

# **S&P 500 Dynamic VEQTOR Index** *Methodology*

May 2024

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# Introduction

## Index Objective

The S&P 500 Dynamic VEQTOR Indices measure the performance of strategies that allocate among equity indices, volatility futures indices, and cash based on a combination of realized and implied volatility.

## Index Family

The S&P 500 Dynamic VEQTOR indices are:

- The S&P 500 Dynamic VEQTOR Index (VEQTOR)
- The S&P 500 Dynamic VEQTOR Mid-Term Index (VEQTOR Mid-Term)
- The S&P 500 Dynamic VEQTOR X Index (VEQTOR X)

## Highlights

The S&P 500 Dynamic VEQTOR Index allocates among the S&P 500, the S&P 500 VIX Short-Term Futures Index, and cash in order to measure the performance of equity market exposure with an implied volatility exposure.

The S&P 500 Dynamic VEQTOR Mid-Term Index is similar to the S&P 500 Dynamic VEQTOR index. However, it uses the S&P 500 VIX Mid-Term Futures Index instead of the S&P 500 VIX Short-Term Futures Index as the implied volatility component.

*For more information on the S&P 500, the S&P 500 VIX Short-Term Futures and the S&P 500 VIX Mid-Term Futures Indices, please refer to the S&P U.S. Indices and S&P 500 VIX Futures Index methodology documents, respectively.*

The S&P 500 Dynamic VEQTOR X Index measures the performance of a long allocation in the S&P 500 VIX Short-Term Futures Index and a short allocation in the S&P 500.

The allocations are evaluated daily, though changes in allocation may occur less frequently.

The S&P 500 Dynamic VEQTOR Index series belongs to the family of S&P 500 volatility linked indices which includes, among others, VIX<sup>®1</sup> (Chicago Board Options Exchange Volatility Index), the S&P 500 Volatility Arbitrage Index and the S&P 500 VIX Futures Index Series.

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<sup>1</sup> The VIX<sup>®</sup> methodology is the property of Cboe Options Exchange (Cboe). Cboe has granted S&P Dow Jones Indices a license to use the VIX methodology to create the S&P 500 VIX Futures Index.

## 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 Dow Jones Indices' Equity Indices Policies & Practices Methodology	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices' Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices' Float Adjustment Methodology	<a href="#">Float Adjustment Methodology</a>

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. 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 index continues to achieve its objective.

VIX and Cboe are registered trademarks of Cboe Exchange, Inc. and have been licensed for use by S&P Dow Jones Indices.

# Index Construction

## Constituents

The S&P 500 Dynamic VEQTOR Index series is comprised of three components:

1. Equity, represented by the S&P 500.
2. Volatility, represented by the S&P 500 VIX Short-Term or Mid-Term Futures Index.
3. Cash, represented by the SOFR overnight + 0.02963%.

## Allocations

On any business day,  $t$ , VEQTOR and VEQTOR Mid-Term allocate between equity and volatility based on a combination of realized and implied volatility trend decision variables ( $RV$  and  $IVT$ ). While the allocations are reviewed daily, they may change on a less frequent basis.

Realized Volatility ( $RV_{t-1}$ )	Target Volatility Allocation ( $w_t^{Vol}$ )		
	Implied Volatility Downtrend ( $IVT_{t-1}) = -1$	No Implied Volatility Trend ( $IVT_{t-1}) = 0$	Implied Volatility Uptrend ( $IVT_{t-1}) = +1$
Less than 10%	2.5%	2.5%	10.0%
$10\% \leq RV_{t-1} < 20\%$	2.5%	10.0%	15.0%
$20\% \leq RV_{t-1} < 35\%$	10.0%	15.0%	25.0%
$35\% \leq RV_{t-1} \leq 45\%$	15.0%	25.0%	40.0%
More than 45%	25.0%	40.0%	40.0%

$w_t^{Vol}$  = Weight of the volatility component, the S&P 500 VIX Short-Term Futures Index for VEQTOR and the S&P 500 VIX Mid-Term Futures Index for VEQTOR Mid-Term

