# Term CORRA Methodology

**September 13, 2023**

## 1. Overview

The methodology followed by Canadian Benchmark Administration Services Inc ("CBAS") for the calculation of Term CORRA is based on the Canadian Alternative Reference Rate Working Group's (CARR) recommended methodology for calculating a forward-looking Term CORRA interest rate benchmark. While the primary interest rate benchmark in Canada will be the Overnight CORRA (Canadian Overnight Repo Rate Average), CARR developed a methodology to support the creation of a robust Term CORRA reference rate for select uses in the transition away from CDOR. The calculated rate is meant to reflect, at a point in time, the CORRA overnight index swap (OIS) rate[1] for the 1- and 3-month tenor. It builds on academic work as well as the term risk-free rates already established in other jurisdictions, including the US and UK, and has been developed by a working group of subject matter experts across the Canadian industry, including the Bank of Canada.

The case for creating a Term CORRA was first mentioned in CARR's 2021 [CDOR White Paper](#), where it was noted that CARR would consult on a potential forward-looking rate. The resulting [public consultation](#) found that Canadian non-financial corporates, in particular, had a strong desire for a Term CORRA benchmark, as a term rate would be less operationally complex and facilitate cash flow forecasting. Based on the results of its consultation, CARR has decided that a Term CORRA benchmark would be important for the successful transition of the Canadian loan and trade finance market from CDOR to CORRA. As a result, CARR established the parameters for the creation of an IOSCO-compliant benchmark with the appropriate stakeholders. While most financial instruments will reference Overnight CORRA, CARR identified specific use cases for the use of Term CORRA. The use cases, which CBAS has adopted, are loan products, trade finance and single currency derivatives for end-users hedging Term CORRA based loans. Use cases may be updated from time to time by CBAS with the input of the Term CORRA Oversight Committee.

### 1.1 Term CORRA tenors

Term CORRA is a forward-looking measurement of overnight CORRA for 1- and 3-month tenors, based on market-implied expectations from CORRA derivatives markets. The rate is calculated from 1- and 3- month CORRA futures trading on the Montréal Exchange using both transactions and executable bids and offers in the central limit order book (CLOB) over a specific calculation period.[2] Term CORRA is designed to

---

[1] OIS rates reflect market expectations for overnight CORRA settings for specific maturity tenors.
[2] As transactions are a key ingredient to the methodology, it should be expected that dealers hedging OIS exposure may impact the calculated Term CORRA rate.

complement both [overnight CORRA](#) and the [CORRA Compounded Index](#) that are administered and published by the Bank of Canada.

## 1.2 Role of the Benchmark Administrator

CBAS is responsible for all aspects of Term CORRA, including ensuring that the benchmark aligns with the IOSCO Principles for Financial Benchmarks, as well as any applicable Canadian regulation. It is expected that Term CORRA and CBAS will be subject to Canadian benchmark regulation under Multilateral Instrument 25-102 *Designated Benchmarks and Benchmark Administrators* (MI 25-102) and Ontario Securities Commission Rule 25-501 (Commodity Futures Act) *Designated Benchmarks and Benchmark Administrators* (OSC Rule 25-501).[3] Under MI 25-102, the benchmark administrator is responsible to assess the reliability and accuracy of CARR's recommended methodology for Term CORRA.

CBAS is responsible for maintaining and updating the methodology as required under MI 25-102 to ensure it remains robust. Governance of changes to the methodology rest with CBAS and its independent oversight committee, which will oversee any changes to the methodology including requests to consult on significant changes to the benchmark. In line with MI 25-102, significant changes to the methodology will require a public notice to be posted, that benchmark users and other members of the public be provided an opportunity to comment on the proposed change, and that a summary of the comments and a response to those comments be published.

Expert judgement is not expected to be used in the calculation of Term CORRA. The use of expert judgement and discretion will be limited to exceptional market events and disruption events. Any necessary use of discretion or expert judgment would be subject to prior approval by the DBA Board of Directors after consultation with the Oversight Committee if appropriate.

