NRI

MarketVector™ Indexes

INDEX GUIDE

NRI/IU CRYPTO-ASSET INDEX FAMILY

VERSION 1.3 | 08.2021

Contents

1   Introduction

In accordance with Art. 13 No. 1 (a) of Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 (the "Benchmark Regulation"), this document provides the rules for calculating and maintaining the NRI/IU Crypto-Asset Index Family (the "Indexes").

Intelligence Unit LLC (the "Index Owner") makes no warranties or representations as to the accuracy and/or completeness of the Index and does not guarantee the results obtained by persons using the Indexes in connection with trading funds or securities. The Index Owner makes no representations regarding the advisability of investing in any fund or security.

The Index Owner reserves the right to suggest changes to the rules in this index guide at any time. The Index Owner also reserves the right to make, in exceptional cases or in temporary situations and only as agreed with the Index Administrator, exceptions to the rules in this Index Guide. The Indexes are the property of Intelligence Unit LLC. The Index Owner owns the right to use "NRI" as part of the Indexes with written approval from Nomura Research Institute, Ltd. ("NRI").

The use of the Indexes in connection with any financial products or for benchmarking purposes requires a license. NRI holds the exclusive distribution rights for the Indexes given by the Index Owner. Please contact NRI or Intelligence Unit LLC for more details.

1.1   Objective of the Indexes

The Indexes aim to cover the global crypto markets in various crypto assets by tracking the investable crypto assets. They are designed for Japanese institutional investors by considering local availability, custody solutions and official closing values in JST.

1.2   About Intelligence Unit LLC

Intelligence Unit LLC is a company incorporated on June 18th, 2018 in Japan. Intelligence Unit LLC has appointed MarketVector Indexes as an index administrator to calculate the Indexes.

1.3   About MarketVector Indexes GmbH

MarketVector Indexes (the "Index Administrator") is a registered trademark of Van Eck Associates Corporation and therefore protected globally against unlawful usage. MarketVector Indexes has selected an index calculation agent to calculate the Indexes.

1.4   Approval of Index Methodology

The Index Owner has established the Indexes and their individual methodology covered in this Index Guide. A detailed written "Procedure for Index Development" describes the steps and approvals required to develop, document and approve an Index and its methodology. The intention of the Procedure for Index Development is to ensure that the methodology of an Index meets the requirements of Art. 12 of the Benchmark Regulation and is approved and implemented according to a robust and reliable process.

The methodology for each index and its methodology covered in this Index Guide has been analysed by the Index Administrator's Index Operations department in order to ensure that it is robust and reliable, has clear rules on use of discretion, allows sustainable validation (based on reasonable back testing) and is traceable and verifiable. Furthermore, the size, liquidity and transparence of the underlying market for each methodology has been tested and particular circumstances for each relevant market have been taken into account.

Each index methodology and the related detailed analysis was presented by the Index Operations Department to the Independent Oversight Function ("IOF") for its approval. Based on the aforementioned approval process and its documentation each Index Methodology was presented to the Management Board (Geschäftsführer) of the Index Administrator for final approval.

1.5   Review of this Index Guide

According to Art. 13 No. 1 (b) of the Benchmark Regulation, the Index Administrator reviews this Index Guide on an annual basis and immediately in case of special circumstances that require a review. The review takes place in meetings attended by the IOF and the Management Board of the Index Administrator. If changes to this Index Guide are considered necessary, the process described in Section 3.6 applies.

2   General Definitions

2.1   Rebalancing Schedule

The index composition is rebalanced monthly.
The reviews for the Indexes are based on the opening data on the fourth from the last business day in that month (the "Monthly Review Date"). If a security does not trade on a business day, then the last available price for this security will be used. A "business day" means any day (other than a Saturday or Sunday) on which commercial banks and foreign exchange markets settle payments in Frankfurt.

Adjustments to constituents will be announced four business days prior to the first business day of the next month at 23:00 CET.

The Indexes are rebalanced at 15:00:00 JST after closing of the last trading day in each month (the "Monthly Rebalance Date").

2.2   Weighting Scheme

The Indexes use cap-factors to guarantee diversification and avoid overweighting. Index weightings are implemented on the Monthly Rebalance Date. The maximum weight of each component is 50%. The excess weight after capping shall be redistributed across all other (uncapped) components in the index on a proportional basis.
The cap factors are calculated based on the USD price of the respective components.

2.3   Pricing Source

For each component price in the Indexes, the respective CCCAGG crypto asset price by CCData (https://ccdata.io) is used. CCCAGG is a weighted average of the latest available trading price at each exchange. Exchanges can be added/removed by decision of CCData.
For clarification, 'respective CCCAGG' means

- Exchanges may be excluded if they are not licensed to be added to an index.

- Exchanges are not immediately added/removed, but only on a monthly basis or if required following quality reviews from CCData.

