

# VOLATILITY AS AN ASSET CLASS

## Why Selling Volatility Should Matter to Investors

- Volatility is now a measurable asset class that should be considered when constructing a long-term equity investment strategy.
- Volatility describes the speed of change in stock price movements.
- Volatility matters because it provides a way to receive returns from an asset class that is not solely reliant on interest rate policy, dividends, or necessarily price appreciation.
- On average, implied volatility historically trades at a premium to realized volatility.



Volatility has existed since the advent of free markets. However, it was difficult to measure and track due to technological shortcomings. This changed when the Chicago Board Options Exchange® (CBOE®) created the VIX (the CBOE Volatility Index) in 1993. While there were predecessor measures of volatility, the VIX has supplanted all other competitors as the proxy for the S&P 500's market volatility. Since its creation, the VIX has undergone numerous methodology updates to keep up with market realities. Volatility is now a measurable asset class that should be considered when constructing a long-term equity investment strategy.

### Realized & Implied Volatility

In order to facilitate a discussion on volatility, it is important to define it in the simplest possible terms. Volatility describes the speed of change in stock price movements. The VIX measures the rate of change of S&P 500 stocks on a 30 day forward basis. The VIX is also described as the fear index or uncertainty present within the market. While the merits of calling the VIX “the fear index” are debatable, its place as a proxy for volatility is well established. Furthermore, implied volatility impacts the price received for “selling” volatility in the form of options. The greater the implied volatility, the higher the price received for selling options.

### The Difference between Realized and Implied Volatility

There are multiple ways to measure volatility. Volatility can be expressed as a measure of the past change in stock prices. This is called realized or historical volatility. Another way to express volatility is as a function of future price movements. This measure is called implied volatility, because it is a number or value derived from a mathematical formula based upon the bid and ask of future options contracts. Volatility can be measured over many different intervals, but the symmetrical way to measure realized volatility is on a 30 day historical basis since the VIX measures 30 days forward. Implied volatility is the expected future rate of change of stock prices. The VIX provides the benchmark measure for implied or expected volatility.

### A Common Misconception about Volatility

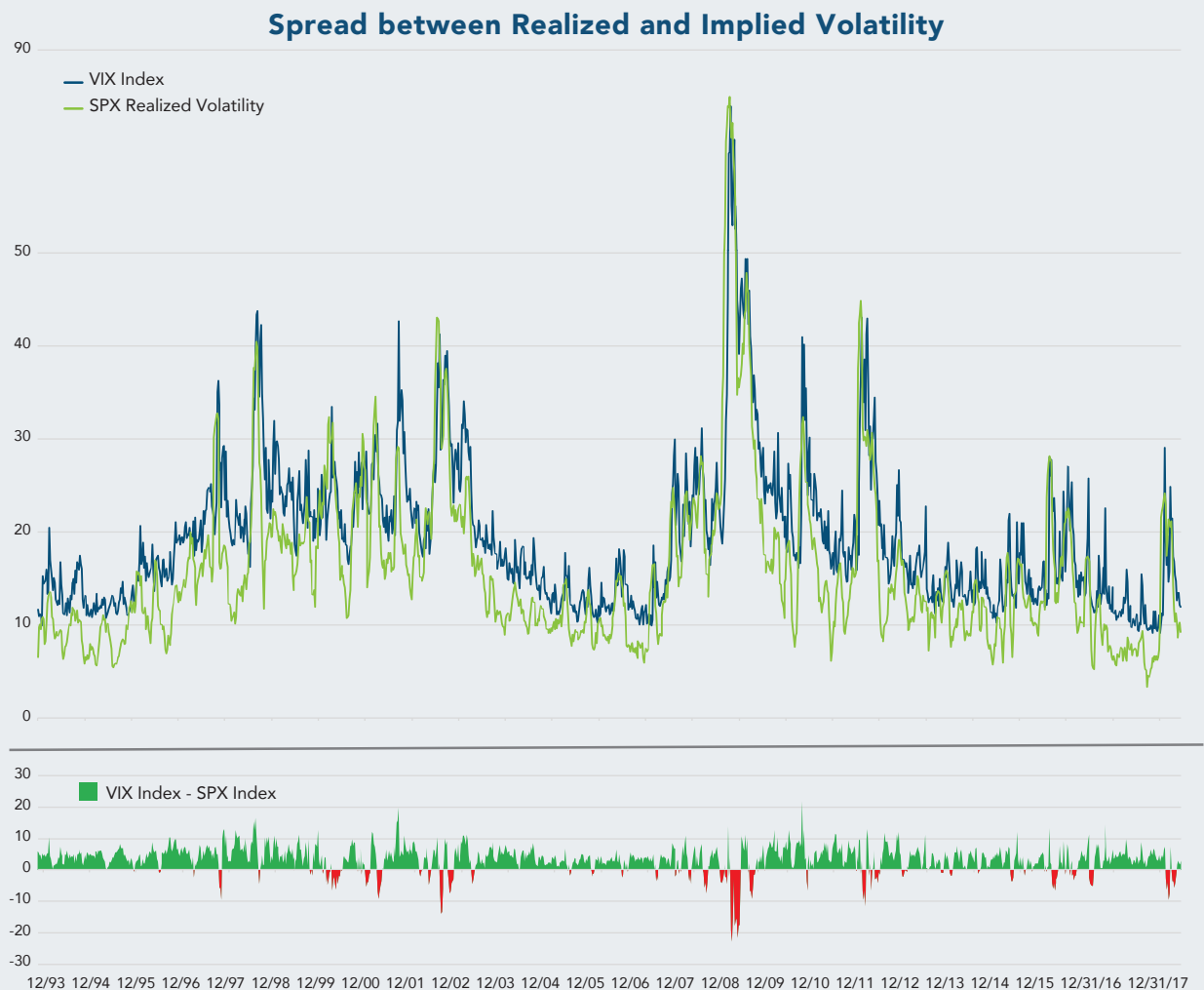
A significant misconception about the VIX is that it has predictive power over where stocks will trade in the future. For instance, technical analysts will find some correlation, whether statistically significant or not, and make a prediction about the future. There is no academically significant research that suggests the VIX can predict the future of the market. Rather, the VIX can help explain what has occurred within the market when used with other analytical tools and research.