$w_t^{Equity}$  = Weight of the S&P 500  
 =  $100\% - w_t^{Vol}$

### Step 1: Evaluate realized and implied volatility

Let  $RV$  and  $IV$  denote annualized one-month realized and implied volatility, respectively, where:

$$RV_{t-1} = \sqrt{\frac{252 * \sum_{n=1}^{22} \left( \ln \left( \frac{SPX_{t-n}}{SPX_{t-n-1}} \right) \right)^2}{22}} \quad (1)$$

$$IV_{t-1} = VIX_{t-1} \quad (2)$$

where:

$VIX_{t-1}$  and  $SPX_t$  refer to the Cboe Volatility Index (VIX) and the S&P 500 Price Return Index, respectively.

### **Step 2: Establish implied volatility trend**

The implied volatility trend evaluates the presence, or lack, of a trend of expected volatility implied by the options markets. Let the five-day and 20-day implied volatility average be denoted by  $5IV_t$  and  $20IV_t$ , respectively. The Daily Implied Volatility Trend indicator ( $DIVT_t$ ) is up (+1) if the five-day implied volatility average is greater than or equal to the 20-day implied volatility average, and down (-1) if it is less.

$$5IV_{t-1} = \sum_{n=1}^5 \frac{IV_{t-n}}{5} \quad (3)$$

$$20IV_{t-1} = \sum_{n=1}^{20} \frac{IV_{t-n}}{20} \quad (4)$$

$$DIVT_{t-1} = \begin{cases} +1 \dots \text{if} \dots 5IV_{t-1} \geq 20IV_{t-1} \\ -1 \dots \text{if} \dots 5IV_{t-1} < 20IV_{t-1} \end{cases} \quad (5)$$

The Implied Volatility Trend ( $IVT_t$ ) is established if the Daily Implied Volatility Trend indicators remain constant for at least 10 business days. Uptrend (+1), Downtrend (-1) and No Trend (0) are given by the following formulae:

$$IVT_{t-1} = \begin{cases} +1 \dots \text{if} \dots \sum_{n=1}^{10} DIVT_{t-n} = +10 \\ -1 \dots \text{if} \dots \sum_{n=1}^{10} DIVT_{t-n} = -10 \\ 0 \dots \text{if} \dots -10 < \sum_{n=1}^{10} DIVT_{t-n} < +10 \end{cases} \quad (6)$$

### **Step 3: Evaluate trailing returns**

At the close of any business day, if losses over the prior five business days are greater than or equal to 2%, then the index moves into a 100% cash position.

For the S&P 500 Dynamic VEQTOR Index, weekly return is calculated as:

$$WeeklyReturn_{t-1} = \frac{VEQTORIndexER_{t-1}}{VEQTORIndexER_{t-6}} - 1 \quad (7a)$$

$VEQTORIndexER_t$  is defined under *Excess Return Calculation* below (see formula (9)).

For the S&P 500 Dynamic VEQTOR Mid-Term Index, weekly return is calculated as:

$$WeeklyReturn_{t-1} = \frac{MIndexER_{t-1}}{MIndexER_{t-6}} - 1 \quad (7b)$$

$MIndexER_t$  is defined under *Excess Return Calculation* below (see formula (15)).

$$\text{If } WeeklyReturn_{t-1} \leq -2.0\%, w_t^{Equity} = w_t^{Vol} = 0. \quad (8)$$

### Excess Return (ER) Calculations

On any business day,  $t$ , the excess return index levels are calculated. The excess return indices assume no accruals from cash.

The S&P 500 Dynamic VEQTOR Index excess return is calculated as follows:

$$VEQTORIndexER_t = VEQTORIndexER_{t-1} * (1 + EquityEDR_t + VolEDR_t) \quad (9)$$

where:

$VEQTORIndexER_{t-1}$  = The S&P 500 Dynamic VEQTOR Index Excess Return on the preceding business day,  $t-1$ .

$EquityEDR_t$  = Weighted Equity Excess Daily Return, as determined by the following formula:

$$EquityEDR_t = w_{t-1}^{equity} * \left( \frac{SPXE_t}{SPXE_{t-1}} - 1 \right) \quad (10)$$

where:

$w_{t-1}^{Equity}$  = Weight of the S&P 500 on the prior business day,  $t-1$ .

