

S&P Dow Jones Indices

A Division of **S&P Global**

S&P Digital Market Indices *Methodology*

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Introduction

Index Objective

The S&P Digital Market Indices measure the performance of digital assets listed on trading facilities (“exchanges”)¹ included among the markets defined in *Eligibility Criteria*.

Index Series

The index series includes the following:

- **S&P Bitcoin Index.** The index measures the performance of Bitcoin.
- **S&P Ethereum Index.** The index measures the performance of Ethereum.
- **S&P Cryptocurrency MegaCap Index.** The index measures the performance of Bitcoin and Ethereum digital assets.
- **S&P Cryptocurrency Broad Digital Market (BDM) Index.** The index measures the performance of digital assets satisfying the additional liquidity and market capitalization requirements detailed in *Eligibility Criteria*. Various subsets of the BDM exist, and include the following indices:
 - **S&P Cryptocurrency LargeCap Index**
 - **S&P Cryptocurrency BDM Ex-MegaCap Index**
 - **S&P Cryptocurrency BDM Ex-LargeCap Index**
 - **S&P Cryptocurrency LargeCap Ex-MegaCap Index**
 - **S&P Cryptocurrency Top 5 Index**
 - **S&P Cryptocurrency Top 10 Index**
 - **S&P Cryptocurrency Top 10 Index (Singapore Close)**
 - **S&P Cryptocurrency Top 5 Equal Weight Index**
 - **S&P Cryptocurrency Top 10 Equal Weight Index**
 - **S&P Cryptocurrency Financials Index**
 - **S&P Cryptocurrency DeFi Index**
 - **S&P Cryptocurrency Financials Top 15 Index**
 - **S&P Cryptocurrency DeFi Top 15 Index**

Pricing and Reference Data Source

The indices use Lukka Inc.,² a cryptocurrency data provider, as the data source for digital asset pricing, reference, and custody data via the Lukka Prime and Lukka reference data products. Lukka uses a Fair Market Value pricing and valuation data methodology, which is designed to align the cryptocurrency ecosystem to GAAP and IFRS guidelines.

The indices calculate using Lukka Prime Hourly Prices (Lukka Source ID 3000) unless otherwise stated.

¹ The term exchange as used in this methodology does not refer to a “national securities exchange” that has registered with the Securities Exchange Commission (“SEC”) or other comparable securities exchange registered in another jurisdiction.

² S&P DJI reserves the right to add to or change the data provider at any time.

For more information on Lukka Inc., please refer to the Lukka website, <https://data.lukka.tech/prime/>.

For more information on Lukka Prime pricing, please refer [here](#).

For more information regarding Lukka Digital Asset Classification Standard (LDACS), please refer to <https://lukka.tech/enterprise-data/>.

Investment Disclosure. S&P Global, Inc., the parent of S&P Dow Jones Indices LLC, is an investor in Lukka Inc.³ In addition, representatives of Lukka Inc. may provide consultative services to the Index Committee (see *Index Governance*) from time to time.

Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P DJI Digital Assets Policies & Practices and Index Mathematics Methodology	S&P DJI Digital Assets Policies, Practices, & Mathematics Methodology

The index methodology is maintained, and the indices are calculated and managed independently by S&P Dow Jones Indices according to S&P Dow Jones Indices' standard policies and procedures, including the policies and procedures governing S&P Dow Jones Indices' independent Index Committee. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the indices continue to achieve their objectives.

³ For information on S&P Global's investment in Lukka, please see [here](#).

Eligibility Criteria

Index Universe

To determine the index universe of digital assets, S&P Dow Jones Indices considers only those digital assets traded on exchanges covered by Lukka Prime. Lukka's exchange and digital asset selection process includes:

1. the screening of eligible exchanges, based on criteria such as oversight, efficiency, data transparency, data integrity, and
2. the inclusion of digital assets that trade on those select exchanges.

Eligibility Factors

Digital assets in the index universe must satisfy the following, as of each rebalancing reference date, to be eligible for index inclusion:

Listed and Trading. Digital assets must have traded for at least three months on a Lukka-recognized exchange and have traded for at least 60 calendar days during the three months prior to the rebalancing reference date.

The listing and trading rules do not apply to digital assets that forked intra-rebalancing. The inclusion or exclusion of such digital assets is determined by the Index Committee.

