

Fixed Income Index Mathematics *Methodology*

March 2025

Table of Contents

Introduction	2
Highlights	2
Different Varieties of Indices	2
Index Calculations	3
Daily Index Values	3
Daily Index Returns	3
Total Return	4
Interest Return	4
Price Return	5
Price Return (Loans)	5
Unhedged Return	5
Hedged Return	6
Hedge Size	6
Market Value	6
Additional Weight Factor	7
Weight	7
Yield to Maturity Adjustment for Inflation-linked Securities	7
Hedge Adjusted Yield	8
S&P Dow Jones Indices' Contact Information	9
Client Services	9
Disclaimer	10
Performance Disclosure/Back-Tested Data	10
Intellectual Property Notices/Disclaimer	11
ESG Indices Disclaimer	13

Introduction

Highlights

This document covers the mathematics of fixed income index calculations, including how they are calculated, how coupon payments are handled, and how other adjustments are made to the index. For details on a specific index, please refer to that index's methodology document available at www.spglobal.com/spdji/.

Different Varieties of Indices

A majority of S&P Dow Jones fixed income indices are market value weighted, where each bond's weight in the index is proportional to its market value. Sometimes an index has capping requirements which set the target weights for the index securities. An additional weight factor (AWF) is used to make market value adjustments to the index securities in order to satisfy the capping rules.

Index Calculations

Daily Index Values

Index values are calculated each day by applying the current day's index return to the previous day's index value, as follows:

$$TRIV_t = TRIV_{t-1} * (1 + IndexTR_t) \quad (1)$$

$$PRIV_t = PRIV_{t-1} * (1 + IndexPR_t) \quad (2)$$

$$IRIV_t = IRIV_{t-1} * (1 + IndexIR_t) \quad (3)$$

where:

$TRIV_t$ = Total return index value on day t .

$PRIV_t$ = Price return index value on day t .

$IRIV_t$ = Interest return index value on day t .

$IndexTR_t$ = Index total return on day t .

$IndexPR_t$ = Index price return on day t .

$IndexIR_t$ = Index interest return on day t .

Daily Index Returns

The individual index security returns are aggregated to calculate returns for the index. Specifically, on a given day, the total return, interest return, and price return for the index are equal to a weighted average of the returns of the securities that constitute the index. The weight of each index security return is equal to the relative weight of that security in the index as of the previous trading day (adjusted for principal pre-payments, etc.). Each cash security has a foreign exchange return related to the index currency as its price return and zero as its interest return. The formulae are as follows:

$$IndexTR_t = \sum_i SecurityWeight_{i,t-1} * tr_{i,t} \quad (4)$$

$$IndexPR_t = \sum_i SecurityWeight_{i,t-1} * pr_{i,t} \quad (5)$$

$$IndexIR_t = \sum_i SecurityWeight_{i,t-1} * ir_{i,t} \quad (6)$$

where:

$IndexTR_t$ = Index total return on day t .

$IndexPR_t$ = Index price return on day t .

$IndexIR_t$ = Index interest return on day t .

$tr_{i,t}$ = Total return of index security i on day t ($ir_{i,t} + pr_{i,t}$).

$pr_{i,t}$ = Price return of index security i on day t .

$ir_{i,t}$ = Interest return of index security i on day t .

$SecurityWeight_{i,t-1}$ = Adjusted market value weight of index security i at the close of day $t-1$.

Total Return

The total return, TR , for a given security on day t is the sum of the market price, interest, and FX return on day t .

$$TR_t = IR_t + PR_t \quad (7)$$

where:

$$\begin{aligned} IR_t &= \text{Interest return on day } t. \\ PR_t &= \text{Price return on day } t. \end{aligned}$$

Price return measures the return due to the change in the market price of the security. Interest return (or coupon return) includes the return due to the interest earned on that security. In the case of zero coupon bonds, the accretion in price due to interest return is reported as price return.

Interest Return

The formula for the interest return on an individual index security on day t is as follows:

$$IR_t = (AI_t - AI_{t-1} + Cpn_t) / \text{DirtyPrice}_{t-1} \quad (8)$$

where:

$$\begin{aligned} IR_t &= \text{Daily interest return for the security on day } t. \\ AI_t &= \text{Accrued interest, up to and including day } t. \\ \text{DirtyPrice}_{t-1} &= \text{Dirty price of the security on day } t-1.^1 \\ Cpn_t &= \text{Coupon payment* on day } t. \end{aligned}$$

* For securities trading ex-dividend, the coupon is recognized on ex-dividend date. Securities in default do not accrue interest.

