



ASIA INDEXES  
信昇亞洲指數

ix CRYPTO INDEX  
加密貨幣指數

# Methodology

For Managing the  
IX Crypto Index

# Amendment History

	Date	Description
1.0	December 2018	First Issue
1.1	January 2020	Updated Constituents Enhancement Rule
1.2	September 2020	Updated Conflict of Interest Rule
1.3	April 2022	Updated (3.4) Liquidity Screening Updated (4.5) Buffer Rule Added (4.6)-(4.7) Step Capping Rule Updated (4.12) Constituents Enhancement Rule Added (7) Governance, (8) Changes to the Methodology, (9) Index Cessation and (11) Index Glossary

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## 1. Introduction

- 1.1. This document describes the general maintenance policies and detailed guidelines for the management of the ixCrypto Index.
- 1.2. The ixCrypto Index (“IXCI”) serves as a market benchmark that reflects the overall performance of the world crypto market.
- 1.3. The IXCI was launched on 12 December 2018 and is the earliest crypto market index in Hong Kong. The IXCI measures the performance of the largest and most liquid cryptocurrencies listed in the world.
- 1.4. The IXCI is a free float adjusted market capitalisation weighted index with a cap on the weighting of individual constituent cryptocurrency and is calculated and disseminated daily.
- 1.5. IX Asia Ltd reserves the right to determine the most appropriate implementation method and will announce it prior to the changes becoming effective as soon as practicable.

## **2. Management Responsibility**

### **IX Asia Indexes Company Limited (“IX Asia Indexes”)**

- 2.1. IX Asia Indexes is responsible for all aspects of the Benchmark Administration including the development of the Benchmark and the Benchmark Methodology in accordance with the Principles for Financial Benchmarks issued by The Board of the International Organisation of Securities Commissions (IOSCO) in July 2013. IX Asia Indexes is committed to bring transparency to the market which is critical for the financial market to function in an open and orderly manner. The benchmark methodology focuses on systematic and rules-based approach to properly reflect the underlying market. IX Asia Indexes is responsible for the ongoing operation of the Benchmark Administration process, including taking appropriate contingency measures in the event of unavailability of inputs, market disruption or failure of critical infrastructure.
- 2.2. IX Asia Indexes is responsible for monitoring market evolutions and any special actions and do adjustments to the Index Methodology.
- 2.3. IX Asia Indexes is responsible for the quarterly review of the index with review presentation, press release and factsheet.

### **3. Constituents Eligibility**

#### **Universe**

- 3.1. A cryptocurrency is included in the universe if it fulfils both the following eligibility criteria.
- (a) The cryptocurrency must fit the definition of a cryptocurrency [A Cryptocurrency is a digital asset designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets.]; and
  - (b) The cryptocurrency must be traded publicly, and have active tradable markets listed on at least two Exchanges for the entire period since the previous index review.

#### **Eligible Cryptocurrencies**

- 3.2. A cryptocurrency is eligible for constituent selection if it meets the market capitalization ranking and the liquidity screening selection as follows:

#### **Market Capitalization Ranking**

- 3.3. The cryptocurrency should be among the top n% free float adjusted market capitalization (“adjusted MC”) where n represents the total percentage after including the last eligible cryptocurrency and such percentage is targeted to achieve 80%.

#### **Liquidity screening**

- 3.4. The cryptocurrency should rank within an acceptable range in accordance with the Volume Buffer Rule in terms of 90-day average trading volume. The acceptable range under the Volume Buffer Rule varies in accordance to the number of existing constituents, which is at least 2.5 times the number of existing constituents, rounded up in increment of 25.
- 3.5. If the cryptocurrency in top N in terms of adjusted MC cannot meet the liquidity requirement, it will be kicked off and replaced by the next one or more eligible cryptocurrencies until the total coverage exceed 80%.

#### **Principles of Final Selection**

- 3.6. Cryptocurrencies meeting all of the above eligibility requirements will be considered for inclusion in the IXCI.

