

CF Perpetual Funding Rate Index

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1 Version History

Version	Date Issued	Summary of Change	Owner
v1.0	15 February 2025	Document Creation	CF Benchmarks Management

2 Overview

The CF Perpetual Funding Rate Index ("**The Index**") is designed to measure the annualized funding rate for perpetual markets. **The Index** provides transparency and analytics for funding rates in derivatives markets, supporting market participants in their assessment and analysis of funding costs associated with perpetual contracts.

This methodology document outlines the calculation methods, input data, contingency rules, and other relevant specifications for **The Index**.

3 Definitions

- **API:** Application programming interface.
- **Calculation Day:** Any day for which **The Index** is published.
- **Funding Rate:** The periodic payment (positive or negative) exchanged between long and short position holders in a perpetual futures contract, designed to keep the contract price aligned with the underlying reference price.
- **Index Publication Time:** The designated time on each Calculation Day when **The Index** value is published.
- **Perpetual Contract:** A derivative contract with no expiry date that trades at a price closely tracking the underlying asset, maintained through funding rate mechanisms.
- **Observation Window:** The 24-hour period prior to the final observation time on the Calculation Day, within which funding rates are collected.
- **Observation Time:** The specific time at which a funding rate is observed.
- **Relevant Exchange:** The exchange from which funding rate data is sourced, as specified in the Parameter section.

4 Methodology

4.1 Qualitative Description

The Index is calculated based on all funding rates observed from the designated perpetual contract on the Relevant Exchange within a 24-hour observation window. The calculation steps on any given Calculation Day are as follows:

1. All funding rates are collected from the designated perpetual contract over the 24-hour observation window prior to the final observation time on the Calculation Day.
2. The observed funding rates are summed to produce a 24-hour cumulative funding rate, regardless of their frequency (hourly, 8-hourly, etc.).
3. The cumulative funding rate is then annualized using a 365-day convention to produce the final index value.
4. The calculated index value is published at the Index Publication Time on the Calculation Day, after the final funding rate within the observation window has been collected.

4.2 Mathematical Representation

The following table shows the symbols used in the mathematical representation of The Index.

Symbol	Name	Description	Type
T	Calculation Day	The day for which The Index is calculated	Parameter
FR_i	Funding rate	The i th funding rate observed during the observation window	Input
n	Number of observations	Total number of funding rates collected within the 24-hour window	Parameter
FR_{cum}	Cumulative funding rate	The sum of all observed funding rates during the 24-hour window	Intermediate
AF	Annualization Factor	The factor used to convert the 24-hour cumulative rate to an annual rate. The formulas are calculated based on the following conventions: simple compounding, UK Money Market day count fraction (365/ACT).	Parameter
$CFRI_T$	Funding Rate Index	The annualized funding rate index value on Calculation Day T	Output

The Index calculated per Contributing Exchange as of the Effective Time T_1 is then given by:

$$FR_{cum} = \sum_{i=1}^n FR_i \quad (\text{Eq. 1})$$

$$CFRI_T = FR_{cum} \times AF \quad (\text{Eq. 2})$$

where $K_{ann} = 365$ and n equals the number of funding rates observed within the 24-hour window (which varies depending on the frequency at which the Relevant Exchange updates its funding rates).

5 Contingency Calculation Rules

5.1 Delayed Data and Missing Data

Delayed data and missing data are treated according to the following rules:

1. The Index requires complete data for all funding rate observations within the 24-hour observation window.
2. If any of the expected funding rates is missing or cannot be retrieved from the Relevant Exchange's API for any reason, a Calculation Failure Event shall be declared by the Administrator (see Section 5.6).
3. No alternative data sources are considered for filling missing data points.

5.2 Erroneous Data

All funding rate observations retrieved by the Administrator for the determination of The Index on a given Calculation Day are subject to basic validation according to the following rules:

1. If a funding rate observation shows a non-numeric value, it is flagged as erroneous.
2. If a funding rate observation is reported in a format that deviates from the expected format such that it cannot be parsed, it is flagged as erroneous.

Funding rate observations flagged as erroneous for a given Calculation Day are treated as missing data, and the provisions of Section 5.1 apply.

5.3 Delayed Calculation & Publication

Where for any reason the Administrator is not able to calculate and publish The Index at the Index Publication Time on any given Calculation Day, the Administrator shall clearly communicate to all licensees via Statuspage that calculation and publication has been delayed.

The Administrator will seek to publish The Index for that Calculation Day as soon as it is able to. Should the Administrator not be able to calculate and publish The Index by 23:59:59 London time, then the provisions of Rule 5.6 shall come into effect.

5.4 Expert Judgment

The Administrator does not utilize expert judgment in the day-to-day calculation of The Index. In extraordinary circumstances, Expert Judgment may be exercised by the Administrator in accordance with its codified policies and processes, which are available upon request.

5.5 Calculation Failure

If The Index cannot be calculated for a given Calculation Day before 23:59:59 London time, for instance because:

- One or more of the required funding rate observations within the 24-hour window is missing, or
- One or more of the required funding rate observations is flagged as erroneous, or
- Any other reason or circumstance that prevents the orderly calculation of The Index,

then no index value will be published for that Calculation Day.

Calculation Failure events will be clearly communicated to all licensees via Status-page.

6 Restatement & Republishing

The Administrator may restate and republish The Index value where the published value is found to be incorrect. This will only occur if both the below conditions are met:

1. Timeliness – where the Administrator can RESTATE and REPUBLISH The Index value before 23:59:59 London time of the given Calculation Day.
2. Materiality – where the RESTATED index value has an absolute variance greater than 0.20% compared to the previously published value for the given Calculation Day.

Example:

- The Index on a given Calculation Day is published as 5.25%
- The Index will only be RESTATED if the corrected value is:
 - Greater than 5.45%
 - OR
 - Less than 5.05%

Where the above conditions are met, the Administrator shall clearly communicate to all licensees via Statuspage that a restatement and republishing of The Index will take place for that Calculation Day.

The Administrator shall restate the impacted index value as soon as possible and shall do so by overwriting the previously published value. This restated index value will carry no mark when published and will be final and not subject to any further change or republication.

7 Parameters

Parameter	Value
Index Name	CF Bitcoin Kraken Perpetual Funding Rate Index
Ticker Symbol	KFRI
Relevant Exchange	Kraken
Relevant Contract	BTC/USD Linear Perpetual Future (ticker: PF_XBTUSD)
Observation Window	5:00 PM New York time on day T-1 to 4:00 PM New York time on day T
Observation Frequency	As published by the Relevant Exchange (hourly for Kraken)
Annualization Factor	365 days
Index Publication Time	Between 4:05 PM and 4.30 PM New York time

8 Reference Rate Specifications

	Perpetual Funding Rate Index
Administrator	CF Benchmarks Ltd
Calculation Agent	CF Benchmarks Ltd
Description	Annualized funding rate for the perpetual contract on the Relevant Exchange based on funding rate observations over a 24-hour window
Dissemination Time	Once per day, on each Calculation Day, at the Index Publication Time
Dissemination Precision	6 decimals
Data Source	Relevant Exchange API

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