly 6-10% per year. This happens because there is *much lower absolute risk* in the low volatility strategy. Put another way, however, if the low volatility strategy is the efficient portfolio, then the cap-weighted index has the same high tracking error and much higher absolute risk.

Earn equity market returns with lower volatility

The low volatility equity strategy has many appealing characteristics. It can lower overall risk and lower tracking error to plan liabilities while still maintaining equity market exposure. As a result, it can be a strong complement to or replacement for cap-weighted core portfolios. It can also offset other higher risk, less liquid strategies such as private equity. Whatever its role, the low volatility equity strategy gives you highly liquid equity market exposure with the least risk.

Low volatility a long-term strategy – act now

Now appears to be a good entry point for implementing a low volatility equity strategy. Over the last year, high risk stocks have outperformed low risk stocks by a rate of more than 100 percentage points. The evidence shows that there may be volatility cycles in which periods of low volatility underperformance are followed by periods of outperformance. Another point of comparison: the recent run-up of high volatility stocks has made low volatility stocks appear cheaper on a relative valuation basis of price to fundamentals (e.g., price-to-earnings) basis.

About Martingale

Martingale Asset Management, founded in 1987 and based in Boston, manages equity portfolios for many of the world's most demanding corporate pension plans, foundations, endowments, public retirement systems, and multi-employer funds. Investing is our only business.

We believe that rigorous and insightful proprietary research conducted within a systematic and disciplined investment process by an experienced and collaborative Investment Team provides the best opportunity for consistent investment performance.

To learn more about Low Volatility equity strategies, contact Bryan P. McGinn, Vice President, Marketing and Client Relations, at bryan.mcginn@martingale.com or call 617.424.4700.

As with any active equity strategy, there is always the potential for declines in the value of accounts managed pursuant to this strategy. It is possible that market conditions and other economic factors unintentionally impacted the design of this risk model, thereby producing results that would be difficult or impossible to match without the benefit of hindsight. All investment models are subject to risk, and there can be no assurance that an investment strategy will achieve its stated objective.