CREDENCE CAPITAL MANAGEMENT

Volatility

Frequently Asked Questions

The volatility market has existed for over 20 years. However, a fair amount of confusion and misunderstanding around the asset class still persists. In the following, we have provided what we hope to be helpful answers to some frequently asked questions regarding investing in volatility—an asset class that today trades three out of the 10 highest volume products in NYSE.[1]

Q: What is volatility?

A: Volatility is a statistical measure of the dispersion of returns for a security or index. Volatility can either be measured by using the standard deviation or by means of variance between returns for that same security or index. Commonly, the higher the volatility, the riskier the security.

Volatility in finance is a variable in option pricing formulas. It reflects the extent to which the return of the underlying asset is expected to fluctuate between today and the option's expiration. [2]

Q: What is volatility trading?

A: Volatility trading is the term used to describe trading the *volatility* of the price of an underlying instrument rather than the price itself. For example, one could trade the value of a specific stock, but volatility trading typically means trading the *expected* future volatility of that stock. Any instrument whose price moves, exhibits volatility. Volatility trading is simply buying and selling the expected future volatility of the instrument. Rather than predicting whether the price of an asset will move up or down, volatility traders are concerned with how much movement, *in any direction*, will occur. This way they partially isolate and trade the behavioural aspect of investing. Volatility therefore is a gauge of fear or risk-appetite in the financial markets.

Q: How is volatility traded?

A: The most common way to trade volatility is via conventional derivatives, like futures and options. The value of an option in particular may be affected by several factors, but the essential determinant of its value is the expected future volatility of the underlying instrument. Other things being equal, options on an index with higher expected volatility will be more expensive than options on an index expected to be less volatile. Traders can compare these levels of volatility and weigh against how they apply to their models or their estimates of what future realized volatility will be. Consequently, options are a neat and simple way to gain exposure exclusively on the volatility of the underlying.

Q: Is this a new asset class? I had not heard about volatility until recently.

A: Actually, this is not a new asset class, and there has been an active market in volatility for over 20 years. The widely traded future contracts on the most common volatility index —the S&P500 VIX— have been launched since 2004. As the market has grown in scope and volume, new investors have become more aware of it. Additionally, investors are getting into the volatility market in order to achieve differentiated returns, uncorrelated to bonds and stocks. Finally, volatility-dedicated products listed in the world’s largest exchanges now make it easier than ever for savvy investors to obtain exposure in this market in a cheap and effective way.

Q: How is an investment in volatility different from other asset classes?

A: Investing in volatility means participating in the financial markets. The instruments and underlying products used are the derivatives of stocks, bonds currencies and commodities. By isolating the volatility of the underlying index or other security on which one invests he separates his exposure from the *directional* price move (up/down) and risks only on the extent of

the price variation (large moves/nervous markets versus small moves/quiet markets).
This creates a totally different income generation, indifferent to how conventional investments move.
In fact, volatility exposure offers an alternative return engine with dissimilar characteristics of time horizon, cost of carry, and resulting effect in an investment portfolio. It is a compelling choice for prudent portfolio management as it offers additional diversification advantages, remaining attractive regardless of whether markets are falling or rising. Ultimately, volatility offers partial immunity to markets' directional trends and proposes itself as an alternative source of income. [3]

Q: How liquid is the market?

A: In aggregate, Exchange-Traded-Products on volatility trade larger volume in the NYSE than any bank stock any day. Options on stock indices are a market larger than the foreign exchange market in British pound and the Japanese yen combined.
Within the sector itself, index volatility instruments are more liquid than instruments on single stocks and equity volatility products are more liquid than credit or FX volatility products. Also, tools for the US market are historically more liquid than volatility instruments on other geographical regions. [4]
Volatility indices pricing is publicly available through many sources. [5]

Q: What are the risks when investing in volatility?

A: Investors used to see volatility primarily as a source of risk. In their previous experience the risk that fluctuations in prices will jeopardize their profits increased relative to the time horizon of their portfolio. This outlook of assumed investment risk is short-sighted. The phenomenon of fluctuating values in financial markets offers attractive features because volatility, by its nature, is *mean-reverting* and bounces *briefly*, followed by lengthier downward trends.

Nevertheless, we stress that through investing in volatility you put capital in the same financial markets that produce *counterparty* risk, *credit* risk, *default* risk, *fraud* risk, and *price* risk, to name a few.

Q: How does trading in volatility measure against such risks?

A: Volatility can go up as well as down and the direction you have invested in may be counter to the trend. When investing in volatility *you assume risk on the dispersion of price variation* of the underlying. This is a so-called *leptokurtic* occurrence, which means it shows a strong tendency to mean-revert. Hence volatility cannot display arbitrary high or low numbers. It sooner or later regresses back to its previous levels. You cannot wipe out your capital in a single blow if you buy volatility.
When investing in volatility credit risk is lower than when investing in stocks or bonds.
Foreign exchange risk is lower than when investing in currencies and is similar to when investing in stocks or bonds.
Interest rate risk is minimal. Default risk is close to zero. Particularly for investors like Credence Fund, who trade *only in exchange-listed products*, you assume no counterparty or default risk, as all trades actually face a regulated exchange.

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1. Source: New York Stock Exchange, 13/Sep/2016.
2. Source: www.investopedia.com, 10/Dec/2016
3. Credence Capital Management has studied how an investment in Credence Fund affected a traditional cash/bonds/stocks portfolio between 2005-2015. Ask your contact with Credence to provide you with the relevant results.
4. Source: Chicago Board of Options Exchange, 2016.

5. Chicago Board of Options Exchange, www.cboe.com | Eurex, www.eurexchange.com | MarkIt, www.markit.com, to name a few.

"Volatility" in this text is used in conjunction with Variance. Volatility is the square root of variance. Variance is a measure of distribution of returns and is not necessarily bound by any time period. Many volatility products actually trade variance of returns.