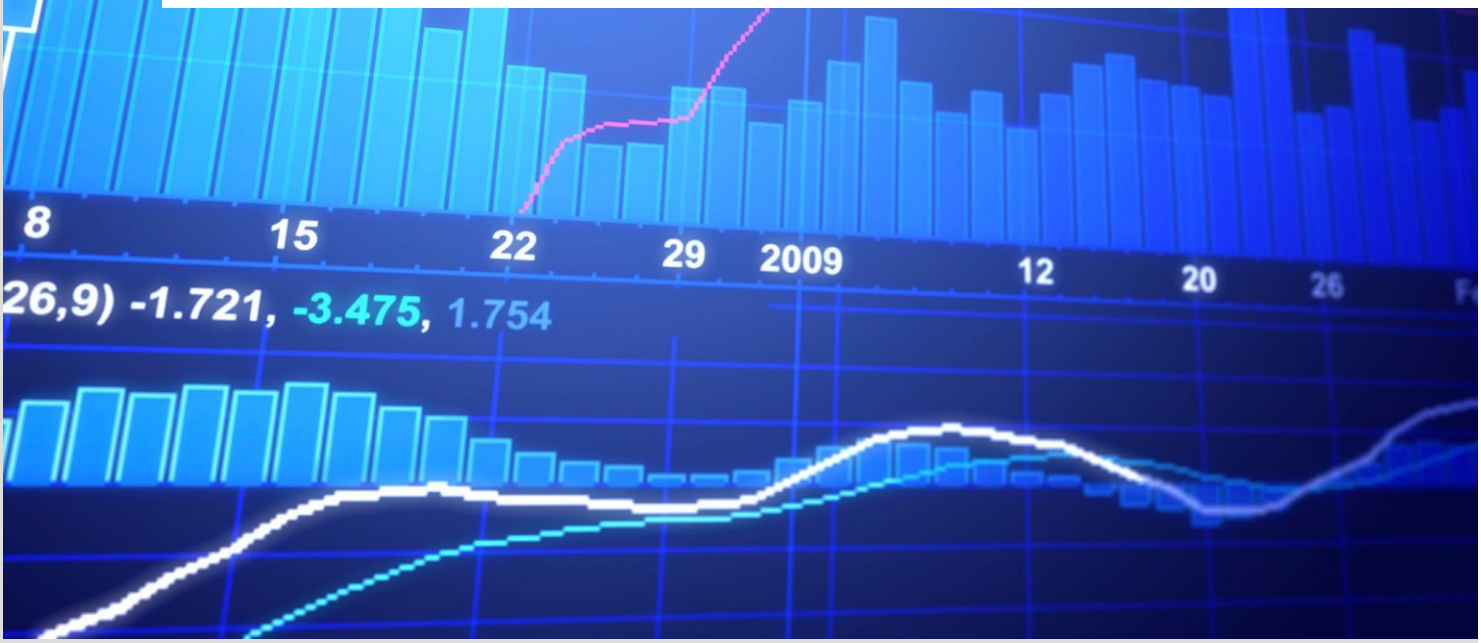
Index Methodology As of January/2017

CBOE Strategy Benchmark Indexes

The CBOE S&P 500 Range Bound Premium Income Index Series



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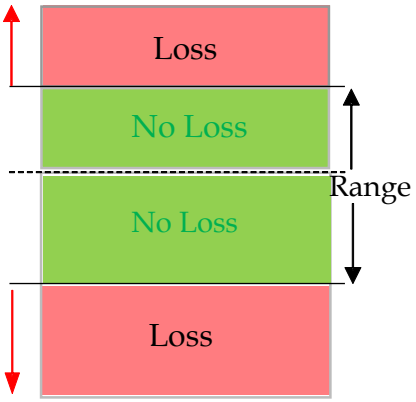
Introduction

The CBOE S&P 500 Range Bound Premium Income Index (the "*Index*") is part of the family of Target Outcome Indices. The Index is designed to provide a target level of monthly premium income that exhibits low correlations to monthly return from US domestic fixed income markets and directionally neutral to monthly returns of the US domestic stock market.

The Index measures the performance of a portfolio of short term T-Bills and exchange traded Flexible Exchange® Options ("*FLEX® Options*") that are based on the S&P 500® Index. The Index is designed to track the returns of an investment that over a period of approximately one month seeks to provide a target level of premium income from sales and purchase of options while minimizing the risk of loss from the options positions.



- CBOE S&P 500 Range Bound Premium Income Index (SPRI^{SM})

Highlights

A Range Bound Option Strategy (the "*Strategy*") is a strategy that is generally used in a range-bound market environment. The Strategy sets the upper and lower bounds for the price return of the S&P500 Index each month (the "*Range*") to attempt to meet two objectives:

1. Receive a target level of premium income through the sale and purchase of FLEX Options.
2. Reduce the possibility of loss from settlement of the options due to the price return of S&P 500® Index being outside the Range at month's end.

The Index is part of the family of Target Outcome Indices. Many investments target speculative returns, with uncertain levels of risk, over an uncertain period of time. While opportunistic, this approach to investing brings a high degree of uncertainty. Target Outcome Indices encourage targeting a specific defined return or "payoff", with an allowance for a specific defined risk, at a specific point in time in the future.

The strategy seeks to provide a source of income returns that has low correlation to the returns from the US domestic fixed income markets and is neutral to the returns from the US domestic equity markets.

