Investable Volatility Index®

Bank of America Merrill Lynch

Introduction

Index Overview

The Investable Volatility Index® ("the Index") is designed to measure the return of an investment in the forward implied volatility of the S&P 500® Index. The return of the Index reflects changes in the level of forward implied volatility of the S&P 500® Index by using market prices of listed S&P 500® Index options plus a return on the previous Index level at the prevailing one-month U.S. Treasury bill yield. The Index measures the forward implied volatility of the S&P 500® Index for a three-month window centered approximately five months in the future. The Index level is published on Bloomberg under the symbol "VOL Index" and on Reuters under the symbol ".VOL".

Volatility Background

The volatility of an asset is a statistical measure of the variability in the price of the asset over a period of time. The implied volatility of an option is the market's measure of the price of volatility of the underlying asset from today to the option's expiration. One well-known measure of implied volatility of the S&P 500® Index is the VIX® index (the "VIX") computed by the Chicago Board Options Exchange, Incorporated (the "CBOE"). Forward implied volatility is the option market's measure of the price of volatility between two dates in the future. Forward implied volatility between two dates in the future can be calculated by using the current implied volatility of options expiring on each of the two dates.

The Index Components

The CBOE publishes implied volatility levels for option expirations (together, the "Listed Expiration Dates"), which generally occur on the third Friday of each month, subject to the CBOE's holiday schedule, in March, June, September, and December. An implied volatility level is computed separately for each Listed Expiration Date using the option prices for each respective Listed Expiration Date and applying the same formula used in calculating the VIX. The implied volatility levels are published on Bloomberg under the symbols VXMAR, VXJUN, VXSEP, and VXDEC (together, the "Index Components") for the implied volatility calculations in March, June, September, and December, respectively. The VIX formula is described in the CBOE white paper on the VIX, available on the VIX website at www.cboe.com/micro/vix/vixwhite.pdf.

Calculating Forward Implied Volatility from Index Components

For the purpose of calculating the Index, forward implied volatilities (together, "Forward Implied Volatilities") are computed from the Index Components. The three potential Forward Implied Volatilities are calculated between adjacent quarterly expirations (i.e. March to June, June to

September, September to December, and December to March). A Forward Implied Volatility can be thought of as the combination of a long position in (or a purchase of) the Index Component with the longer maturity and a short position in (or a sale of) the corresponding Index Component with the shorter maturity.

Calculating Weights and Contracts

For the purpose of calculating the Index, the Forward Implied Volatilities are treated like assets that can be bought, held, and sold. The level of the Index is the result of holding a theoretical portfolio of these assets. This portfolio is rebalanced on a daily basis to approximate the forward implied volatility of the S&P 500® Index for a three-month window centered approximately five months in the future. The Index calculation process uses weights to calibrate the amount of theoretical investment in each Forward Implied Volatility and contracts to represent the amount of theoretical investment in each Forward Implied Volatility. The exact calculation methodology is described in the section "Index Calculation" below.

Index Calculation

Calculating the Index

For each scheduled trading day on the CBOE, each an "Index Calculation Day," the Index is calculated as follows:

Step 1: Calculate the Forward Implied Volatility levels from the Index Components

On each trading day, three forward implied volatility levels can be computed from the Index Components. The Index Components on any given day can be identified in chronological order as "IC1," "IC2," "IC3," and "IC4," with IC1 representing the Index Component closest to the Index Calculation Day. For example, on June 5, 2010, which is prior to the expiration date in June 2010, IC1 would represent VXJUN (with an expiration date in June 2010), IC2 would represent VXSEP, IC3 would represent VXDEC, and IC4 would represent VXMAR. To provide further illustration, on June 24, 2010, which is after the expiration date in June 2010, IC1 would represent VXSEP, IC2 would represent VXDEC, IC3 would represent VXMAR, and IC4 would represent VXJUN (with an expiration date in June 2011).

