RBC Quantitative Investment Strategy

Excess Return and Total Return Strategy

SEP 26, 2018

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This document contains information about the RBC Quantitative Investment Excess Return and Total Return Strategy, which are collectively referred to as the "Strategy" throughout this document. The information presented in this document describes the general methodology for determining the composition calculation of the Strategy.

RBC Capital Markets

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Contents

Section 1. Strategy Overview

The Strategy is a broad based commodity strategy providing exposure to any of the energy, precious metals, base metals, grains, livestock, and soft commodities. The information herein can be used, in conjunction with the document "Strategy Information", to create tradable strategies that measure the return of commodities futures. The Strategy is calculated in US Dollars to an accuracy of 8 decimal places. The Strategy has an initial value of Base Level of the Strategy on the First Calculation Day of the Strategy, which are specified in Section 1 of "Strategy Information".

Section 1.1. Commodities Eligible for Inclusion in the Strategy

Below is a list of 29 Commodities that are eligible for inclusion in the strategy:

1. Crude – WTI
2. Crude – Brent
3. Natural Gas
4. Heating Oil
5. Unleaded Gasoline
6. Gasoil
7. Gold
8. Silver
9. Platinum
10. Palladium
11. Copper (US)
12. Aluminum
13. Copper (UK)
14. Nickel
15. Lead
16. Zinc
17. Corn
18. Wheat
19. Kansas Wheat
20. Soybeans
21. Soybean Meal
22. Soybean oil
23. Sugar
24. Cotton
25. Coffee
26. Cocoa
27. Lean Hogs
28. Live Cattle
29. Feeder Cattle

Please refer to Section 2 of "Strategy Information" for the list of Commodities included in a specific Strategy.

Section 1.2. Target Weights of Included Commodities

The Target Weights of included Commodities are highly customizable. The Target Weights can be specified using one of the following methods:

- **Static** – Target Weights are provided at contract inception on a discretionary basis

- **Annual** – Target Weights are provided annually on a discretionary basis

- **Semi-annual** – Target Weights are provided semi-annually on a discretionary basis

- **Quarterly** – Target Weights are provided quarterly on a discretionary basis

- **Monthly** – Target Weights are provided monthly on a discretionary basis

- **Dynamic** – Target Weights are dynamically generated through an automatic process

Please refer to Section 2.5 of this document for submission deadline for changes in Target Weights.

Table 1 below contains an example of Target Weights of a strategy. Please refer to Section 3 of "Strategy Information" for the Target Weights and the Target Weight Method of a specific strategy.

Table 1 – Example of Strategy Commodities and Target Weights

Strategy Commodity	Symbol (Bloomberg)	Target Weight (%) (for all Reference Months)
Crude – WTI	CL	8.04%
Crude – Brent	CO	7.89%
Natural Gas	NG	5.98%
Heating Oil	HO	2.93%
Unleaded Gasoline	XB	3.19%
Gasoil	QS	2.97%
Gold	GC	8.19%
Silver	SI	3.84%
Platinum	PL	1.86%
Palladium	PA	1.11%
Copper (US)	HG	5.25%
Aluminum	LA	4.09%
Copper (UK)	LP	1.89%
Nickel	LN	3.05%
Lead	LL	0.98%
Zinc	LX	2.74%
Corn	C	6.00%
Wheat	W	4.00%
Kansas Wheat	KW	2.00%
Soybeans	S	4.00%
Soybean Meal	SM	2.00%
Soybean Oil	BO	2.00%
Sugar	SB	5.02%
Cotton	CT	1.99%
Coffee	KC	2.06%
Cocoa	CC	1.93%
Lean Hogs	LH	1.89%
Live Cattle	LC	1.86%
Feeder Cattle	FC	1.25%

Table 2 below contains an example of commodity sector weightings produced by the Target Weights specified in Table 1. Please refer to Section 4 of "Strategy Information" for Commodity Sector Weightings of a specific strategy.