Index Value and Return

First Roll Date and Starting Values

This Index will have a Roll Date (i) on the last trading day for every month and have an initial value defined as:

$Index_0$: 1000 as of December 30, 2004

Roll Date Index Value and Return Calculations

From one end-of-month SPX FLEX options (T-1) to next end-of-month SPX FLEX options (T):

$$\frac{Index_T}{Index_{T-1}} = \frac{\text{FixedIncomePortfolio(T)} + \text{OptionPortfolio(T)}}{\text{FixedIncomePortfolio(T} - 1) + \text{OptionPortfolio(T} - 1)}$$

Fixed Income Portfolio

$$\text{FixedIncomePortfolio(T)} = \text{FixedIncomePortfolio(T} - 1) * (1 + Rate_{T-1})^{n/365} + Prem(T) + Settle(T)$$

Where,

n = # of days between T and T-1

$Rate_{T-1}$ = 1 month US treasury yield

Premium(T) = Premium collected from new Options Portfolio

Settle(T) = Settlement value of Options Portfolio that expires on T

Option Portfolio

$$\text{OptionPortfolio(T)} = \text{nShares(T} - 1) * (-\text{Price}_A + \text{Price}_B - \text{Price}_C + \text{Price}_D)$$

Where,

$$\text{nShares(T} - 1) = \frac{Index_{T-1}}{SPX_{T-1}} * 3$$

$Price_j$ = Price of option contract defined for the Position "j". The Options Portfolio contracts are determined at time T-1 as follows:

Components

Compute value of the following "Default Portfolio" to be Def_{T-1}:

- Position A: Sell call options with strike closest to 110% x SPX_{T-1}
- Position B: Purchase call options with strike closest to 143% x SPX_{T-1}
- Position C: Sell put options with strike closest to 90% x SPX_{T-1} value
- Position D: Purchase put options with strike closest to 57% x SPX_{T-1}

CONDITION #1
If 0.60% x $Index_{T-1}$ < Def_{T-1} < 3.00% x $Index_{T-1}$, then the Options Portfolio is the Default Portfolio

CONTIDION #2
If Def_{T-1} < 0.60% x $Index_{T-1}$ then edit the portfolio by narrowing the strikes to target 0.30% x $Index_{T-1}$ for Position A and Position B combined and 0.30% x $Index_{T-1}$ for Position C and Position D combined.

CONDITION #3
If Def_{T-1} > 3.00% x $Index_{T-1}$ then edit the portfolio by widening the strikes to target 1.50% x $Index_{T-1}$ for Position A and Position B combined and 1.50% x $Index_{T-1}$ for Position C and Position D combined.

Non-Roll Date Index Calculation

During non-roll day, $Index_t$ can be calculated as follow:

$$Index_t = \text{FixedIncomePortfolio\_t} + \text{OptionPortfolio\_t}$$

$$\text{FixedIncomePortfolio\_t} = \text{FixedIncomePortfolio(T} - 1) * (1 + Rate_{T-1})^{d/365}$$

$$\text{OptionPortfolio\_t} = \text{nShares(T} - 1) * (-\text{Price}_{A,t} + \text{Price}_{B,t} - \text{Price}_{C,t} + \text{Price}_{D,t})$$

Where,

t = current date

T-1 = previous Roll day

d = # of days between t and T-1

$Rate_{T-1}$ = 1 month US treasury yield defined on T-1

$Price_{j,t}$ = Price collected on day t of option contract defined for the Position "j" on day T-1

Valuation

To value the component Options that comprise the Monthly index series, a model based valuation is used. Model based valuation is used for valuing the options. CBOE constructs an implied volatility surface from listed S&P 500 option prices by applying the SABR model. The SABR model is a stochastic volatility model, which attempts to capture the volatility smile in derivatives markets. The name stands for "stochastic alpha, beta, rho", referring to the parameters of the model, introduced by Hagan et. al., as an attempt to model the volatility surface and capture the empirically observed dynamic behavior of the smile. Valuations are calculated for the options on the roll dates and for the official close of CBOE each trading date.

Index Maintenance

Index Construction

CBOE gathers information for the option components and applies the methodology to create individual index series.

Valuation and Equations

CBOE determines an evaluated value for each component option and associated equation in the Indices.

Calculation and Dissemination

CBOE compiles, calculates, maintains and disseminates the values of the Indices. Calculation will occur once a day upon the official close of CBOE trading hours.

Options involve risk and are not suitable for all investors. Prior to buying or selling an option, a person must receive a copy of Characteristics and Risks of Standardized Options. Copies are available from your broker or from The Options Clearing Corporation, One North Wacker Drive, Suite 500, Chicago, Illinois 60606 or www.theocc.com. The CBOE S&P 500 Range Bound Premium Income Index Series (the "Index") is designed to represent a proposed hypothetical option spread strategy. Like many passive indexes, the Index does not take into account significant factors such as transaction costs and taxes and, because of factors such as these, many or most investors should be expected to underperform passive indexes. In the construction of the Index, the options components of each monthly index series are assumed to be purchased and sold at a certain price on the last day of the month. However, there is no guarantee that all investors will be able to buy or sell at this price, and investors attempting to replicate the Index should discuss with their brokers possible timing and liquidity issues. Transaction costs and taxes for a strategy such as the Index could be significantly higher than transaction costs for a passive strategy of buying-and-holding stocks. Investors should consult their tax advisor as to how taxes affect the outcome of contemplated options transactions. Past performance does not guarantee future results. It is not possible to invest directly in an index. Chicago Board Options Exchange, Incorporated (CBOE) calculates and disseminates the Index.

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