3.7. The final selection will be decided by IX Asia Indexes after the above criteria have been taken into consideration.

#### **Number of Constituents**

3.8. The number of constituents is a variable. It is subject to change after quarterly review when the above conditions are met.

#### **Conflict of Interest Rule (Effective Oct 2<sup>nd</sup>, 2020)**

3.9. To keep the index neutral and fair, the constituents of the ixCrypto Index will exclude the coins managed/ operated by any organizations that would have conflict of interest with ixCrypto Index, its index Administrator, IX Asia Indexes and its related organizations .

## 4. Index Review and Constituent Changes

### Regular Quarterly Review

- 4.1. IX Asia Indexes undertakes regular quarterly reviews of IXCI constituents with data cut-off dates of end of March, June, September and December each year. The review day will be every weekday of March, June, September, and December each year in HKT.
- 4.2. A quarterly review is normally completed within three weeks after the end of each calendar quarter.
- 4.3. In each review, there may or may not be constituent additions or deletions. Eligible candidates will be selected as constituents of the ixCrypto according to rules below.

### Buffer rule

- 4.4. In order to avoid frequent change of constituents, a 5% buffer zone is set for market capitalization. It means that, in term of adjusted MC, only when the sum of constituents' weights is below 75%, it need reconstitution.
- 4.5. Combining the buffer rule and liquidity requirement together, when the coverage falls below 75% or any existing constituent's 90-day average trading volume drop below the acceptable range specified in 3.5, a reconstitution will be conducted to select the new constituents according to principles stated in 3.2-3.8.

### Step Capping rule (effective 15<sup>th</sup> January 2021)

- 4.6. In extreme scenarios, Step Capping Rule is applied, changing from the current 40% capping rule on single constituents to a step cap of 40%/30%/20%. Before the change was made, single constituents could represent at most 40% weight in the index. After the change, only the largest weight constituent weighted by market capitalization can represent 40% of the index weight and the second largest constituent can only represent 30% and the remaining constituents with 20% maximum weight.
- 4.7. The Step Capping Rule will be triggered only when the following two conditions occur simultaneously:
  - a) the market cap gap between the largest constituent and the second largest constituent is too big with the ratio between the two falls below 30%;

b) the initial weight of the remaining constituents other than the top two is too small and falls below 9% of the total market cap.

### **Announcement and Effective Date**

4.8. Announcement dates of constituent changes will be the second Friday after the cut-off dates of March, June, September and December.

4.9. Effective dates of constituent changes will be the third Friday after the cut-off dates of March, June, September and December.

4.10. If the first Friday after the cut-off date is a Hong Kong public holiday, the announcement day and effective day will be postponed for one week, i.e. announcement day on the third Friday and effective day on the fourth Friday.

### **Fast entry rule**

4.11. At any time, a new crypto will be added if it meets below requirements for 5 consecutive days:

(a) Daily trading volume ranks top 2.

(b) Market capitalization is more than 30% weighting of the total market capitalization.

(c) The fast entry addition will normally be implemented after the close of the 10th trading day.

### **Constituents Enhancement Rule (effective 6<sup>th</sup> January 2020)**

4.12. The enhancement rule is exercised if there are more than one constituent which fail to meet the market capitalization ranking and liquidity screening, then at least two constituents will be removed and replaced by new constituents according to principles stated in 3.2 - 3.8.

## 5. Index Calculation

### Weighting Scheme

5.1. All constituents are initially weighted by their adjusted MC. In order to avoid overweighting, the maximum weight for any constituents is 40% (Cap) of the Index's adjusted MC. If a constituent exceeds the Cap, its weight will be reduced to the Cap and the excess weight shall be redistributed across all other constituents.

For example, the initial weights are as below.

