Royal Bank of Canada

RBCSVB2 Index

Strategy Methodology

Capital Markets

Important Information

1. Strategy Administration

The Strategy Administrator appoints the Calculation Agent, which could be an affiliate or an external third party, who has sole discretion over calculation of the Strategy, determination of the inputs necessary to calculate the Strategy and how the Strategy Methodology is applied. It reserves the right to modify, temporarily suspend, or discontinue the Strategy at any time without notice. In certain cases, the Strategy Administrator may be required to make subjective decisions. This will be done in good faith and in a commercially reasonable manner, but, in all cases, is at the sole discretion of the Strategy Administrator.

The Strategy Administrator may cease to administer the Strategy at any time. It may also, at any time, transfer its responsibilities to another party of its choice which could be an affiliate or an external third party.

The Strategy Administrator's determinations with respect to any calculations made by the Calculation Agent and any interpretation and/or application of the Strategy Methodology, are final and binding.

The Strategy Administrator may assign the performance of calculations hereunder to any person or entity, including an affiliate of the Strategy Administrator.

The Strategy Administrator does not guarantee the accuracy, completeness, timeliness or availability of the information contained herein, and is not responsible for any errors or omissions, regardless of the cause. The Strategy Administrator does not make any representation as to the potential success or anticipated results of any transaction linked to the value of the Strategy. The Strategy Administrator disclaims any and all express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use. The Strategy Administrator does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index.

2. Changes to Futures Contracts by Listing Exchange

The exchanges may discontinue or suspend calculation or dissemination of information relating to any of the futures contracts comprising the Strategy Components. Any such actions could affect the return of the Strategy. If the situation arises in which the exchanges make changes to, replace, or discontinue a futures contract that is a Strategy Future in the Strategy then the Strategy Administrator reserves the right to take discretionary action to modify the Strategy Methodology. This will be done in good faith and in a commercially reasonable manner, but, in all cases, is at the sole discretion of the Strategy Administrator.

3. Calculation Agent

The Calculation Agent is responsible for calculating the Strategy in accordance with the Strategy Methodology.

The Calculation Agent does not guarantee the accuracy, completeness, timeliness or availability of the information contained herein, and is not responsible for any errors or omissions, regardless of the cause. The Calculation Agent does not make any representation as to the potential success or anticipated results of any transaction linked to the value of the Strategy. The Calculation Agent disclaims any and all express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use. The Calculation Agent does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index.

4. Potential conflicts of interest

In certain circumstances, the Strategy Administrator's role as a subsidiary of Royal Bank of Canada and its responsibilities with respect to the Strategy could give rise to conflicts of interest. Even though the Strategy will be calculated in accordance with certain principles, its calculation and maintenance require that certain judgments and decisions be made. The Strategy Administrator will be responsible for these judgments and decisions.

Further, the Strategy Administrator faces a potential conflict of interest between its role as the Strategy Administrator and its active role in trading commodities and derivatives instruments based upon the components of the Strategy.

5. Disclaimer

The information contained in these materials is subject to change without prior notification. Nothing contained in these materials is, or shall be relied on as, a promise or representation as to the future. RBC reserves the right to update the assumptions or other information in these materials at any time without notice.

Contents

Introduction

The information presented in this document (the “Strategy Methodology”) describes the general methodology for determining the composition and calculation of the Strategy.

The Strategy is comprised of components, with each component referencing a rolling futures exposure. The basket composition is updated periodically by applying a weighting rebalance methodology.

Strategy Methodology Definitions

In this document, the following capitalized terms shall have the meanings ascribed opposite to them, unless otherwise stated.[1]

Base Level of the Strategy is the Strategy value chosen for the First Calculation Day of the Strategy.

Calculation Agent means RBC Dominion Securities, Inc.

Contract Month is a particular futures contract for a Strategy Future.

First Calculation Day of the Strategy is the first day on which the calculation of the Strategy begins.

Market Disruption Event or ***MDE*** has the meaning ascribed to it in the Strategy Methodology.

Rebalance Weight refers to the weight of a particular Strategy Component at a given time, defined in the Strategy Methodology.

Strategy is a rules based procedure for constructing an investment portfolio.

