



CF Digital Asset Category Index

Market Cap Weight (Capped) Variants

Methodology Guide v1.5

November 2022

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1 Version History

Version	Date Issued	Summary of Change	Owner
V1.0	13 Jan 2022	n/a	CF Benchmarks Management
V1.1	25 Feb 2022	Addition of CF Web3.0 Services Index. Update to Pricing Sources	CF Benchmarks Management
V1.2	18 Mar 2022	Update to Determination Time Definition of Aggregated Weight	CF Benchmarks Management
V1.3	29 July 2022	Parameter Tables: Updated Minimum Full Market Capitalization to Minimum Full Market Capitalization Ratio.	CF Benchmarks Management
V1.4	6 Sept 2022	Update to index constituents and observation windows.	CF Benchmarks Management
V1.5	17 Nov 2022	Change Return Factor equation Update to Constituent List	CF Benchmarks Management

2 Introduction

2.1 Index Aims

The CF Blockchain Category Index (the “*Index*”) seeks to track the performance of specific Categories or Sub-Categories within the **CF Digital Asset Classification Structure (DACs)**, through a portfolio of Digital Assets that are native to the protocols, information networks and blockchain networks that adhere to the Category or Sub-Category definition described in the sections below.

The Index has been designed to be investible and to be used as a benchmark as defined by **EU Benchmark Regulations (“EU BMR”)** including for:

- The performance benchmarking of actively managed portfolios of Digital Assets and determine relative performance
- The passive replication in investment funds and financial instruments and products
- The settlement of financial instruments including derivative contracts
- As a means of valuing or “marking to market” portfolio holdings of digital assets.

2.2 Requirements

For the Index to meet its stated aims it must be:

- Representative

To achieve true representation of the **CF DACS** Category or Sub-Category, it is necessary to construct a portfolio that ensures exposure to blockchains associated with delivery of the technology and functionality of the CF Classification Category or Sub-Category. For example, whilst many observers would associate the “smart contract” phenomenon with their use through sector specific Decentralized Applications (DApps), it is important to note that such “smart contracts” operate on a settlement blockchain, network fees are paid in the token native to a settlement blockchain and the transfer of assets are those that are either native to a settlement blockchain or those that have been tokenised to be compatible for transfer on a settlement blockchain.

- Replicable
 - In addition to selection of Index portfolios that fall within specific categories and subcategories of the CF DACS minimum market capitalisations, asset

turnover ratios are also employed to minimise any liquidity risks. Furthermore, at index reconstitution buffers are also employed to minimise transaction costs. Index portfolios that are comprised of digital assets falling within specific categories and sub-categories may become overly concentrated when weighted by free float market capitalisation. Conversely where constituents are equally weighted investors could be exposed to significant liquidity risks for the digital assets with lower market capitalisations. To mitigate these risks index variants will employ weight capping or modified market cap weight and equal weighting for constituents, each variant is defined in the **Index Parameters** table. To mitigate against transaction costs and liquidity risks constituent buffering is also employed at reconstitution.

- Reliable
 - The Index shall be capable of calculation and administration in a reliable and robust manner in accordance with all CF Benchmarks Administration Policies and the provisions of **EU BMR**.

2.3 Underlying Economic Reality

The Index is intended to measure the underlying economic reality of the value of the base assets in units of the quoted currency as held in a portfolio weighted to seek to deliver returns of a Category or Sub-category of digital assets. This is achieved by observing the exchange of the base assets for the quote asset and vice versa. This is accomplished using transactional input data from Constituent Exchanges, the criteria for eligibility for which are available in the CF Constituent Exchange Criteria.

3 Index Parameters

3.1 Portfolio Composition

The Index Portfolio shall be constituted of digital assets that fall into the relevant CF Classification Sub-Category or Category as detailed in the **CF DACS** Methodology. Such categories and sub-categories as may be updated from time to time in the CF Classification Methodology.

	Category	Sub- Category
Digital Assets	Sector Applications	DeFi
		Culture
		Industry
	Services	Information
		Scaling
	Settlement	Programmable
		Non-Programmable

3.2 Eligible Index Constituents

The Index constituents shall be assets which are eligible under **CF Digital Asset Index Family - Multi Asset Series Ground Rules - Section 2** for Asset Safekeeping, Liquidity, and Asset Turnover. The parameters of this screening are included in the **Index Parameter Table**.