## 1.3 Sustainability

CBAS believes Term CORRA is an IOSCO-compliant, forward-looking benchmark. CBAS recognizes that Term CORRA's long-term sustainability cannot be taken for granted. In particular, Term CORRA's ongoing viability will depend on the liquidity of the underlying CORRA futures contracts used to derive Term CORRA. If the depth of liquidity in these contracts is not sufficient, CBAS will amend its methodology.[4] If changes to the methodology do not result in a sufficiently robust benchmark, CBAS will either take the steps necessary to ensure that the benchmark accurately and reliably represents that part of the market or economy it is intended to represent or cease the publication of the benchmark with appropriate notice, in line with MI 25-102. **CBAS believes it is advisable for users of Term CORRA to insert provisions in their loan and other agreements pertinent to the main Term CORRA use cases allowing users to rely on**

---

[3] OSC Rule 25-501 is based on, and consistent with, MI 25-102. OSC Rule 25-501 is required in Ontario because MI 25-102 would not apply to Ontario commodity futures law.

[4] The benchmark administrator could change the calculation methodology in a number of ways including, but not limited to:
- expanding the duration of the calculation window;
- adding over-the-counter CORRA OIS transactions (which is also contemplated for Term SOFR); and/or
- changing the curve construction methodology.

Any significant changes to the methodology would require a public consultation under MI 25-102. Changing the methodology could result in the rate moving from a T+0 published rate to a T+1 published rate.

**overnight CORRA if Term CORRA is unavailable, and to build the operational capacity to transact in overnight CORRA should Term CORRA cease to be published in the future.**

# 2. Methodology

This section describes the methodology that will be used to calculate Term CORRA.

## 2.1 High level overview of methodology

CBAS's Term CORRA benchmark comprises two tenors: 1- and 3-months. The rate is calculated using a waterfall methodology comprised of two levels ("Level 1" and "Level 2"). CARR expects that the majority of time the calculation will be based on the Level 1 approach using CORRA futures transactions and executable bids and offers, with Level 2 acting as a fallback if there is not sufficient liquidity in CORRA futures on a specific day.

Term CORRA rates are calculated as follows:

Step 1)    Calculate a single futures mid-price for each individual futures contract (i.e. the first three 1-month CORRA futures and the first two 3-month CORRA futures contracts) using transactions, and a random sample of executable bids and offers in the central limit order book, within an Observation Interval between 10:00 and 12:00 Eastern Time.

Step 2)    If there are sufficient transactions and/or limit orders in all the necessary futures contracts to construct the curve, the Level 1 methodology will be used. This methodology constructs a yield curve from the transactions and limit orders and the 1- and 3-month Term CORRA will be calculated from that curve.

Step 3)    If there are not sufficient transactions and/or limit orders to use the Level 1 methodology for a specific tenor (i.e. 1-month or 3-month Term CORRA), the Level 2 methodology will be used. This methodology is a fallback version of Term CORRA that is calculated using the previous day's published Term CORRA rate adjusted for any move in historical CORRA rates calculated over the specific tenor.

## 2.2 Input data

The Term CORRA methodology uses both executed transactions and executable bids and offers in TMX CORRA futures.[5,6]

---

[5] For more details see: https://www.m-x.ca/en/markets/interest-rate-derivatives/cra

[6] The benchmark administrator may also include in the calculation certain types of conditional level 1 (top of book) orders with the volume adjusted appropriately to mitigate double counting (e.g. BAX-to-CORRA futures spread orders).

### 2.2.1 Observation Interval

Data to calculate Term CORRA are taken during a two-hour interval from 10:00 and 12:00 Eastern Time (the "Observation Interval") to ensure a more accurate representation of the rate. The extended observation interval also means that the term rate is not dependent on individual transactions during a short time window. The time of the Observation Interval was chosen specifically to be after the release of the Bank of Canada's policy interest rate decisions, and the publication of most economic news releases to limit the price volatility in CORRA futures during the Observation Interval.

