

CMBI Index Policies

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Change Log

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Background & Process

This document outlines the handling of particular market and index related events by the CMBI cryptoasset indexes. To the extent possible, Coin Metrics hopes to provide a consistent approach to the treatment of such events for all CMBI products.

Scope

The policies described herein are intended to provide transparency to CMBI users as to the actions Coin Metrics will take to manage indexes or specific events. In the nascent cryptoasset markets, unknown and unforeseen events might occur as the asset class continues to mature. An event's treatment will be applied to existing CMBI policies described in index specific methodologies and Index-wide Policy documentation. Where variations to, or the addition of new policies and procedures are required, Coin Metrics will provide notice to index users and announce updated policies and procedures.

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Policy

Administration

This policy is administered by the Coin Metrics Index Committee & Oversight Committee. The Administrator is responsible for

- The implementation of processes and procedures necessary to ensure compliance with the policy
- The ongoing monitoring of compliance with the policy
- Completing the annual review of the policy

However, it is the responsibility of all CMBI staff to adhere to the guidelines specified in this policy on an ongoing basis.

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1 ANNOUNCEMENTS

The on-chain activity of all index constituents and the performance of all index whitelisted exchanges are monitored daily for the data required to ensure CMBI levels and returns are calculated as designed. All identified events that may impact the daily calculation of index levels and returns are communicated to clients either via email or slack channel announcements, if possible, in advance.

1.1 PRODUCT

Index product updates are made available to clients via email and will also be made publicly available on the Coin Metrics web page <https://coinmetrics.io/>.

Where required, Coin Metrics will consult clients on changes that materially impact index level and return calculation. Please refer to Section 5 CMBI Material Change and Consultation Policy for more information.

1.2 CORPORATE EVENTS

Where an event that may impact an index level and return is identified in advance, clients will be notified prior to the event through the delivery of an Index Corporate Event Report either via email or slack channel announcement. Where an event is unforeseeable or short notice is provided, clients will receive notice of the event and its expected impacts to CMBI products either via email or slack channel announcement.

1.3 PRO FORMA FILES

Coin Metrics makes available several proforma files to clients and the public that relate to the operation and performance of indexes.

CMBI factsheets are made available shortly after the end of the month to the public via the Coin Metrics website, <https://coinmetrics.io/>.

CMBI multi-asset index constituent information is made available to CMBI clients, upon request via API, after an indexes reference date but in advance of the rebalancing date. Since index constituent selection is performed on the reference date, the report will correctly reflect the index constituents, but the actual weight assigned to each cryptoasset on the rebalancing date will differ due to market movements between release and rebalance.

CMBI multi-asset index rebalance results are made available shortly after a rebalance occurs to CMBI clients via API and to the public via the Coin Metrics website, <https://coinmetrics.io/>.

Rebalance schedules and timing can be found in each respective index's methodology and the CMBI Rebalance Calendar.

2 HOLIDAY SCHEDULE

Coin Metrics Bletchley Indexes are calculated daily, throughout the calendar year.

Despite calculating indexes every day of the year, Coin Metrics Bletchley Indexes recognize the NYSE Holiday Calendar as non-rebalancing days.

3 TERMINATION POLICY

CMBI products strive to provide a flexible and innovative set of indexes that evolve with the rapidly changing cryptoasset ecosystem in order to appropriately reflect investability and opportunity across the cryptoasset market whilst also addressing the needs of our global customers.

To continue to provide the most relevant products across the cryptoasset market, Coin Metrics may determine that an index and methodology cannot be adapted to appropriately reflect the desired market and should be discontinued. Reasons for termination of an index are often out of the control of CMBI and may be as a result of:

- Drastic changes to the structure of the cryptoasset market that means an index can no longer achieve its objectives
- Significant infrastructure changes across the cryptoasset market
- Changes to the availability of data that is required for the determination of an index
- Regulatory events that impact the market and / or the constituents of an index

Additionally, Coin Metrics may terminate an index due to factors that may include:

- A new index rendering an existing index redundant
- Methodology convergence of two or more existing indexes
- Declining investors' usage of an index

Regardless of the reason behind the termination of an index product, the Index Committee and the Oversight Committee will determine the potential impact to Stakeholders and may consider consulting representatives of Stakeholder groups to obtain feedback and discuss alternative paths of action. Following the decision to terminate an index Coin Metrics will proceed as follows:

- Coin Metrics would publicly announce the decommissioning of the index as soon as a decision to terminate has been made and prior to the termination of the index.
- Coin Metrics would inform index Stakeholders of alternative CMBI products that may meet the needs of current index Stakeholders. If no Coin Metrics indexes are

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deemed to be an alternative to the terminated index, Coin Metrics will strive to recommend suitable alternative index products that are external to Coin Metrics.