- Values are not backadjusted.

The component price value in JPY is adjusted in case of the respective CCCAGG not satisfying all of the requirements described below:

1. Monthly volume $>$ JPY 10,000,000.

2. No non-trading days in the 5 trading days prior to the Monthly Review Date.

3. Less than 15 non-trading days between the recent two Monthly Review Dates.

4. Number of constituent cryptos exchanges with volume >0 on the previous day of the Monthly Review Date is more than two.

The component price value in JPY is adjusted by using the following formula and this conversion will be applied until next Monthly Rebalance Date.

$$Adjusted\ CCCAGG\left(\frac{Coin}{JPY}\right) = \frac{CCCAGG\left(\frac{Coin}{USD}\right)}{CCCAGG\left(\frac{BTC}{USD}\right)} * CCCAGG\left(\frac{BTC}{JPY}\right).$$

Historically, this conversion was also used when BTC did not fulfill the above criteria.

2.4   Index Composition

The NRI/IU Crypto-Asset Index (the "NRI/IU Index") contains the crypto-assets listed in the table below. The weights are adjusted on a monthly basis as described in Section 2.1 and 2.2.

Crypto-Asset	Ticker
Bitcoin	BTC
Bitcoin Cash	BCH
Ethereum	ETH
Litecoin	LTC
Stellar/Lumen	XLM

2.5   Index Dissemination and Identifiers

The NRI/IU index is calculated with the constituent prices, on a daily basis between 15:00 and 15:00 (JST) the next day. Dissemination is in USD and JPY. Real-time index values are calculated with the latest available CCCAGG prices each 15 seconds. The closing value is calculated at 15:00:00 JST.

It is currently calculated in two currencies with the following identifiers:

Index Type	ISIN	SEDOL	WKN	Bloomberg	RIC
Price Return Index (USD)	DE000A26RX02	BKF2F83	A26RX0	NRIIUU	.NRIIUU
Price Return Index (JPY)	DE000A26RX10	BKF2F94	A26RX1	NRIIUJ	.NRIIUJ

The indexes were launched on 29 January 2020 with a base index value of 100.00 as of 31 December 2015.

3   Ongoing Maintenance

3.1   Changes in Amount Outstanding

Changes in the amount outstanding will not be adjusted during the month, but with the next monthly review.

3.2   Changes due to Forks

A hard fork occurs when a blockchain protocol is radically changed, such that it becomes incompatible with older versions. In effect, participants taking part in transactions on the old blockchain must upgrade to the new one in order to continue validating transactions. However, participants that do not upgrade may continue to support and validate transactions on the older blockchain protocol separately.
The result of this is that a blockchain splits into two - hence the name 'hard fork'. If there are nodes permanently supporting the new chain, then the two chains will co-exist.
Users that once held digital assets on an older blockchain before the protocol change at a pre-specified blockchain length will now also hold an amount of new coins on the altered blockchain. This new asset has essentially been derived from an older token as well as its associated blockchain's transaction history.

Where a constituent blockchain undergoes a hard fork, the newly created coin will be added to the index, as long as it is available for trading on one or more of AA/A rated exchanges (as defined by CCData, see https://ccdata.io), such available price(s) contributing to the CCCAGG, prior to the following review announcement. In addition to the exchange classification, the following criteria are taken into account if the forked coin is added to the index:

- Twitter followers: qualitative and quantitative measure of the community support level for the forked chain,

- Public developer: indicates that there are people that can be held accountable for any liability,

- Open source code: makes code auditing and vulnerability check possible,

- Premine: transparency in terms of the total supply of the Forked Coin and intentions,

- Announcement: the forked Chain will have to be announced a significant time prior to its activation, in doing so this would demonstrate the seriousness of the intended fork.

Each additional component resulting from a fork is immediately added to the index at least for one day according to the terms, if traded. In case it does not trade, it will be kept with a 0 price until the first price is retrieved (it will then be kept in the index for at least one day) or the next review becomes effective. Implementation is effective with the change in the respective block.
The same treatment applies to soft forks if the process results in a division or split into multiple non-fungible assets.

3.3   Trade Suspensions and Market Distortions

There are certain circumstances which might require extraordinary adjustments to the Index. The Index Administrator decides on whether a market distortion or trade suspension has occurred and about its treatment in the index. These circumstances include, but are not limited to:

- Hacks,

- Longer or recurring outages of an exchange,

- Misconduct of an exchange or with a crypto asset or token has been noticed,

- Sharp decline in trading volumes of certain crypto assets or tokens, certain exchanges or even larger areas of the crypto market in general,

- Implementation of investment restrictions for international investors in certain countries or for certain exchanges,

- A crypto asset or token does not trade any more permanently or for an extended period of time.

