



# CIBC Commodity Basket Index Methodology

## I. Introduction

The CIBC Commodity Basket Indices (each, an “**Index**”) are designed to reflect returns of periodically allocating exposure to a basket of single commodity indices.

Canadian Imperial Bank of Commerce (“CIBC”) is the owner of the full right, title and interest to the CIBC Cross Asset Momentum Indices and is the Index Administrator. Any use of this Index Methodology or any of the Indices without the prior consent of CIBC is strictly prohibited.

## II. Index Methodology Definitions

Term definitions for the Index Methodology:

**Commodities** are, for each Index, the Commodities specified in the Index Terms for such Index.

**Underlying Index** is, for each Commodity, the Underlying Index specified in the Index Terms for such Commodity.

**Exposure Indices** are the Underlying Indices being allocated with non-zero Target Weights during each Rebalance Process.

**Rebalancing Indices** are, for each Rebalance Process, the universe of the Exposure Indices for such Rebalance Process and the Exposure Indices for the previous Rebalance Process.

**Holding Unit** is calculated on the Unit Calculation Date for each Underlying Index; it remains the same for such Underlying Index until the next Unit Calculation Date.

**Unit Calculation Date** is, for each Index, the Unit Calculation Date specified in the Index Terms for such Index.

**Rebalancing Start Date** is the Index Business Day on which the Rebalance Process starts to occur, as specified in the Index Terms for an Index.

**Rebalancing End Date** is defined as (Rebalancing Window - 1) number of Index Business Days after the Rebalancing Start Date. In the case of Rebalancing Window being 1, the Rebalancing End Date is the same as the Rebalancing Start Date.

**Rebalancing Window** is the number of Index Business Days that each Rebalance Process lasts for, as specified in the Index Terms.

**Rebalancing Period** is the period that the Rebalance Process occurs, starting from (and including) the Rebalancing Start Date to (and including) the Rebalancing End Date. If, on any Index Business Day within the Rebalancing Period, the future contracts in any Rebalancing Indices are not available for trading or a Market Disruption Events occurs in any Rebalancing Indices, then the rebalancing for such affected Rebalancing Indices will be delayed to the next Index Business Day on which such future contracts are available for trading. The Rebalancing End Date with respect to such Rebalancing Process for such affected Commodity will be postponed to the date when rebalancing finishes.

**Rebalance Process** is the process by which the Index Sponsor determines the Target Weights and Holding Units on the Unit Calculation Date, in order to hedge the Commodities exposure during Rebalancing Period.

**Index Business Day** means any day that the NYMEX is open.

**Recognized Exchange** means the exchange where the Commodity futures contract listed and traded on, including LME, ICE, NYMEX, CBOT and COMEX. The Index Administrator, with notice to the Index Advisory Committee, may add or remove any commodity exchange from the list of Recognized Exchanges.

**Specified Contract** means the future contracts that the Underlying Indices are comprised of.

**Index Advisory Committee** means an advisory committee comprised not less than nine voting members that oversees the Index Administrator and the Index.

**Index Initial Date** as specified in the Index Terms.

**Index Value** is, with respect to each Index Business Day, the closing level of the Index calculated by Index Administrator based on the Index Methodology .

**Index Type** refers to whether the Index is Excess Return Index or Total Return Index, specified in the Index Terms.

**Excess Return Index** refers to the returns from an unfunded investment of the Commodities comprised the Index.

**Total Return Index** refers to a fully funded investment in the Commodities comprised the Index.

**Index Terms** is the document that defines all the index terms related to an Index. The terms include:

- 1) Index Ticker;
- 2) Index Name;
- 3) Index Initial Date;
- 4) Index Type;
- 5) Commodities;
- 6) Underlying Indices;

- 7) Unit Calculation Date;
- 8) Rebalancing Start Date;
- 9) Rebalancing Window;
- 10) Target Weights.