For more information on forks please refer to the S&P DJI Digital Assets Policies & Practices and Index Mathematics Methodology.

Market Capitalization. Digital assets must have a market capitalization greater than or equal to US\$ 100 million (current constituents US\$ 80 million). For these indices, "market capitalization" refers to the product of "Effective Coin Supply" multiplied by coin price.

For more information on market capitalization and Effective Coin Supply, please refer to the S&P DJI Digital Assets Policies & Practices and Index Mathematics Methodology.

Liquidity. Digital assets must have a three-month median daily value traded (MDVT) of US\$ 100,000 (current constituents US\$ 80,000). At the Index Committee's discretion, an MDVT of a shorter period may be allowed for hard-forked assets of current constituents.

White Paper. Digital assets must have a published white paper verified by the pricing provider.

Asset Type. Digital assets must not be a stablecoin or any other pegged asset.

Sub-Indices

Constituents of the following indices must be members of the S&P Cryptocurrency Broad Digital Market Index and meet the additional criteria for index eligibility purposes listed below:

S&P Cryptocurrency LargeCap Index. Constituents must meet the following Market Capitalization & Liquidity criteria.

- **Market Capitalization.** Digital assets must have a market capitalization greater than or equal to US\$ 1 billion (current constituents US\$ 800 million). For these indices, "market capitalization" refers to the product of "Effective Coin Supply" multiplied by coin price.

- **Liquidity.** Have a three-month MDVT of US\$ 1 million. At the Index Committee’s discretion, an MDVT of a shorter period may be allowed.

S&P Cryptocurrency Financials Index. Constituents must have primary or secondary Lukka Digital Asset Classification Standard (LDACS) in any of the following Macrosectors:

- Decentralized Finance (LDACS Code 103020)
- Financials (LDACS Code 103040)

S&P Cryptocurrency Financials Top 15 Index. Constituents must be members of the S&P Cryptocurrency Financials Index and meet the following requirements.

- **Liquidity.** Have a three-month MDVT of US\$ 1 million (current constituents US\$ 500,000). At the Index Committee’s discretion, an MDVT of a shorter period may be allowed.
- **Custody.** Have at least two custodians that meet the minimum technology and information security requirements. Current minimum requirements⁴:
 - **Technology Security.** MPC (Multi-party computing, most secure) or MultiSig (Multi-Signature)
 - **Information Security.** ISO 27001 or SOCII

S&P Cryptocurrency DeFi Index. Constituents must be governance tokens⁵, not have a primary or secondary LDACS in Centralized Exchanges (LDACS Code 1030402005), and must have primary or secondary Lukka Digital Asset Classification Standard (LDACS) in any of the following Subsectors:

Macrosector	Subsector	LDACS Code
Decentralized Finance	Wallets	1030200580
	Decentralized Exchange	1030201005
	Network Participation Service	1030203003
	Yield Farming	1030203005
Financials	Banking	1030401005
	Consumer Finance	1030402010
	Crowdfunding Platform	1030402015
	Insurance	1030402020
	Lending Platform	1030402030
	Real Estate	1030402030
	Specialty Financial Services	1030402033
	Trading & investing	1030402035

S&P Cryptocurrency DeFi Top 15 Index. Constituents must be members of the S&P Cryptocurrency DeFi Index and meet the following requirements.

- **Liquidity.** Have a three-month MDVT of US\$ 1 million (current constituents US\$ 500,000). At the Index Committee’s discretion, an MDVT of a shorter period may be allowed.
- **Custody.** Have at least two custodians that meet the minimum technology and information security requirements. Current minimum requirements⁴:
 - **Technology Security.** MPC (Multi-party computing, most secure) or MultiSig (Multi-Signature)
 - **Information Security.** ISO 27001 or SOCII

S&P Cryptocurrency Top 5 Index, S&P Cryptocurrency Top 10 Index, S&P Cryptocurrency Top 5 Equal Weight Index, S&P Cryptocurrency Top 10 Equal Weight Index and S&P Cryptocurrency Top 10 Index (Singapore Close).

⁴ For history prior to launch, the indices did not include a custody requirement as an element of eligibility. History is based on the index constituents that met the custody element as of the Launch Date.