3.4　Changes to Pricing (CCCAGG)

In case an exchange is added to CCCAGG or removed from it, the index divisor will not be adjusted.

3.5　Index Corrections

Index corrections distinguish between calculation errors and incorrect input data.

- Calculation errors detected within a trading day are corrected immediately. Intraday tick data are not corrected retrospectively.

- Calculation errors that are older or based on erroneous input data are corrected if technically possible and economically viable. If significant differences exist, index values can also be corrected retrospectively.

3.6　Changes to the Index Guide

Any changes to the Index Guide, incl. the change of the index composition, will be reviewed and approved by the Legal and Compliance Department at MarketVector Indexes. Legal and Compliance may also request a conclusive description and further information on any change and may consult the Index Operations Department on such changes. The key elements to be analysed in this phase of the change process are robustness, transparency, reliability and integrity. The result of the review will be communicated to the Operations Department. The email will be archived by the Index Operations Department.

In case of changes that might immediately change the composition of an index or must be considered material for any other reason also need to be approved by the Independent Oversight Function ("IOF") prior to their publication and implementation.

In case of material changes an advance notice will be published and provided to users. MarketVector Indexes will generally disseminate a notification related to an Index Guide change 30 days prior to the change. A shorter period of time may be applied at MarketVector Indexes' discretion if the relevant index has not been licensed for a financial product to a third party. The notice will describe a clear time frame that gives the opportunity to analyse and comment upon the impact of such proposed material change. Any material comments received in relation to the Index Guide change and MarketVector Indexes' response to those comments will be made publicly accessible after any consultation, except where confidentiality has been requested by the originator of the comments.

3.7　Discretion regarding the Use of Input Data and Extraordinary Events

Pursuant to Art. 12 No.1. (b), MarketVector Indexes has established the following rules identifying how and when discretion may be exercised in the administration of an index.

In case input data are or appear to be qualitatively inferior or different sources provide different data, an extraordinary event, or a situation is not covered by the index rules, MarketVector Indexes may use or change data/index composition at its own discretion according to the following discretion policy after a plausibility check. Regarding input data, this may include:

- Liquidity and size data,

- Event information,

- Other secondary data.

Regarding extraordinary events, this may include:

- Trading stops,

- Regulatory actions,

- Hacks,

- Detection of fraud,

- Changes in custodian coverage,

- Etc.

Any changes must subject to reasonable discretion. The decision on any change must be required, appropriate, commensurable and in line with the respective index scope and objective and must reasonably consider in a balance weight the interest of Users, investors in related products and the integrity of the market.

Index operations ensures consistency in the use of discretion in its judgement and decision. Employees involved in the operations team must have shown the respective experience and skills. Significant decisions are subject to sign-off by a supervisor. In case of material changes to data the relevant situation will be analyzed in detail, described and presented to the IOF and discussed and reviewed with the IOF.

The broad range of possible data quality problems does not allow to define specific steps for each possible instance. MarketVector Indexes will always weight the different interest of the index users, the integrity of the market and other involved parties and determine the least disadvantageous measure that equally considers the relevant interests best.

In order to avoid individual decisions in similar cases for the future an update of the index rules can be taken into consideration if applicable. Regarding the use of data, other possible mitigation measures are the change of input data sources or providers and/or own data research where possible and reasonable.

Records are kept about material judgement or discretion by MarketVector Indexes and will include the reasoning for said judgement or discretion.

3.8 Input Data and Contributor Selection

According to the input data requirements under Art. 11 of the Benchmark Regulation, the following shall apply with regard to the input data used for the management and provision of an index and the relevant input data providers ("Contributors"):

- the input data shall be sufficient to represent accurately and reliably the market or economic reality that the benchmark is intended to measure;

- the input data shall be transaction data, if available and appropriate. If transaction data is not sufficient or is not appropriate to represent accurately and reliably the market or economic reality that the index is intended to measure, input data which is not transaction data may be used, including estimated prices, quotes and committed quotes, or other values;

- the input data shall be verifiable;

- clear guidelines regarding the types of input data, the priority of use of the different types of input data and the exercise of expert judgement, to ensure compliance with the Index Guide and index methodology and the aforementioned requirements are defined in the Code of Conduct for Contributors; and

- where an index is based on input data from Contributors, MarketVector Indexes will obtain, where appropriate, the input data from a reliable and representative panel or sample of Contributors so as to ensure that the resulting index is reliable and representative of the market or economic reality that the index is intended to measure.

In order to control the quality of contributors, MarketVector Indexes will conduct the following controls:

- evaluate market share, reputation, quality and cost of possible input data sources and providers before selecting them on the basis of the gathered information and data;

- compare the input data of one Contributor with the input data from one or more other Contributors in order to ensure the integrity and accuracy of the input data and in case of bad quality replace a Contributor with another Contributor.