### III. Index General Rules

#### Index Data and Dissemination

The Index Administrator is responsible for gathering the base data for each of the Underlying Indices. On each Index Business Day, the Index Administrator will record the closing price of each of the Underlying Indices included in the Index. From the base data obtained, the Index Administrator will calculate the total return and excess return on each Index Business Day for the Index. If an Index Business Day is not a trading day for a Specified Contract, the closing price on the first immediately preceding trading day that is an Index Business Day will be used. Index Value will not be calculated for any day that is not an Index Business Day.

Index Values (excess return only) will be made available no later than 9:00 pm (New York time) on each Index Business Day to investors on Bloomberg (CIBQ <GO>). If any Recognized Exchange amends the closing price to a Specified Contract subsequent to publication or if there is an error in any previous publication of Index Values, the Index Administrator will make available the amended values as soon as practicable.

Given the rule-based nature of the Index, the Index Administrator is bound to follow the Index Methodology (refers to this document) in administering the Index. The Index Administrator should be contacted in case of disputes over published Index Values. Where the published Index Values are determined to be inaccurate, the Index Administrator shall as soon as practicable publish the correct prices. If the dispute is not resolved satisfactorily within two Index Business Days, the Index Administrator and the disputing party shall refer such matter to the Index Advisory Committee. The determination of the Index Advisory Committee shall be final.

#### Market Disruption Event

A **Market Disruption Event** means any event such as 1) force majeure, war, acts of terrorism or any other unanticipated extraordinary market event that prevents a Recognized Exchange from providing settlement prices for a Specified Contract (the "Affected Contract"), 2) an Index Business day which is not an LME Business day for a Specified Contract of metals, or 3) a day on which a Specified Contract used in the Index moves by the maximum amount allowed by the exchange from the previous day's settlement price. Examples of a Market Disruption Event include the termination, suspension or prolonged interruption of trading for any reason with respect to a Specified Contract on the relevant Recognized Exchange. The Index Administrator will determine in good faith and on a commercially reasonable basis whether a Market Disruption Event has occurred and is continuing.

For so long as a Market Disruption Event has occurred and is continuing, the Index Administrator shall establish an interim Index Value on each Index Business Day for the purpose of calculating the total return and excess return (the Interim Index Value). The Interim Index Value for such day shall be calculated based on the last available

reference price for the Affected Contract; provided if the Market Disruption Event occurred on such Index Business Day, the Interim Index Value shall be calculated based on the last closing price quoted by the Recognized Exchange.

An Index Calculation Disruption Event occurs if a Market Disruption Event continues for 10 weekdays on any Recognized Exchange. In the event of an Index Calculation Disruption Event, the Index Advisory Committee shall forthwith hold an emergency meeting to decide the appropriate course of action, which may include the substitution or removal of the Affected Contract, the suspension or the discontinuance of the Index and any constituent thereof. Although the likelihood of prolonged suspension or discontinuance is expected to be remote, users of the Index are advised to designate a successor index and other market disruption fallback alternatives for any transaction referencing the Index.

## **Index Governance**

The Index is owned by CIBC and is the exclusive property of CIBC. The Index and the Index Rules may not be used without CIBC's prior written consent.

CIBC is the Index Administrator. An Index Advisory Committee, comprised of at least nine voting members who are full-time professional staff of CIBC, oversees the administration of the Index. The Index Advisory Committee is responsible for ensuring that appropriate governance, oversight and accountability controls are in place for all core aspects of the administration of CIBC indices, including the Index, over their entire lifecycle, including index creation, index calculation and publication, index modifications, the identification, management and disclosure of potential conflicts of interest, and periodic reviews to ensure adherence to index methodology and applicable policies and procedures.

The Rules for the Index may not be amended without the approval of the Index Advisory Committee. Any unresolved issues relating to the interpretation or application of the Rules for the Index or the calculation of the index may be determined by the Index Advisory Committee.

Index administration, including maintenance, calculation, rebalancing and general governance, are the responsibility of the Index Administrator.