	A	B	C	D	E
Initial Weight (%)	50	20	15	14.5	0.5

### Cap adjusted

$$w_{A,adjusted} = \min(w_{A,initial}, 40) = 40$$

$$w_{B,adjusted} = w_{B,initial} \times \frac{100 - w_{A,adjusted}}{100 - w_{A,initial}} = 24$$

$$w_{C,adjusted} = w_{C,initial} \times \frac{100 - w_{A,adjusted}}{100 - w_{A,initial}} = 18$$

$$w_{D,adjusted} = w_{D,initial} \times \frac{100 - w_{A,adjusted}}{100 - w_{A,initial}} = 17.4$$

$$w_{E,adjusted} = w_{E,initial} \times \frac{100 - w_{A,adjusted}}{100 - w_{A,initial}} = 0.6$$

So, the adjusted weights are as below.

	A	B	C	D	E
Adjusted Weight (%)	40	24	18	17.4	0.6

### Calculation Scheme

5.2. The Index level is calculated using the following formula:

$$CryptoIndex_t = \frac{\sum_{i=1}^x P_{i,t} \times S_i \times F_i}{D_t}$$

Where

$CryptoIndex_t$  = the index level on day t

$P_{i,t}$  = the report price for Constituent i on day t, in USD

$S_i$  = Circulating Supply for Constituent i in current quarter

$F_i$  = Cap factor for Constituent i,

$D_t$  = Index Divisor

$x$  = Number of constituents

5.3. The Cap Factor is calculated as:

$$F_i = \frac{w_{i, adjusted}}{w_{i, initial}}$$

Where

$F_i$  = Cap factor for Constituent i,

$w_{i, adjusted}$  = Cap adjusted weight for constituent i

$w_{i, initial}$  = Initial weight for constituent i

5.4. Initial Divisor is calculated as:

$$D_0 = \frac{\sum_{i=1}^x P_{i,0} \times S_i \times F_i}{Baseline}$$

Where

$D_0$  = Divisor on inception day

$P_{i,0}$  = the report price for Constituent i on inception day, in USD

$S_i$  = Circulating Supply for Constituent i in current quarter

$F_i$  = Cap factor for Constituent i

*Baseline = 1000, which is the inception index level*

$x$  = Number of constituents

## 6. Index Rebalancing

- 6.1. IX Asia Indexes undertakes regular quarterly index rebalancing with data cut-off dates of end of March, June, September and December each year.
- 6.2. The announcement and effective dates are consistent with reconstitution dates as stated in 4.6-4.7.

### Divisor adjustments

- 6.3. When constituents are changed, re-calculate the divisor using new constituents:

$$D_{new} = D_{old} \times \frac{\sum_{i=1}^x P_{i,t} \times S_i \times F_{i,new}}{\sum_{i=1}^n P_{i,t} \times S_i \times F_{i,old}}$$

Where

$D_{old}$  = Old Index Divisor in previous month

$P_{i,t}$  = the report price for Constituent  $i$  on day  $t$ , in USD

$S_i$  = Circulating Supply for Constituent  $i$  in current quarter

$F_{i,new}$  = *Cap* factor for Constituent  $i$  in new quarter

$F_{i,old}$  = *Cap* factor for Constituent  $i$  in previous quarter

$x$  = Number of new constituents

$n$  = Number of old constituents

## 7. Governance

### 7.1. IX Asia Indexes Advisory Committee

The Advisory Committee shall review, endorse and provide general comments on topics and matters presented by IX Asia Indexes at the quarterly committee meetings including:

- a) integrity and independence of IX Asia Indexes
- b) measures and procedures in place to avoid conflicts of interests
- c) audit reports and findings
- d) proposed procedures to discontinue or to transition existing index
- e) complaint handling
- f) integrity and reliability of data sources
- g) change to the index methodologies
- h) operation of IX Asia Indexes and related control
- i) audit report

7.2. For urgent matters such as incident reports, IX Asia Indexes will present and provide resolutions, proposals or options for Advisory Committee's decision within a week.

7.3. The Advisory Committee shall provide comment to the future development of new IX Asia Indexes by their professional knowledge and experience.