Interest Return (Loans)

In the following formula, PAR should be treated as $(AWF*PAR)$. The formula for the interest return on an individual index loan on day t is as follows:

$$IR_t = \frac{(PAR_t * R_t) / 360}{MV_{Beg}} \quad (9)$$

where:

$$\begin{aligned} IR_t &= \text{Interest return on day } t. \\ PAR_t &= \text{Par amount of the index loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day } t. \\ R_t &= \text{Interest rate on day } t. \\ MV_{Beg} &= \text{Market value, at the beginning of day } t. \end{aligned}$$

Index Interest Rate

The index interest rate is determined by the weighted average spread to LIBOR/SOFR/EURIBOR/SONIA.

¹ The dirty price of a security is defined as the sum of the market quoted price and the interest deemed to be earned on that security, but not yet paid to the investor. The clean price is the market quoted price without accrued interest.

Price Return

The formula for the price return for an index security on day t is as follows:

$$PR_t = (CleanPrice_t - CleanPrice_{t-1} - FX\ return) / DirtyPrice_{t-1} \quad (10)$$

where:

PR_t = Price return for the security on day t .

$CleanPrice_t$ = Market quoted price for the security without accrued interest on day t .

$DirtyPrice_{t-1}$ = Market quoted price for the security with accrued interest on day $t-1$.

Price Return (Loans)

The formula for the price return for an index loan on day t is as follows:

$$PR_t = \frac{PAR_t * \left(\frac{P_t - P_{t-1}}{100} \right) + Prin_t * \frac{RP - P_{t-1}}{100}}{MV_{Beg}} \quad (11)$$

where:

PR_t = Price return on day t .

PAR_t = Par amount of the index loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day t .

P_t = Loan price on day t .

P_{t-1} = Loan price on the previous day.

$Prin_t$ = Principal pre-payments, etc., on day t .

MV_{Beg} = Market value, beginning of day t .

RP = Redemption price.

Note that the formula for the Price Return (11) itself has two components. The first term, in the numerator on the left side, represents the unrealized return due to any change in the price, while the second term (on the right) represents the realized return due to receiving a principal repayment at the Redemption Price (which could differ from par) rather than at the current end of day price.

Unhedged Return

Total unhedged return measures the return by converting the local currency return of the underlying securities to the index currency. The formula for the unhedged daily return for a security is composed of its local currency return and the foreign currency return.

$$TR_{UH,t} = (1 + R_{L,t}) * \left(1 + \frac{FX_t - FX_{t-1}}{FX_{t-1}} \right) - 1 \quad (12)$$

where:

$TR_{UH,t}$ = Total unhedged return on day t .

$R_{L,t}$ = Total local currency return on day t .

FX_t = Foreign exchange spot rate on day t .

FX_{t-1} = Foreign exchange spot rate on day $t-1$.

Hedged Return

Hedged return measures the return by hedging currency risk through a one-month forward currency contract. The formula for the hedged return for an index is shown as follows:

$$HedgedMTD_t = H_t + H_t * \left(\frac{S_0}{F_{0,30}} - \frac{S_t}{F_{t,30-t}} \right) + (1 + BaseMTD_t - H_t) * \frac{S_0}{S_t} \quad (13)$$

$$TR_{H,t} = \left(\frac{HedgedMTD_t}{HedgedMTD_{t-1}} \right) - 1 \quad (14)$$

where:

$TR_{H,t}$	= Total hedged return on day t
$HedgedMTD_t$	= Month to date hedged return on day t
$BaseMTD_t$	= Month to date return of the local currency index on day t
S_t	= Foreign exchange spot rate on day t
$F_{0,30}$	= Forward rate on the rebalancing date 0 with 30 days remaining in the contract, assuming a 30/360 day count convention.
$F_{t,30-t}$	= Interpolated forward rate on day t with 30-t days remaining in the contract
H_t	= Hedge size on day t

Hedge Size

The hedge size is determined by using the index weighted yield of the pro forma index on the rebalancing day. Assuming the yield is an annual return proxy, the size of the monthly hedge is a projection of the monthly return of the local currency index. The hedging size used for a MTD calculation on day t is shown by H_t .