⁵ Governance tokens are those that give holders the right to vote on the future of the protocol, including its governance.

- **Liquidity.** Have a three-month MDVT of US\$ 1 million (current constituents US\$ 500,000). At the Index Committee's discretion, an MDVT of a shorter period may be allowed.
- **Custody.** Have at least two custodians that meet the minimum technology and information security requirements. Current minimum requirements⁴:
 - **Technology Security.** MPC (Multi-party computing, most secure) or MultiSig (Multi-Signature)
 - **Information Security.** ISO 27001 or SOCII

Index Construction

Constituent Selection

S&P Cryptocurrency Broad Digital Market (BDM) Index. At each rebalancing, all eligible digital assets are selected and form the index.

S&P Bitcoin Index, S&P Ethereum Index, and S&P Cryptocurrency MegaCap Index. At each rebalancing, the eligible digital assets are selected and form each index.

S&P Cryptocurrency LargeCap Index. At each rebalancing, the eligible digital assets classified as LargeCap are selected and form the index.

S&P Cryptocurrency BDM Ex-LargeCap Index. At each rebalancing, the eligible digital assets not classified as LargeCap are selected and form the index.

S&P Cryptocurrency BDM Ex-MegaCap Index and S&P Cryptocurrency LargeCap Ex-MegaCap Index. At each rebalancing, the constituents of the S&P Cryptocurrency BDM Ex-MegaCap and S&P Cryptocurrency LargeCap Ex-MegaCap are the constituents of the S&P Cryptocurrency Broad Digital Market Index and S&P Cryptocurrency LargeCap index, respectively, excluding the constituents of the S&P Cryptocurrency MegaCap.

For information on the size classification process, please refer to Appendix A.

S&P Cryptocurrency Financials Index and S&P Cryptocurrency DeFi Index. At each rebalancing, all eligible digital assets are selected and form the index.

S&P Cryptocurrency Top 5 Index, S&P Cryptocurrency Top 10 Index, S&P Cryptocurrency Top 5 Equal Weight Index, S&P Cryptocurrency Top 10 Equal Weight Index, and S&P Cryptocurrency Top 10 Index (Singapore Close). At each rebalancing, constituents are selected from the S&P Cryptocurrency BDM Index according to the following process:

1. Rank the eligible digital assets by market capitalization, with the highest ranked 80% of the target constituent count (target counts are 5 or 10, respectively) automatically selected for index inclusion.
2. Current constituents ranked in the top 120% of the target constituent count are selected until the target constituent count is met.
3. If the target constituent count is still not met, the highest-ranking non-constituent is selected and added to the index until the target count is reached.

S&P Cryptocurrency Financials Top 15 Index and S&P Cryptocurrency DeFi Top 15 Index. At each rebalancing, constituents are selected from the S&P Cryptocurrency Financials Index or S&P Cryptocurrency DeFi Index according to the following process:

1. Rank the eligible digital assets by market capitalization, with the highest ranked 80% of the target constituent count (target counts are 15) automatically selected for index inclusion.
2. Current constituents ranked in the top 120% of the target constituent count are selected until the target constituent count is met.
3. If the target constituent count is still not met, the highest-ranking non-constituent is selected and added to the index until the target count is reached.

Constituent Weightings

Except for the S&P Cryptocurrency Top 5 Equal Weight Index and S&P Cryptocurrency Top 10 Equal Weight Index, at each rebalancing the indices are market capitalization weighted.

S&P Cryptocurrency Top 5 Equal Weighted Index and S&P Cryptocurrency Top 10 Equal Weight Index. At each rebalancing, the indices are equal weighted. Components are assigned index coins to achieve equal weighting using the closing prices from one week prior to the rebalancing effective date as the reference price.

Index Calculation

The indices calculate by means of the divisor methodology used in S&P DJI Digital asset indices.

For more information on index calculation, please refer to S&P DJI Digital Assets Index Mathematics Policies and Practices Methodology.

Index Maintenance

Rebalancing

The indices rebalance quarterly, with the changes implemented after the index close on the third Friday of March, June, September, and December. Digital assets that are added, removed or re-weighted at rebalances use prices based on the Lukka pricing fix times to determine the indices' official close calculation.

The rebalancing reference date to determine eligibility is the last calendar day of February, May, August, and November, respectively. Rebalancing reference data used to determine digital asset eligibility and supply is captured based on data available from Lukka after the index close on the reference dates.