Strategy Administrator means RBC Capital Markets, Inc.

Strategy Business Day means any weekday that is not an NYSE holiday.

Strategy Component is a component strategy referenced by the Strategy. Correspondingly defined are the ***Tenor***, ***First Calculation Day of the Strategy Component***, and the ***Base Level of the Strategy Component***.

Strategy Composition refers to the particular collection and proportion of Strategy Components referenced within the Strategy at a given time.

Strategy Future is a component asset within any of the Strategy Components.

Strategy Methodology has the meaning ascribed to it in the Introduction.

Strategy Name is the phrase used to describe a specific instance of the Strategy.

Settlement Price refers to the official settlement price/closing price published by the respective futures exchange for a given futures contract.

Strategy Ticker is the Bloomberg symbol for a specific instance of the Strategy.

[1] These definitions shall be equally applicable to both the singular and plural forms of defined terms.

Strategy Composition Methodology

This section outlines the methodology used to determine the Strategy Composition.

The Strategy Composition methodology relies on the Commitments of Traders (COT) reports (*COT reports*) data published by the U.S. Commodity Futures Trading Commission (the "CFTC"). Changes in the Strategy Composition are informed by metrics based on the COT reports.

The following notations and definitions are used to describe the Strategy Composition Methodology. Specific parameters used in the implementation of the Strategy are contained within the Strategy Information.

N - denotes the number of Strategy Components included in the Strategy.

UI^i - denotes the i^{th} Strategy Component which is to be allocated a Rebalance Weight. Note that $1 \leq i \leq N$.

$WAC(T)$ - denotes the most recent **Weight Assignment Calculation Day** before Strategy Business Day T. This is the Strategy Business Day on which the Rebalance Weights for all UI^i are determined.

$\widetilde{w}^i_{WAC(T)}$- denotes the **Rebalance Weight** for UI^i on Weight Assignment Calculation Day $WAC(T)$.

$t_0(T)$ - denotes the **Signal Calculation Day** associated with $WAC(T)$. The Signal Calculation Day is typically the Tuesday immediately preceding $WAC(T)$, unless otherwise specified.

$COT^{i,Comm\_Positions\_Long\_All}_{t_0(T)}$ - denotes the most recent value of the variable named "**Commercial Positions-Long (All)**" in the "Futures-and-Options Combined Reports" in respect of the i^{th} Strategy Component on the Signal Calculation Day $t_0(T)$.

$COT^{i,Comm\_Positions\_Short\_All}_{t_0(T)}$ - denotes the most recent value of the variable named "**Commercial Positions-Short (All)**" in the "Futures-and-Options Combined Reports" in respect of the i^{th} Strategy Component on the Signal Calculation Day $t_0(T)$.

$COT^{i,Comm\_Positions\_Net\_All}_{t_0(T)}$ - denotes the most recent value of the "**Commercial Positions-Net (All)**" in respect of the i^{th} Strategy Component on the Signal Calculation Day $t_0(T)$, which is calculated as $COT^{i,Comm\_Positions\_Long\_All}_{t_0(T)} - COT^{i,Comm\_Positions\_Short\_All}_{t_0(T)}$.

$\Delta COT^{i,Comm\_Positions\_Net\_All}_{t_0(T)}$ - denotes the most recent **Weekly Change in the value of the** "**Commercial Positions-Net (All)**" in respect of the i^{th} Strategy Component on the Signal Calculation Day $t_0(T)$.

$COT_{t_0(T)}^{i,Weekly}$ - denotes the **COT Weekly Positioning Measure** in respect of the i^{th} Strategy Component calculated on the Signal Calculation Day $t_0(T)$ as:

$$COT_{t_0(T)}^{i,Weekly} = \frac{COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All} - Med.52week^{Offset.1}.COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}}{Max.52week^{Offset.1}.COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All} - Min.52week^{Offset.1}.COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}},$$

where:

- $Med.52week^{Offset.1}.COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}$ denotes the median of the 52 weekly observations of Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding $t_0(T)$,
- $Max.52week^{Offset.1}.COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}$ denotes the maximum of the 52 weekly observations of Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding $t_0(T)$, and
- $Min.52week^{Offset.1}.COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}$ denotes the minimum of the 52 weekly observations of Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding $t_0(T)$