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### Why Does Volatility Matter?

Volatility matters because it provides a way to receive returns from an asset class that is not solely reliant on interest rate policy, dividends, or necessarily price appreciation. Essentially, a seller of volatility can gain an alternative source of income. All investors experience volatility. The essential concern is whether or not the investor is being paid for experiencing volatility. While there are many ways to sell volatility, we will focus exclusively on one of the more conservative and practical strategies: covered calls. A covered call involves buying a stock and simultaneously selling a call option, or the right to buy that stock, to another person. Thus, you sell away some of the stock's upside potential in exchange for cash on the date of the transaction.

Besides the fact volatility is experienced by all long-only equity portfolios, there is another reason to sell volatility: implied volatility historically trades at a premium to realized volatility on average. Over time, option sellers receive prices higher than they theoretically should receive from the buyers of options. This is a well-documented and widely observed phenomenon that produces a myriad of explanations as to why it occurs. However, a strategy that sells volatility, like a covered call strategy, can be likened to an insurer who receives premiums in exchange for selling insurance. In a covered call example, the seller of an option gives away a certain level of upside in exchange for a premium. The buyer of the option can be hedging against a certain event or betting that a stock will rise, while paying significantly less than the cost of buying the underlying equity. Thus, the buyer of an option is hedging fear or making a leveraged bet to make large multiples of money. They are likely less price sensitive when buying the option than the seller who is sacrificing potential upside. Thus, the prices of options realized are higher than the theoretical value due in part to the price sensitivity of the seller. On page 3 is a graph that shows the S&P 500's historical monthly volatility, the VIX offset by one month, and the spread between the two.



Source: Bloomberg

From 1994 through 2017, there are over 250 monthly observations of the spread between historical volatility and implied volatility. The spread was positive for the vast majority of observations. This means that the price received was greater than the price that should have been received when all else is equal and volatility is the only consideration.

## The Impact of Selling Volatility on a Portfolio

The result of selling volatility, in the form of covered calls, is a lower standard deviation when compared against the underlying asset index or benchmark. Given the spread between realized and implied volatility, selling volatility should provide some positive risk-adjusted returns so long as the underlying assets perform in the same manner as the index. However, there are some unique risks that this type of conservative equity strategy experiences due to the derivatives. First, there is still underlying asset risk even though upside has been sold. Thus the investor still undertakes the risk of a stock price falling to zero. There is also something known as the “price-gap risk.” This risk explains how the seller of an option takes a risk that a stock does not rise in price in an orderly fashion, but rather spikes on a positive event.

On the other hand, selling volatility generates cash flow for portfolios. It also reduces the standard deviation of the portfolio. Thus, its performance varies less than the underlying assets over time both upwards and downwards. This provides a long equity alternative for investors who seek cash flow and want less overall risk than a long-only portfolio.

### Takeaways

Selling volatility changes the risk profile of a portfolio and provides cash flow not solely dependent on factors such as interest rate policy, dividend yield, or price appreciation. In volatile market environments, such as a bear market, premiums received by sellers of volatility rise with spikes in the VIX. During times of uncertainty, the benefits of selling volatility are that the strategy provides an alternative source of return other than price appreciation or dividends. In essence, volatility can become an asset class that provides the portfolio with a more diverse return profile in exchange for giving up upside for a specified time period. Contact a Crossmark representative to discuss how volatility plays within your portfolio.

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