Table 2 – Example of Commodity Sector Weightings

Commodity Sector	Weighting
Energy	31.00%
Base Metals	18.00%
Precious Metals	15.00%
Grains	20.00%
Softs	11.00%
Livestock	5.00%

Section 1.3. Month Code Abbreviations

Throughout this document, Calendar Months can be referred to in one of the two ways:

- In a single letter format: the single letter code refers to the month of the year that is closest to the year of the Lead Contract Month or Next Contract Month being referenced, or

- In a "*LetterNumber*" format: the "*Letter*" indicates a specific calendar month and "*Number*" indicates which calendar year the calendar month "*Letter*" falls into. For example, "F1" refers to the January of the current calendar year and "H3" represents the March two years from the current calendar year.

Table 3 below contains examples of the Month Code abbreviations:

Table 3 – Examples of Month Code Abbreviations

Calendar Month (Closest)	Month Code	Calendar Month (Current Calendar Year)	Month Code	Calendar Month (Next Calendar Year)	Month Code
January	F	January	F1	January	F2
February	G	February	G1	February	G2
March	H	March	H1	March	H2
April	J	April	J1	April	J2
May	K	May	K1	May	K2
June	M	June	M1	June	M2
July	N	July	N1	July	N2
August	Q	August	Q1	August	Q2
September	U	September	U1	September	U2
October	V	October	V1	October	V2
November	X	November	X1	November	X2
December	Z	December	Z1	December	Z2

Section 1.4. Contract Month Selection

The selection method of the Lead and Next Contract Months is highly customizable. The schedule of the Contract Months can be selected using one of the following methods:

- **Static** – the Contract Months are selected at contract inception on a discretionary basis

- **Annual** – the Contract Months are selected annually on a discretionary basis

- **Semi-annual** – the Contract Months are selected semi-annually on a discretionary basis

- **Quarterly** – the Contract Months are selected quarterly on a discretionary basis

- **Monthly** – the Contract Months are selected monthly on a discretionary basis

- **Dynamic** – the Contract Months are dynamically selected through an automatic process (If used, the process is explained in details in the master document "RBC Commodity Strategy – Contract Month Selection Algorithm")

Please refer to Section 2.5 of this document for submission deadline for selection of new Contract Month.

Upon each selection, a list of eligible Contract Months for each Strategy Commodity will be provided. Please refer to Section 5 of "Strategy Information" for the selection method and eligible Contract Months for a specific Strategy.

Table 4 below contains an example of **static** schedule of Lead and Next Contract Months.

Table 4 – Example of Lead and Next Contract Months by Reference Month for 2016

Strategy Commodity	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Crude – Brent	H	H	K	K	N	N	U	U	X	X	F	F
Natural Gas	H	K	K	N	N	U	U	X	X	F	F	H
Heating Oil	H	H	K	K	N	N	U	U	X	X	F	F
Unleaded Gasoline	H	H	K	K	N	N	U	U	X	X	F	F
Gasoil	H	H	K	K	N	N	U	U	X	X	F	F
Gold	H	H	K	K	N	N	U	U	X	X	F	F
Silver	G	J	J	M	M	Q	Q	Z	Z	Z	Z	G
Platinum	H	H	K	K	N	N	U	U	Z	Z	Z	H
Palladium	J	J	J	N	N	N	V	V	V	F	F	F
Copper (US)	H	H	M	M	M	U	U	U	Z	Z	Z	H
Aluminum	H	H	K	K	N	N	U	U	Z	Z	Z	H
Copper (UK)	H	H	M	M	M	U	U	U	Z	Z	Z	H
Nickel	H	H	M	M	M	U	U	U	Z	Z	Z	H
Lead	H	H	M	M	M	U	U	U	Z	Z	Z	H
Zinc	H	H	M	M	M	U	U	U	Z	Z	Z	H
Corn	H	H	M	M	M	U	U	U	Z	Z	Z	H
Wheat	H	H	K	K	N	N	U	U	Z	Z	Z	H
Kansas Wheat	H	H	K	K	N	N	U	U	Z	Z	Z	H
Soybeans	H	H	K	K	N	N	U	U	Z	Z	Z	H
Soybean Meal	H	H	K	K	N	N	X	X	X	X	F	F
Soybean Oil	H	H	K	K	N	N	U	U	Z	Z	Z	H
Sugar	H	H	K	K	N	N	U	U	Z	Z	Z	H
Cotton	H	H	K	K	N	N	V	V	V	H	H	H
Coffee	H	H	K	K	N	N	Z	Z	Z	Z	Z	H
Cocoa	H	H	K	K	N	N	U	U	Z	Z	Z	H
Lean Hogs	H	H	K	K	N	N	U	U	Z	Z	Z	H
Live Cattle	G	J	J	M	M	Q	Q	V	V	Z	Z	G
Feeder Cattle	G	J	J	M	M	Q	Q	V	V	Z	Z	G

