As advisors work to position client portfolios for market conditions which may lay ahead, a common question is how certain investments may perform in an expanding volatility environment—an important consideration given recent low levels of volatility—and historical patterns of reversion.

When looking at the long-term average of volatility, it’s widely accepted that volatility tends to exhibit mean reversion traits. Using the VIX, a volatility index that represents the market’s expectation of 30-day volatility, one can see these reversion tendencies.

At the time this article was written, only 3 days—out of 6,889 observed days of VIX prices—closed below the May 8, 2017 price of 9.77. Those days came during Christmas week in 1993. Following that time period, implied volatility expanded roughly over the next two and half years, taking the VIX above the long-term average where it would continue its upward climb before bouncing between 20 and 40 until 2004. After a period of compression, a similar pattern of expansion can be seen again from late 2006-2007 before the Financial Crisis pushed the VIX to all-time highs.

**Preventing for Volatility Expansion in Investor Portfolios**

Josh Vail, CAIA
Senior Vice President

**KEY TAKEAWAYS**

- When looking at the long-term average of volatility, it’s widely accepted that volatility tends to exhibit mean reversion traits.
- Since 2008, the trend has been primarily one of continued compression—minus a few pockets of volatility in 2010, 2011 and again in 2015.
- During periods of VIX expansion, low volatility strategies have historically outperformed.
Since 2008, the trend has been primarily one of continued compression—minus a few pockets of volatility in 2010, 2011 and again in 2015. This trend has pushed the one-year average VIX to a level below that observed in 84% of all other rolling one-year periods.

It’s true that the very calculation of the VIX implies that volatility levels are likely to stay low for at least the near term, and predicting exactly when the expansion will start is futile. With that said, only in the financial markets do people equate variance with risk. According to Merriam-Webster, investment-related “risk” is defined as the chance that an investment (such as a stock or commodity) will lose value. And, often times it is after market risks manifest themselves through loss that volatility spikes. Luckily, the purpose of proper portfolio construction is not dependent on the exact timing of these events, but rather an intuitive mission statement that may go something like this: “To position portfolios in such a manner to give the investor the greatest chance of prudently growing capital in accordance with the investor's goals and risk tolerances given a likely forward looking environment.” In this case, the likely forward looking environment is one of expanding volatility, thus the question that started this piece is appropriate to examine.

How should low volatility strategies, such as the 361 Long/Short Equity Strategy, perform in an expanding volatility environment?

361’s Long/Short Equity strategies, sub-advised by Analytic investors, pioneers of the research surrounding the low volatility anomaly, combine two return-generating ideas where they look at the investable universe through two separate lenses. One lens is solely focused on returns, while the other is solely focused on the stocks’ risk profiles by using predicted betas. After risk controls for individual holdings and constraints are applied, the portfolio is optimized on predicted risk and return characteristics. The portfolios can be expected to have a net exposure of 70% over time, but with a beta much below what might be assumed, given that exposure level. In fact, the strategies have both targeted and realized betas of between 0.4–0.6, while attempting to match the return of the market over time.

When examining equity markets across quintiles of volatility, assuming CAPM holds, one would expect the lowest volatility stocks to underperform the highest volatility stocks. However, that is not what has been observed over time. Indeed, there is actually a relatively flat payoff to risk quintiles using simple averages, and that payoff falls off as you move across the curve to higher volatility stocks once you take into account that impact that volatility has on compounding.

The reason this is important background is twofold. First, generally these portfolios look to be 100% long the lower volatility stocks of a given market, and 30% short the highest volatility stocks (Net 70% with a targeted beta of 0.4–0.6). Second, there are specific timeframes when high volatility stocks do outperform low volatility stocks. Those timeframes are generally during periods of volatility compression, or more appropriately, compression of implied volatility (VIX) associated with “risk on” environments, like that observed in the U.S. for most of 2016. Conversely, during periods of a market’s implied volatility expansion, high volatility stocks underperform—significantly at times. The following chart examines domestic stocks and volatility using the VIX and different quintiles of returns of the Russell 1000 Index grouped by volatility.
Periods of VIX Compression: Low Vol – High Vol*

During periods of expansion, low volatility strategies have historically outperformed

Historically, high volatility has underperformed during periods of expansion

The red arrows and corresponding numbers represent the low volatility minus high volatility spread during time periods of overall VIX compression, while the green arrows and corresponding numbers represent the same spread during time periods of VIX expansion. It’s clear that low volatility stocks have historically performed better than high volatility stocks during periods of volatility expansion. To represent this further, the graph below compares cumulative returns for both low and high volatility stocks during “extreme” time periods. Here the graph examines the run up of tech stocks and subsequent collapse, as well as the financial crisis.

Cumulative Return Low Volatility and High Volatility with VIX

Source: Bloomberg.

*Russell 1000 Index. Low Volatility is represented by the bottom quintile and High Volatility is represented by the top quintile measured by standard deviation.
This graph also demonstrates that when high volatility stocks vastly outperform low volatility stocks, it is during times of “risk on” environments that have historically been associated with a compressing VIX. Conversely, low volatility stocks outperform as investors seek relative safety during periods of fear and thus an environment with expanding VIX.

**Conclusion**

It is not likely that volatility will remain at these low levels and investors need to prepare for a return to something resembling normality at some point in the not too distant future (and when that occurs, it will likely blow through “average” if history is any guide).

Given investing is a forward-looking exercise, this means investors need to be thinking about how portfolios will perform when volatility does normalize (i.e., how best to include investments that benefit from an expanding volatility environment). While past performance is not indicative of future results, 361’s Long/Short Equity strategies may perform well given the structure of the stock compilation generally being long low volatility stocks while maintaining a short position in the higher volatility stocks. If expanding VIX levels do in fact occur and the historical pattern holds, which seems likely given the desire for investors to move to “safer” investment in the face of uncertainty, this positioning should be favorable.

**For more:**

*Call 866.361.1720 or visit 361capital.com*
Mean Reversion is the theory suggesting that prices and returns eventually move back toward the mean or average. This mean or average can be the historical average of the price or return.

Standard Deviation is a statistical measurement of performance fluctuations. Generally, the higher the standard deviation, the greater the expected volatility of returns.

The views expressed are those of the authors at the time created. These views are subject to change at any time based on market and other conditions, and 361 Capital disclaims any responsibility to update such views. No forecasts can be guaranteed. These views may not be relied upon as investment advice or as an indication of trading intent on behalf of any 361 Capital portfolio.

This 361 Capital article is not intended to provide investment advice. This paper should not be construed as an offer to sell, a solicitation of an offer to buy, or a recommendation for any security by 361 Capital or any third-party. You are solely responsible for determining whether any investment, investment strategy, security or related transaction is appropriate for you based on your personal investment objectives, financial circumstances and risk tolerance. You should consult your legal or tax professional regarding your specific situation.

May 2017

About 361 Capital

361 Capital is a leading boutique asset manager focused on delivering distinctive investment solutions to institutions, advisors and their clients. Founded in 2001, the Firm offers alternative and traditional long-only equity strategies at the cutting edge of evolving markets—uniquely designed to meet investor goals of growth, risk management and diversification.