$COT_{t_0(T)}^{i,Momentum}$ - denotes the **COT Momentum Positioning Measure** in respect of the i^{th} Strategy Component calculated on the Signal Calculation Day $t_0(T)$ as:

$$COT_{t_0(T)}^{i,Momentum} = \frac{Avg.26week.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All} - Avg.52week^{Offset.26}.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}}{SD.52week^{Offset.26}.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}},$$

where:

- $Avg.26week.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}$ denotes the average of the most recent 26 weekly observations of Weekly Change in the value of the Commercial Positions-Net (All) in respect to the i^{th} Strategy Component,
- $Avg.52week^{Offset.26}.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}$ denotes the average of the most recent 52 weekly observations of Weekly Change in the value of the Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding the most recent 26 weekly observations, and
- $SD.52week^{Offset.26}.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}$ denotes the sample standard deviation of the most recent 52 weekly observations of Weekly Change in the value of the Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding the most recent 26 weekly observations, which is calculated as

$$SD.52week^{Offset.26}.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All} = \sqrt{\frac{1}{51} \times \sum_{t=t_0(T).Offset.77}^{t_0(T).Offset.26} \left[\Delta COT_t^{i,Comm\_Positions\_Net\_All} - Avg.52week^{Offset.26}.\Delta COT_{t_0(T)}^{i,Comm\_Positions\_Net\_All}\right]^2},$$

where $\mathrm{t}_0(\mathrm{T}).\mathrm{Offset}.26$ means the observation date of the 26th Weekly Change in the value of the Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding $\mathrm{t}_0(\mathrm{T})$, and $\mathrm{t}_0(\mathrm{T}).\mathrm{Offset}.77$ means the observation date of the 77th Weekly Change in the value of the Commercial Positions-Net (All) in respect to the i^{th} Strategy Component immediately preceding $\mathrm{t}_0(\mathrm{T})$.

$FCS_{WAC(T)}$ - denotes the **Filtered Commodity Set** determined on Weight Assignment Calculation Day $WAC(T)$. The Filtered Commodity Set is a sub-collection of the Strategy Components.

$N_{WAC(T)}$ - denotes the **Order of the Filtered Commodity Set** on Weight Assignment Calculation Day $WAC(T)$. The Order of the Filtered Commodity Set is the number of Strategy Components included in the Filtered Commodity Set.

P_T^i - denotes the **Settlement Price** for the nearby futures contract of the commodity underlying UI^i on Strategy Business Day T. The nearby futures contract is typically the futures contract that is closest to expiry.

$BD(S,T)$ - denotes the number of Strategy Business Days between the Strategy Business Day S (inclusive) and the Strategy Business Day T (inclusive).

$MA1_T^i$ - denotes the **1-Year Moving Average Measure** in respect of the i^{th} Strategy Component on Strategy Business Day T, calculated as

$$MA1_T^i = \frac{1}{BD(S,T)} \sum_{S \le t \le T} P_t^i$$

where S is the earliest Strategy Business Day on or after one calendar year prior to T

$MA5_T^i$ - denotes the **5-Year Moving Average Measure** in respect of the i^{th} Strategy Component on Strategy Business Day T, calculated as

$$MA5_T^i = \frac{1}{BD(S,T)} \sum_{S \le t \le T} P_t^i$$

where S is the earliest Strategy Business Day on or after five calendar years prior to T

MA_T^i - denotes the **Moving Average Measure** in respect of the i^{th} Strategy Component on Strategy Business Day T, calculated as

$$MA_T^i = \frac{MA5_T^i}{MA1_T^i}$$

On each Weight Assignment Calculation Day $WAC(T)$, the following steps are performed:

Step 1: Calculate Signals

For each $1 \le i \le N$, calculate $COT_{t_0(T)}^{i,Weekly}$, $COT_{t_0(T)}^{i,Momentum}$, and $MA_{t_0(T)}^i$.