Section 1.5. Hedge Roll Weights

Each Strategy Commodity will adhere to a set of Hedge Roll Weights on each of the specified Business Day Counts. The Hedge Roll Weights are highly customizable. The Hedge Roll Weights can be specified using one of the following two methods:

- **Static** – the Hedge Roll Weights are provided at contract inception on a discretionary basis

- **Monthly** – the Hedge Roll Weights are provided monthly on a discretionary basis

Please refer to Section 2.5 of this document for submission deadline for changes in Hedge Roll Weights.

Upon each change for Hedge Roll Weights, a list of eligible Hedge Roll Weight schedule for each Strategy Commodity will be provided. Please refer to Section 6 of "Strategy Information" for the Hedge Roll Weight method and eligible Hedge Roll Weight schedules for a specific Strategy.

Table 5 below contains an example of a set of **static** Hedge Roll Weights.

Table 5 – Example of Hedge Roll Weights by Business Day Count

Strategy Commodity	Business Day Count																												
	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Crude – Brent	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heating Oil	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unleaded Gasoline	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gasoil	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gold	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platinum	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palladium	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Copper (US)	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aluminum	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Copper (UK)	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lead	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zinc	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corn	14/15	13/15	12/15	11/15	10/15	9/15	8/15	7/15	6/15	5/15	4/15	3/15	2/15	1/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheat	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kansas Wheat	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soybean Meal	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soybean Oil	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sugar	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cotton	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coffee	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cocoa	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lean Hogs	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Live Cattle	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feeder Cattle	1	1	1	1	1	1	1	1	1	1	4/5	3/5	2/5	1/5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Section 1.6. Additional Target Weight, Contract Month and Hedge Roll Weight Change

Additional requests to alter the Target Weights, Contract Months and Hedge Roll Weights are subject to the following rules:

- The request must be submitted before the Business Day preceding the intended Business Day on which the changes are effective;

- The intended Business Day on which changes are effective cannot be a Business Day within the Hedge Roll Period.

Please refer to Section 8 of "Strategy Information" for more information about this feature if this feature is enabled in the Strategy

Section 2. Strategy Calculation Methodology

Section 2.1. Terms and Notations

This section introduces and defines the terms and notations that are used to calculate the Strategy.

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

Term/Notation	Definition
Strategy Administrator	RBC Dominion Securities, Inc.
Strategy Commodity	A commodity that is included in the Strategy
Strategy Name	The phrase used to describe a specific instance of the Strategy, as specified in Section 1 of "Strategy Information"
Strategy Ticker	The Bloomberg symbol for a specific instance of the Strategy, as specified in Section 1 of "Strategy Information"
Strategy Type	Refers to either the Excess Return Strategy or Total Return Strategy versions of a specific instance of the Strategy, as specified in Section 1 of "Strategy Information"
Business Day	Any weekday that is not a NYSE holiday
First Calculation Day of the Strategy	The initial calculation day of the Strategy, as specified in Section 1 of "Strategy Information"
Base Level of the Strategy	The Strategy value chosen for the First Calculation Day, as specified in Section 1 of "Strategy Information".
MDE	Market Disruption Event
$CM[T]$ and $NCM[T]$	Denotes the Calendar Month of date T and the calendar month following the calendar month of date T, respectively. For examples: • $CM[12/17/2015] = 12/2015$ • $NCM[12/17/2015] = 01/2016$
$BD[T; M]$	Denotes the **Business Day Count** of date T relative to the calendar month M. For examples: • $BD[12/17/2015; 12/2015]$ = 13 • $BD[12/01/2015; 12/2015]$ = 1 • $BD[11/30/2015; 12/2015]$ = 0 (Note: the last day of the prior month is defined as 0, not −1) • $BD[11/26/2015; 12/2015]$ = −2
n	Denotes the number of Strategy Commodities included in the Strategy
HRP^i	Denotes the **Hedge Roll Period** for the ith Strategy Commodity. The Hedge Roll Period is defined as the set of integers consisting of consecutive Business Day Counts on which the Hedge Roll Weights are not equal to those of the previous Business Day Count. For example, for Strategy Commodity Corn in December 2015, the Hedge Roll Period is {5,6,7,8,9}. For more examples of Hedge Roll Period, please refer to Table 5 of this document.
FRD^i	Denotes the **First Roll Day** of the ith Strategy Commodity, which is defined as the smallest integer in the Hedge Roll Period. For examples: • If the Hedge Roll Period of the ith Strategy Commodity is {5,6,7,8,9}. The First Roll Day is Business Day Count 5. • If the Hedge Roll Period of the ith Strategy Commodity is {-5,-4,-3,…,0,…,7,8,9}. The First Roll Day is Business Day Count -5.