$$HedgeSize = 1 + \left(\frac{yield}{2} \right)^{1/6} \quad (15)$$

$$H_t = HedgeSize^{t/30} \quad (16)$$

Market Value

The market value of the security as represented in the index as of the close on day t is calculated as follows:

$$MV_t = PAR_t * \frac{(P_t + AI_t)}{100} * FX_t \quad (17)$$

The adjusted market value is applied as follows:

$$AMV_t = AWF * MV_t \quad (18)$$

where:

MV_t	= Market value of the index security on day t.
AMV_t	= Adjusted market value of the index security on day t.
PAR_t	= Par amount of the index security as of the last rebalancing, adjusted for principal pre-payments, etc., up to and including day t.

P_t	= Clean price of the index security on day t .
AI_t^2	= Accrued interest on the index security, up to and including day t .
FX_t	= Foreign exchange rate used to convert to the target currency on day t .
AWF	= Additional weight factor.

If the valuation date is not a trading day, the market value is based on the price as of the immediate prior trading day, plus interest accrued to the valuation date. On the cash payout day, the accrued interest is set to the coupon cash value.

Additional Weight Factor

The Additional Weight Factor (AWF) is used to tilt the original market value weight of a security within the index. It is calculated on the rebalancing reference date and is implemented on the rebalancing effective date. The AWF remains static until the subsequent rebalancing.

The AWF for all market value-weighted indices is equal to 1. For target weighted indices, the AWF is calculated as follows:

$$AWF_i = TW_i * \frac{\sum_1^N MV_i}{MV_i} \quad (19)$$

where:

AWF_i	= Additional weight factor of the index security i .
TW_i	= Target weight for the index security i .
MV_i	= Market value of the index security i in the underlying index.
$\sum_1^N MV_i$	= Aggregate market value of all N securities in the underlying index.

In equal-weight indices $TW = 1/N$, where N is the number of securities included in the index.

Weight

The relative weight of an index security i is defined as the adjusted market value of that security expressed as a percentage of the aggregate adjusted market value of all the securities in the index portfolio, as follows:

$$weight_i = \frac{AMV_i}{\sum_i AMV_i} \quad (20)$$

Yield to Maturity Adjustment for Inflation-linked Securities³

To calculate the yield to maturity adjustment, one has to project the inflation rate for future cash flows of the bond. The projected inflation rate is an approximation of future inflation and is calculated using the following formula:

$$Projected\ inflation\ Rate_t = 100 * \left(\frac{CPI_t}{CPI_{t-1year}} - 1 \right) \quad (21)$$

where:

² For loans, AI_t is calculated on a 360-day basis. Accrued interest is reduced to zero every 90 days after a loan enters the index.

³ Nominal yield is applied to inflation/index-linked securities only.

- CPI_t = The reference national CPI for day t is calculated through a linear interpolation of the two most recent CPI levels available as of the start of the month.
- $CPI_{t-1year}$ = The reference national CPI as of one year before the valuation date t with the same interpolation as CPI_t .

Using the projected inflation rate, the current index ratio and the nominal cash flows, we generate the expected inflated cash flows, which are then used to calculate the nominal yield.

Hedge Adjusted Yield

The hedge adjusted yield represents the yield of an index after accounting for the cost of hedging foreign currency exposure in the forward market. At each rebalance, a projected market value using the pro-forma index yield is hedged using the forward rate. The hedge adjusted yield accounts for the premium or discount of the forward rate and applies it to the yield used to project the future market value as follows:

$$\text{Hedge adjusted yield}_i = \text{Yield}_{i,t} + \left(\frac{FF_{0,30}}{FX_t} - 1 \right) * 12 \quad (22)$$

Where:

- $\text{Yield}_{i,t}$ = The index weighted yield found in the rebalancing day's pro-forma universe
- $FF_{0,30}$ = Forward rate on the last rebalancing date 0 with 30 days remaining in the contract, assuming a 30/360 day count convention.
- FX_t = Foreign exchange spot rate on day t .

S&P Dow Jones Indices' Contact Information

Client Services

index_services@spglobal.com

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

© 2025 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 (free of charge), and www.ratingsdirect.com and 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.

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.