Additionally, to be eligible for inclusion in the index, Constituents shall have a Full Market Capitalization that is above the **Minimum Full Market Cap** for the Index as defined in the Index Parameters. Full Market Capitalization shall be calculated in accordance with Section 4.2 of **CF Digital Asset Index Family - Multi Asset Series Ground Rules**.

In accordance with **CF Digital Asset Index Family - Multi Asset Series Ground Rules - Section 3.2** at Constituent Review dates buffering for existing index constituents shall be employed

to avoid unnecessary portfolio churn, all buffering parameters are published in the **Index Parameter Table**.

Digital Assets that are, by their design, pegged to the value of other assets such as but not limited to fiat currency (“stablecoins”), a physical commodity or another Digital Asset, are not eligible for inclusion. Digital assets whose status is ambiguous or has been questioned by Regulatory and Supervisory Authorities of major jurisdictions including but not limited to the United States of America, the European Union and the United Kingdom are also not eligible for inclusion.

The eligible constituents for a Category or Sub-Category Index shall include all protocols that are classified as part of such Category or Sub-Category in accordance with the **CF Digital Asset Classification Methodology** at the time of the index reconstitution.

As per the **CF Digital Asset Index Family - Multi Asset Series Ground Rules – Section 2** to be able to reliably determine the pricing of any constituent of the Index any Digital Asset that is not listed on 2 (two) or more constituent exchanges shall not be eligible for inclusion. The value of this parameter can be modified if specified in the **Index Parameter Table**.

3.3 Index Denomination

The Index is denominated in a unique fiat base currency as outlined in the **Index Parameter Table**.

3.4 Index Return Types

The index is available in two return variants:

- **Total Return:** Inclusive of distributions (such as forks, airdrops amongst others) and deductions - the definition and treatment of distributions and deductions are defined in the **CF Digital Asset Index Family - Multi Asset Series Ground Rules – Section 7 Treatment of Distributions & Section 8 Treatment of Deductions**
- **Price Return:** Exclusive of distributions but inclusive of deductions

3.5 Calculation & Publication Frequency

The Index shall be calculated once a day at a time as defined in the Index Parameter Table and published soon after, 365 days a year.

3.6 Constituent Reviews

Constituent Reviews are carried out twice a year as described In the ***CF Digital Asset Index Family - Multi Asset Series Ground Rules - Section 3 Constituent Review***. Where it is prudent to do so the number of constituents for any index shall be capped and appropriate buffers will be employed, the exact buffering parameters are shown in the Parameter Table.

3.7 Constituent Weighting

The constituents are weighted as follows:

Allocated using a weighting method as outlined in the **Index Parameter Table** across Constituent Eligible protocols within the Classification Category or Sub-category to ensure adequate index exposure to a wide range of blockchain activities without hindering replication through the inclusion of small capitalization assets. As the crypto ecosystem matures and more meta data that may be used to inform constituent weights becomes available in the future, the Index Administrator may consider additional metrics in selecting assets to ensure the Index adequately represents the Category or Sub-category activities.

3.8 Index Constituent Pricing Sources (Input Data)

The Index Constituent Pricing Source shall be the CF Benchmarks Reference Rates available on www.cfbenchmarks.com or other CF Benchmarks pricing sources that utilise the same calculation methodology as CF Benchmarks single Asset Reference and Settlement Prices - see Parameter table for observation windows and partition lengths.

The respective methodologies for each of these pricing benchmarks is available at <https://www.cfbenchmarks.com/documentation>

Should these sources become permanently unavailable then ***CF Digital Asset Index Family - Multi Asset Series Ground Rules - Section 6 Input Data Hierarchy*** shall be applied after review by the CF Digital Asset Index Family Oversight Function.

3.9 Rebalance Frequency

The Index shall be rebalanced per the frequency defined in the Index Parameters per the procedures described in the ***CF Digital Asset Index Family - Multi Asset Series Ground Rules – Section 6 Rebalance Procedure***.

3.9.1 Rebalance Determination Point

16:00:00 UTC on the day which is 8 business days prior to the Rebalance Implementation Point.