7.4. The Advisory Committee shall handle other issues and decisions on an as-needed basis.

7.5. For a detailed overview of the Index Management Committee, please see Rules and Guidelines For IX Asia Index Committee.

## 8. Changes to the Methodology

8.1. Although IX Asia Indexes Benchmarks are governed by a static set of rules that are set out in the relevant Index Methodology and are intended to be comprehensive, it is possible that ambiguities, errors and omissions may occur. In such circumstances, IX Asia Indexes shall follow procedures, which it considers are appropriate and proportionate to the amount and type of Benchmark Linked Products referencing the relevant Benchmark.

In summary, the procedures involve three phases: discovery, planning and execution.

- **Discovery:** IX Asia Indexes will endeavour to resolve such ambiguity, error or in consultation with the Advisory Committee, propose amendments to the Index Methodology to reflect the resolution of such ambiguity, error or omission. In so doing, IX Asia Indexes shall assess the potential impact such change may have on Stakeholders and may, if deemed by IX Asia Indexes to be appropriate and proportionate to the risk and size of the Benchmark, seek to consult with Stakeholders. Any such decision to consult with Stakeholders shall be considered by the Advisory Committee.
  - **Planning:** IX Asia Indexes in consultation with the Advisory Committee shall consider (i) the potential impact on Stakeholders; (ii) whether a change to a Benchmark (including, without limitation, a change to the composition, data inputs or calculation methodology) is necessary to ensure that the Benchmark continues to be fit-for-purpose; and (iii) any feedback received from Stakeholders (as may be deemed appropriate) prior to implementation.
  - **Execution:** IX Asia Indexes shall be responsible for overseeing and shall consult, as necessary, with the Advisory Committee on all three phases of the process and shall consult with the Advisory Committee with regard to any proposed amendment to the relevant Index Methodology and may liaise with other teams within IX Asia Indexes with regard to obtaining Stakeholder feedback.
- 8.2. Advisory Committee approval is required in connection with any material change. For these purposes, a “material change” shall mean a significant or fundamental change to a Benchmark Methodology, which the Administrator, in its sole discretion, determines would cause the relevant Benchmark to no longer be consistent with its primary objective and/or cause the underlying constituents or Interest referenced by the relevant Benchmark to no longer be represented by the relevant Benchmark in the manner originally intended.

8.3. Following approval of the Advisory Committee in connection with a proposed material change, IXAI shall seek to notify Stakeholders of its determination to amend the Index Methodology. Such notification shall explain the reason for any such change and shall be communicated to Stakeholders where reasonably possible along with the relevant amended and restated Index Methodology.

## 9. Index Cessation

- 9.1. IX Asia Indexes has a documented procedure that is followed for Index Cessation that includes termination/retirement of an Index or Index Family. For more information, please refer to the Transition Policy and Procedure due to Cessation of a Benchmark.

## 10. Dissemination

### 10.1. Inception

Inception date: 03/12/2018 (HKT)

Inception index level: 1000

### 10.2. Publishing Hour

Real time index is disseminated every 5 second interval from **9 am - 9 pm HKT**.

On every Hong Kong business day, the daily index will be published at **12:00 noon HKT**,

### 10.3. Dissemination methods

(a) Facebook: <https://www.facebook.com/ixOptionHK/>

(b) Website: <http://ix-index.com/>

## 11. Index Glossary

### B

#### **Base Date**

The date on which the base value applies

#### **Base Value**

An arbitrary value (e.g. 1,000) set on the base date as the index starting value.

### C

#### **Capping**

The process of limiting the maximum weight of a constituent in an index, typically to avoid concentration risk.

#### **Constituent**

A member of the Index.

#### **Cryptocurrency**

A Cryptocurrency is a digital asset designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets.

### I

#### **Index Rebalancing**

The process to handle the changes in constituent changes and/or the weight of the constituents.

## 12. Disclaimer

All information contained herein is provided for reference only. IX Asia Indexes Company Limited (IX Asia Indexes) ensures the accuracy and reliability of the above information to the best of its endeavours.

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