Step 2: Calculate Cross-Sectionally Normalized Signals

For each $1 \le i \le N$, calculate the cross-sectionally normalized signals $\overline{COT}_{t_0(T)}^{i,Weekly}$, $\overline{COT}_{t_0(T)}^{i,Momentum}$, and $\overline{MA}_{t_0(T)}^{i}$, respectively as:

$$\overline{COT}^{\,i,Weekly}_{t_0(T)} = \frac{COT^{i,Weekly}_{t_0(T)} - \frac{1}{N}\sum_{i=1}^{N} COT^{i,Weekly}_{t_0(T)}}{\sqrt{\frac{1}{N-1} \times \sum_{i=1}^{N}\left[COT^{i,Weekly}_{t_0(T)} - \frac{1}{N}\sum_{k=1}^{N} COT^{k,Weekly}_{t_0(T)}\right]^2}}$$

$$\overline{COT}^{\,i,Momentum}_{t_0(T)} = \frac{COT^{i,Momentum}_{t_0(T)} - \frac{1}{N}\sum_{i=1}^{N} COT^{i,Momentum}_{t_0(T)}}{\sqrt{\frac{1}{N-1} \times \sum_{i=1}^{N}\left[COT^{i,Momentum}_{t_0(T)} - \frac{1}{N}\sum_{k=1}^{N} COT^{k,Momentum}_{t_0(T)}\right]^2}}$$

$$\overline{MA}^{i}_{t_0(T)} = \frac{MA^{i}_{t_0(T)} - \frac{1}{N}\sum_{i=1}^{N} MA^{i}_{t_0(T)}}{\sqrt{\frac{1}{N-1} \times \sum_{i=1}^{N}\left[MA^{i}_{t_0(T)} - \frac{1}{N}\sum_{k=1}^{N} MA^{k}_{t_0(T)}\right]^2}}$$

Step 2: Calculate Composite Signals

For each $1 \leq i \leq N$, calculate the composite signals[2], denoted as $M^{i}_{t_0(T)}$, as the average of $\overline{COT}^{\,i,Weekly}_{t_0(T)}$, $\overline{COT}^{i,Momentum}_{t_0(T)}$, and $\overline{MA}^{i}_{t_0(T)}$.

Step 2: Rank the Signals

Rank the set $\{M^{i}_{t_0(T)} : i = 1, .., N\}$ in descending order, breaking ties by following the tie breaking rules described in the Strategy Methodology. Denote the rank of $M^{i}_{t_0(T)}$ by $Rank^{i}_{WAC(T)}$.

Step 3: Determine Rank-based Filtering

The Filtered Commodity Set $FCS_{WAC(T)}$ is determined as the top $N_{WAC(T)}$ ranked Strategy Components based on the ranks $\{Rank^{i}_{WAC(T)} : i = 1, .., N\}$.

Step 4: Calculate Rebalance Weights

For each $1 \leq i \leq N$, the Rebalance Weight $\widetilde{w}^{i}_{WAC(T)}$ for the Strategy Component UI^{i} is determined as follows:

$$\widetilde{w}^{i}_{WAC(T)} = \begin{cases} \dfrac{1}{N_{WAC(T)}}, & if\ UI^{i} \in FCS_{WAC(T)} \\ -\dfrac{1}{N - N_{WAC(T)}}, & otherwise. \end{cases}$$

[2] The composite signals of RBOB prior to September 28, 2010 are calculated as the average of $\overline{COT}^{\,i,Weekly}_{t_0(T)}$ and $\overline{COT}^{\,i,Momentum}_{t_0(T)}$.

Delays and Interruptions

The Weight Assignment Calculation Day and associated Rebalance Date of the Strategy may be postponed due to the lack of timely available input data required to calculate updated Rebalance Weights. In such instances, the Strategy Administrator has sole and absolute discretion to modify Strategy rules to accommodate any such delays or interruptions.

Strategy Calculation Methodology

The Strategy is a composition of Strategy Components with the Strategy Composition determined according to the Strategy Composition Methodology. Each Strategy Component holds a dynamic portfolio of futures contracts as specified by the Strategy Methodology.

Note that a date is represented using the convention MM/DD/YYYY and a month is represented using the convention MM/YYYY.