$HRW^i(j)$	Denotes the **Hedge Roll Weight** of the ith Strategy Commodity on Business Day Count j. For more examples of Hedge Roll Weight, please refer to Table 5 of this document.
LND^i *	Denotes the **Lead-Next Flipping Day** of the ith Strategy Commodity. Define: $$LND^i = \begin{cases} 1 & if\ FRD^i \geq 1 \\ FRD^i & else \end{cases}$$ For example, assume that the Hedge Roll Period of the ith Strategy Commodity is {5,6,7,8,9}. The First Roll Day is 5 and hence the Lead-Next Flipping Day is 1; If the Hedge Roll Period is {-5,-4,-3,…,0,…,7,8,9}, the First Roll Day is -5 and hence the Lead-Next Flipping Day is -5.
$RefM^i(T)$	Denotes the **Reference Month** of day T associated with the ith Strategy Commodity, which is defined as follows: $$RefM^i(T) = \begin{cases} NCM[T] & if\ BD[T; NCM[T]] \geq LND^i \\ CM[T] & else \end{cases}$$ For example, suppose that $T = 02/28/2016$, then $BD[T; NCM(T)] = -1$. If the Lead-Next Flipping Day is 1, then $RefM^i(T) = CM[T] = 02/2016$. If the Lead-Next Flipping Day is -5, then $RefM^i(T) = NCM[T] = 03/2016$.
Contract Month	For a given Strategy Commodity, a **Contract Month** is a particular futures contract for that Strategy Commodity, e.g. for Strategy Commodity Corn, the May 2016, July 2016, and September 2016 are all examples of Contract Months for Corn
Lead Contract Month	For a given Strategy Commodity, the **Lead Contract Month** on date T is the corresponding futures contract based on the Reference Month of T in the Lead and Next Contract Months table. For an example of such table, please refer to Table 4 of this document. For example, according to Table 4, if $RefM^i(T) = 02/2016$, the Lead Contract Month of Corn is March (H).
Next Contract Month	For a given Strategy Commodity, the **Next Contract Month** on date T is the corresponding futures contract based on the month following the Reference Month of T in the Lead and Next Contract Months table. For an example of such table, please refer to Table 4 of this document. For example, according to Table 4, if $RefM^i(T) = 02/2016$, the Next Contract Month of Corn is June (M).
Settlement Price	The settlement price/closing price for a given commodity future contract
$P_1^i(T)$	Denotes the **Settlement Price** of the Lead Futures Contract of the ith Strategy Commodity on date T
$P_2^i(T)$	Denotes the **Settlement Price** of the Next Futures Contract of the ith Strategy Commodity on date T
$PW^i(k)$	Denotes the **Portfolio Weight** of the ith Strategy Commodity in the Reference Month k, as defined subsequently in the section "Generating Portfolio Weights from Target Weights".

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* On LND^i, the Next Contract Month of the Business Day before LND^i becomes the new Lead Contract Month.