The three forward implied volatility levels, identified as "FIVA," "FIVB," and "FIVC," are computed according to the following formulas:

$$FIVA = \sqrt{\frac{t_2 \times IC2^2 - t_1 \times IC1^2}{(t_2 - t_1)}}$$

$$FIVB = \sqrt{\frac{t_3 \times IC3^2 - t_2 \times IC2^2}{(t_3 - t_2)}}$$

$$FIVC = \sqrt{\frac{t_4 \times IC4^2 - t_3 \times IC3^2}{(t_4 - t_3)}}$$

with t_1, t_2, t_3 and t_4 representing the year fraction, calculated using minutes, from the current time today to 9:30am (New York Time) on the Listed Expiration Date, for IC1, IC2, IC3, and IC4, respectively.

Step 2: Determine the appropriate Forward Implied Volatilities to use for the Index calculation

The Index uses two of the three Forward Implied Volatilities. The two Forward Implied Volatilities used for the Index Calculation are defined as $FIV1$ and $FIV2$.

On each Index Calculation Day, identify $FIV1$ and $FIV2$ using the process below:

- Calculate the average time to maturity ("ATT") for each Forward Implied Volatility. The ATT represents the average of the time to maturity for the two Index Components used in calculating a Forward Implied Volatility.

$$ATT_A = \frac{t_1^d + t_2^d}{2}$$

$$ATT_B = \frac{t_2^d + t_3^d}{2}$$

$$ATT_C = \frac{t_3^d + t_4^d}{2}$$

where t_1^d, t_2^d, t_3^d and t_4^d represent year fractions, calculated using actual days/365, from today to the Listed Expiration for IC1, IC2, IC3, and IC4, respectively.

- Compare the ATT values for FIVA, FIVB and FIVC and identify the ATT value that is both closest to and less than 5/12. The Forward Implied Volatility to which this ATT pertains is defined as $FIV1$ for the purposes of the Index calculation. The ATT of $FIV1$ is defined as ATT_1.

- Compare the ATT values for FIVA, FIVB and FIVC and identify the ATT value that is both closest to and greater than or equal to 5/12. The Forward Implied Volatility to

which this ATT pertains is defined as $FIV2$ for the purposes of the Index calculation. The ATT of $FIV2$ is defined as ATT_2 .

Step 3: Determine the weights for FIV1 and FIV2

Calculate the Forward Implied Volatility weights w_1 and w_2 , for the forward volatilities $FIV1$ and $FIV2$, respectively, such that (i) $w_1 ATT_1 + w_2 ATT_2$ is approximately 5/12 and (ii) $w_1 + w_2 = 1$. The weights are designed to keep the weighted ATT values of the Forward Implied Volatilities used for the Index calculation at approximately 5/12. As time passes (over a period of roughly three months), w_1 will decrease to approach 0, and w_2 will increase to approach 1. On the day (defined as a "New Contract Day") when ATT_2 crosses over from being greater than 5/12 to being less than 5/12, the Forward Implied Volatilities are rolled, such that the Forward Implied Volatility defined as $FIV2$ becomes $FIV1$ and the next Forward Implied Volatility becomes $FIV2$.

If the Index Calculation Day is a New Contract Date, then $w_1 = 1$ and $w_2 = 0$. Otherwise:

$$w_1 = \frac{ATT_2 - \frac{5}{12}}{ATT_2 - ATT_1} \text{ and } w_2 = 1 - w_1 .$$

Step 4: Determine the number of contracts for FIV1 and FIV2

The contracts n_1^t and n_2^t represent the amount of theoretical investment the Index has in $FIV1$ and $FIV2$, respectively. The contracts are adjusted daily to keep the exposure to $FIV1$ and $FIV2$ consistent with the weightings w_1 and w_2 , and to account for transaction costs which would be incurred in implementing a strategy to replicate the Index.