Strategy Calculation

This section details the calculations used to determine the daily level of the Strategy given the levels of the Strategy Components and other parameters relevant to the Strategy Calculation.

The Strategy is calculated in US Dollars to an accuracy of 8 decimal places and has an initial value of the Base Level of the Strategy on the First Calculation Day of the Strategy, as specified in Strategy Information.

The following terms and notation are used within this section to define the daily Strategy Calculation. Specific parameters used in the implementation of the Strategy are contained within the Strategy Information.

I_T - denotes the level of the Strategy on Strategy Business Day T.

n - denotes the number of Strategy Components included in the Strategy.

$CD[S,T]$ - denotes the **Calendar Day Count** between dates S (exclusive) and T (inclusive).

UI_T^j - denotes the level of the j^{th} Strategy Component on Strategy Business Day T. Note that $1 \leq j \leq n$.

$R(T)^j$ - denotes the **Rebalance Date** used on Strategy Business Day T for the j^{th} Strategy Component.

$w_{R(T)^j}^j$ - denotes the **Rebalance Weight** assigned to the j^{th} Strategy Component on Rebalance Date $R(T)^j$.

f_T - denotes the **Turnover Cost** used on Strategy Business Day T for the Strategy.

In the absence of a Market Disruption Event, on Strategy Business Day T, the Strategy level is defined by the following iterative formula, with the final result rounded to the eighth decimal place:

$$I_T = I_{T-1} + \sum_{j=1}^{n} w_{R(T)^j}^j \frac{I_{R(T)^j}}{UI_{R(T)^j}^j} \left(UI_T^j - UI_{T-1}^j\right) - I_{T-1} f_{T-1} \frac{CD[T-1,T]}{365}$$

Strategy Component Calculation

This section details the calculation of a particular Strategy Component within the Strategy. Specific parameters used in the implementation of the Strategy Component are contained within the Strategy Information.

The Strategy Component is calculated in US Dollars to an accuracy of 8 decimal places and has an initial value of the Base Level of the Strategy Component on the First Calculation Day of the Strategy Component, as specified in Strategy Information.

$CM[T]$ and $NCM[T]$ - denote the calendar month of date T and the calendar month immediately following $CM[T]$, respectively.

$BD[T;M]$ - denotes the **Business Day Count** of date T relative to the calendar month M. When T occurs on or after the first day of month *M,* the Business Day Count is the number of Strategy Business Days between the first day of month *M* and the date T, inclusive. When T occurs prior to the first day of month M, the Business Day Count is calculated as $BD\big[T;CM[T]\big] - BD\big[T_{last};CM[T]\big]$, where T_{last} is the date immediately prior to the first calendar day of month M.

m - denotes the number of Strategy Futures included in the Strategy Component.

HRP^k - denotes the **Hedge Roll Period** for the k^{th} Strategy Future, consisting of a set of integers representing consecutive Business Day Counts, specified in Strategy Information.

$HRW^k(i)$ - denotes the **Hedge Roll Weight** of the k^{th} Strategy Future for any $i \in HRP^k$, specified in Strategy Information.

FRD^k - denotes the **First Roll Day** of the k^{th} Strategy Future, defined to be the smallest integer in the Hedge Roll Period where the Hedge Roll Weight is not equal to one.

$RefM^k(T)$ - denotes the **Reference Month** of Strategy Business Day T associated with the k^{th} Strategy Future, which is defined as follows:

$$RefM^k(T) = \begin{cases} NCM[T] & if\ BD\big[T;NCM[T]\big] \geq FRD^k \\ CM[T] & else \end{cases}$$

Lead Contract Month - For a given Strategy Future, the **Lead Contract Month** on Strategy Business Day T is the corresponding futures contract based on the Reference Month of T in the Contract Months table in Strategy Information.

Next Contract Month - For a given Strategy Future, the **Next Contract Month** on Strategy Business Day T is the corresponding futures contract based on the month immediately following the Reference Month of T in the Contract Months table in Strategy Information.

$P_1^k(T)$ and $P_2^k(T)$ – denote the Settlement Prices of the Lead Contract Month and the Next Contract Month of the k^{th} Strategy Future on Strategy Business Day T, respectively.