$RPW_1^i(T)$ and $RPW_2^i(T)$	Denote the **Reference Portfolio Weight** for the Lead Contract Month and Next Contract Month of the ith Strategy Commodity on date T, respectively. Let m be the calendar month prior to the Calendar Month $RefM^i(T)$. Then they are defined as: • $RPW_1^i(T) = PW^i(m)$ • $RPW_2^i(T) = PW^i(RefM^i(T))$
$ARW^i(T)$	Denotes the **Actual Roll Weight** for the ith Strategy Commodity on T, defined in the following formula: If $BD[T-1; RefM^i(T)\,] \in HRP^i$, then $$ARW^i(T) = \begin{cases} ARW^i(T-1) & \textit{if MDE happens on } T \\ HRW^i(BD[T-1; RefM^i(T-1)\,]) & \textit{else} \end{cases}$$ Otherwise, $$ARW^i(T) = \begin{cases} 1 - HRW^i(BD[T-1; RefM^i(T-1)\,]) & \textit{if } BD[T; RefM^i(T)\,] = LND^i \\ HRW^i(BD[T-1; RefM^i(T-1)\,]) & \textit{else} \end{cases}$$
$RPV^i(S;T)$	Denotes the **Reference Portfolio Value** for the ith Strategy Commodity on day T with prices on day S. Define: $$RPV^i(S;T) = RPW_1^i(T)ARW^i(T)P_1^i(S) + RPW_2^i(T)[1 - ARW^i(T)]P_2^i(S)$$
Rebalance Reference Month	A **Reference Month** during which the Portfolio Weights are updated by the algorithms discussed in this section, as specified in Section 7 of "Strategy Information"
Rebalance Calculation Day	An Business Day associated with each **Rebalance Reference Month**, as specified in Section 7 of "Strategy Information"

Portfolio Weight Rebalance Schedule	A set of ordered pairs $\{\ldots, (k, T(k)), \ldots\}$, where k is a **Rebalance Reference Month** and $T(k)$ is the associated **Rebalance Calculation Day**.
	For example:
	1. An annual Portfolio Weight Rebalance Schedule would appear as follows:
	   a. Rebalance every January with Rebalance Calculation Day 4th Business Day of January: $\{\ldots, (01/2014, 01/07/2014), (01/2015, 01/07/2015), (01/2016, 01/07/2016),\ldots\}$
	   b. Rebalance every July with Rebalance Calculation Day 4th Business Day of January: $\{\ldots, (07/2014, 01/07/2014), (07/2015, 01/07/2015), (07/2016, 01/07/2016),\ldots\}$
	2. A monthly Portfolio Weight Rebalance Schedule would appear as follows: Rebalance Calculation Day 4th business day of every month: $\{\ldots, (02/2016, 02/04/2016), (03/2016, 03/04/2016), (04/2016, 04/06/2016),\ldots\}$

$TW^i(k)$	The **Target Weight** of the ith Strategy Commodity in the Reference Month k, as specified in Section 3 of "Strategy Information".
Reference Commodity	An Strategy Commodity that is chosen with pre-defined Portfolio Weight. This term is only used in Portfolio Weight Calculation Method 1, which is defined in Section 2.4.2. If used, the Reference Commodity is specified in Section 7 of "Strategy Information".

Section 2.2. Calculation of Excess Return Strategy

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

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

Section 2.3. Calculation of Total Return Strategy

Let "TB_T^{Rate}" denote the most recent weekly auction High Rate for 13 week (3 Month) U.S. Treasury Bill. This rate is published by the United States Treasury and can be found at: **http://www.treasurydirect.gov/instit/annceresult/annceresult.htm**. The rate is typically published weekly on Mondays and is used in the Strategy with respect to Tuesday's calculation. If the rate is delayed due to a holiday or any other circumstance, then the most recent rate will be used until the next rate is published by the US Treasury.

Let "NCD_T" denote the number of calendar days between T and $T-1$. Precisely, it is defined as the difference of T and its prior Business Day $T-1$, expressed in Julian dates.

