

**S&P Dow Jones  
Indices**

A Division of **S&P Global**

**S&P 500 Futures  
Adaptive Response Indices  
*Methodology***

December 2024

# Table of Contents

Introduction	2
<b>Index Objective and Highlights</b>	<b>2</b>
<b>Index Family</b>	<b>2</b>
<b>Supporting Documents</b>	<b>2</b>
Index Construction	3
<b>Index Level Calculation</b>	<b>3</b>
Index Maintenance	6
<b>Rebalancing</b>	<b>6</b>
<b>Currency of Calculation and Additional Index Return Series</b>	<b>6</b>
<b>Base Date and History Availability</b>	<b>6</b>
Index Governance	7
<b>Index Committee</b>	<b>7</b>
Index Policy	8
<b>Announcements</b>	<b>8</b>
<b>Holiday Schedule</b>	<b>8</b>
<b>Rebalancing</b>	<b>8</b>
<b>Unexpected Exchange Closures</b>	<b>8</b>
<b>Recalculation Policy</b>	<b>8</b>
<b>Real-Time Calculation</b>	<b>8</b>
<b>Contact Information</b>	<b>8</b>
Index Dissemination	9
<b>Tickers</b>	<b>9</b>
<b>Index Data</b>	<b>9</b>
<b>Web Site</b>	<b>9</b>
Disclaimer	10
<b>Performance Disclosure/Back-Tested Data</b>	<b>10</b>
<b>Intellectual Property Notices/Disclaimer</b>	<b>11</b>
<b>ESG Indices Disclaimer</b>	<b>13</b>

# Introduction

## Index Objective and Highlights

The S&P 500 Futures Adaptive Response Indices measure the performance of a long-only, dynamically adjusted strategy that allocates to the S&P 500 Futures Index ER. The indices use three signals – a turn-of-the-month signal, a “Don’t Fight the Fed” signal, and a mean-reversion signal - to generate a base allocation to the S&P 500 Futures Index ER. The index then applies a risk control overlay to the base index to achieve the desired volatility target subject to the maximum allowed leverage for the index.

## Index Family

The index family includes the following:

Index	Volatility Target (VolTarget)	Maximum Leverage (MaxLev)	Decrement Factor (DF)
S&P 500 Futures 40% VT Adaptive Response Index (USD) ER	40%	500%	0%
S&P 500 Futures 40% VT Adaptive Response 4% Decrement Index (USD) ER	40%	500%	4%
S&P 500 Futures 40% VT Adaptive Response 6% Decrement Index (USD) ER	40%	500%	6%

## 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’ Commodities Indices Policies & Practices Methodology	<a href="#">Commodities Indices Policies &amp; Practices</a>
S&P Dow Jones Indices’ Commodity Index Mathematics Methodology	<a href="#">Commodity Index Mathematics Methodology</a>
S&P Dow Jones Indices’ Index Mathematics Methodology	<a href="#">Index Mathematics 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.

# Index Construction

## Index Level Calculation

For each index calculation day  $t$ , the end of day index level calculates as:

$$Index_t = GrossLevel_t - Decr_t \quad (1)$$

where:

$Index_t$  = The closing level of the index for day  $t$

$GrossLevel_t$  = The gross index level for day  $t$

$Decr_t$  = The index decrement amount for day  $t$

The index decrement amount with decrement factor,  $DF$ , for index calculation day  $t$  calculates as

$$Decr_t = Index_{t-1} \times DF \times \frac{Act(t-1,t)}{360} \quad (2)$$

where:

$Act(t-1,t)$  = The number of calendar days between index day  $t$  and index day  $t-1$

The gross index level for index calculation day  $t$  calculates as:

$$GrossLevel_t = Index_{t-1} + Q_{t-1} \times (SPXFP_t - SPXFP_{t-1}) \quad (3)$$

where:

$Q_{t-1}$  = The number of units as of the end of day  $t-1$

$SPXFP_t$  = The closing level of the S&P 500 Futures Index ER on day  $t$

The number of units for index calculation day  $t$  calculates as:

$$Q_t = \frac{GrossLevel_t \times WtEq_t}{SPXFP_t} \quad (4)$$

where:

$WtEq_t$  = The allocation to the S&P 500 Futures Index ER at the end of day  $t$

The allocation to the S&P 500 Futures Index ER at the end of index calculation day  $t$  calculates as:

$$WtEq_t = \min(MaxLev, WtEq_{t-1} + \min(1, \max(-1, WtEq_t^{target} - WtEq_{t-1}))) \quad (5)$$

where:

$MaxLev$  = The maximum allowed leverage for the index

$WtEq_t^{target}$  = The target allocation to the S&P 500 Futures Index ER at the end of day  $t$

The target allocation to the S&P 500 Futures Index ER at the end of index calculation day  $t$  calculates as:

$$WtEq_t^{target} = \frac{VolTarget}{\sigma_{t-1}} \times WtBaseEq_t \quad (6)$$

where:

$VolTarget$  = The target volatility level

$WtBaseEq_t$  = The allocation to the S&P 500 Futures Index ER in the base index at the end of day  $t$   
 $\sigma_{t-1}$  = The volatility of the base index as of the end of index calculation day  $t - 1$

The volatility of the base at the end of index calculation day  $t$  calculates as:

$$\sigma_t = \frac{\sigma_t^{0.94} + \sigma_t^{0.97}}{2} \quad (7)$$

where:

$\sigma_t^\lambda$  = The volatility of the base index computed using decay factor  $\lambda$  as of the end of index calculation day  $t$

On the base index initialization date,  $\sigma_t^{0.94} = \sigma_t^{0.97} = VolTarget$ . For every subsequent index calculation day  $t$ :

$$\sigma_t^\lambda = \sqrt{\lambda \times (\sigma_{t-1}^\lambda)^2 + (1 - \lambda) \times 252 \times \left[ \ln \left( \frac{BaseIndex_t}{BaseIndex_{t-1}} \right) \right]^2} \quad (8)$$

where:

$BaseIndex_t$  = The closing level of the base index for day  $t$

For each index calculation day  $t$ , the end of day base index level calculates as:

$$BaseIndex_t = BaseIndex_{t-1} \times \left( 1 + WtBaseEq_{t-1} \times \left( \frac{SPXFP_t}{SPXFP_{t-1}} - 1 \right) \right) \quad (9)$$

On the base index initialization date,  $WtBaseEq_t = WtBaseEq_t^{target}$ . For every subsequent index calculation day  $t$ :

$$WtBaseEq_t = \min(1.35, \max(0.65, WtBaseEq_{t-1} + \min(0.35, \max(-0.35, WtBaseEq_t^{target} - WtBaseEq_{t-1})))) \quad (10)$$

where:

$WtBaseEq_t^{target}$  = The target allocation to the S&P 500 Futures Index ER in the base index at the end of day  $t$

The target allocation to the S&P 500 Futures Index ER in the base index at the end of index calculation day  $t$  is calculated as:

$$WtBaseEq_t^{target} = 1 + 0.25 * WtTomMR_t + 0.25 * WtTomLong_t + 0.25 * WtFOMC_t + WtMR_t \quad (11)$$

where:

$WtTomMR_t$  = The turn-of-the-month mean reversion target weight as of day  $t$

$WtTomLong_t$  = The turn-of-the-month long target weight as of day  $t$

$WtFOMC_t$  = The FOMC target weight as of day  $t$

$WtMR_t$  = The mean-reversion target weight as of day  $t$

The turn-of-month mean reversion target weight as of index calculation day  $t$  calculates as:

$$WtTomMR_t = \begin{cases} 1; & \text{if } (EOM_t - 4) \leq t \leq (EOM_t - 1) \text{ and } SPXFP_{EOM_t-5} < SPXFP_{EOM_t}^{prev} \\ 0; & \text{otherwise} \end{cases} \quad (12)$$

where:

$EOM_t - 4$  = The date four trading days before the last trading day of the calendar month which contains index day  $t$

- $EOM_t - 1$  = The date one trading day before the last trading day of the calendar month which contains index day  $t$
- $SPXFP_{EOM_t-5}$  = The closing level of the S&P 500 Futures Index ER on the date which is five trading days prior to the last trading day of the calendar month which contains index day  $t$
- $SPXFP_{EOM_t^{prev}}$  = The closing level of the S&P 500 Futures Index ER on the date which is the last trading day of the calendar month that is immediately preceding the calendar month which contains index day  $t$