$SPXE_t$  = The S&P 500 Excess Return Index closing level on business day,  $t$ . On a daily basis, the returns of the index are the returns of the S&P 500 Total Return index minus the SOFR overnight + 0.02963%. For more details, please refer to *Excess Return Index calculation in the S&P Dow Jones Indices Index Mathematics methodology*.

$VolEDR_t$  = Weighted Volatility Excess Daily Return, as determined by the following formula:

$$VolEDR_t = w_{t-1}^{vol} * \left( \frac{SPVXSP_t}{SPVXSP_{t-1}} - 1 \right) \quad (11)$$

where:

$w_{t-1}^{Vol}$  = Weight of the S&P 500 VIX Short-Term Futures Index on the prior business day,  $t-1$ .

$SPVXSP_t$  = The S&P 500 VIX Short-Term Futures Excess Return Index closing level on the current business day,  $t$ .



Given long exposure to VIX and short exposure to the S&P 500, the S&P 500 Dynamic VEQTOR X Index excess return is calculated as follows:

$$XIndexER_t = \begin{cases} XIndexER_{t-1} * (1 + w_{t-1}^{vol} * ER_t^{vol} - w_{t-1}^{vol} * ER_t^{equity}) & \dots if \dots w_{t-1}^{vol} > 0 \\ XIndexER_{t-1} & \dots if \dots w_{t-1}^{vol} = 0 \end{cases} \quad (12)$$

where:

$XIndexER_{t-1}$  = The S&P 500 Dynamic VEQTOR X Index Excess Return on the preceding business day,  $t-1$ .

$w_{t-1}^{Vol}$  = Weight of the S&P 500 VIX Short-Term Futures Index on the prior business day,  $t-1$ .

$ER_t^{equity}$  = Equity Excess Daily Return, as determined by the following formula:

$$ER_t^{equity} = \frac{SPXE_t}{SPXE_{t-1}} - 1 \quad (13)$$

where:

$w_{t-1}^{Vol}$  = Weight of the S&P 500 VIX Short-Term Futures Index on the prior business day,  $t-1$ .

$SPXE_t$  = The S&P 500 Excess Return Index closing level on business day,  $t$ . On a daily basis, the returns of the index are the returns of the S&P 500 Total Return index minus SOFR overnight + 0.02963%. *For more details, please refer to Excess Return Index calculation in the S&P Dow Jones Indices Index Mathematics methodology.*

$ER_t^{vol}$  = Volatility Excess Daily Return, as determined by the following formula:

$$ER_t^{vol} = \frac{SPVXSP_t}{SPVXSP_{t-1}} - 1 \quad (14)$$

where:

$SPVXSP_t$  = The S&P 500 VIX Short-Term Futures Excess Return Index closing level on business day,  $t$ .

The S&P 500 Dynamic VEQTOR Mid-Term Index excess return is calculated as follows:

$$MIndexER_t = MIndexER_{t-1} * (1 + EquityEDR_t + MidVolEDR_t) \quad (15)$$

where:

$MIndexER_{t-1}$  = The S&P 500 Dynamic VEQTOR Mid-Term Index Excess Return on the preceding business day,  $t-1$ .

$EquityEDR_t$  = Weighted Equity Excess Daily Return, as determined formula (10).

$MidVolEDR_t$  = Weighted Mid-Term Volatility Excess Daily Return, as determined by the following formula:

$$MidVolEDR_t = w_{t-1}^{vol} * \left( \frac{SPVXMP_t}{SPVXMP_{t-1}} - 1 \right) \quad (16)$$

where:

$w_{t-1}^{vol}$  = Weight of the S&P 500 VIX Mid-Term Futures Index on the prior business day,  $t-1$ .

$SPVXMP_t$  = The S&P 500 VIX Mid-Term Futures Excess Return Index closing level on the current business day,  $t$ .

### Total Return (TR) Calculations

A total return index is calculated for the S&P 500 Dynamic VEQTOR and VEQTOR Mid-Term Indices, which includes accrual and reinvestment of dividends on the equity allocation, interest based on the three-month U.S. Treasury rate on the allocation to S&P 500 VIX Futures Indices, and interest based on the SOFR overnight + 0.02963% rate on the allocation to cash.