### 2.2.2 Time Slots

The Observation Interval is further divided into twelve 10-minute data windows ("slots") to ensure that a representative rate across the whole interval can be calculated. CBAS uses, as input data, (i) transaction prices observed during each slot in the Observation Interval and (ii) a snapshot of executable bid/offer CORRA futures prices in the CLOB taken at a random time within the same slot.

### 2.2.3 Standard Market Size

If an individual slot meets or exceeds a standard market size (SMS) then that slot is considered 'valid'. The defined SMS standard market size is $1 billion for 1-month and $750 million for 3-month. These sizes reflect the aggregate of transactions effected over the duration of the slot and acceptable bids and offers in the CLOB taken at a random interval at some point in the slot. Bids and offers are considered to be 'acceptable' provided that the total volume weighted bid (VWB) and total volume weighted offer (VWO) up to the SMS are within 5 bps or less of each other and are within 2.5 bps from a calculated mid-price (representing a total bid-offer spread of 5 bps or less).

### 2.2.4 Calculated Slot Price

CBAS calculates a mid-price for each slot from the sampled best bid and offer.

- When the value of the transactions equals or exceeds the SMS in any time slot, then all transactions in the slot will be used in calculating the volume weighted average price and no sampled order data will be used.
- When the value of the transactions in the slot is below the SMS, acceptable bids and offers are used alongside transactions to calculate the mid-price.

A volume-weighted average bid price for the slot is calculated for a SMS transaction. The same is done for the offered side of the market. This is done by using the transactions in the slot together with the acceptable bids/offer until the SMS is reached.[7] The volume-weighted averages are calculated using a weighting system that provides more value to transactions and those bid/offer prices close to the mid-price.[8] This results in a weighted average bid and offer and the mid-price between them is the slot's determined mid-price.

- When the transaction, bid, and offer volume in a slot is insufficient, then no determined mid-

---

[7] The SMS are consistent with the methodology for Term SONIA.
[8] Trades are given a weight of 3; bids/offers within 1bp of mid are given a weight of 2; remaining bids/offers have a weight of 1.

price is available, and the slot is invalid for the purposes of calculating a slot price.

## 2.2.5 Calculated Specific Futures Price

Where there are between 4 to 12 valid slots in an observation interval the specific futures mid-price can be used in using the Level 1 methodology. The specific futures price is calculated as the median of all the valid slot mid-prices (median will be defined as the middle slot, or if the range is even then the average between the two central slots will be used). If four slots cannot be filled, this futures price will not be available for use in the curve construction.

## 2.2.6 Curve Construction

To be considered sufficient to support a valid Term CORRA calculation, a curve must make use of a minimum number of futures contract prices, as follows:

- For the 1-month tenor, valid fixings must be built using at least the first two 1-month futures prices. If this is not the case, Level 2 Methodology will be employed.
- For the 3-month tenor, valid fixings must be built using at least the first two 3-month futures prices and the first three 1-month futures prices. If this is not the case, Level 2 methodology will be employed.

Level 1 and Level 2 methodologies can apply separately for 1- and 3-month Term CORRA fixings.[9]

## 2.3 Level 1 methodology

Under Level 1 methodology, Term CORRA is constructed using the Heitfield and Park methodology developed by the New York Federal Reserve.[10] A path for overnight CORRA rates is determined under the assumption that these rates follow a piecewise constant step function and only move up or down the day after a Bank of Canada Fixed Announcement Date. CBAS uses TMX CORRA futures, which provide a forecast of overnight CORRA over a given period (1- or 3-months), to estimate an optimal future path for overnight rates.  Using this estimate, 1- and 3-month Term CORRA values can be calculated, as described in the following sections.