3.9.2 Rebalance Implementation Point

At the Index Calculation & Publication time on the first business day of Rebalance month.

3.9.3 Rebalance Determination Pricing Sources

The Index Rebalance Determination Pricing Source shall be the CF Benchmarks Reference Rates available on www.cfbenchmarks.com or other CF Benchmarks pricing sources that utilise the same calculation methodology as CF Benchmarks single Asset Reference and Settlement Prices - see Parameter table for observation windows and partition lengths.

The respective methodologies for each of these pricing benchmarks is available at <https://www.cfbenchmarks.com/documentation>

Should these sources become permanently unavailable then ***CF Digital Asset Index Family - Multi Asset Series Ground Rules - Section 6 Input Data Hierarchy*** shall be applied after review by the CF Digital Asset Index Family Oversight Function.

4 Parameter Table

4.1 Index Parameter Table

Index Name	CF Web 3.0 Smart Contract Platforms Index – London Variant
Ticker (Price Return)	CFSPMWLDN_PR
Ticker (Total Return)	CFSPMWLDN_TR
Inception Date	01 December 2021
Inception Value	1,000
Base Currency	USD
Constituents	All Digital Assets within the Settlement Networks Sub-Category - Programmable that meet all Eligibility Requirements and existing constituents that fall within the constituent buffering parameter at Index Reconstitution.
Constituent Pricing Sources	CF Benchmarks Pricing Sources
Constituent Selection Method	CF Digital Asset Classification Structure Methodology and the CF Digital Assets Multi-Asset Series Ground Rules
Return Types	<ul style="list-style-type: none"> ● Total Return ● Price Return
Calculation & Publication Time	Between 16:05 and 16:30 London time
Calculation & Publication Frequency	Once a day, 365 days a year.
Constituent Minimum Full Market Capitalization Ratio	0.10%
Constituent Minimum Liquidity Requirement	0.05%

Constituent Minimum Monthly Asset Turnover	2%
Buffers for Exclusion of an Existing Constituent at Reconstitution	<ul style="list-style-type: none"> - 50% of the Minimum Full Market Cap - 50% of the Minimum Liquidity Ratio - 50% of the Minimum Turnover Ratio
Constituent Weighting	Market Capitalization Weighted
Weighting Caps	22.5%
Weighting Floors	None
Rebalance Frequency / Month	Quarterly – 1 st business day of March, June, Sep, Dec.
Rebalance Determination Time	16:00:00 UTC on the day which is 8 business days prior to the Rebalance Implementation Point
Rebalance Implementation Time	On the Calculation & Publication time, on the first business day of Rebalance month.

Index Name	CF Web 3.0 Smart Contract Platforms Index - Brazil Variant
Ticker (Price Return)	CFSPMWBRT_PR
Ticker (Total Return)	CFSPMWBRT_TR
Inception Date	01 December 2021
Inception Value	1,000
Base Currency	USD

Constituents	All Digital Assets within the Settlement Networks Sub-Category - Programmable that meet all Eligibility Requirements and existing constituents that fall within the constituent buffering parameter at Index Reconstitution.
Constituent Pricing Sources	CF Benchmarks Pricing Sources
Constituent Selection Method	CF Digital Asset Classification Structure Methodology and the CF Digital Assets Multi-Asset Series Ground Rules
Return Types	<ul style="list-style-type: none"> ● Total Return ● Price Return
Calculation & Publication Time	Between 16:05 and 16:30 Brazil time
Calculation & Publication Frequency	Once a day, 365 days a year.
Constituent Minimum Full Market Capitalization Ratio	0.10%
Constituent Minimum Liquidity Requirement	0.05%
Constituent Minimum Monthly Asset Turnover	2%
Buffers for Exclusion of an Existing Constituent at Reconstitution	<ul style="list-style-type: none"> - 50% of the Minimum Full Market Cap - 50% of the Minimum Liquidity Ratio - 50% of the Minimum Turnover Ratio
Constituent Weighting	Market Capitalization Weighted
Weighting Caps	22.5%
Weighting Floors	None
Rebalance Frequency / Month	Quarterly – 1 st business day of March, June, Sep, Dec.