The turn-of-month long target weight as of index calculation day  $t$  calculates as:

$$WtTomLong_t = \begin{cases} 1; & \text{if } t = EOM_t \text{ or } BOM_t \leq t \leq (BOM_t + 2) \\ 0; & \text{otherwise} \end{cases} \quad (13)$$

where:

- $EOM_t$  = The last trading day of the calendar month that contains index day  $t$
- $BOM_t$  = The first trading day of the calendar month that contains index day  $t$
- $BOM_t + 2$  = The date which is two trading days after the first trading day of the calendar month which contains index day  $t$

The FOMC target weight as of index calculation day  $t$  calculates as:

$$WtFOMC_t = \begin{cases} 1; & \text{if } (FOMCday - 2) \leq t \leq (FOMCday - 1) \\ 0; & \text{otherwise} \end{cases} \quad (14)$$

where:

- $FOMCday - 2$  = The date two trading days before  $FOMCday$
- $FOMCday - 1$  = The date one trading day before  $FOMCday$
- $FOMCday$  = The weekday on which the Federal Open Market Committee (FOMC) is scheduled to release a post-meeting monetary policy statement and does not cancel the event at least four trading days ahead of time.<sup>1</sup>

The mean reversion target weight as of index calculation day  $t$  calculates as:

$$WtMR_t = \min \left( 0.1, \max \left( -0.1, -5 \times MRVol_t \times \frac{\sum_{s=1}^5 (6-s) \left( \frac{SPXFP_{t-s} - 1}{SPXFP_{t-s-1}} \right)}{\sum_{s=1}^5 (6-s)} \right) \right) \quad (15)$$

$$MRVol_t = \frac{0.15}{\sqrt{252 \times \frac{\sum_{i=1}^{10} \left[ \ln \left( \frac{SPXFP_{t-i}}{SPXFP_{t-i-1}} \right) \right]^2}{10}}} \quad (16)$$

<sup>1</sup> For the avoidance of doubt, a weekday on which the FOMC releases statements in other cases – for example, following an unscheduled meeting, a canceled meeting which is canceled at least four trading days ahead of time, or a notation vote – does not qualify as an  $FOMCday$ .

# Index Maintenance

## Rebalancing

The indices rebalance daily.

## 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 index calculation, 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

The 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 500 Futures 40% VT Adaptive Response Index (USD) ER	12/27/2024	01/04/2000	01/04/2000	100
S&P 500 Futures 40% VT Adaptive Response 4% Decrement Index (USD) ER	12/27/2024	01/04/2000	01/04/2000	100
S&P 500 Futures 40% VT Adaptive Response 6% Decrement Index (USD) ER	12/27/2024	01/04/2000	01/04/2000	100

# Index Governance

## **Index Committee**

An index committee maintains the index. All committee members are full-time professional members of S&P Dow Jones Indices' staff. The Index Committee meets regularly. At each meeting, the 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 the indices, 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 Commodities Indices Policies & Practices Methodology.*



# Index Policy

## **Announcements**

Announcements of the daily index values are made after the market close each day.

*For more information on announcements policy, please refer to the Announcements section of S&P Commodities Indices Policies & Practices Methodology.*

## **Zero and Negative Index Levels**

For more information on Negative Futures Contract Prices and Index Levels, please refer to the S&P Commodities Indices Policies & Practices Methodology.

## **Holiday Schedule**

The index calculates daily, throughout the calendar year, when the U.S. equity markets are open.

*A complete holiday schedule for the year is available on S&P Dow Jones Indices' Web site at [www.spglobal.com/spdji](http://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 Commodities Indices Policies & Practices Methodology.

## **Recalculation Policy**

Intraday index calculations are executed for some index versions whenever the index's primary exchanges are open. In case an issue arises during calculation, the index is restated, based on feasibility assessment by the index committee, for every reported intraday index level period following the issue.

## **Real-Time Calculation**

Real-time, intraday, index calculations are executed for some versions of the index, whenever the index's primary exchanges are open. Real-time indices are not restated.