The S&P 500 Dynamic VEQTOR Index total return is calculated as follows:

$$VEQTORIndexTR_t = VEQTORIndexTR_{t-1} * (1 + EquityTDR_t + VolTDR_t + CashDR_t) \quad (17)$$

where:

$VEQTORIndexTR_{t-1}$  = The S&P 500 Dynamic VEQTOR Index Total Return on the preceding business day,  $t-1$ , defined as any date on which the index is calculated.

$EquityTDR_t$  = Weighted Equity Total Daily Return, as determined by the following formula:

$$EquityTDR_t = w_{t-1}^{equity} * \left( \frac{SPXT_t}{SPXT_{t-1}} - 1 \right) \quad (18)$$

where:

$w_{t-1}^{equity}$  = Weight of the S&P 500 on the prior business day,  $t-1$ .

$SPXT_t$  = The S&P 500 Total Return Index closing level on business day,  $t$ .

$VolTDR$  = Weighted Volatility Total Daily Return, as determined by the following formula:

$$VolTDR_t = w_{t-1}^{vol} * \left( \frac{SPVXSTR_t}{SPVXSTR_{t-1}} - 1 \right) \quad (19)$$

where:

$w_{t-1}^{vol}$  = Weight of the S&P 500 VIX Short-Term Futures Index on the prior business day,  $t-1$ .

$SPVXSTR_t$  = S&P 500 VIX Short-Term Futures Total Return Index closing level on business day,  $t$ .

$CashDR_t$  = Weighted Cash Daily Return, calculated based on an overnight deposit rate.

$$CashDR_t = (1 - w_{t-1}^{equity} - w_{t-1}^{vol}) * \left( \frac{CashTR_t}{CashTR_{t-1}} - 1 \right) \quad (20)$$

where:

$$CashTR_t = CashTR_{t-1} * \left[ 1 + \frac{Date_t - Date_{t-1} * Rate_{t-1}}{360} \right] \quad (21)$$

where:

$Date_t$  = the valuation date.

$Date_{t-1}$  = the previous valuation date.

$Rate_{t-1}$  = the previous day value of SOFR overnight + 0.02963%, expressed as a percentage.

The S&P 500 Dynamic VEQTOR Mid-Term Index total return is calculated as follows:

$$MIndexTR_t = MIndexTR_{t-1} * (1 + EquityTDR_t + MidVolTDR_t + CashDR_t) \quad (22)$$

where:

$MIndexTR_{t-1}$  = The S&P 500 Dynamic VEQTOR Mid-Term Index Total Return on the preceding business day,  $t-1$ , defined as any date on which the index is calculated.

$EquityTDR_t$  = Weighted Equity Total Daily Return, as determined by formula (18).

$MidVolTDR_t$  = Weighted Mid-Term Volatility Total Daily Return, as determined by the following formula:

$$MidVolTDR_t = w_{t-1}^{vol} * \left( \frac{SPVXMTR_t}{SPVXMTR_{t-1}} - 1 \right) \quad (23)$$

where:

$w_{t-1}^{vol}$  = Weight of the S&P 500 VIX Mid-Term Futures Index on the prior business day,  $t-1$ .

$SPVXMTR_t$  = S&P 500 VIX Mid-Term Futures Total Return Index closing level on business day,  $t$ .

$CashDR_t$  = Weighted Cash Daily Return, as determined by formula (20).

*For more information on the Index calculation methodology, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

### **Currency of Calculation and Additional Index Return Series**

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 [S&P DJI Methodology & Regulatory Status Database](#).

