

# CMC MARKETS MARKET CAPITALISATION CRYPTO INDEX METHODOLOGY

Version 2, November 2021

## INDEX DESCRIPTION

### 1. Definitions:

“**Circulating Supply**” means the number of coins that are circulating in wallets and on exchanges regardless of dormancy. Analogous to “shares in issue” for equity markets;

“**CMC Markets**” means CMC Markets UK plc (registered number 02448409);

“**Index**” means the CMC Markets Major Crypto Index or the CMC Markets Emerging Crypto Index (as applicable);

“**Index Component**” means one of the individual crypto currencies used to construct the Index Price;

“**Index Launch Date**”, means the day on which the Index first begins pricing and from when the base value begins. See “Further Information” for further base value information;

“**Index Disruption Event**”, means any event such as a hard fork that results in a material change and split in the blockchain protocol of an Index Component (as defined in section 2 below), resulting in a non-market driven change in price or newly created crypto currency;

“**Index Rebalancing**”, means the adjustment made to an Index by the Index Review Panel post an Index Review Panel meeting.

“**Index Review Panel**” means the committee that reviews the Index composition at least on the Review Dates or at any other time and which is composed of at least three members of CMC Markets to be nominated and replaced from time to time by the Group Head of Trading of CMC Markets in London, 133 Houndsditch, London, EC3A 7BX;

“**Initial Index Value**” means \$10,000,000 calculated in accordance with section 3;

“**Qualifying Component**” means a component voted for inclusion within the Index by the Index Review Panel;

“**Rebalancing Date**” means the first Trading Day of the month following a Review Date;

“**Review Date**” means the third Friday of March, June, September or December of each year starting in 2019 or any other date as the Index Review Panel may determine in its sole discretion;

“**Substitution Event**” means the replacement of an Index Component as a result of an Index Disruption Event; and

“**Trading Day**” means any day that CMC Markets is open that is also a trading day on all the relevant exchanges for the Index Components (as defined in section 2 below) other than a day on which trading on any such relevant exchange is scheduled to close prior to its regular weekday closing time.

## 2. Initial Index Composition and Minimum Number of Index Components

On the Index Launch Date, the Index will initially comprise of the number of Index Components listed in Table 1 and Table 2 (section 7) as relevant, deemed suitable for inclusion by the Index Review Panel with weightings determined using each Index Component's market capitalisation, as calculated using the Circulating Supply on the Index Launch Date.

The Index Components will be weighted according to full market capitalisation on the Index Launch Date, which in turn will be based on the Initial Index Value. However, as an Index Component can have a very large market capitalisation in comparison to the others, the weight of those Index Components that exceed a weight of 40% will be capped and reduced to that value with the excess market capitalisation distributed proportionally across the other Index Components. The weightings of any uncapped Index Component that then fall below a 5% floor will be increased to that value taking proportional market capitalisation from any uncapped Index Component. If necessary, the cap and floor procedure will be applied just once on the Index Components and may result in an Index Component's final weight exceeding or falling below the 40% cap or 5% floor, but may be subject to review if there are less than the number of Index Components listed in Table 1 and Table 2 available, due to an Index Disruption Event.

At any time between an Index Rebalancing, an Index Component can be added or removed from the Index due to Index Disruption Events such as forks.

## 3. Index Composition and Method of Calculation

On the Index Launch Date (t=0) the Index value will have an Initial Index Value of \$10,000,000 (as calculated below).

$$IV_{(0)} = \sum_{i=1}^n X_{(i,0)} * P_{(i,0)}$$

Where:

$IV_{(0)}$  = Initial Index Value on Trading Day t=0

$X_{(i,0)}$  = Number of units of component i in the Index after cap and floor rules have been applied

$P_{(i,0)}$  = Price of component i in the Index on Trading Day t=0

n = Number of components in the Index on Trading Day t=0

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The price of the Index ("**Index Price**") will then be calculated using the following formula:

$$IP_{(s)} = \frac{\sum_{i=1}^n X_{(i,t)} * P_{(i,s)}}{D_{(t)}}$$

Where:

$IP_{(s)}$  = Current Index Price at time  $s$

$P_{(i,s)}$  = Last published CMC Markets bid or ask price of component  $i$  at time  $s$

$n$  = Number of components in the Index on Trading Day  $t$

$X_{(i,t)}$  = Number of units of component  $i$  in the Index on Trading Day  $t$  after cap and floor rules have been applied

$D_{(t)}$  = Index Divisor (as defined below) on Trading Day  $t$

The divisor is a number used to calculate the Index and set the Index Price at a base of 3,000 (“**Index Divisor**”). If the market capitalisation of the Index changes due to an event such as a fork, then a new Index Divisor will be calculated based on the close prices of the day before the Index Disruption Event to keep the Index Price the same.