$ARW^k(T)$ - denotes the **Actual Roll Weight** for the k^{th} Strategy Future on Strategy Business Day T, defined in the following formula:

$$ARW^k(T) = \begin{cases} HRW^k(FRD^k - 1), & if\ \min(1, FRD^k - 1) \le BD[T; RefM^k(T)] \le FRD^k - 1 \\ HRW^k(BD[T-1; RefM^k(T)]), & else\ if\ BD[T-1; RefM^k(T)] \in HRP^k \\ ARW^k(T-1), & else \end{cases}$$

$RPV^k(S;T)$ - denotes the **Reference Portfolio Value** for the k^{th} Strategy Future on Strategy Business Day T with Settlement Prices from Strategy Business Day S, defined as:

$$RPV^k\ (S;\ T) = ARW^k(T)P_1^k(S) + [1 - ARW^k(T)]P_2^k(S)$$

Let T_0 be the First Calculation Day of the Strategy Component and ER_{T_0} be the Base Level of the Strategy Component. On any Strategy Business Day T following T_0, the Strategy Component level is defined by the following iterative formula, with the final result rounded to the eighth decimal place:

$$ER_T = ER_{T-1}\frac{\sum_{i=1}^{m} RPV^k\ (T;\ T)}{\sum_{i=1}^{m} RPV^k\ (T-1;\ T)}$$

The Composition Weight for each Contract Month of the k^{th} Strategy Future on Strategy Business Day T is defined as the following:

$$\begin{cases} CW_1^k(T) = ER_{T-1}\dfrac{RPW_1^k(T)ARW^k(T)}{\sum_i RPV^k(T-1;T)} & \text{for Lead Contract Month} \\ CW_2^k(T) = ER_{T-1}\dfrac{RPW_2^k(T)[1 - ARW^k(T)]}{\sum_i RPV^k(T-1;T)} & \text{for Next Contract Month} \end{cases}$$

Calculation and Publication of the Strategy

The Strategy will be calculated and published on each Strategy Business Day by 5:00pm EST. If any relevant information regarding Strategy Futures or Components is not available by 5:00pm EST the Calculation Agent will follow the Adjustment Protocol outlined below.

Adjustment Protocol

In the event that the Strategy Administrator or the Calculation Agent determines that the calculation of the Strategy is not accurate (i.e., does not reflect the value of its underlying components), the Calculation Agent may (including on instruction of the Strategy Administrator) make such adjustments to the calculation of the Strategy as it reasonably believes necessary to re-establish the Strategy Level as an accurate reflection of the underlying variables used in calculating the Strategy. Such adjustments include, but are not limited to, adjustments to the Strategy Components, the Strategy Futures underlying the Strategy Components, and/or any other variable of the Strategy contained herein. The effective date of any such adjustment shall be determined by the Calculation Agent. The circumstances in which the Calculation Agent and/or the Strategy Administrator may make such adjustments include, but are not limited to, the data on which the calculation rests (whether provided by a 3rd party or not).

Market Disruption Events

A "*Market Disruption Event*" (also referred to as "MDE") is any event, circumstance or cause that the Strategy Administrator determines could have a material adverse effect on a market participant's ability to take a position in the futures contracts necessary to replicate the Strategy. More specifically, this may include, without limitation, any of the following events to the extent that they have such effect:

- Trading in one or more futures contracts that are part of the Strategy is suspended because the closing or settlement price of the futures contract is at the upper or lower limit of the range of prices within which the closing or settlement price of such futures contract may fluctuate as established by the applicable exchange (i.e. a "limit up" or "limit down" price has occurred).
- The daily Settlement Prices for one or more futures contracts that are part of the Strategy are not available, or the applicable exchange does not, for any reason, announce, report or publish the information necessary for determining the official daily settlement price for such futures contract.
- Any material suspension, halt, stoppage, or delay in trading in one or more futures contracts that are part of the Strategy.
- Any change (i) in law or regulation (including, without limitation, any tax law) or (ii) in the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law or regulation (including any action taken by a taxing authority), that the Strategy Administrator determines, in its sole and absolute discretion, (A) makes it illegal to hold, acquire or dispose of any hedge position in respect of the Strategy or (B) results in a material increase in the cost associated with performing obligations in relation to the Strategy (including, without limitation, due to any increase in tax liability, decrease in tax benefit or other adverse effect on the tax position of the Issuer or any of its affiliates or agents).
- Any other circumstance that could lead to a material and/or extraordinary increase in the cost to acquire, establish, re-establish, substitute, maintain, unwind, or dispose of any transaction or asset used for hedging the Strategy or to realize, recover, or remit the proceeds of any such transaction or asset.