- If an index does not have to be terminated immediately, Coin Metrics would continue to produce index levels for a minimum of 3 months to provide Stakeholders sufficient opportunity to prepare for the termination and if they desire to transition to a new index.

For CMBI products that have been terminated, index levels and related data will be retained by Coin Metrics for a minimum of 5 years.

4 METHODOLOGY REVIEW POLICY

CMBI methodologies are formally reviewed annually by the Coin Metrics index governance bodies, the Index Committee and the Oversight Committee. The annual review is conducted to ensure that indexes remain relevant and representative of their strategy and objectives as well as the underlying market they represent. The review process may highlight changes that need to be made to a methodology as a result of changes to the underlying market or investor interests. Changes that are deemed to be material must be escalated to the Oversight Committee and may trigger a consultation with Stakeholders. Please refer to *Section 6 CMBI Material Change and Consultation Policy* for more information.

Indexes may also undergo more frequent review as deemed necessary by the Index Committee or the Oversight Committee. More frequent reviews may be triggered by recommendations from internal Coin Metrics staff, feedback from external Stakeholders, unforeseen significant events to constituents, regulatory requirements, current events and news or changes to the underlying market structure.

5 CMBI MATERIAL CHANGE AND CONSULTATION POLICY

CMBI products are governed by the Coin Metrics Index Committee and the Oversight Committee. Index methodology changes are proposed and drafted by the Index Committee and reviewed and approved by the Oversight Committee.

In order to maintain relevance and meet stated objectives, CMBI methodology reviews may result in a recommendation to materially change an index's methodology or its determination process due to extraordinary market circumstances or external factors. Material changes to an index methodology or determination process include but are not limited to:

- Changes to constituent eligibility criteria that could result in significant constituent composition turnover
- Free float definitions that could result in a significant change to index constituent weightings
- On-chain events such as forks and airdrops that could impact index levels
- Rebalancing frequency

In such a scenario, the Oversight Committee will require the Index Committee to undertake a period of consultation with relevant stakeholders in order for Coin Metrics to understand the perspectives and impact to each relevant stakeholder group. Consultation periods are designed to achieve the following two key goals that align with CMBI principles:

- Increase transparency by openly communicating information relating to proposed material changes to any CMBI methodology early to stakeholders.

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- Obtain information on what is pertinent to index stakeholders, allowing Coin Metrics to improve its products, innovate and continue to provide market relevant indexes.

Consultation periods are announced through a variety of channels that Coin Metrics uses to engage with its stakeholders including; the Coin Metrics website, twitter and direct email to index licensees and CMBI clients. To allow CMBI products to remain leaders in the market and maintain their relevance to the underlying market they represent, consultation periods will last for a maximum of 30 days from initial publication. Where proposed changes to a methodology are deemed to be time sensitive, the consultation period may be shorter.

All stakeholder feedback and responses to proposed methodology changes are reviewed and documented by the CMBI staff members and a summary of the non confidential consultation feedback and Coin Metrics responses are drafted and shared with the Oversight Committee and also available publicly upon request.

Consultation periods are purely for the purpose of gathering and documenting information regarding a proposed material change to an index's methodology. Regardless of the outcome of consultations, accountability and responsibility for approving a proposed material change to an index methodology lies with the Coin Metrics Oversight Committee.

6 CMBI LEVEL CHALLENGE REVIEW POLICY

Coin Metrics is responsible for the administration, calculation and dissemination of CMBI products. Should there be any concern about the close level of any of the CMBI products, a price challenge can be submitted to Coin Metrics through directly contacting cmbi-support@coinmetrics.io.

CMBI level challenges must be submitted within 48 hours of an index's close being published for there to be an opportunity for index level restatement.

Once a challenge has been submitted, CMBI staff members are required to respond within a reasonable amount of time. During the challenge review, Coin Metrics will investigate and evaluate any provided evidence, internal data inputs and Coin Metrics system performance to determine the success of the challenge.

Should the challenge prove to be successful, Coin Metrics will proceed as defined in 8 Restatement Policy.

CMBI staff members will endeavour to provide as much detail and supporting data as is required to the challenger to support the challenge or demonstrate why the challenge was unsuccessful.

All challenges and responses to CMBI levels are reviewed and documented by the CMBI staff members and a summary of the non-confidential challenge feedback and Coin Metrics responses are drafted and shared with the Oversight Committee and also available publicly upon request.

7 RESTATEMENT POLICY

Coin Metrics publishes official index levels daily at 1600 Eastern Time (ET). An index will be restated in the circumstance that a material error in the input, calculation, or output of any index that results in an error of the published value of the index is discovered. Clients will be notified in a timely manner with information on the error and the expected timeline for revised price information. Prices will be restated in a timely manner.

Errors that do not materially affect the stated index, will not be restated. In the event of a material error, real-time index pricing will not be restated.