Rebalance Determination Time	16:00:00 UTC on the day which is 8 business days prior to the Rebalance Implementation Point
Rebalance Implementation Time	On the Calculation & Publication time, on the first business day of the Rebalance month.

Index Name	CF Web 3.0 Smart Contract Platforms Index – US Variant
Ticker (Price Return)	CFSPMWUS_PR
Ticker (Total Return)	CFSPMWUS_TR
Inception Date	01 December 2021
Inception Value	1,000
Base Currency	USD
Constituents	All Digital Assets within the Settlement Networks Sub-Category - Programmable that meet all Eligibility Requirements and existing constituents that fall within the constituent buffering parameter at Index Reconstitution.
Constituent Pricing Sources	CF Benchmarks Pricing Sources
Constituent Selection Method	CF Digital Asset Classification Structure Methodology and the CF Digital Assets Multi-Asset Series Ground Rules
Return Types	<ul style="list-style-type: none"> ● Total Return ● Price Return
Calculation & Publication Time	Between 16:05 and 16:30 US EST time
Calculation & Publication Frequency	Once a day, 365 days a year.
Constituent Minimum Full Market Capitalization Ratio	0.10%

Constituent Minimum Liquidity Requirement	0.05%
Constituent Minimum Monthly Asset Turnover	2%
Buffers for Exclusion of an Existing Constituent at Reconstitution	<ul style="list-style-type: none"> - 50% of the Minimum Full Market Cap - 50% of the Minimum Liquidity Ratio - 50% of the Minimum Turnover Ratio
Constituent Weighting	Market Capitalization Weighted
Weighting Caps	22.5%
Weighting Floors	None
Rebalance Frequency / Month	Quarterly – 1 st business day of March, June, Sep, Dec.
Rebalance Determination Time	16:00:00 UTC on the day which is 8 business days prior to the Rebalance Implementation Point
Rebalance Implementation Time	On the Calculation & Publication time, on the first business day of the Rebalance month.

Index Name	CF Web 3.0 Blockchain Infrastructure Index - Brazil Variant
Ticker (Price Return)	CFBSMWBRT_PR
Ticker (Total Return)	CFBSMWBRT_TR
Inception Date	01 March 2022
Inception Value	1,000

Base Currency	USD
Constituents	All Digital Assets within the CF DACS Services Category that meet all Eligibility Requirements and existing constituents that fall within the constituent buffering parameter at Index Reconstitution.
Constituent Pricing Sources	CF Benchmarks Pricing Sources
Constituent Selection Method	CF Digital Asset Classification Structure Methodology and the CF Digital Assets Multi-Asset Series Ground Rules
Return Types	<ul style="list-style-type: none"> ● Total Return ● Price Return
Calculation & Publication Time	Between 16:05 and 16:30 Brasilia time
Calculation & Publication Frequency	Once a day, 365 days a year.
Constituent Minimum Full Market Capitalization Ratio	0.10%
Constituent Minimum Liquidity Requirement	0.05%
Constituent Minimum Monthly Asset Turnover	2%
Buffers for Exclusion of an Existing Constituent at Reconstitution	<ul style="list-style-type: none"> - 50% of the Minimum Full Market Cap - 50% of the Minimum Liquidity Ratio - 50% of the Minimum Turnover Ratio
Constituent Weighting	Market Capitalization Weighted
Weighting Caps	22.5%
Weighting Floors	None

Rebalance Frequency / Month	Quarterly – 1 st business day of March, June, Sep, Dec.
Rebalance Determination Time	16:00:00 UTC on the day which is 8 business days prior to the Rebalance Implementation Point
Rebalance Implementation Time	On the Calculation & Publication time, on the first business day of the Rebalance month.

4.2 Constituent Observation Windows and Partition Lengths

Index Calculation Time Zone:

- London Variant: British Standard Time (BST)
- Brazil Variant: Brasilia Standard Time (BRT)
- US Variant: US Eastern Standard Time (EST)

CF Web 3.0 Smart Contract Platforms	Partition Length	Partition Count	Index Calculation Time Zone	
			Window Start	Window End
ETH	5 mins	12	15:00	16:00
ADA	5 mins	12	15:00	16:00
SOL	5 mins	12	15:00	16:00
DOT	5 mins	12	15:00	16:00
ALGO	5 mins	12	15:00	16:00
XTZ	5 mins	12	15:00	16:00
ATOM	5 mins	12	15:00	16:00
AVAX	5 mins	12	15:00	16:00
EOS	10 mins	9	14:30	16:00
ETC	5 mins	12	15:00	16:00
ICP	5 mins	12	15:00	16:00

