Description of the CBOE Russell 2000 BuyWrite Index (BXR\textsuperscript{SM})

**Introduction.** The CBOE Russell 2000 BuyWrite Index (BXR\textsuperscript{SM}) is a benchmark index designed to track the performance of a hypothetical at-the-money buy-write strategy on the Russell 2000\textsuperscript{®} Index. The BXR is a passive total return index based on (1) buying a Russell 2000 stock index portfolio, and (2) "writing" (or selling) a near-term Russell 2000 Index (RUT) "covered" call option, generally on the third Friday of each month. The CBOE calculates the BXR using the same methodology as for the BXM.

The BXR historical series is calculated using the BXM methodology used prior to June 18, 2004. Starting on May 19, 2006, the BXR is calculated using the revised BXM methodology in place since June 18, 2004. As explained in more detail below, on the third Friday of the month, the new Russell 2000 call option is deemed sold at a price equal to the volume-weighted average of the traded prices ("VWAP") of the new call option during the half-hour period beginning at 11:30 a.m. Eastern Time.

For more information on the BXR Index, please visit the website [www.cboe.com/BXR](http://www.cboe.com/BXR) or send an e-mail to institutional@cboe.com.

**Index Design.** The CBOE Russell 2000 BuyWrite Index (the “BXR or the “BXR Index\textsuperscript{SM}”) measures the total rate of return of a hypothetical “covered call” strategy applied to the Russell 2000 Index. This strategy, which we refer to as the “BXR covered call strategy,” consists of a hypothetical portfolio consisting of a “long” position indexed to the Russell 2000 Index on which are deemed sold a succession of one-month, at-the-money call options on the Russell 2000 Index listed on the Chicago Board Options Exchange (CBOE). We refer to this hypothetical portfolio as the “covered Russell 2000 Index portfolio.” The BXR Index provides a benchmark measure of the total return performance of this hypothetical portfolio. Dividends paid on the component stocks underlying the Russell 2000 Index and the dollar value of option premium deemed received from the sold call options are functionally “re-invested” in the covered Russell 2000 Index portfolio. The BXR Index is based on the cumulative gross rate of return of the covered Russell 2000 Index portfolio since the inception of the BXR Index. On its base date, December 29, 2000, the BXR value is 100.
The BXR covered call strategy requires that each Russell 2000 Index call option in the hypothetical portfolio be held to maturity, generally the third Friday of each month. The call option is settled against the Special Opening Quotation (or SOQ, ticker “RLS”) of the Russell 2000 Index used as the final settlement price of Russell 2000 Index call options. The SOQ is a special calculation of the Russell 2000 Index that is compiled from the opening prices of component stocks underlying the Russell 2000 Index. The SOQ calculation is performed when all stocks underlying the Russell 2000 Index have opened for trading. The final settlement price of the call option at maturity is the greater of 0 and the difference between the SOQ minus the strike price of the expiring call option.

Subsequent to the settlement of the expiring call option, a new at-the-money call option expiring in the next month is then deemed written, or sold, a transaction commonly referred to as a “roll.” The strike price of the new call option is the Russell 2000 Index call option listed on the CBOE with the closest strike price above the last value of the Russell 2000 Index reported before 11:00 a.m. ET. For example, if the last Russell 2000 Index value reported before 11:00 a.m. ET is 742.93 and the closest listed Russell 2000 Index call option strike price above 742.93 is 750, then the 750 strike Russell 2000 Index call option is selected as the new call option to be incorporated into the BXR Index. The long Russell 2000 Index component and the short call option component are held in equal notional amounts, i.e., the short position in the call option is “covered” by the long Russell 2000 Index component.

Once the strike price of the new call option has been identified, the new call option is deemed sold at a price equal to the volume-weighted average of the traded prices (“VWAP”) of the new call option during the half-hour period beginning at 11:30 a.m. ET. The CBOE calculates the VWAP in a two-step process: first, the CBOE excludes trades in the new call option between 11:30 a.m. and 12:00 p.m. ET that are identified as having been executed as part of a “spread”, and then the CBOE calculates the weighted average of all remaining transaction prices of the new call option between 11:30 a.m. and 12:00 p.m. ET, with weights equal to the fraction of total non-spread volume transacted at each price during this period. The source of the transaction prices used in the calculation of the VWAP is CBOE’s Market Data Retrieval (“MDR”) System. If no transactions occur in the new call option between 11:30 a.m. and 12:00 p.m. ET, then the new call option is deemed sold at the last bid price reported before 12:00 p.m. ET.

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1 If the third Friday is an exchange holiday, the call option will be settled against the SOQ on the previous business day and the new call option will be selected on that day as well.
2 If one or more stocks in the Russell 2000 Index do not open on the day the SOQ is calculated, the final settlement price for RUT options is determined in accordance with the Rules and By-Laws of the Options Clearing Corporation.
3 If the last value of the Russell 2000 Index reported before 11:00 a.m. ET is exactly equal to a listed Russell 2000 Index call option strike price, then the new call option is the Russell 2000 Index call option with that exact at-the-money strike price.
4 Beginning on May 19, 2006, the new call option will be deemed sold at the VWAP price between 11:30 a.m. and 12:00 p.m. ET.
5 Time & Sales information from CBOE’s MDR System is disseminated through the Options Price Reporting Authority (OPRA) and is publicly available through most price quote vendors.
value of option premium deemed received from the new call option is functionally “re-invested” in the portfolio.