### 2.3.1 Calculation Methodology

Let $t_0$ represent the date for the Term CORRA benchmark and let $t$ represents a day after $t_0$ that is a Business Day (in accordance with the International Money Market (IMM) calendar), the following notations are used for the calculation of projected overnight CORRA rates:

- $M_k$: the date of the k-th Bank of Canada Fixed Announcement Date that occurs on or after $t_0$;
- $\theta_0$: the initial overnight CORRA rate as of date $t_0$;

---

[9] Given the requirements for the two tenors, however, either (i) the Level 1 Methodology would apply for both fixings; (ii) the Level 2 methodology would apply for both tenors; or (iii) the Level 1 Methodology would apply for the 1-month tenor and the Level 2 Methodology would apply for the 3-month tenor.

[10] Heitfield, Erik, and Yang-Ho Park (2019). "Inferring Term Rates from SOFR Futures Prices," Finance and Economics Discussion Series 2019-014. Washington: Board of Governors of the Federal Reserve System, https://doi.org/10.17016/FEDS.2019.014.

- $\theta_k$: the jump size in overnight CORRA rate occurs on the day after the k-th Bank of Canada Fixed Announcement Date.
  - A positive $\theta_k$ means the overnight CORRA rate jumps up after the k-th Bank of Canada Fixed Announcement Date $M_k$
  - a negative means the overnight CORRA rate jumps down after the k-th Bank of Canada Fixed Announcement Date $M_k$
- $f(t; \Theta)$: the overnight CORRA rate as of date $t$, where $\Theta = (\theta_0, \ldots, \theta_k)$ and k is the index of the last relevant Bank of Canada Fixed Announcement Date
- 1{}: binary function returning 1 if the statement in the parenthesis is true and 0 otherwise.

The overnight CORRA rate for date t can be computed as:

$$f(t; \Theta) = \theta_0 + \sum_k \theta_k * 1\{t > M_k\}$$

CBAS will solve for the unknown parameter set $\Theta = (\theta_0, \ldots, \theta_k)$ such that the projected path of overnight CORRA rates results in the smallest mismatches for 1- and 3-month CORRA futures prices as determined from the sections below.

## 2.3.2 Optimization

As is also the case for Term SOFR, in order to determine the optimal path for the overnight CORRA, CBAS will implement the Broyden-Fletcher-Goldfarb-Shanno algorithm to solve for the parameter set $\Theta = (\theta_0, \ldots, \theta_k)$. Four 1-month and two 3-month CORRA futures contracts will normally be used to cover the Term CORRA computation period up to 3-month tenor, but see Section 2.2: "Input Data" for circumstances when a smaller number of futures are accepted.

The optimization function is designed to solve the following minimization problem:

$$min_\Theta \left\{ \left[ \sum_{m=0}^{4} w_m^1 * \left( P_m^1 - \hat{P}_m^1(\Theta) \right)^2 + \sum_{q=0}^{2} w_q^3 * \left( P_q^3 - \hat{P}_q^3(\Theta) \right)^2 \right]^{\frac{1}{2}} + \lambda * \left[ \sum_{k=1} \theta_k^2 \right]^{\frac{1}{2}} \right\}$$

where:

- $P_m^1$ and $P_q^3$: the observed blended prices of 1- and 3- month CORRA futures contracts with reference month $m$ and reference quarter $q$, respectively
- $\hat{P}_m^1(\Theta)$ and $\hat{P}_q^3(\Theta)$: the implied value of 1- and 3- month CORRA futures contracts with reference month $m$ and reference quarter $q$, respectively
- $w_m^1$ and $w_q^3$: weighting parameters for pricing errors of 1- and 3- month CORRA futures contracts with reference month $m$ and reference quarter $q$, respectively
  - $w_m^1$ and $w_q^3$ will be determined as (the number of unset overnight rates for a given contract) / (the total number of overnight resets for that contract). This will typically be 1 except for the partially fixed front contracts, which will have lower weights.

- $\lambda$: weighting parameter for penalty function $\lambda = \frac{0.3}{\sqrt{K}}$ ; where K is the number of scheduled Bank of Canada meetings in the period.