CF Web 3.0 Blockchain Infrastructure	Partition Length	Partition Count	Index Calculation Time Zone	
			Window Start	Window End
GRT	5 mins	12	15:00	16:00
LINK	5 mins	12	15:00	16:00
MATIC	5 mins	12	15:00	16:00
LRC	5 mins	12	15:00	16:00
OMG	5 mins	12	15:00	16:00
SKL	5 mins	12	15:00	16:00
QNT	5 mins	12	15:00	16:00
IMX	5 mins	12	15:00	16:00
BICO	5 mins	12	15:00	16:00

4.3 Expert Judgement

The Administrator does not utilise expert judgment in the day-to-day calculation of the index. In extraordinary circumstances Expert Judgement may be exercised by the Administrator in the calculation, constituent review and rebalance procedure for the index. This will be done in accordance with its codified policies and processes which are available upon request.

5 Index Calculation Method

5.1 Definitions

Symbol	Name	Description
t	Effective time	The time at which the index is calculated
r_i	Rebalance Determination Time	The time when the rebalance parameters are determined for the i^{th} rebalance
k_i	Rebalance Implementation Time	The time when the rebalance parameters are implemented for the i^{th} rebalance
$c \in C_i$	Index Constituents	The list of constituents that are determined to be index constituents for the i th rebalance
p_t^c	Constituent Pricing Source	The price of constituent c at time t
q_t^c	Determination Price	The price of constituent c used at time t used for rebalance, distribution and deduction. Note that this may be different from the Constituent Pricing Source
$w_{k_i}^c$	Initial weight	The weight of constituent c before capping and flooring
$w'_{k_i}^c$	Modified weight	The weight of constituent c after capping and flooring
$g_{k_i}^c$	Relative supply	The relative supply of constituent c before capping and flooring
$g'_{k_i}^c$	Modified relative supply	The relative supply of constituent c after capping and flooring
d_{k_i}	Divisor	Divisor used for the i^{th} rebalance
R_t	Return factor	Return factor at time t
A_{r_i}	Return amount	Return amount used for the i^{th} rebalance
I_t	Index value	Index value at time t
C	Capping percentage	The maximum weight of a constituent in %
F	Flooring percentage	The minimum weight of a constituent in %

Usage of Parameters between Variants: Parameters q_i^c , p_t^c , R_{k_i} , A_{r_i} and I_t are different between variants of this index family. Each section shall apply to each variant independently, except for those equations which have parameters marked with the variant label:

Type	Label
Spot Rate	RTI
Settlement Price	RR
Total Return	TR
Price Return	PR

5.2 List of Methodologies

The index value is some factors times the sum for all constituents of the products of the constituent's supply and price:

$$I_i^B = \frac{R_t}{d_i} \sum_{c \in C_1} price(c, i) * supply(c, i)$$

Where B is a basket index.

Where R_t is to account for distributions and deductions.

Where d_i is the divisor needed for the index value to be continuous. More precision on the formula in Section 5.3.5.

The constituents' prices are given by the rebalance pricing source described in Section 3.8.

The Index weighting methodology must be one of the following:

1. Fix weight for all constituents.
2. Free Float Market Capitalisation for all constituents.

5.3 Weights Calculation

The relative supply $g_{k_i}^c$ and the weight $w_{r_i}^c$ relation is the following:

$$\{ g_{k_1}^c p_{k_1}^{c,RTI} = w_{k_1}^c I_{k_1} \quad i \geq 2, \quad g_{k_i}^c q_{k_i}^c = w_{r_i}^c \sum_{a \in C_i} g_{k_{i-1}}^a q_{k_i}^a \quad (1)$$

The same relation is also valid between the modified relative supply $g_{k_i}^{c'}$ and the modified weight $w_{k_i}^{c'}$:

$$\{ g_{k_1}^{c'} p_{k_1}^{c,RTI} = w_{k_1}^{c'} I_{k_1} \quad i \geq 2, \quad g_{k_i}^{c'} q_{k_i}^c = w_{r_i}^{c'} \sum_{a \in C_i} g_{k_{i-1}}^a q_{k_i}^a \quad (2)$$

The Index initial value is $I_{k_1} = 1000$ if not specified otherwise in the Index Parameter Table.