Neither the Index Rules nor any set of procedures are capable of anticipating all possible circumstances and events that may occur with respect to the Index and the methodology for its calculation. Accordingly, a number of subjective judgments may need to be made in connection with the administration of the Index that cannot be adequately reflected in these Index Rules. CIBC, as Index Administrator, may take such actions as it deems necessary or appropriate in order to address market emergencies or other extraordinary market events or conditions. All questions of interpretation with respect to the application of these Index Rules, including any questions of interpretation that need to be made in the event of a market emergency or other extraordinary event, will be resolved by the Index Administrator to the Index Advisory Committee.

Modifications to these Index Rules may be required from time to time. CIBC reserves the right to make such changes or refinements to these Rules as it believes necessary in order to preserve and enhance the utility of the Index.

Although CIBC will obtain information for calculating the Index from sources which CIBC considers reliable, CIBC does not warrant or guarantee the originality, accuracy and/or the completeness of the Index or any data included therein. CIBC does not make any warranty, express or implied, as to results to be obtained by any

person or entity from the use of the Index or any data included therein. CIBC shall not have any liability for any errors, omissions or interruptions of or in connection with the Index or any data included therein. CIBC expressly disclaims all warranties of merchantability or fitness for a particular purpose with respect to the Index and any data included therein. Without limiting any of the foregoing, in no event shall CIBC have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) from the use of the Index or any data included therein even if notified of the possibility of such damages. References to CIBC in this disclaimer shall include any of its affiliates and any other party involved in, or related to making or compiling the Index.

## IV. Index Calculation

### Excess Return Index Calculation

With respect to an Index, the Index Value is calculated by the Index Administrator on each Index Business Day and subsequently made available on Bloomberg. The Index Value is initialized on the Index Initial Date with an Initial Index Value of 100. The Index Values for both of the Excess Return Index and the Total Return Index are calculated in US Dollars, and are rounded to 8 decimal places. The Index Values are rounded to 4 decimal places when published to Bloomberg.

On each Index Business Day,  $t$ , the Index Value for an Excess Return Index is calculated using the following formula, the results of which will be rounded to 8 decimal places.

$$IER_t = IER_{t-1} + DIV_t$$

where:

$t$  is an Index Business Day;

$IER_t$  is the excess return Index Value on Index Business Day  $t$ ;

$IER_{t-1}$  is the excess return Index Value on Index Business Day  $t-1$ ;

$DIV_t$  is the index Daily Incremental Value on Index Business Day  $t$ , defined as:

$$DIV_t = \sum_{i=1}^m (HU_{U-1,R-1}^i \times RW_t^i + HU_{U,R}^i \times (1 - RW_t^i)) \times (UI_t^i - UI_{t-1}^i)$$

**Where:**

$i$  is Commodity  $i$ ;

$m$  is the number of Commodities that are specified in the Index Terms;

$UI_t^i$  is the value of the Underlying Index for Commodity  $i$ , on Index Business day  $t$ ;

$UI_{t-1}^i$  is the value of the Underlying Index for Commodity  $i$ , on Index Business day  $t-1$ ;

$RW_t^i$  is the Roll Weight for Commodity  $i$ , on Index Business Day  $t$ , defined as 100% on the Rebalancing Start Date and 0 on one Index Business Day after the Rebalancing End Date, and remaining as zero till one Index Business Day before the

following scheduled Rebalancing Start Date. For the period of starting from one Index Business Day after the Rebalancing Start Date to one Index Business Day after the Rebalancing End Date:

$$RW_t^i = RW_{t-1}^i - \frac{100\%}{\text{RebalancingWindow}}$$

If, on any Index Business Day within the Rebalancing Period, the future contracts in any Rebalancing Indices are not available for trading or Market Disruption Events occur to any Rebalancing Indices, then the  $RW_t^i$  for such affected Rebalancing Indices remains the same for the following Index Business Day and resumes the calculation after the Index Business Day on which such future contracts are available for trading.