Note that, in the above, $m$ and $q$ represent the offset of the monthly and quarterly futures contracts (respectively) of the first futures contract with a price that is not fully determined as of the reporting date. Where a valid futures price is not available for use in the level 1 methodology that contract is not used.

The optimization process produces a yield curve which minimizes the differences between (i) the observed blended prices of 1- and 3-month CORRA futures contracts and (ii) the implied value of 1- and 3-month CORRA futures contracts taken from the curve. Multiple possible "jumps" (i.e. rate changes on meeting dates) may be implied by the same contract prices. To make this jump pattern unique, the penalty function chooses the jump pattern that equalizes the size of jumps. The 1- and 3-month Term CORRA are then implied from the resulting yield curve.

For 1-month CORRA contracts, whose reference month is not the current month ($m > 0$), the implied value only depends on projected overnight CORRA rates:

$$\hat{P}_m^1(\Theta) = 100 * \left[ 1 - \frac{365}{N_m^1} \left( \prod_{t \in T_m^1} \left( 1 + \frac{f(t; \Theta) * d_t}{365} \right) - 1 \right) \right]$$

where:

- $T_m^1$: set of Business Days for the $m$-th month
- $N_m^1$: total number of calendar days in $m$-th month: $N_m^1 = \sum_{t \in T_m^1} d_t$
- $d_t$: the number of calendar days from date $t$ to its next Business Day following the IMM Holiday Schedule, if the next Business Day is no later than the end date of the m-th month; otherwise, $d_t$ equals to the number of days from date $t$ to the end date of the m-th month.

For the 1-month CORRA futures contracts, whose reference month is the current month ($m = 0$), the implied value can be calculated using published CORRA fixings and projected overnight CORRA rates:

$$\hat{P}_m^1(\Theta) = 100 * \left[ 1 - \frac{365}{N_0^1} \left( \prod_{t \in T_m^{1-}} \left( 1 + \frac{r_t * d_t}{365} \right) * \prod_{t \in T_m^{1+}} \left( 1 + \frac{f(t; \Theta) * d_t}{365} \right) - 1 \right) \right]$$

Where:

- $T_m^{1+} = \{ t \in T_m^1 \mid t \geq t_0 \}$
- $T_m^{1-} = \{ t \in T_m^1 \mid t < t_0 \}$
- $r_t$: published CORRA fixing for date $t$

For 3-month CORRA futures contracts, whose reference quarter is not the current quarter ($q > 0$), the implied value only depends on projected overnight CORRA rates:

$$\hat{P}_q^3(\Theta) = 100 * \left[ 1 - \frac{365}{N_q^3} \left( \prod_{t \in T_q^3} \left( 1 + \frac{f(t; \Theta) * d_t}{365} \right) - 1 \right) \right]$$

Where:

- $T_q^3$: set of Business Days for the $q$-th quarter
- $N_q^3$: total number of calendar days in $q$-th quarter: $N_m^3 = \sum_{t \in T_m^3} d_t$
- $d_t$: the number of calendar days from date $t$ to its next Business Day following the IMM Holiday Schedule, if the next Business Day is no later than the end date of the $q$-th quarter; otherwise, $d_t$ equals to the number of days from date $t$ to the end date of the $q$-th quarter.

For the 3-month CORRA futures contract, whose reference quarter is the current quarter ($q$ = 0), the implied value can be calculated using published CORRA fixings and projected overnight CORRA rates:

$$\hat{P}_0^3(\Theta) = 100 * \left[ 1 - \frac{365}{N_0^3} \left( \prod_{t \in T_q^{3-}} \left( 1 + \frac{r_t * d_t}{365} \right) * \prod_{t \in T_q^{3+}} \left( 1 + \frac{f(t; \Theta) * d_t}{365} \right) - 1 \right) \right]$$

Where:

- $T_q^{3+} = \{t \in T_q^3 \mid t \geq t_0 \}$
- $T_q^{3-} = \{t \in T_q^3 \mid t < t_0 \}$
- $r_t$: published CORRA fixing for date $t$