#### 4. Index Disruption Event

If, in the determination of the Index Review Panel, an Index Disruption Event has occurred, the Index Review Panel will decide on the best course of action as to whether to remove or continue to include the Index Component within the Index. In either case, a new Index Divisor will be calculated using the prices of all Index Components at the time of the last price published before the Index Disruption Event of the affected Index Component.

#### 5. Quarterly Review of the Index

The Index shall be reviewed by the Index Review Panel on each Review Date. As of the December 2021 review, the selection and weighting process of each Index Component within the Major Crypto Index and the Emerging Crypto Index will be as follows.

On the Review Date, all Index Components will be assessed by market capitalisation as per their Circulating Supply and previous close price.

The Major Crypto Index and Emerging Crypto Index will then be reshuffled to ensure that the Major Index comprises of the top 5 Index Components by market capitalisation. Any crypto currencies outside of the top 5 will make up the Emerging Index.

Following the review, the weighting of any Index Component that breaches the cap or floor weight of the Index shall be reweighted as per the following method and a new number of units per Index Component calculated.

Any Index Component that exceeds a weight of 40% will be capped at 40% and adjusted to that value by reducing the Circulating Supply used for the Index calculation with the excess market capitalisation distributed proportionally across the other uncapped Index Components. If after this adjustment the distributed market capitalisation also increases another component above the 40% cap, the process will be repeated until all components satisfy the capping criteria.

A similar process will then be applied using a floor method with the weighting of any uncapped Index Component that is below 5%, adjusted to that value by increasing the Circulating Supply used for the Index calculation, taking proportional market capitalisation from any uncapped Index Component. If after this adjustment the distributed market capitalisation also reduces another component below the 5% floor, the process will be repeated until all components satisfy the floor criteria.

The basis for the rebalancing shall be the respective prices of the Index Components on the relevant Rebalancing Date whereby the Index value after the rebalancing shall be equal to the Index value immediately before the rebalancing.

If, in the determination of the Index Review Panel, an Index Disruption Event has occurred on any Rebalancing Date, the Rebalancing Date shall be postponed to the first succeeding Trading Day on which the Index Review Panel determines that there is no Index Disruption Event.

## 6. Index Component Substitution

The Index Review Panel will determine if each of the Index Components still qualifies as a Qualifying Component at each Review Date. If a Substitution Event occurs, the affected Index Component (the "**Outgoing Component**") shall be substituted by an alternative Index Component on the Rebalancing Date, subject to an Index Disruption Event.

The Index Review Panel shall substitute for such relevant Outgoing Component a new Index Component with effect from the Rebalancing Date.

If no Qualifying Component exists, the Index Component value of such Outgoing Component will be distributed proportionally in the remaining Index Components.

The basis for the substitution shall be the respective prices of the Index Components on the relevant Rebalancing Date.

## 7. Further Information

### **CMC Markets Major Crypto Index**

#### **General description:**

The CMC Markets Major Crypto Index tracks the performance of an initial 5 crypto currencies chosen by the Index Review Panel and deemed to be 5 of the largest crypto currencies by market capitalisation.

The Index was created with a base level of 3,000 as of 31<sup>st</sup> December 2018.

#### **Index Components on Index Launch Date:**

**Table 1**

Component i	Initial weighting w(i,0)
Bitcoin	40.00%
Ethereum	24.56%
XRP	25.44%
Bitcoin Cash	5.00%
Litecoin	5.00%

The percentage rounding error for the CMC Major Crypto Index is 0.0142%.

### **CMC Markets Crypto Emerging Index**

#### **General description:**

The CMC Markets Emerging Crypto Index tracks the performance of an initial 7 crypto currencies chosen by the Index Review Panel and deemed to be 7 of the most popular alternative coins.

The Index was created with a base level of 1,000 as of 31<sup>st</sup> December 2018.

**Index Components on Index Launch Date:**

**Table 2**

<b>Component i</b>	<b>Initial weighting w(i,0)</b>
EOS	26.61%
Stellar Lumens	24.72%
Cardano	12.18%
TRON	14.35%
Monero	8.82%
Dash	7.72%
NEO	5.60%

The percentage rounding error for the CMC Emerging Crypto Index is 0.1252%.