**Index Calculation.** The BXR Index is calculated in real-time by the CBOE every fifteen seconds during each trading day excluding roll dates [for the respective components of the covered Russell 2000 Index portfolio]. The BXR Index is a chained index, i.e., its value is equal to 100 times the cumulative product of gross daily rates of return of the covered Russell 2000 Index portfolio since the base date of the BXR Index. On any given day, the BXR Index is calculated as follows:

\[ BXR_t = BXR_{t-1} (1 + R_t) \]

where \( R_t \) is the daily rate of return of the covered Russell 2000 Index portfolio. This rate includes ordinary cash dividends paid on the stocks underlying the Russell 2000 Index that trade “ex-dividend” on that date.

On each trading day excluding roll dates, the daily gross rate of return of the BXR equals the change in the value of the components of the covered Russell 2000 Index portfolio, including the value of ordinary cash dividends payable on component stocks underlying the Russell 2000 Index that trade “ex-dividend” on that date, as measured from the close in trading on the preceding trading day. The gross daily rate of return is equal to:

\[ 1 + R_t = (S_t + Div_t - C_t)/(S_{t-1} - C_{t-1}) \]

In this equation, \( S_t \) is the closing value of the Russell 2000 Index at date \( t \), \( Div_t \) represents the ordinary cash dividends payable on the component stocks underlying the Russell 2000 Index that trade “ex-dividend” at date \( t \) expressed in Russell 2000 Index points, and \( C_t \) is the arithmetic average of the last bid and ask prices of the call option reported before 4:00 p.m. ET at date \( t \). \( S_{t-1} \) is the closing value of the Russell 2000 Index on the preceding trading day and \( C_{t-1} \) is the average of the last bid and ask prices of the call option reported before 4:00 p.m. ET on the preceding trading day.

On roll dates, the gross daily rate of return is compounded from three gross rates of return, the gross rate of return from the previous close to the time the SOQ is determined\(^6\) and the expiring call is settled; the gross rate of return from the SOQ to the initiation of the new call position and the gross rate of return from the time the new call option is deemed sold to the close of trading on the roll date, expressed as follows:

\[ 1 + R_t = (1 + R_a) \times (1 + R_h) \times (1 + R_c) \]

\(^6\) The SOQ of the Russell 2000 Index is frequently not known until late in the day. This is because there are often a few of the component stocks that never open. Historically, the Frank Russell Company has calculated the SOQ of the Russell 2000 Index using the opening prices of those components that have opened for trading, and the previous closing prices for stocks that have not opened. Since most of the information needed to calculate the SOQ is known by 11:30 a.m. ET, the calculation of the rate of return of the BXR on roll dates will proceed as if the SOQ is available by that time, when the calculation of the VWAP of the new call and index begin.

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where:

\[ 1 + R_a = \frac{(S^{SOQ} + Div_t - C_{Settle})}{(S_{t-1} - C_{t-1})}; \]

\[ 1 + R_b = \frac{(S^{VWAV})}{(S^{SOQ})}; \]

and

\[ 1 + R_c = \frac{(S_t - C_t)}{(S^{VWAV} - CVWAP)} \]

In this equation, \( R_a \) is the rate of return of the covered Russell 2000 Index portfolio from the previous close of trading through the settlement of the expiring call option. \( S^{SOQ} \) is the Special Opening Quotation used in determining the settlement price of the expiring call option. As previously defined, \( Div_t \) represents dividends on Russell 2000 Index component stocks determined in the same manner as on non-roll dates, and \( C_{Settle} \) is the final settlement price of the expiring call option. \( S_{t-1} \) and \( C_{t-1} \) are determined in the same manner as on non-roll dates.

\( R_b \) is the rate of return of the un-covered Russell 2000 Index portfolio from the settlement of the expiring option to the time the new call option is deemed sold. \( S^{VWAV} \) is the volume-weighted average value of the Russell 2000 Index based on the same time and weights used to calculate the VWAP in the new call option.

\( R_c \) is the rate of return of the covered Russell 2000 Index portfolio from the time the new call option is deemed sold to the close of trading on the roll date. As defined above, \( S^{VWAV} \) is the volume-weighted average value of the Russell 2000 Index based on the same time and weights used to calculate the VWAP in the new call option. \( CVWAP \) is the volume-weighted average trading price of the new call option between 11:30 a.m. and 12:00 p.m. ET and \( C_t \) refers to the average bid/ask quote of the new call option reported before 4:00 p.m. ET on the roll date.
The CBOE Russell 2000 BuyWrite Index (BXR) is designed to represent a hypothetical buy-write strategy. Like many passive indexes, the BXR 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 hypothetical BXR index, the RUT calls are assumed to be written at a certain price on the third Friday of the month. However, there is no guarantee that all investors will be able to sell at this price, and investors attempting to replicate the BXR Index should discuss with their brokers possible timing and liquidity issues. Transaction costs for a buy-write strategy such as the BXR could be significantly higher than transaction costs for a passive strategy of buying-and-holding stocks. Past performance does not guarantee future results. Russell 2000® is a registered trademark of The Frank Russell Company, used under license. CBOE® and Chicago Board Options Exchange® are registered trademarks of Chicago Board Options Exchange, Incorporated (CBOE), and SPXSM, BXM and BXR are servicemarks of CBOE. The methodology of the CBOE Russell 2000 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

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