*For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Commodities Indices Policies & Practices Methodology.*

## **Contact Information**

For 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 the [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index	BBG
S&P 500 Futures 40% VT Adaptive Response Index (USD) ER	SPAR4VE
S&P 500 Futures 40% VT Adaptive Response 4% Decrement Index (USD) ER	SPAR4V4
S&P 500 Futures 40% VT Adaptive Response 6% Decrement Index (USD) ER	SPAR4V6

## Index Data

Daily constituent and index level 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).

# 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.

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).

### **Intellectual Property Notices/Disclaimer**

© 2024 S&P Dow Jones Indices. All rights reserved. S&P, S&P 500, SPX, SPY, The 500, US500, US 30, S&P 100, S&P COMPOSITE 1500, S&P 400, S&P MIDCAP 400, S&P 600, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, Select Sector, S&P MAESTRO, S&P PRISM, S&P STRIDE, GICS, SPIVA, SPDR, INDEXOLOGY, iTraxx, iBoxx, ABX, ADBI, CDX, CMBX, MBX, MCDX, PRIMEX, HHPI, and SOVX are registered trademarks of S&P Global, Inc. (“S&P Global”) or its affiliates. DOW JONES, DJIA, THE DOW and DOW JONES INDUSTRIAL AVERAGE are trademarks of Dow Jones Trademark Holdings LLC (“Dow Jones”). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P DJI does not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P DJI is impersonal and not tailored to the needs of any person, entity, or group of persons. S&P DJI receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P DJI does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P DJI makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P DJI is not an investment advisor, commodity trading advisor, fiduciary, “promoter” (as defined in the Investment Company Act of 1940, as amended) or “expert” as enumerated within 15 U.S.C. § 77k(a), and S&P DJI makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. S&P DJI is not a tax advisor. Inclusion of a security, commodity, crypto currency, or other asset within an index is not a recommendation by S&P DJI to buy, sell, or hold such security, commodity, crypto currency, or other asset, nor is it considered to be investment or trading advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof (“Content”) may be modified, reverse engineered, reproduced, or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P DJI. The Content shall not be used for any unlawful or unauthorized purposes. S&P DJI and its third-party data providers and licensors (collectively “S&P Dow Jones Indices Parties”) do not guarantee the accuracy, completeness, timeliness, or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN “AS IS” “WHERE IS” BASIS. S&P DOW JONES INDICES PARTIES DISCLAIMS ANY AND ALL

EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special, or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related information and other analyses, including ratings, research and valuations are generally provided by licensors and/or affiliates of S&P Dow Jones Indices, including but not limited to S&P Global's other divisions such as S&P Global Market Intelligence. Any credit-related information and other related analyses and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact. Any opinion, analyses and rating acknowledgement decisions are not recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Dow Jones Indices does not assume any obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P DJI does not act as a fiduciary or an investment advisor. While S&P DJI has obtained information from sources it believes to be reliable, S&P DJI does not perform an audit or undertake independent verification of any information it receives. S&P DJI reserves the right to vary or discontinue any index at any time for regulatory or other reasons. Various factors, including external factors beyond S&P DJI's control might necessitate material changes to indices.

To the extent that regulatory authorities allow a rating agency to acknowledge in one jurisdiction a rating issued in another jurisdiction for certain regulatory purposes, S&P Global Ratings reserves the right to assign, withdraw or suspend such acknowledgement at any time and in its sole discretion. S&P Dow Jones Indices, including S&P Global Ratings, disclaim any duty whatsoever arising out of the assignment, withdrawal, or suspension of an acknowledgement as well as any liability for any damage alleged to have been suffered on account thereof. Affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, may receive compensation for its ratings and certain credit-related analyses, normally from issuers or underwriters of securities or from obligors. Such affiliates of S&P Dow Jones Indices LLC, including S&P Global Ratings, reserve the right to disseminate its opinions and analyses. Public ratings and analyses from S&P Global Ratings are made available on its Web sites, [www.standardandpoors.com](http://www.standardandpoors.com) (free of charge), and [www.ratingsdirect.com](http://www.ratingsdirect.com) and [www.globalcreditportal.com](http://www.globalcreditportal.com) (subscription), and may be distributed through other means, including via S&P Global Ratings publications and third-party redistributors. Additional information about our ratings fees is available at [www.standardandpoors.com/usratingsfees](http://www.standardandpoors.com/usratingsfees).