Proforma rebalancing results are published beginning one week prior to the rebalancing effective date.

Price Capture Time

Except for the below indices, the S&P Digital Market Indices price capture time is 4:00PM ET.⁶

- **S&P Bitcoin Index (CET Close) and S&P Ethereum Index (CET Close).** The indices' price capture time is 5:00PM CET.
- **S&P Cryptocurrency Top 10 Index (Singapore Close).** The index's price capture time is 9:00PM SGT.

Additions and Deletions

Any digital asset that Lukka no longer covers is removed at the subsequent rebalancing.

For more information on additions and deletions please refer to the [S&P DJI Digital Assets Index Mathematics Policies and Practices Methodology](#).

Currency of Calculation and Additional Index Return Series

The indices calculate in U.S. dollars.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to the following: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to the [S&P DJI Methodology & Regulatory Status Database](#).

For information on various index calculations, please refer to [S&P Dow Jones Indices' Index Mathematics Methodology](#).

For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at www.spglobal.com/spdji.

⁶ S&P DJI is unable to guarantee exact pricing due to the nature of intraday price captures from vendor-derived data. S&P DJI makes best efforts to fulfill pricing according to a respective methodology, but it is S&P DJI policy to use these best efforts, and not restate indices due to intraday pricing discrepancies that are not related to misapplication of index methodology.

Base Date and History Availability

Index history availability, base dates, and base values are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P Bitcoin Index	05/03/2021	01/01/2014	01/01/2014	100
S&P Bitcoin Index (CET Close)	02/04/2022	01/03/2014	01/03/2014	100
S&P Ethereum Index	05/03/2021	04/04/2016	04/04/2016	100
S&P Ethereum Index (CET Close)	02/04/2022	04/04/2016	04/04/2016	100
S&P Cryptocurrency MegaCap Index	05/03/2021	02/28/2017	02/28/2017	100
S&P Cryptocurrency Broad Digital Market Index	07/13/2021	02/28/2017	02/28/2017	100
S&P Cryptocurrency LargeCap Index	07/13/2021	02/28/2017	02/28/2017	100
S&P Cryptocurrency BDM Ex-MegaCap Index	07/13/2021	02/28/2017	02/28/2017	100
S&P Cryptocurrency BDM Ex-LargeCap Index	07/13/2021	02/28/2017	02/28/2017	100
S&P Cryptocurrency LargeCap Ex-MegaCap Index	07/13/2021	12/18/2017	12/18/2017	100
S&P Cryptocurrency Top 5 Index	02/16/2023	03/16/2018	03/16/2018	1000
S&P Cryptocurrency Top 10 Index	02/16/2023	03/16/2018	03/16/2018	1000
S&P Cryptocurrency Top 5 Equal Weight Index	01/31/2022	03/16/2018	03/16/2018	1000
S&P Cryptocurrency Top 10 Equal Weight Index	01/31/2022	03/16/2018	03/16/2018	1000
S&P Cryptocurrency Top 10 Index (Singapore Close)	09/20/2022	03/16/2018	03/16/2018	1000
S&P Cryptocurrency Financials Index (USD)	01/19/2023	12/15/2017	12/15/2017	100
S&P Cryptocurrency DeFi Index (USD)	01/19/2023	12/15/2017	12/15/2017	100
S&P Cryptocurrency Financials Top 15 Index (USD)	01/19/2023	12/18/2020	12/18/2020	1000
S&P Cryptocurrency DeFi Top 15 Index (USD)	01/19/2023	12/18/2020	12/18/2020	1000

Index Governance

Index Committee

An S&P Dow Jones Indices Index Committee maintains the indices. The Index Committee consists solely of full-time employees of S&P Dow Jones Indices. The Committee meets regularly. The Committee may revise index policy covering rules for the selection of digital assets, including the eligibility criteria, or other matters.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive notice, whenever reasonably possible.

The Index Committee may apply discretion to make decisions that differ from the index methodology in certain circumstances, including to avoid unnecessary turnover, excessive index changes or adjustments, or possible market disruption.