Heitfield and Park note that, depending on how the calculation periods for available futures contracts line up, some elements of Θ may not be well identified. To address this, they impose two constraints on the estimation of Θ:

- *Policy Gradualism*. multiple jump patterns for forward rates may lead to the same implied contract prices. For example, a three-month contract price indicating that forward rates will rise during a quarter containing two Bank of Canada announcement dates is consistent: (a) a large increase at the first meeting and no increase at the second (or vice-versa); or (b) equal sized increases at both meeting. To address this, a small positive number will be assigned to λ,[11] in other words assuming option (b) of similar-sized jumps, and hence it will not materially affect the parameter estimates.
- *Nine Month Jump Window*. In order to eliminate the need to make assumptions about the timing of as-yet unscheduled Bank of Canada announcement dates, it is assumed that no jumps will occur more than nine months after the as of date.

### 2.3.3 Computing Term Rates from Projected Overnight Rates

Term Rates are derived by compounding the forecast overnight CORRA rates over 1- and 3-month horizons. The compounding follows conventions listed as below:

---

[11] $\lambda = \frac{0.3}{\sqrt{K}}$

$$h(T) = \frac{365}{T} * \left[ \prod_{t \in \tilde{T}(T)} \left(1 + \frac{f(t;\Theta) * d_t}{365}\right) - 1 \right]$$

- $\tilde{T}(T)$: the set of Business Days from the term start date to date $T$ calendar days in the future. Each term tenor will start on (and include) two Business Days following the publication day, based on Following convention. The term rate will span the corresponding tenor (e.g., 1-month or 3-month which is represented by $T$ calendar days in the formula) in accordance with Modified Following conventions.
- $t$: a Business Day in set $\tilde{T}(T)$
- $d_t$: the number of calendar days from date $t$ to its next Business Day following the IMM Holiday Schedule, if the next Business Day is no later than the end date of Term CORRA rate; otherwise, $dt$ is equal to the number of days from date $t$ to the end date of Term CORRA rate.
- $f(t;\Theta)$: the overnight CORRA rate as of date $t$

If there are insufficient futures prices to compute a 1-month or 3-month Term CORRA, the Term CORRA calculation for that tenor moves to Level 2.

## 2.4 Level 2 Methodology

Under Level 2, a fallback version of Term CORRA is calculated using the previous day's published rate. Specifically, the day's setting will equal the calculated backwards-looking compounded rate for the specific tenor (i.e. 1- or 3-month) for today, plus the difference between 1) the previous day's Term CORRA and 2) a backwards-looking rate computed as of the previous business day for the same tenor.

Specifically:

$$R_t = C_t + [R_{t-1} - C_{t-1}]$$

Where:

- $R_t$: today's Term CORRA rate setting
- $R_{t-1}$: the previous business day's Term CORRA rate setting
- $C_t$: backwards-looking compounded rate (of the same tenor) from today
- $C_{t-1}$: backwards-looking compounded rate (of the same tenor) from the previous business day.

$C_t$ and $C_{t-1}$ are determined as follows:

$$C_t = \left[ \prod_{i=t_1}^{t-1} \left(1 + \frac{CORRA_i * n_{i,i+1}}{365}\right) - 1 \right] * \frac{365}{n_{(t_1,t)}}$$

$$C_{t-1} = \left[ \prod_{i=t_0}^{t-2} \left(1 + \frac{CORRA_i * n_{i,i+1}}{365}\right) - 1 \right] * \frac{365}{n_{(t_0,t-1)}}$$

Where:

- $CORRA_i$: CORRA value on day $t_i$
- $n_{(t_i, t_j)}$  : the number of calendar days from $t_i$ to $t_j$
- $t_0$: 30 (or 90) calendar days before *t-2*. If $t_0$ does not fall on a business day, it is moved back to the first preceding business day.
- $t_1$: 30 (or 90) calendar days before *t-1*. If $t_1$ does not fall on a business day, it is moved back to the first preceding business day.

