VSPIKES™ Index Summary

VSPIKES ™ (Symbol: VSPKE)

The VSPIKES Index is a measure of expected 30-day volatility in the SPIKES® Volatility Index.

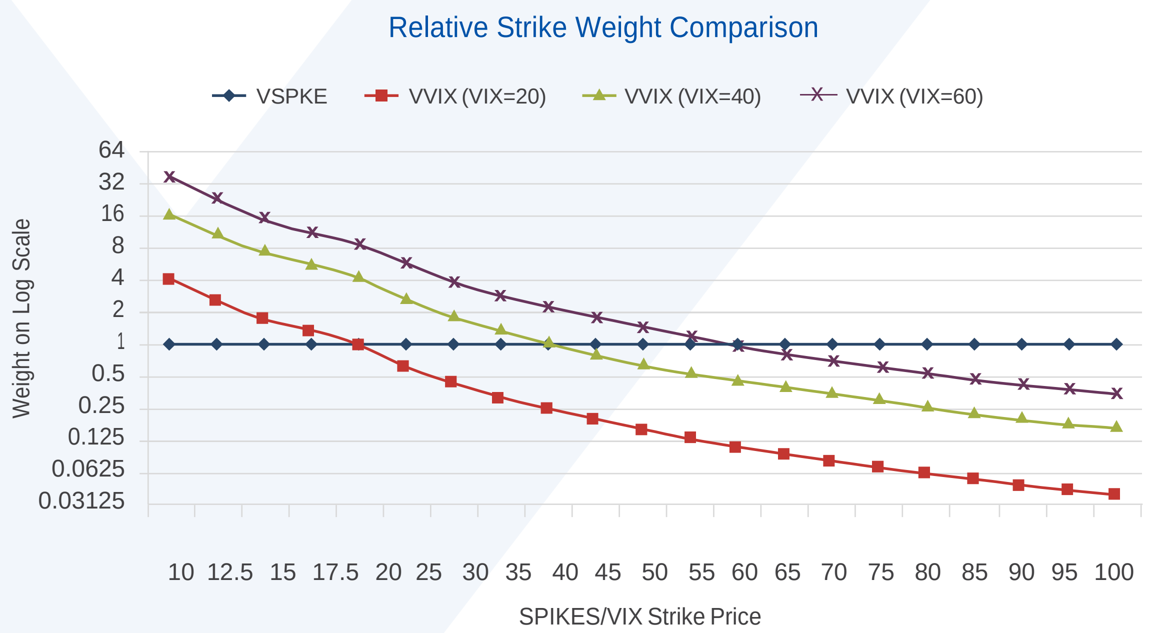
VSPIKES is constructed within a framework similar to the well-known variance swap methodology, where it can be replicated by a static portfolio of SPIKES Options.

The standard variance swap methodology attributes higher weighting to downside, lower-strike options where the majority of the risk lies for a typical stock market index. However, this is not the case for a volatility index such as SPIKES, where the principal source of risk resides within the fat right- tail of its skewed distribution.

VSPIKES accounts for this deficiency by adopting a more robust scheme known as a Simple Variance Swap where an equal weighting is applied across the relevant strike range. This alternative methodology is built on a solid theoretical framework, which allows for both jumps in the underlying asset and discrete time monitoring. These are respectively important characteristics of volatility indices and financial markets in general.

In the presence of jumps in the underlying volatility index, the replicating portfolio for the standard variance swap would suffer large hedging errors, while the corresponding error is orders of magnitude smaller for the Simple Variance Swap.

In volatility options, upside call options and their exhibited skews are dominant and of the most interest compared to the downside put counterparts, in the vast majority of cases. This is not reflected in the standard variance swap methodology which would give far higher weights to downside put options than it would to upside call options. VSPIKES eliminates this discrimination by weighting all strikes equally.



Similar to the SPIKES Volatility Index, VSPIKES also makes use of the proprietary "price dragging" technique, designed to reduce erratic movements in the index during periods of high volatility and/or low liquidity in the broader market.

VSPKE vs. VVIX Summary Table

Feature	VSPKE	VVIX
Underlying Options	SPIKES	VIX
Option Type	European	European
Replication Portfolio	Static	Static
Underlying Hedge	Dynamic	Dynamic
Methodology	Simple Variance Swap	Standard Variance Swap
Option Weightings	Equally weighted across strike prices	Inversely proportional to the square of strike prices
Allow for Jumps in the Underlying Asset	Yes, small hedging error	No, large hedging error
Error due to Discrete Time Monitoring and Hedging	Negligible with or without jumps	Substantial in the presence of jumps
Variance Exposure	An increasing function of the underlying price	Constant irrespective of the underlying price
Relative Size of Swap Payoff	Higher payoff than standard variance swap if underlying rises sharply	Higher payoff if underlying drops sharply
Ease of Influence	More difficult to influence as every strike is equally weighted	Easier as the low-strike puts carry large weights in the portfolio
Swap Payoff	Sum of squares of daily simple returns using forward prices as the denominators	Sum of squares of daily logarithmic returns
Limited Strike Range Allowed	Allowed with simple correction term in the swap payoff	No
Index interpretation	Risk-neutral variance of simple returns; Lower bound for the forward looking equity risk premium	Risk-neutral entropy of simple returns

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