*For information on the calculation of different types of indices, 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/](http://www.spglobal.com/spdji/).*

### **Base Date and History Availability**

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

<b>Index</b>	<b>Launch Date</b>	<b>First Value Date</b>	<b>Base Date</b>	<b>Base Value</b>
S&P 500 Dynamic VEQTOR Index, Excess Return, Real-Time	11/18/2009	12/20/2005	12/20/2005	100,000
S&P 500 Dynamic VEQTOR Index, Total Return, Real-Time	11/18/2009	12/20/2005	12/20/2005	100,000
S&P 500 Dynamic VEQTOR X Index, Excess Return, Real-Time	09/13/2010	12/20/2005	12/20/2005	100,000
S&P 500 Dynamic VEQTOR Mid-Term Index, Excess Return, Real-Time	02/17/2011	12/20/2005	12/20/2005	100,000
S&P 500 Dynamic VEQTOR Mid-Term Index, Total Return, Real-Time	02/17/2011	12/20/2005	12/20/2005	100,000

# Index Governance

## Index Committee

An S&P Dow Jones Indices Index Committee maintains the indices. All committee members are full-time professional members of S&P Dow Jones Indices' staff. The committee meets regularly. At each meeting, the Index Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, companies that are being considered as candidates for addition to an index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts 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 Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

# Index Policy

## **Announcements**

Announcements of the daily index values are made each day, after the close of US equity markets and the Cboe Futures Exchange.

*For more information on S&P Dow Jones Indices' announcements, please refer to the [Announcement Policy](#).*

## **Holiday Schedule**

The index is calculated daily when all S&P 500 and S&P 500 Short Term / Mid Term VIX Futures Indices are calculated.

*A complete holiday schedule for the year is available at [www.spglobal.com/spdji/](http://www.spglobal.com/spdji/).*

## **Unexpected Exchange Closures**

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

## **Recalculation Policy**

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

*For information on [Calculations and Pricing Disruptions](#), [Expert Judgment and Data Hierarchy](#), please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.*

## **Contact Information**

For any questions regarding an index, please contact: [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at [www.spglobal.com/spdji/](http://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 [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index	BBG	RIC
S&P 500 Dynamic VEQTOR Index, Excess Return, Real-Time	SPVQDEID	.SPVQDERID
S&P 500 Dynamic VEQTOR Index, Total Return, Real-Time	SPVQDTID	.SPVQDTRID
S&P 500 Dynamic VEQTOR X Index, Excess Return, Real-Time	SPVQXER	.SPVQXERID
S&P 500 Dynamic VEQTOR Mid-Term Index, Excess Return, Real-Time	SPVQMER	.SPVQMERID
S&P 500 Dynamic VEQTOR Mid-Term Index, Total Return, Real-Time	SPVQMTR	.SPVQMTRID

## Index Data

Daily constituent and index data are available via subscription.

For product information, please contact S&P Dow Jones Indices, [www.spglobal.com/spdji/en/contact-us](http://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/](http://www.spglobal.com/spdji/).

# Appendix I

## Methodology Changes

Methodology changes since January 1, 2015, are as follows:

<b>Change</b>	<b>Effective Date (After Close)</b>	<b>Previous</b>	<b>Methodology Updated</b>
Cash Constituent	12/17/2021	Cash is represented by Overnight LIBOR.	Cash is represented by the SOFR overnight + 0.02963%.



# Appendix II

## ESG Disclosures

<b>EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL &amp; GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY<sup>2</sup></b>	
<b>1.</b>	<b>Name of the benchmark administrator.</b> S&P Dow Jones Indices LLC.
<b>2.</b>	<b>Underlying asset class of the ESG benchmark.<sup>3</sup></b> N/A
<b>3.</b>	<b>Name of the S&amp;P Dow Jones Indices benchmark or family of benchmarks.</b> <a href="#">S&amp;P DJI Multi-Asset Indices Benchmark Statement</a>
<b>4.</b>	<b>Do any of the indices maintained by this methodology take into account ESG factors?</b> No
<b>Appendix latest update:</b> January 2021	
<b>Appendix first publication:</b> January 2021	

<sup>2</sup> The information contained in this Appendix is intended to meet the requirements of the European Union Commission Delegated Regulation (EU) 2020/1817 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation of how environmental, social and governance factors are reflected in the benchmark methodology and the retained EU law in the UK [The Benchmarks (amendment and Transitional Provision) (EU Exit) Regulations 2019].

<sup>3</sup> The 'underlying assets' are defined in European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

# 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.

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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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