

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 recognized open exchanges.

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 Crypto Mega Cap Index.** The index measures the performance of Bitcoin and Ethereum digital assets.

Pricing and Reference Data Source

The indices use Lukka Inc., a crypto data provider, as the data source for digital asset pricing and reference 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 crypto ecosystem to GAAP and IFRS guidelines.

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

Investment Disclosure. S&P Global, Inc., the parent of S&P Dow Jones Indices LLC, is an investor in Lukka Inc.¹ 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	

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.

¹ 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, Lukka performs an initial screening of all digital assets as part of the Lukka Prime Pricing Services. Digital assets priced by Prime trade only on select exchanges. The pricing 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.

The Index Committee reserves the right to remove a digital asset that becomes subject to a regulatory or legal concern (e.g., an SEC allegation the digital asset is an unregistered security, allegations of trading manipulation, a potential sanctions violation, inclusion of privacy features that may pose anti-money laundering concerns).

Eligibility Factors

Digital assets in the Lukka 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 days during the three months prior to the rebalancing reference date.

The listing & 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.

Index Construction

Constituent Selection

At each rebalancing, the eligible digital assets are selected and form each index.

Constituent Weightings

The indices are market capitalization weighted.

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. For these indices, the official close time is 4:00PM ET.

The rebalancing reference date to determine eligibility is the last calendar days 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.

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

Currency of Calculation and Additional Index Return Series

The indices calculate five days a week (Monday through Friday) 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: 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.spdji.com.

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 Ethereum Index	05/03/2021	04/04/2016	04/04/2016	100
S&P Crypto Mega Cap Index	05/03/2021	02/28/2017	02/28/2017	100

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 sufficient notice, whenever possible.

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 seven business days prior to the rebalancing, the actual weight of each coin at the rebalancing will differ from these weights due to market movements.

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

Holiday Schedule

The indices calculate on all U.S. equity market business days. If there is a market disruption, or with the data provider, the indices calculate based on the last available price.

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

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.spdji.com, 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	Ticker
S&P Bitcoin Index (USD)	SPBTC
S&P Ethereum Index (USD)	SPETH
S&P Crypto Mega Cap Index (USD)	SPCMC

Index Data

Daily index level data is available via subscription.

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

Web site

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

Disclaimer

Performance Disclosure/Back-Tested Data

S&P Dow Jones Indices defines various dates to assist our clients in 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 Dow Jones Indices 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. Backtested 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 S&P DJI's 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 backtested 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 Dow Jones Indices maintains the index and calculates the index levels and performance shown or

discussed but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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