Coin Metrics strives to apply consistent, rigid and transparent standards and processes for the CMBI determination process in order to maintain a high standard and produce accurate index levels. However, stakeholders should be aware that it is conceivable that index levels may require recalculation as a result of inaccuracies that may arise.

It may be deemed necessary to recalculate an official index's level following the identification of an event that may have led to incorrect reporting. Such issues could arise from:

- The incorrect treatment of a cryptoasset corporate event, such as a legitimate fork as defined in the CMBI Fork Legitimacy Policy, that results from mis-classification of legitimacy or a missed event
- CMBI input data error
- The incorrect calculation of an index's levels.

Real-time index levels are for indicative purposes only and as such are not subject to recalculation.

Coin Metrics does not accept any responsibility to stakeholders for the accuracy of CMBI levels. Further, Coin Metrics accepts no liability for any losses, damages or claims that result from any inaccuracies that arise from the CMBI determination process.

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The respective Index Manager and/or the Index Committee are ultimately responsible for the decision to restate an index. As part of the decision process to restate an index level, both parties consider the impact to stakeholders and the market. The Index Manager can make decisions to recalculate an index without the involvement of the Index Committee in the following event:

- The recalculation event is discovered and can be resolved within two days of the respective close
- The recalculation event will result in a less than 1.0% change to the index close level.

Index governance committees use the following guidelines when determining the necessity of index recalculation and level restatement:

Event	Issue	Index Recalculation	Comment
Fork / airdrop	Incorrect application of legitimacy	Y	Recalculate historical index levels
	Missed fork or airdrop	Y	Recalculate historical index levels
Index constituent changes	Asset incorrectly added to or omitted from an Index	N	Amend constituent selection at the next rebalancing
	Incorrect weighting applied to constituents	N	Amend constituent weighting at the next rebalancing
Incorrect close price	Single asset	Y	Regardless of whether or not this is an exchange issue or a Coin Metrics Reference Rate issue, indexes are recalculated if the impact materially affects the stated index level
	All assets	Y	Regardless of whether or not this is an exchange issue or a Coin Metrics Reference Rate issue indexes are recalculated if the impact materially affects the stated index level
Index calculation issue	Index did not calculate	Y	Recalculate index
	Index calculated with incorrect constituent data or weighting data	Y	

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The Internal Index Committee is responsible for evaluating the practicality of recalculating an index's level(s) in the event its methodology has been misapplied and resulted in an index having the incorrect composition and/or constituent weightings. Whilst the committee has the final decision it can refer to the Oversight Committee for additional guidance if required.

The Index Committee will refrain from, and is unlikely to, retroactively changing an index's composition and/or constituent weightings. Rather, the Index Committee is likely to set a future date that provides CMBI users sufficient notice from the announcement date to the effective date (i.e. when the identified error is amended). Such a scenario may arise if:

- The Index Committee discovers a constituent does not meet an index's eligibility criteria as outlined in the methodology and should not have been added to the index
- The incorrect application of a methodology for determining an index's composition or constituent weights is discovered
- An error discovered in the data that has been utilized for determining an index's composition or constituent weights is discovered.

8 EXPERT JUDGEMENT

8.1 EXPERT JUDGEMENT

During the index determination process for any CMBI product, Coin Metrics reserves the right to exercise expert judgment for exceptional and / or unforeseen situations where treatment of an exceptional event has not been clearly defined in the methodology.

Expert Judgment exclusively relates to Coin Metrics use of discretion during the index determination process, specifically relating to interpretations of input data, extrapolation or adjustments to input data and treatment of unique on-chain events such as forks and airdrops. Expert Judgment does not extend to changes to an index's methodology.

Coin Metrics maintain internal records that record and detail the use of expert judgment in relation to any CMBI calculation. This report is reviewed monthly by the Index Committee and is made available to the Oversight Committee for comment and assessment.

8.2 DISCRETION

The Coin Metrics Index Committee has the right to apply discretion that differs from a published CMBI methodology under particular circumstances and conditions. Reasons that discretion may be applied include: avoiding unnecessary turnover, overcoming excessive index adjustments, market disruptions, or data quality gaps.

9 RETENTION OF DATA

Coin Metrics will retain all official CMBI Benchmark index levels and the data inputs required to attain those levels for a minimum of 5 years. Official CMBI levels are those published daily at 1600 ET.

Coin Metrics will retain all data inputs required for the selection and weighting of constituents during the rebalancing process for CMBI Benchmarks for a minimum of 5 years.

Coin Metrics will retain constituent 'real-time' pricing data used to provide CMBI Benchmark intraday indicative index levels for a minimum of 2 weeks.