MarketVector Indexes will not use input data from a contributor if it has any indication that the Contributor does not adhere to its Code of Conduct for Contributors and in such a case shall obtain representative publicly available data.

4 Calculation

4.1 Index Formula

The Indexes are calculated using the Laspeyres' formula:

$$Index\ Value = \frac{\sum_{i=1}^{n} p_i * q_i * cf_i * fx_i}{D} = \frac{M}{D}.$$

Where (for all tokens (i) in the Index):
p_i = price,
q_i = amount outstanding,
cf_i = weighting cap factor (if applicable, otherwise set to 1),
fx_i = exchange rate,
M = market capitalization of the index,
D = divisor.

4.2 Input Data

The following rounding procedures are used for the index calculation:

- Rounding to 2 decimal places:

    – index values,

- Rounding to 6 decimal places:

    – divisors (D),

- Rounding to 18 decimal places:

    – prices (p_i),
    – exchange rates (fx_i),
    – weighting cap factors (cf_i).

4.3 Divisor Adjustments

Index maintenance - reflecting changes in amount outstanding, events, addition or deletion of tokens to the Index - should not change the level of the index. This is accomplished with an adjustment to the divisor. Any change to the tokens in the index that alters the total market value of the index while holding token prices constant will require a divisor adjustment.

$$Divisor_{new} = Divisor_{old} * \frac{\sum_{i=1}^{n} p_i * q_i * cf_i * fx_i \pm \Delta MC}{\sum_{i=1}^{n} p_i * q_i * cf_i * fx_i}.$$

ΔMC = Difference between closing and adjusted closing market capitalization of the index.

4.4 Event Related Adjustments

Events range widely from routine coin issuances to unusual events like forks. These are listed on the table below with notes about the necessary changes and whether the divisor will be adjusted.
p_i = token price.

- *Hard Fork*   Divisor change: No.

  Investors receive 'B' new coins for every 'A' coin held.

  $$p_{(i,adjusted)} = ((p_i * A) - (price\ of\ forked\ coin * B))/A$$

  Coin B is added to the index according to the terms.

- *Addition/Deletion of a component*   Divisor change: Yes.

  Net change in market value determines the divisor adjustment.

- *Other*   Divisor change: TBD.

  Net change in market value determines the divisor adjustment. In case of no change, the divisor change is 0.

4.5 Data Correction and Disruptions

MarketVector Indexes will usually receive information about errors or disruption from calculation agent, client, internal systems (IT) or by monitoring the respective output.
Incorrect or missing input data will be corrected immediately:

- The error is immediately communicated to the calculation agent, if applicable.

- Calculation agent will be asked to investigate the reason for the error.

- An email will be sent to all affected clients to inform them about the error; this includes the reason for the issue and an estimate on when the issue will be solved.

- MarketVector Indexes recalculates missing EOD data points and disseminates to vendors and clients.

In case of a material error,

- Legal and Compliance to check the relevant agreements for liability of the calculation agent.

- If MarketVector Indexes identifies any conduct that may involve manipulation or attempted manipulation of an index by calculation agent it will report this to the regulator.

- Where possible and economically reasonable MarketVector Indexes will try to use another calculation agent.

Investigations and communication regarding disruptions with calculation agents will be handled by Compliance and Senior Management. They are either caused by disruptions in calculation or dissemination, which might affect different servicers.

- The disruption is immediately communicated to the calculation/dissemination agent, if applicable.

- Calculation/dissemination agent will be asked to investigate the reason for the disruption.

- An email will be sent to all affected clients to inform them about the disruption; this includes the reason for the issue and an estimate on when the issue will be solved.

- MarketVector Indexes prompts calculation agent to make all efforts to restart index calculation.

- MarketVector Indexes prompts Dissemination agent to make all efforts to restart index dissemination.

- MarketVector Indexes recalculates missing EOD data points and disseminates to vendors and clients.

- Legal and Compliance to check the relevant agreements for liability of the calculation/dissemination agent.

- If MarketVector Indexes identifies any conduct that may involve manipulation or attempted manipulation of an index by calculation/dissemination agent it will report this to BaFin.

- Where possible and economically reasonable MarketVector Indexes will try use another calculation and/or dissemination agent.

5   Appendix

5.1   Changes to the Index Guide

Date	IG Version	Change
4 August 2020	1.1	Clarification of CCCAGG pricing
31 March 2021	1.2	Replacement of XRP by XLM, Discretion in case of extraordinary events
2 August 2021	1.3	30 days announcement period for Index Guide changes

6   Disclaimer

The information is intended only for the person to which it is addressed and may contain privileged, confidential and/or undisclosed material. Any review, retransmission, dissemination or copying of this information by persons other than the intended recipient is strictly prohibited. This information does not and is not intended to constitute investment advice or an offer or solicitation for the purchase or sale of any financial instrument or as an official confirmation of any transaction.

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