The T-Bill return, denoted "TB_T^{Return}", is defined as:

$$TB_T^{Return} = \left(\left[1 - TB_T^{Rate} \left(\frac{91}{360} \right) \right]^{-\frac{NCD_T}{91}} \right) - 1$$

Let T_0 be the First Calculation Day of the Strategy and TR_{T_0} be the Base Level of the Strategy. On any Business Day T after T_0, the value of the Excess Return Strategy, denoted "TR_T", the Strategy level is defined by the following iterative formula, with the final result rounded to eight decimal places:

$$TR_T = TR_{T-1} \left[TB_T^{Return} + \frac{ER_T}{ER_{T-1}} \right]$$

Section 2.4. Generating Portfolio Weights from Target Weights

Section 2.4.1. Portfolio Weight Calculation Method 1

Let k be any Calendar Month and k' be the most recent Rebalance Reference Month prior to k.

If k is not a Rebalance Reference Month, define

$$PW^i(k) = PW^i(k')$$

Otherwise, k is a Rebalance Reference Month. The Portfolio Weight Generation process will therefore be triggered on $T(k)$.

Suppose that Commodity 1 is chosen to be the Reference Commodity. For any $i > 1$, the Portfolio Weight of the ith Strategy Commodity in Calendar Month k is defined by the following formula:

$$PW^i(k) = \frac{TW^i(k) \times PW^1(k) \times P^1\big(T(k)\big)}{TW^1(k) \times P^i\big(T(k)\big)}$$

where

$$P^i\big(T(k)\big) = \begin{cases} \text{The price of the next contract month of } k & \text{if } FRD^i \geq 1 \\ \text{The price of the next contract month of } k-1 & \text{else.} \end{cases}$$

Section 2.4.2. Portfolio Weight Calculation Method 2

Let k be any Calendar Month and k' be the most recent Rebalance Reference Month prior to k.

If k is not a Rebalance Reference Month, define

$$PW^i(k) = PW^i(k')$$

Otherwise, k is a Rebalance Reference Month. The Portfolio Weight Generation process will therefore be triggered on $T(k)$.

The portfolio weight is calculated using the following iterative formula:

$$PW^i(k) = \frac{TW^i(k) \times WAV(k)}{P_2^i(T(k))}$$

where

$$WAV(k) = \sum_i PW^i(k') \times P_1^i(T(k))$$

Section 2.5. Submission Deadline for Changes in Target Weight, Contract Month and Hedge Roll Weight

Any changes in Target Weight, Contract Month and Hedge Roll Weight must be submitted on or before the Rebalance Calculation Day.

Note that a Rebalance Calculation Day must be before the next Business Day that is a First Roll Day.

Section 2.6. Calculation of Composition Weight

This section explains the calculation of "*Composition Weight*", which is used if this Strategy is selected to be included in RBC Basket of Commodity Strategies Excess Return Strategy. Note that the RBC Commodity Total Return Strategy is not eligible for inclusion in RBC Basket of Commodity Strategies Excess Return Strategy.

The "*Composition Weight*" for the ith Strategy Commodity on date T is defined as the following:

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

Section 2.7. 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 the 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 (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 information necessary for determining the official daily settlement price for such futures contract.

- Any material suspension, halt, stoppage, or delay in one or more futures contracts that are part of the Strategy.

Section 3. Miscellaneous

"*Strategy Administrator*" is RBC Dominion Securities, Inc.

Section 3.1. Publication of Strategy Values

If settlement price of a futures contract in an Underlying Strategy is amended subsequent to publication or if there is an error to any previously published Strategy values, the Strategy Administrator, if it deems appropriate, will publish corrected values on Bloomberg as soon as practicable.

Section 3.2. Strategy Administration

The Strategy Administrator has sole discretion over calculation of the Strategy and determination of the inputs necessary to calculate the Strategy. It reserves the right to modify, temporarily suspend, or discontinue the Strategy at any time. In certain cases, the Strategy Administrator may be required to make subjective decisions in order to calculate the value of the Strategy. This will be done in good faith and in a commercially reasonable manner, but is at the sole discretion of the Strategy Administrator.

The Strategy Administrator may cease to calculate and publish the Strategy at any time. It may also, at any time, transfer its responsibilities to another party of its choice.

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