Case 1: Fix Weights

The fix initial weights are given as inputs. The modified weights are given by capping and flooring the initial weights. The modified relative supply is inferred using the equation (2) above.

Case 2: Free Float Market Capitalisation

The Free Float Market Capitalisation is based on the Total Supply Likely to be Available for Trading as detailed in **CF Benchmarks Multi Asset Index Ground Rules – Section 4 Constituent Weighting**.

The initial weights are inferred using equation (1). The modified weights are given by capping and flooring the initial weights. The modified relative supply is inferred using the equation (2) above.

Example:

Fixed weight index composed of two asset A and B with the following parameters:

$$\{ w^A = 50\% \quad w^B = 50\% \quad , \quad \{ p_{k_1}^{A,RTI} = 50 \quad p_{k_1}^{B,RTI} = 25 \quad , \quad I_{k_1}^{RTI} = 1000, C=100\% \text{ and } F=0\%.$$

The modified weights are equal to the initial weights as there is no capping or flooring:

$$\{ w'^A = 50\% \quad w'^B = 50\%$$

At $T=k_1$:

$$\begin{aligned} \text{using (eq 2): } \{ g'_{t_1}{}^A &= \frac{w'^A * I_{k_1}^{RTI}}{p_{k_1}^{A,RTI}} = \frac{0.5 * 1000}{50} = 10 \text{ (unit A)} & g'_{t_1}{}^B &= \frac{w'^B * I_{k_1}^{RTI}}{p_{k_1}^{B,RTI}} \\ &= \frac{0.5 * 1000}{25} = 20 \text{ (unit B)} \end{aligned}$$

At $T=k_2$:

The suppose the rebalancing price is now:

$$\{ q_{k_2}^A = 50 \quad q_{k_2}^B = 40$$

The index value before rebalancing is the following:

$$\sum_{c \in C_1} g'_{k_1}{}^c q_{k_2}^c = 10 * 50 + 20 * 40 = 1300$$

Hence the new relative supply is:

$$\begin{aligned} \text{using (eq 2): } \{ g'_{k_2}{}^A &= \frac{w'^A * \sum_{c \in C_1} g'_{k_1}{}^c q_{k_2}^c}{q_{k_2}^A} = \frac{0.5 * 1300}{50} = 13 & g'_{k_2}{}^B \\ &= \frac{w'^B * \sum_{c \in C_1} g'_{k_1}{}^c q_{k_2}^c}{q_{k_2}^B} = \frac{0.5 * 1300}{40} = 16.25 \end{aligned}$$

5.4 Capping and Flooring

All methodology can apply a cap and floor on the constituents' weights. The case where no cap and floor are used is equivalent to a floor of 0% and a cap of 100%. Therefore, the following methodology is unique whether a cap and/or floor is applied.

The Capping value C and Flooring value F is given in the **Index Parameter Table**. The minimum capping and maximum flooring are: 1/ number of constituents.

Any constituent whose weight is greater than C is capped at C. Similarly, any constituent whose weight is smaller than F is floored at F. The **Aggregated Weight** to distribute is the difference between the weights lost due to capping and the weights added due to flooring.

Where the **Aggregated Weight** is positive, it shall be distributed proportionately on the constituents that are not capped. Where the **Aggregated Weight** is negative, it shall be subtracted proportionately from the constituents that are not floored.

This process is repeated until all constituents' weights are above or equal to F and below or equal to C.

5.5 Index Calculation

The index value at time t where $k_i \leq t < k_{i+1}$ is given by

$$I_t = \frac{R_t}{d_{k_i}} \sum_{c \in C_i} g'_{k_i}{}^c p_t^c$$

About R_t :

If the application point of distribution and deduction events is at time t , where $k_i \leq t < k_{i+1}$, let the Return Amount A_t be the sum of all Distribution Proceeds and Deductions Amounts from said events. Then the distribution adjustment factor shall be

$$R_t = R_{t-1} \left(1 + \frac{A_t}{\sum_{c \in C_i} g_t^c Q_t^c} \right) \quad (12)$$

Otherwise $R_t = R_{t-1}$.