Coin Metrics retains records, for at least five years, on the following items:

1. All CM Reference Rate data that is collected and used in the daily official level calculation
2. All data used to determine the eligibility of assets in CMBI products (e.g. 30 day volume data)
3. Any register logging the use of expert judgment in the calculation of the Reference Rates
4. The identities of staff responsible for the calculation of CMBI levels
5. Any register logging the responses, questions, or complaints received in connection with the calculation of CMBI levels

10 INDEX PRICING POLICY

Index levels and returns are determined using transacted cryptoasset prices from the Coin Metrics vetted markets as determined by the 'Coin Metrics market selection framework'. No quote (bid or ask) data, derivative data or estimations are used as an estimation of constituent price levels.

10.1 REAL-TIME INDEX PRICING

Real-time index pricing is not streaming but conducted at fixed intervals (e.g. every 15 seconds) as defined in each index's methodology.

CMBI intraday index level and return calculations leverage the CM Real-Time Reference Rates. For each cryptoasset, the real-time reference rate is derived from the most recent trade data available from whitelisted markets and by applying an exchange volume-weighted median. Please refer to the CM Real-Time Reference Rate Methodology for detailed information on the aggregate price calculation per cryptoasset.

10.2 END OF DAY INDEX PRICING

Official CMBI levels are produced daily at 1600 ET.

CMBI end-of-day index level and return calculations leverage the CM Hourly Reference Rates. For each cryptoasset, the hourly reference rate is derived by applying a volume-weighted median price to trade data that has been collected over a 61-minute interval. Please refer to the CM Hourly Reference Rate Methodology for detailed information on the aggregate price calculation per cryptoasset.

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Determination of CMBI levels is dependent on the availability of data from CM Reference Rates. To the extent where there are not enough markets to inform a Coin Metrics Reference Rate, Coin Metrics will act as follows:

- In the case of a market's closure, temporary suspension of trading or an outage, Coin Metrics will reference the latest available CM Hourly Reference Rate
- In the case of on-chain events (e.g. a fork) that result in a market's trading suspension, Coin Metrics will reference the latest available CM Hourly Reference Rate.

All decisions relating to unavailability of data for the determination of a CMBI level will be made by the Index Committee who may exercise Expert Judgment in exceptional circumstances or in the event of prolonged data unavailability.

11 CRYPTO CORPORATE ACTION TREATMENT

11.1 FREE FLOAT SUPPLY BANDING UPDATES

Changes to a cryptoasset's Adjusted Free Float Supply follow a 10% rule that is applicable to all CMBI market capitalization weighted indexes. Through applying the 10% rule, CMBI strives to reduce unnecessary turnover in favor of aggregating small issuances of cryptoasset units into a fixed band. Adjusted Free Float Supply bands are reviewed, and if required updated, as part of the monthly index rebalance process. For more information on the treatment of Adjusted Free Float please refer to the [CMBI Float Adjustment Methodology](#).

11.2 FORK LEGITIMACY

Coin Metrics treatment of hard forks that result in the creation of a new forked token is outlined in the [CMBI Fork Legitimacy Policy](#) documentation.

11.3 AIRDROP LEGITIMACY

Coin Metrics do not currently deem airdrops as eligible for a liquidation event in any CMBI product.

11.4 STAKING

Coin Metrics do not currently include rewards from staking cryptoassets as a 'value creation' event in any CMBI product.

12 MARKET EVENT TREATMENT

12.1 UNEXPECTED MARKET/EXCHANGE CLOSURE

Cryptoasset markets and exchanges currently largely operate in jurisdictions that have either provided loose guidelines and oversight or no guidance and oversight. As such, their behavior can be unexpected and they are subject to greater risk than traditional capital market exchanges. Unexpected market/exchange closures can be more frequent and are defined as full or partial restriction of trading. Unexpected closures usually result from unforeseen circumstances such as natural disasters, outages, peculiar activity of the exchange's custodian practices, detected manipulative trading on the exchange or other events.

Since cryptoassets trade globally on multiple venues, CMBI has elected to utilize CM Reference Rates which represent an aggregated view of the market. The aggregated price is not dependent on any single exchange or market and as such can continue to perform and deliver pricing through the unexpected closure of a market or exchange.

In the event that sufficient markets become subject to closures and CM Reference Rates are unable to produce accurate pricing, CMBI products will likely perform in the following way:

- Index calculation will be temporarily suspended for as long as it is expected for the closed markets to be unavailable
- If markets are expected to be closed for an extended period of time that will prevent any CMBI product from producing a 1600 ET closing level, the most

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recently available CM Hourly Reference Rate will be utilized for the impacted daily close.

Rebalancing

If an exchange or market unexpectedly closes and impacts the production of CM Hourly Reference Rates such that a CMBI close is impacted on a Reference Date or Effective Date, the impacted date will be moved to the next day that CMBI can generate a close price from the CM Hourly Reference Rates.

Contact Information

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