The Strategy Administrator is responsible for determining whether a Market Disruption Event has occurred. Under such circumstances when a Market Disruption Event has occurred, the Strategy Administrator shall, in its sole discretion, determine the appropriate course of action, which may include, but is not limited to, the suspension or discontinuance of the Strategy and any constituent thereof, its publication or calculation. Any such action by the Strategy Administrator may be without notice.

Strategy Information

The section contains the specific parameters and specifications of the Strategy and associated Strategy Components.

Strategy Specification

First Calculation Day of the Strategy: 01/07/2008

Base Level of the Strategy: 100

Turnover Cost: 0.0035

Weight Assignment Calculation Day: Last Strategy Business Day of the week unless otherwise specified

Order of the Filtered Commodity Set: 7

Tie Breaking Rules for Ties in Weight Assignment Ranking: Breaking ties by the following lexicographic order of the Strategy Future Symbol specified in the table below.

Commodity Symbols used for Weight Capping and Tie Breaking

Strategy Future	Symbol
Cocoa	CC
Coffee (Arabica)	KC
Copper HG	HG
Corn	CN
WTI Crude Oil	CL
Gold	GC
Heating Oil	HO
Kansas Wheat	KW
Natural Gas	NG
Silver	SI
Soybeans	SO
Sugar	SB
RBOB	XB
Wheat	WC

The **Rebalance Date** $R(T)^j$ is specified as follows:

Strategy Business Day (BD): T	Rebalance Date: $R(T)^j$
1st BD of the Week	Last BD of the Week Before The Previous Week
2nd BD to the End of Week	Last BD of the Previous Week

Strategy Component Specification

Contract Months

Strategy Component	Tenor	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cocoa	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2
Coffee (Arabica)	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2
Copper HG	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2
Corn	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2
WTI Crude Oil	F0	H1	H1	K1	K1	N1	N1	U1	U1	X1	X1	F2	F2
Gold	F0	G1	J1	J1	M1	M1	Q1	Q1	Z1	Z1	Z1	Z1	G2
Heating Oil	F0	H1	H1	K1	K1	N1	N1	U1	U1	X1	X1	F2	F2
Kansas Wheat	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2
Natural Gas	F0	H1	H1	K1	K1	N1	N1	U1	U1	X1	X1	F2	F2
Silver	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2
Soybeans	F0	H1	H1	K1	K1	N1	N1	X1	X1	X1	X1	F2	F2
Sugar	F0	H1	H1	K1	K1	N1	N1	V1	V1	V1	H2	H2	H2
RBOB	F0	H1	H1	K1	K1	N1	N1	U1	U1	X1	X1	F2	F2
Wheat	F0	H1	H1	K1	K1	N1	N1	U1	U1	Z1	Z1	Z1	H2

Hedge Roll Weight Schedule

	Business Day Count					
	4	5	6	7	8	9
Any Strategy Future	1	4/5	3/5	2/5	1/5	0

First Calculation Day and Base Level of the Strategy Components

Strategy Component	Tenor	First Calculation Day	Strategy Base Level
Cocoa	F0	01/02/2001	100
Coffee (Arabica)	F0	01/02/2001	100
Copper HG	F0	01/02/2001	100
Corn	F0	01/02/2001	100
WTI Crude Oil	F0	01/02/2001	100
Gold	F0	01/02/2001	100
Heating Oil	F0	01/02/2001	100
Kansas Wheat	F0	01/02/2001	100
Natural Gas	F0	01/02/2001	100
Silver	F0	01/02/2001	100
Soybeans	F0	01/02/2001	100
Sugar	F0	01/02/2001	100
RBOB	F0	01/03/2006	100
Wheat	F0	01/02/2001	100