The Index Committee reserves the right in its sole discretion to cease or suspend publication of an index and/or remove a digital asset that becomes subject to a legal, regulatory or practical concern (e.g., because the digital asset may be an unregistered security, allegations of trading manipulation, the digital asset potentially implicates U.S. or other economic sanctions, inclusion of privacy features that may pose anti-money laundering concerns, the digital asset is subject to a hacking event) or due to potential market disruption.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P DJI Digital Assets Index Mathematics Policies and Practices Methodology.

Index Policy

Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically announced in advance via the Index Corporate Events Report (.SDE), delivered daily to all clients. Any unusual treatment of a digital asset event may be communicated via email to clients.

For more information, please refer to the S&P DJI Digital Assets Indices Policies & Practices and Index Mathematics Methodology.

Pro-forma files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the index rebalances. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights and index coins effective for the upcoming rebalancing. Since index coins are assigned based on prices prior to the rebalancing effective date the actual weight of each coin at the rebalancing will differ from these weights due to market movements.

Please visit www.spglobal.com/spdji for a complete schedule of rebalancing timelines and pro-forma delivery times.

Calculation Schedule

Except for the S&P Bitcoin Index (CET Close) and S&P Ethereum Index (CET Close), the indices calculate Monday through Friday, with no market holidays. If there is a market disruption, or with the data provider, the indices calculate based on the last available price.

S&P Bitcoin Index (CET Close) and S&P Ethereum Index (CET Close). Except for U.S., Liechtenstein and Swiss equity market holidays, the indices calculate on all business days.

A complete holiday schedule for the year is available at www.spglobal.com/spdji.

Rebalancing

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P DJI Digital Assets Indices Policies & Practices and Index Mathematics Methodology.

Recalculation Policy

For information on the recalculation policy, please refer to S&P DJI Digital Assets Indices Policies & Practices and Index Mathematics Methodology.

For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P DJI Digital Assets Indices Policies & Practices and Index Mathematics Methodology.

Contact Information

For questions regarding an index, please contact: index_services@spglobal.com.

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at www.spglobal.com/spdji, major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to the [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index (Currency)	Ticker
S&P Bitcoin Index (USD)	SPBTC
S&P Bitcoin Index (CET Close) (USD)	SPBTCCC
S&P Ethereum Index (USD)	SPETH
S&P Ethereum Index (CET Close) (USD)	SPETHCC
S&P Cryptocurrency MegaCap Index (USD)	SPCMC
S&P Cryptocurrency Broad Digital Market Index (USD)	SPCBDM
S&P Cryptocurrency LargeCap Index (USD)	SPCBLC
S&P Cryptocurrency BDM Ex-MegaCap Index (USD)	SPCBXM
S&P Cryptocurrency BDM Ex-LargeCap Index (USD)	SPCBXL
S&P Cryptocurrency LargeCap Ex-MegaCap Index (USD)	SPCLXM
S&P Cryptocurrency Top 5 Index (USD)	SPCC5U
S&P Cryptocurrency Top 10 Index (USD)	SPCC10U
S&P Cryptocurrency Top 5 Equal Weight Index (USD)	SPCC5
S&P Cryptocurrency Top 10 Equal Weight Index (USD)	SPCC10
S&P Cryptocurrency Top 10 Index (Singapore Close)	SPCC10S
S&P Cryptocurrency Financials Index (USD)	SPCFI
S&P Cryptocurrency DeFi Index (USD)	SPCDEFI
S&P Cryptocurrency Financials Top 15 Index (USD)	SPCFI15
S&P Cryptocurrency DeFi Top 15 Index (USD)	SPCDF15

Index Data

Daily index level data is available via subscription.

For product information, please contact S&P Dow Jones Indices, www.spglobal.com/spdji/en/contact-us.

Web site

For further information, please refer to S&P Dow Jones Indices' Web site at www.spglobal.com/spdji.

Appendix A: Backward Data Assumption

This section identifies impacted indices in the methodology and events for the application of Backward Data Assumption.