About d_{k_i} :

The divisor is used to scale the index so that the value of the index is fixed at inception and continuous at each rebalancing. The divisor factor shall be:

$$\{d_{k_1} = \frac{1}{I_{k_1}} \sum_{c \in C_1} g'_{r_1}{}^c p_{k_1}^c \forall i \geq 2, d_{k_i} = d_{k_{i-1}} \cdot \frac{\sum_{c \in C_i} g'_{k_i}{}^c Q_{k_i}^c}{\sum_{c \in C_{i-1}} g'_{k_{i-1}}{}^c Q_{k_i}^c}$$

5.6 Metadata

The *index share* of a constituent is defined as the number of units of a constituent one needs to buy such that the composition of all constituents reproduces the value of the index.

Example:

The index value is 1000. Assume a return factor of 1.6.

$$share_i^c = \frac{R_{k_i}}{d_{k_i}} g'_{k_i}$$

Constituent	Price	Weight	Relative supply	Index share
A	\$5	50%	62.5	100
B	\$2	50%	156.25	250

6 Contingency Calculation Rules

There may be instances where the Index cannot be calculated according to the calculation methodology.

6.1 Delayed Calculation and Dissemination

Where any Constituent Pricing Source for the calculation of the index is delayed, missing or otherwise not available for any index calculation time the index value shall be deemed delayed, where no index value will be published. The index shall resume publication when valid Constituent Pricing Source(s) are published.

Where any Determination Price for the calculation of the index is delayed, missing or otherwise not available for a Rebalance, Distribution or Deduction Implementation Point, the index values(s) on and subsequent from Rebalance Implementation Point shall be deemed delayed, where no index value(s) will be published. The index shall resume publication when valid Determination Price(s) are published.

Where for the above or any reason the Administrator is not able to calculate and publish the index within the Dissemination Time on any given Calculation Day then the Administrator shall publish a notification on its website at blog.cfbenchmarks.com informing index users 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.

6.2 Calculation Failure

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

- A Constituent Pricing Source for the calculation time is not published, or published but not retrieved by the Calculation Agent before 23:59:59 London time
- A Determination Price for the Rebalance, Distribution or Deduction Implementation Point is not published, or published but not retrieved by the Calculation Agent before 23:59:59 London time
- Any other reason or circumstance that prevents the orderly calculation of the index

Then the index value for that calculation day is given by the index value on the previous calculation day and this index value shall be published with a marker of (*).

The occurrence of any index calculation failure is reported to the CF Oversight Function and announced at blog.cfbenchmarks.com

7 Restatement & Republishing

The Index is subject to restatement and republishing before 23:59:59 London time of any given Calculation Day due to republication of underlying Constituent Pricing Sources, or errors made by the Calculation Agent or its systems. The index shall not be subject to republishing after this time.

7.1 Restatement and Republishing of the Index Level

The Administrator shall only Restate and Republish the index on any given Calculation Day if the Administrator can restate and republish the index before 23:59:59 London of the given calculation day. The Administrator shall announce on its website that a restatement and republishing of the index will take place for that Calculation Day.

The Administrator shall restate the index as soon as possible after the restated Constituent Pricing Source has been published or the errors made by the Calculation Agent or its systems are acknowledged and shall do so by overwriting the previously published Index level. This restated index level will carry no mark when published and will be final and not subject to any further change or republication.

The index shall be not restated if any Determination Price is republished.

8 Methodology Review and Changes to the Index

This methodology is subject to internal review by the Administrator and the CF Digital Asset Index Family Oversight Function at least annually.

Any changes to this methodology are overseen by the CF Digital Asset Index Family Oversight Function, and in accordance with EU BMR Article 13.

All *material* changes to the methodology shall only be implemented after a consultation process with users and relevant stakeholders that shall be conducted according to the Administrator's policies and overseen by the CF Digital Asset Index Family Oversight Function.

Should the Administrator deem it necessary to cease providing the Index it shall only do so after a consultation process with users and relevant stakeholders that shall be conducted according to the Administrator's policies and overseen by the CF Digital Asset Index Family Oversight Function.