$HU_{U-1,R-1}^i$  is, for each Commodity  $i$ , the Holding Unit calculated for the previous Rebalancing Start Date  $R-1$  on the previous Unit Calculation Date  $U-1$ ; the Rebalancing Start Date  $R-1$  and Unit Calculation Date  $U-1$  refer to the Rebalancing Start Date and Unit Calculation Date that are in effect immediately prior to Rebalancing Start Date  $R$  and Unit Calculation  $U$ .

$HU_{U,R}^i$  is, for each Commodity  $i$ , the Holding Unit calculated for the Rebalancing Start Date  $R$  on the Unit Calculation Date  $U$ ; the Rebalancing Start Date  $R$  refers to the Rebalancing Start Date that is on or immediately before Index Business Day  $t$ .

**Holding Units are**, with respect to each Commodity  $i$  and Unit Calculation Date  $U$ , calculated as:

$$HU_{U,R}^i = IER_U * TW_R^i / UI_U^i$$

Where:

$HU_{U,R}^i$  is the Holding Unit for Commodity  $i$  calculated on Unit Calculation Date  $U$ ;

$IER_U$  is the excess return Index Value on Unit Calculation Date  $U$ ;

$TW_R^i$  is the Target Weight for Commodity  $i$  defined with respect to a Rebalancing Start Date  $R$ , as specified in the Index Terms;

$UI_U^i$  is the value of Underlying Index for Commodity  $i$  on Unit Calculation Date  $U$ ;

$U$  is the Unit Calculation Date for a given Rebalancing Period, which occurs on or before the Rebalancing Start Date  $R$ .

## Total Return Index Calculation

On each Index Business Day,  $t$ , the Index Value for a Total Return Index is calculated using the following formula, the results of which will be rounded to 5 decimal places.

$$ITR_t = ITR_{t-1} \times \left[ \frac{IER_t}{IER_{t-1}} + ICR_t \right]$$

$ICR_t$  is the U.S Treasury Bill Daily Return calculated on Index Business Day  $t$  with below formula:

$$ICR_t = \left[ \frac{1}{1 - \frac{91}{360} \times TB_{t-1}} \right]^{\frac{nb}{91}} - 1$$

**t** is an Index Business Day;

$ITR_t$  is the total return Index Value on Index Business Day t;

**nb** is the number of non-Index Business Days since the immediately preceding Index Business Day;

$TB_{t-1}$  is the 91-day auction high rate for U.S. Treasury Bills on the most recent weekly auction date prior to the Index Business Day, as posted on Treasury Direct<sup>1</sup>, or any successor source.

## V. Index Terms

**Index Ticker:** CIBZC27E Index

**Index Name:** CIBC Custom 27 Commodity Index

**Index Type:** Excess Return Index

**Index Initial Date:** 31 Jan 2007

**Initial Index Level:** 100

**Unit Calculation Date:** 1 business day before Rebalancing Start Date

**Rebalancing Start Date:** the last business day of each calendar month

**Rebalancing Window:** 1

**Commodities Underlying Indices and Target Weights:**

	Code	Commodity	Underlying Index	Underlying Index Ticker	Target Weight
1	GC	Gold	CIBZ Gold standard roll excess return Index	CIBZGCSE	1/7
2	SI	Silver	CIBC Silver standard roll excess return Index	CIBZSISE	1/7
3	QS	Gasoil	CIBC Gasoil F3 Index	CIBZQSP3	1/7
4	XB	RBOB Gasoline	CIBC RBOB Gasoline F3 Index	CIBZXBP3	1/7
5	LP	Copper	CIBC Copper F3 Index	CIBZLPP3	1/7
6	CL	WTI Crude	CIBC Dynamic Roll WTI Crude Oil Index	CIBZDCLE	1/7
7	CO	Brent Crude	CIBZ Dynamic Roll Brent Crude Oil Index	CIBZDCOE	1/7