Calculate n_1^t and n_2^t for $FIV1$ and $FIV2$:

For n_1 :

$$n_1^t = n_1^{t-1} + \frac{w_1^t S_t - n_1^{t-1} FIV1}{FIV1 * ExecutionFactor} \text{ when } w_1^t S_t - n_1^{t-1} FIV1 > 0 .$$

Otherwise, including on the Base Date:

$$n_1^t = \frac{w_1 S_t}{FIV1}$$

For n_2^t:

$$n_2^t = n_2^{t-1} + \frac{w_2 S_t - n_2^{t-1} FIV2}{FIV2 * ExecutionFactor} \text{ when } w_2 S_t - n_2^{t-1} FIV2 > 0.$$

Otherwise, including on the Base Date:

$$n_2^t = \frac{w_2 S_t}{FIV2}$$

where:

$$S_t = n_1^{t-1} FIV1 + n_2^{t-1} FIV2$$

The Execution Factor is equal to 1.015 and is designed to reflect the transaction costs that would be incurred in implementing a strategy that replicates the Index. The Execution Factor is only applied to the equation where n_1 or n_2 is to be increased from the level of n_1^{t-1} or n_2^{t-1}, respectively.

Step 5: Calculate the simple return of the Index on the Index Calculation Date

The simple return of the Index, r_t, is equal to:

$$r_t = \frac{S_t - S_{t-1}}{S_{t-1}}$$

Step 6: Calculate the Index closing level

The Index closing level, I_t, is equal to:

$$I_t = I_{t-1} \times (1 + IndexMultiplier \times r_t + IA_t)$$

where:

Index Multiplier = 120%

Interest accrual $IA_t = Rate_{t-1} \times \frac{1}{360} \times d$

where $Rate_{t-1}$ is the closing level of the 30-day U.S. Treasury Yield on Index Calculation Day *t-1,* and *d* is the number of calendar days from, but excluding, Index Calculation Day *t-1*, to and including, Index Calculation Day *t*.

I_t is rounded to 2 decimal places.

Base Date

The Base Date of the Index is December 31, 2004. I_t and S_t are both defined as 250 on the Base Date.

Other Important Information

Hypothetical Historical Closing Levels of the Index

Levels of the Index published for dates prior to March 23, 2010 represent hypothetical results based on historical data and are provided for purposes of illustration only. Where the appropriate historical S&P 500® Index listed options data is unavailable, prices for other financial instruments are used, including listed variance futures. Merrill Lynch International ("MLI") believes that such data is a reasonable proxy for unavailable historical S&P 500® Index listed options data. The published history may be subject to change by the CBOE or MLI if it is determined that more suitable data is available. None of the CBOE, MLI, or MLI's affiliates offers any assurance about the accuracy of historical data or whether historical results are indicative of future performance.

Market Disruption

If a market disruption (as determined by MLI in its sole discretion) occurs on a scheduled Index Calculation Day there will be no index closing level. Furthermore the reweighting as described in Steps 3 and 4 above will be carried to the next scheduled Index Calculation Day *t* which is not a disrupted day. On such Index Calculation Day *t* immediately following a disruption, for purposes of calculating Steps 3 to 6 above, *t-1* will refer to the prior Index Calculation Day for which there was no disruption. The calculation will then resume as described above. MLI in its sole discretion may adjust the methodology of the Index so that the Index may continue to be calculated in a practical manner. If a market disruption continues to occur for more than 10 scheduled Index Calculation Days (as determined by MLI in its sole discretion) MLI will determine the level of the Index using a commercially reasonable method.

Modifications to the Index

The above information reflects the policies of, and is subject to change by MLI, as the Index Sponsor, and the CBOE, as the Index Calculation Agent. The Index Calculation Agent calculates and disseminates the level of the Index using the methodology provided by the Index Sponsor, and has no obligation to continue to compile or maintain the Index and may discontinue publication of the Index at any time in its sole discretion.

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For Additional Information:

Individuals:
Please contact your financial advisor or find one by calling: **1-800-MERRILL**

Institutions:
Please contact Equity Derivative Sales (**212-449-6756)** or email InvestableVolInfo@baml.com

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