BP 10 Index Methodology

BitUP

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1 Preface

BP 10 consists of 10 constituent assets with the largest circulating market capitalization and liquidity from the entire universe of digital assets. Launched on June, 2018, the index aims to measure the performance of the digital asset market.

2 Index Universe

The index universe of BP 10 includes top 100 digital assets ranked by average daily circulating market capitalization of the most recent quarter in descending order.

3 Constituents Selection

Calculate the average daily trading value and average daily circulating market capitalization during the most recent quarter for digital assets in the index universe；
Rank the digital assets in the universe by average daily trading value of the most recent quarter in descending order and delete the bottom ranked 50% digital assets；
Rank the rest digital assets by average daily circulating market capitalization of the most recent quarter in descending order, and those which rank top 10 are selected as index constituents. Index constituents are updated every quarter (01/04/07/10-01 00:00:00 UTC).

4 Index Calculation

The unit of BP 10 index is "point", and the index level is rounded to 3 decimal places.

4.1 Base Date and Base Level

The base date is June 10, 2018. The base level is 1000.

4.2 Circulating Supply

To reflect the price fluctuation in the digital asset market, BP 10 adopts circulating supply to calculate index. Circulating supply is the best approximation of the number of coins that are circulating in the market and are available for trading, which is capable of reflecting real investment opportunities. Hence, BP 10 adopts circulating supply weighted method to calculate index.

4.3 Symbol Definition

m: Constituent asset 1-10

n: Time

$P_{m(n)}$: Price of constituent m at time n

$A_{m(n)}$: Circulating supply of constituent m at time n

$\varepsilon_{(n)}$: Index level at time n

4.4 Index Calculation Formula

$$\varepsilon_{(n)} = \frac{\sum P_{m(n)} A_{m(n)}}{\sum P_{m(n-1)} A_{m(n)}} \cdot \varepsilon_{(n-1)}$$

4.5 Index Dissemination Frequency

BP 10 is updated every 5 minutes. BitUP will decide whether or not to calculate the index in case of abnormal quotations from exchanges.

Appendix A: Index Calculation Explanation

A.1 Symbol Definition

m: Constituent asset 1-10

n: Time

$P_{m(n)}$: Price of constituent m at time n

$A_{m(n)}$: Circulating supply of constituent m at time n

$X_{(n)}$: Circulating market capitalization at time n

$Y_{(n)}$: Divisor at time n

$\varepsilon_{(n)}$: Index level at time n

A.2 Circulating Market Capitalization

$$X(n) = \sum P_{m(n)} A_{m(n)}$$

A.3 Initial Divisor

$$Y_0 = X_0 = \sum P_{m(0)} A_{m(0)}$$

A.4 Divisor Adjustment

When changes occur to constituent list or circulating supply, or constituents' market capitalization changes due to non-trading factors, BP10 adopts the "Divisor Adjustment Methodology" to adjust the old divisor to keep the index comparable.

$$Y_{(n)} = \frac{\sum P_{m(n-1)} A_{m(n)}}{\sum P_{m(n-1)} A_{m(n-1)}} \cdot Y_{(n-1)}$$

The new divisor derived from this formula is used for later index calculation.

A.5 Index Calculation Formula

$$\varepsilon_{(n)} = \frac{X_{(n)}}{Y_{(n)}} \times 1000$$

$$= \frac{\sum P_{m(n)} A_{m(n)}}{Y_{(n)}} \times 1000$$

$$= \frac{\sum P_{m(n)} A_{m(n)} \cdot \sum P_{m(n-1)} A_{m(n-1)}}{\sum P_{m(n-1)} A_{m(n)} \cdot Y_{(n-1)}} \times 1000$$

$$= \frac{\sum P_{m(n)} A_{m(n)}}{\sum P_{m(n-1)} A_{m(n)}} \cdot \varepsilon_{(n-1)}$$