



Volatility as an Asset Class

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The concept of volatility as an asset class is the latest result of the never-ending quest to create products for consumption by the investor community. But while volatility might serve a useful purpose as a measure of investor sentiment, it is only a true asset class for the marketing purposes of Wall Street's financial engineers.

Examples of efforts to characterize volatility as an asset class include [research](#) from Credit Suisse and a recent [white paper](#) from Standard and Poor's.

The concept of volatility as an asset class is most often associated with the VIX index. VIX was introduced in 1993 to measure volatility in the S&P 100 index. Its value was the implied volatility derived from the Black-Scholes option pricing formula, using the price of at-the-money listed options on the S&P 100. It became known as the "fear index" because it provided an objective measure of the volatility embedded in market pricing.

In 2003, the Chicago Board Options Exchange altered the VIX calculation methodology, replacing the Black-Scholes methodology with a different calculation, replacing the S&P 100 with the broader S&P 500, and using a broader set of options instead of just at-the-money options. Options and futures are now available against the VIX index and they have attracted significant amounts of investors' capital over the last two years.

Given the relatively recent introduction of the VIX index and futures and options contracts traded against it, very limited data regarding its historical performance exists. Nonetheless, the S&P study cited above identifies several performance characteristics:

- The returns of the index have been generally negative when measured over various holding periods
- The value of the index has diminished over time, with the exception of the period of extreme volatility in the fall of 2008
- The index exhibits "term structure decay." This is a typical characteristic of futures markets in contango — where more distant contracts trade at a premium to current contracts. Investors pay a premium in a trading strategy where current contracts are rolled into successive futures contracts, in order to maintain a constant maturity;



- The VIX and the S&P 500 are strongly negatively correlated; they move in opposite directions.

Given these characteristics, S&P is rightly skeptical of the utility of the VIX index. S&P notes that it would be unwise to simply short the VIX in an attempt to reduce overall portfolio volatility. This strategy would have failed during highly volatile periods in 2008 when the value of the VIX spiked.

S&P makes a good case for the diversification benefits of their index, citing the relatively strong inverse correlation between the VIX and the S&P. It's not just a short-term phenomenon — the VIX Futures Index's long-term downward trend is also inversely related to the long-term upward trend of the S&P.

But S&P actually undermines their claim that volatility is truly a distinct asset class, which is typically defined as a category of investments that share similar risk and return characteristics. Its close inverse relationship with the S&P 500 doesn't give the Futures Index a different risk and return profile; it simply gives it an almost-identical but inverse one. Funds like the Rydex Inverse S&P 500 Strategy (RYURX) have similar characteristics and return patterns, yet no one would argue they constitute a separate asset class.

Studies of correlations between market movements and volatility show higher volatility occurs during down markets, while upward market movements tend to slow and steady. A 1988 paper in the *Journal of Financial Economics*, *Risk Aversion, Uncertain Information and Market Efficiency*, explains this asymmetrical response to good versus bad news – markets overreact to bad news and under-react to good news.

Volatility is a form of risk that most investors dislike, so they will pay somebody else to take that risk off their hands for the same reason people buy fire insurance on their house. To the extent that one takes a consistently short position on volatility, they will earn a premium every period but sustain big losses occasionally (as was the case in parts of 2008), just like an insurer paying out a claim. This is the basis of the higher returns obtained by many hedge funds, not any clear advantage of skill. Taking the argument of those who see volatility as an asset class to an extreme, owning an insurance company would also fit the bill.

Houses are an asset, but not a fire insurance policy on the house that has no cash value. Volatility-linked securities are hedging instruments that are just an attachment to a real asset class.



Another way to define asset classes is through their specific beta exposures to various parts of the market, but the VIX fails to qualify in this regard, too. Like the S&P 500, its major risk exposure is to large cap domestic stocks and their trading environment.

But one way to differentiate asset classes is based on the source of their return. In that regard, stocks (equity ownership) are distinct from bonds (credit) or cash (stable value). While the S&P 500 return (as well as its underlying fundamental risk characteristics) is dependent upon its constituent stocks, the VIX is dependent on investor sentiment. The latter is certainly swayed by stocks and how they are trading, but only in a derivative and, at most, partial sense. As Keynes pointed out last century, “animal spirits” play a major role in the financial markets, and while they may be shaped by developments there, they certainly aren’t directly (or even logically) connected. It is in that specific sense that S&P may have a basis for calling an index driven by human emotion a distinct asset class.

Volatility exposure should be a factor in estimating the risk of a portfolio. Many types of investing involve implicit options that investors don’t take into account. For example, value strategies in equities tend to have a “short volatility” character. Similarly, mortgage backed securities offer higher yields than coupon bonds because of the volatility implicit in the borrower’s option to pre-pay their loan. The more volatile interest rates are, the more the prepayment option is worth and hence the greater the difference in yield. Most investors are short volatility without realizing it.

Overall, it is a stretch to call volatility its own asset class. If you are talking about purely speculative transactions (“I am long volatility” or “I am short volatility”), it is really nothing more than legalized gambling. You may as well be betting on sports events.

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