Impacted Indices for Forks

S&P Bitcoin Index	S&P Cryptocurrency Top 10 Index
S&P Ethereum Index	S&P Cryptocurrency Top 5 Equal Weight Index
S&P Cryptocurrency MegaCap Index	S&P Cryptocurrency Top 10 Equal Weight Index
S&P Cryptocurrency Broad Digital Market Index	S&P Cryptocurrency Top 10 Index (Singapore Close)
S&P Cryptocurrency LargeCap Index	S&P Cryptocurrency Financials Index
S&P Cryptocurrency BDM Ex-MegaCap Index	S&P Cryptocurrency DeFi Index
S&P Cryptocurrency BDM Ex-LargeCap Index	S&P Cryptocurrency Financials Top 15 Index
S&P Cryptocurrency LargeCap Ex-MegaCap Index	S&P Cryptocurrency DeFi Top 15 Index
S&P Cryptocurrency Top 5 Index	

Backward Data Assumption for Forks

Forks have not been factored into the back-test data with respect to index calculation.

Backward Data Assumption affects only the historical, hypothetical constituents of any index back-test. Only actual live data is ever used in live index rebalancings and in the historical rebalancing calculation of an index after its Live Data Effective Date.

For more information on S&P DJI's principles and processes for using Backward Data Assumption, please refer to the [FAQ](#).

Designated Datasets for Forks

The Backward Data Assumption within the historical back-test, with respect to the indices identified above, applies only to designated datasets and associated time horizons as defined below. For each designated dataset, all historical rebalancing events prior to the Live Data Reference Date listed below are subject to use of the Backward Data Assumption.

Data Provider	Designated Dataset	Live Data Reference Date	Live Data Effective Date
Lukka	Forks	02/28/2021	03/19/2021

Impacted Indices for Custodian

S&P Cryptocurrency Top 5 Equal Weight Index	S&P Cryptocurrency Financials Top 15 Index
S&P Cryptocurrency Top 10 Equal Weight Index	S&P Cryptocurrency DeFi Top 15 Index
S&P Cryptocurrency Top 10 Index (Singapore Close)	S&P Cryptocurrency Top 10 Index
S&P Cryptocurrency Top 5 Index	

Designated Datasets for Custodian

The Backward Data Assumption within the historical back-test, with respect to the indices identified above, applies only to designated datasets and associated time horizons as defined below. For each designated dataset, all historical rebalancing events prior to the Live Data Reference Date listed below are subject to use of the Backward Data Assumption.

Data Provider	Designated Dataset	Live Data Reference Date	Live Data Effective Date
Lukka	Custodian Marketplace	11/30/2021	12/17/2021

The Live Data Reference Date refers to the first rebalancing reference date from which only actual live data is used.

The Live Data Effective Date refers to the first date from which index constituents are determined solely on actual live data for each respective dataset.

Appendix B: Historical Back-Test Rule Deviations

Indices in this Methodology Employing Backward Data Assumption

S&P Cryptocurrency Top 5 Equal Weight Index	S&P Cryptocurrency Financials Top 15 Index
S&P Cryptocurrency Top 10 Equal Weight Index	S&P Cryptocurrency DeFi Top 15 Index
S&P Cryptocurrency Top 10 Index (Singapore Close)	S&P Cryptocurrency Top 10 Index
S&P Cryptocurrency Top 5 Index	

For history prior to launch, the indices did not include a custody requirement as an element of eligibility. History is based on the index constituents that met the custody element as of the Launch Date.

Appendix C: Methodology Changes

Methodology changes since May 3, 2021, are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
S&P Cryptocurrency Broad Digital Market (BDM) Index: Eligibility Criteria: Market Capitalization	09/15/2023	Digital assets must have a market capitalization greater than or equal to US\$ 10 million (current constituents US\$ 8 million).	Digital assets must have a market capitalization greater than or equal to US\$ 100 million (current constituents US\$ 80 million).
S&P Cryptocurrency LargeCap Index: Eligibility Criteria: Size Classification Process	09/15/2023	At each rebalancing, the eligible digital assets classified as LargeCap are selected and form the index. See the Size Classification process outlined in Appendix I of the methodology.	At each rebalancing, the eligible digital assets classified as LargeCap are selected and form the index. LargeCap digital assets must have a market capitalization greater than or equal to US\$ 1 billion (current constituents US\$ 800 million). LargeCap digital assets must have a three-month MDVT of US\$ 1 million.

Disclaimer

Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates (“S&P DJI”) defines various dates to assist our clients by providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index’s Launch Date are considered back-tested. S&P DJI defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company’s public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed “Date of introduction”) is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index’s public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index’s launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history

will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

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