S&P Global keeps certain activities of its various divisions and business units separate from each other to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions, and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate, or otherwise address.

Some indices use the Global Industry Classification Standard (GICS®), which was developed by, and is the exclusive property and a trademark of, S&P Global and MSCI. Neither MSCI, S&P DJI nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use

thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P DJI, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

S&P Dow Jones Indices products are governed by the terms and conditions of the agreements under which they may be provided. A license is required from S&P Dow Jones Indices to display, create derivative works of and/or distribute any product or service that uses, is based upon and/or refers to any S&P Dow Jones Indices and/or index data.

### **ESG Indices Disclaimer**

S&P DJI provides indices that seek to select, exclude, and/or weight index constituents based on, but not limited to, certain environmental, social or governance (ESG) indicators, or a combination of those indicators, including the following: environmental indicators (including the efficient use of natural resources, the production of waste, greenhouse gas emissions, or impact on biodiversity); social indicators (such as, inequality and investment in human capital); governance indicators (such as sound management structures, employee relations, remuneration of staff, tax compliance, respect for human rights, anti-corruption and anti-bribery matters), specific sustainability or values-related company involvement indicators (for example, production/distribution of controversial weapons, tobacco products, or thermal coal), or controversies monitoring (including research of media outlets to identify companies involved in ESG-related incidents).

S&P DJI ESG indices use ESG metrics and scores in the selection and/or weighting of index constituents. ESG scores or ratings seek to measure or evaluate a company's, or an asset's, performance with respect to environmental, social and corporate governance issues.

The ESG scores, ratings, and other data used in S&P DJI ESG indices is supplied directly or indirectly by third parties (note these parties can be independent affiliates of S&P Global or unaffiliated entities) so an S&P DJI ESG index's ability to reflect ESG factors depends on these third parties' data accuracy and availability.

ESG scores, ratings, and other data may be reported (meaning that the data is provided as disclosed by companies, or an asset, or as made publicly available), modelled (meaning that the data is derived using a proprietary modelling process with only proxies used in the creation of the data), or reported and modelled (meaning that the data is either a mix of reported and modelled data or is derived from the vendor using reported data /information in a proprietary scoring or determination process).

ESG scores, ratings, and other data, whether from an external and/or internal source, is based on a qualitative and judgmental assessment, especially in the absence of well-defined market standards, and due to the existence of multiple approaches and methodologies to assess ESG factors and considerations. An element of subjectivity and discretion is therefore inherent in any ESG score, rating, or other data and different ESG scoring, rating, and/or data sources may use different ESG assessment or estimation methodologies. Different persons (including ESG data ratings, or scoring providers, index administrators or users) may arrive at different conclusions regarding the sustainability or impact of a particular company, asset, or index.

Where an index uses ESG scores, ratings or other data supplied directly or indirectly by third parties, S&P DJI does not accept responsibility for the accuracy or completeness of such ESG scores, ratings, or data. No single clear, definitive test or framework (legal, regulatory, or otherwise) exists to determine 'ESG', 'sustainable', 'good governance', 'no adverse environmental, social and/or other impacts', or other equivalently labelled objectives. In the absence of well-defined market standards and due to the existence of multitude approaches, the exercise of judgment is necessary. Accordingly, different persons may classify the same investment, product and/or strategy differently regarding 'ESG', 'sustainable', 'good governance', 'no adverse environmental, social and/or other impacts', or other equivalently labelled

objectives. Furthermore, the legal and/or market position on what constitutes an 'ESG', 'sustainable', 'good governance', 'no adverse environmental, social and/or other impacts', or other equivalently labelled objectives may change over time, especially as further regulatory or industry rules and guidance are issued and the ESG sustainable finance framework becomes more sophisticated.

Prospective users of an S&P DJI ESG Index are encouraged to read the relevant index methodology and related disclosures carefully to determine whether the index is suitable for their potential use case or investment objective.