This fallback methodology can be used for up to ten consecutive business days, after which time the benchmark administrator will assess the underlying liquidity in CORRA futures and any potential changes to the calculation methodology to ensure its robustness. The use of this fallback rate means that the liquidity in the underlying futures market is not sufficiently robust to calculate a transaction or committed quote based rate and therefore potentially raises the question about the longer-term viability of the rate. Therefore, after Level 2 calculations are made for ten consecutive business days, the benchmark administrator's Oversight Committee, together with the benchmark administrator, will meet to determine whether it is possible to amend the calculation methodology so as to ensure that an IOSCO-compliant and MI 25-102-compliant rate can be published or whether the rate should be potentially wound down in an orderly fashion. Any significant amendments to the methodology would require a public consultation under MI 25-102. The process to identify options, discuss and arrive at a recommendation for moving forward will take time. For this reason, CBAS will continue to use the fallback methodology until a decision is reached.

## Annex: CORRA Futures Contract Specifications

TMX offers a 3-month CORRA future (CRA) and launched a 1-month CORRA future (COA) in January 2023.

The 3-month CORRA Futures (CRA) contract is a quarterly contract that follows International Money Market (IMM) dates.

- Reference Quarter: For a given contract, the interval from (and including) the 3rd Wednesday of the Contract Reference Month, to (and not including) the 3rd Wednesday of the Delivery Month. The Contract Reference Month is different from the Delivery Month.
- Contract Reference Month: For each contract, the Contract Reference Month is the month in which the Reference Quarter begins.
- Delivery Month: For each contract, the Delivery Month is the month in which the Reference Quarter ends. Example for a June contract: The Reference Quarter starts on IMM Wednesday of June, the Contract Reference Month, and ends with Termination of Trading on the first business day before IMM Wednesday of September, the contract Delivery Month.

The final settlement price:

$$Final\ settlement\ price = 100 - R$$

is 100 minus the compounded daily CORRA rate over the reference quarter:

$$R = \left[\prod_{i=1}^{d_0}\left(1 + \frac{CORRA_i * n_i}{365}\right) - 1\right] * \frac{365}{d} * 100$$

Where:

- $d_0$: the number of business days in the reference quarter
- $CORRA_i$: CORRA value on the i-th business day of the reference quarter
- $n_i$: the number of calendar days in the relevant reference quarter on which the rate is CORRA$_i$
- $d$: the number of calendar days in the relevant reference quarter: $d = \sum_{i=1}^{d_0} n_i$

Simple interest is accrued on all non-Business Days in the reference quarter (weekends and holidays) based on the CORRA benchmark from the preceding good Business Day. Then all Business Days' interest is compounded.

The 1-month CORRA Futures (COA) contract is similar to the 3-month contract, except that reference period is a calendar month:

- Reference Month: For a given contract, the interval from (and including) the first business day of the reference month, up to and excluding the first business day in the following month.
- The last trading day Is the final business day of the reference month.
- The Contract Reference Month is the same as the Delivery Month.

The final settlement price:

$$Final\ settlement\ price = 100 - R$$

is 100 minus the compounded daily CORRA rate over the reference month:

$$R = \left[ \prod_{i=1}^{d_0} \left( 1 + \frac{CORRA_i * n_i}{365} \right) - 1 \right] * \frac{365}{d} * 100$$

Where:

- $d_0$: the number of business days in the reference month
- $CORRA_i$: CORRA value on the i-th business day of the reference month
- $n_i$: the number of calendar days in the relevant reference month on which the rate is CORRA$_i$
- $d$: the number of calendar days in the relevant reference month: $d = \sum_{i=1}^{d_0} n_i$

Simple interest is accrued on all non-Business Days in the reference month (weekends and holidays) based on the CORRA benchmark from the preceding good Business Day. Then all Business Days' interest is compounded.